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3RD INTERNATIONAL CONFERENCE ON BUSINESS, ECONOMICS AND FINANCE (ICBEF) PROCEEDINGS

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NEW BUSINESS PARADIGM DURING ECONOMIC UNCERTAINTIES

After two successful conferences (2017 and 2019) UBDSBE hosted the 3rd International Conference on Business, Economics and Finance (3rd ICBEF) from 1st to 3rd November 2021. This year's conference was held virtually in view of the current COVID-19 pandemic. The theme of the conference was 'New Business Paradigm During Economic Uncertainties'. The main objective of the 3rd ICBEF was to provide a forum for all researchers and practitioners to discuss the challenges faced during economic uncertainties, share experiences, and suggest possible solutions.

Business cycles are a known phenomenon of free market economies where businesses experience booms and bust. However, the causes of these business cycles are attributed to a number of factors including rapid pace of innovations, changes in consumer and investor sentiments, changes in regulatory environment and natural disasters, such as the recent COVID-19 pandemic. Some observers consider economic crisis as a period of 'creative destruction', which brings new ideas, technologies, products and services that could lead to economic growth.

Economic uncertainties that disrupt the existing way of doing businesses motivate governments and businesses to explore opportunities to reconstruct conditions for profitable and sustainable business through redesigning institutional and cultural framework within which firms operate. The recent uncertainties created by COVID-19 pandemic leave a much deeper impact on businesses, especially SMEs.

At a time when social distancing and travel restrictions serve as important policy measure to control the spread of crisis, the use of digital technology has obviously helped maintain a momentum in economic and business operations and to reduce the worst impact of the recent crisis. Cross-border flows of digital technologies give a rise to new business models aiming to achieve higher productivity. This new paradigm will need businesses to explore global markets and supply chains as well as investing in innovative technologies to adapt quickly to the changing environment. This is the main objective of the proposed conference on 'Embracing New Business Paradigm during Economic Uncertainties'. We believe that this 3 or 4-days conference, planned at UBD from 1- 3 or 4 November 2021, will provide a forum for experts, academics and practitioners to share their experience and views on how the new business paradigm is evolving given the fast pace of economic uncertainties since 1990s.

Officiating the opening ceremony on 1st November, Datin Dr. Dayang Hajah Anita Binurul Zahrina binti Pehin Orang Kaya Laila Wijaya Dato Seri Setia Haji Awang Abdul Aziz, Vice-Chancellor of Universiti Brunei Darussalam, was the guest of honour. A total of 285 people attended the opening ceremony held online. Like the previous conferences, the conference was well attended by presenters and participants who shared experiences from different parts of the world. The opening ceremony also featured a keynote presentation by Professor Wim Vanhaverbeke, Professor of Digital Innovation and Entrepreneurship at University of

Antwerp, Belgium. Prof Wim Vanhaverbeke shared interesting insights of integrating innovation and digital technology to develop an innovative ecosystem for businesses in his talk titled 'Digital Technologies, Business Model Innovation and Innovation Ecosystem Development'. Professor Vanhaverbeke shared interesting examples of integrating innovations and digital technology to develop an innovative ecosystem for businesses. He observed that to have efficient outcome of these changes, "governments are encouraged to provide legal support to the new business model".

Day 2 of the conference featured invited speaker, Professor Mohammad Kabir Hassan, Professor of Finance in the Department of Economics and Finance at the University of New Orleans, United States who deliberated on challenges faced by the Islamic finance industry in his talk on 'Value Based Islamic finance and Sustainable Development'. Given the importance and need for a new business model, the conference has dedicated sessions on COVID-19, business strategies and business development, in addition to the broader areas of business, economics and finance. A total of 64 papers are scheduled to be presented in 16 parallel sessions over three days.

Other highlights of the conference included two panel sessions. The first panel discussion was 'Innovation for sustainable Development and Ecosystem Management'. The panelists consisted of invited speakers from diverse area of expertise which include Professor Wim Vanhaverbeke, an expert in Digital Innovation and Entrepreneurship, Professor George Saridakis, an expert in Small Firms and Entrepreneurship from Kent Business School, United Kingdom; Associate Professor Dr Yazid Abdullahi, an expert in Entrepreneurship from University of Sharjah, UAE as well as Mr Javed Ahmad, Chief Executive Officer from Darussalam Enterprise, Brunei Darussalam. The second panel discussion was held on the final day and the topic of discussion was 'Embracing Fintech in The Era of Business Uncertainty'. The panelists consisted of Professor David Lee, a Professor of Finance at Singapore University of Social Science; Puan Hj Hanisah Azah binti Dr Hj Awg Abu Bakar, Manager at FinTech, Brunei Darussalam Central Bank and Tuan Hj Aidil Bahrin bin Dato Hj Mohd Salleh, Managing Director/Founder of Jana Kapital, Brunei Darussalam.

The closing ceremony included a Best Paper Award session. For the business stream, the best paper award went to Mr Suhbpong Smithun from Silpakorn University, Thailand. The title of his paper is "Antecedents of Exhibitors' Acceptance Towards Progressive Rates of Exhibition Space Rental in Thailand". For the Finance stream, Mr Jason Lih Cheng Kok from Brunei Darussalam Central Bank was awarded Best paper for his paper titled "Reviewing the Returns For Brunei Darussalam's Pension System". Lastly, for the Economics stream, the best paper was awarded to Dr Hazwan Haini from UBD School of Business and Economics. The title of his paper is "Examining the Spatial Spillover Effects of ICT on Economic Growth: Evidence from the ASEAN Economies". It was hoped that the deliberations of this 3-day conference would help policy makers, academics, and businesses to consider new ways for future business development. Co-organisers of the conference are the Faculty of Management Science, Silpakorn University (Thailand), International Centre for Education in Islamic Finance (Malaysia), Universiti Teknologi MARA, Sarawak (Malaysia), Ministry of Finance and Economy (Brunei Darussalam), Brunei Darussalam Central Bank (Brunei Darussalam), and Brunei Institute of Leadership & Islamic Finance (Brunei Darussalam).

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Reviewing the returns for Brunei Darussalam's pension system

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There has been concern among the public and policymakers on the adequacy of Brunei Darussalam's pension system, with particular emphasis on the returns generated. This paper will investigate the historical returns since 1993, comparing with other countries as well as theoretical optimal asset allocations. The detailed financial statements, statistics and annual reports released by Tabung Amanah Pekerja (TAP) provide the basis for a robust assessment. The paper will then conclude with recommendations to improve the returns generated by Brunei Darussalam's pension system.

Keywords

Pensions, Tabung Amanah Pekerja, Supplemental Contributory Pensions

Implementation of the New Performance Appraisal System in the Brunei Public Sector: Initial Reactions

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This paper is a case study on Brunei Darussalam's public sector employees' reactions to the new performance appraisal system introduced in 2018. While the new system was aimed at instilling a more 'performance-driven' civil service, however, of the 1,281 civil servants who participated in a survey to gauge their first experience with the new system, participants raised their concerns on the issue of fairness, the key performance indicators used, the appraised grades, and the bell-curving of the grades. The findings highlight the need for more research to be done on the appraisal system and its processes in the public sector as 'what works' in the 'performance-driven' private sector may not necessarily work in the public sector.

Keywords

Performance Appraisal, Public Sector, Brunei, Key Performance Indicators (KPIs), Bell- Curve

Examining the Spatial Spillover Effects of ICT on Economic Growth: Evidence from the ASEAN Economies

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This study examines the spatial spillover effects of information and communications technology (ICT) on economic growth in the ASEAN economies from 1999 to 2017 using a dynamic spatial Durbin translog production function model. The dynamic spatial Durbin model captures the strategic spatial interaction between the ASEAN economies and estimates for long-run and short-run global and local spillovers while controlling for endogeneity. The estimated results show that the effects of ICT, proxied by mobile phones, fixed line telephones, and Internet penetration, is positive and significant towards economic growth. Interestingly, mobile phones and Internet penetration provides both short-run and long-run positive spatial spillover effects on economic growth. This supports the network effects and productivity-enhancing advantages that ICT provides. Member states should continue to develop their respective ICT sector and implement policies to promote further ICT integration within the region, following the initiatives of the ASEAN ICT Masterplan 2015 and 2020.

Keywords

Economic Growth; Spatial Spillovers; ICT; Spatial Regression; Internet

Telco Turning Digital & Innovation: How to Shape Digital Transformation, Monetize with Digital Offerings across the Customer Journey

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Purpose – The world of telecoms is being changed dramatically by virtue of the open internet. Everything to do with communications is now being driven by data. As a result, the entire competition landscape for the sector has undergone a change and erstwhile telecommunication companies which include behemoths like Google at one end of the spectrum and a slew of start-ups at the other end are redefining how business is done. There is no doubt in our minds that the future of telecom revenue is going to be driven by the ‘all connected consumer’. By this we refer to the fact that in due course everything that can be digitized will be digitized and everything that can be connected will be connected. In this paper, we investigate how telecommunication companies embark upon digital transformation and how to shift from the notion of system thinking towards running the business as a platform.

Design/methodology/approach – we conducted multiple case studies with 14 telecommunication companies. We identified two bunches of companies according to their platforms, and we assessed digital transformation models by analyzing intuitions coming both from cases and from the literature. Integrating cross-case analysis results, we developed a framework that shows two different digital transformation patterns according to companies’ commitment to change.

Findings – Our findings first show the significant role of change in driving digital transformation. We identify two patterns, namely Sustaining digital transformation pattern, characterized by the pervasive role of open culture with small and horizontal digital changes, and Disruptive digital transformation pattern, characterized by few and large digital steps that imply a disruptive and radical change in the company system.

Practical implications – Evidence supports the relevance of the proposed model and its practical usefulness. It can be used to design digital transformation, prepare properly the introduction of Industry 4.0 through a wider approach, and plan the future desired state, identifying the industry 4.0 technologies that should be implemented.

Originality – It is widely acknowledged that the relationship between Industry 4.0 and change is significant and positive, yet little evidence was presented to back that. We aim at bringing this debate forward by providing initial practical evidence of the significant role that telecommunication has on digital transformation, showing how platforms drives the digital transformation blueprint of companies.

Keywords: Digital Transformation; Innovation strategy; Platform businesses; Business Model; Industry 4.0

Strategic collaboration between Rural Banks (Bank Perkreditan Rakyat) and Fintech P2P Lending; Case Study ANS Group BPR

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The fast changing of technology along with increasing smartphone and internet penetration are changing the landscape of banking and financial industry tremendously in the past decade. FintechP2P Lending companies as the new players bringing in the mission of increasing financial inclusion especially for the unbanked population in developing countries such as Indonesia. The same mission has always embedded in the Rural Banks (Bank Perkreditan Rakyat) which has existed more than 40 years in reaching and helping the rural communities getting the financial services. Nevertheless, Rural Banks traditional method in doing business is struggling in catching up with the new technology. On the other hand, the tech savvy Fintech P2P Lending companies are lacking license to provide customers with wider banking services. This condition leaves gap for both industry which can be filled by financial technology collaboration with Rural Banks. The study is trying to approach the gap with qualitative and quantitative analysis by applying PESTEL, Porter's Five Forces and VRIO to understand the state of play in rural banking and Fintech P2P lending industry followed by interview with industry experts and players. The study shows that there are couple of collaborative business models that suitable and can be implemented between rural banks and Fintech P2P lending.

Keywords

Rural Bank; P2P Lending; Financial Technology; Collaboration; Business Model

Antecedents of Exhibitors' Acceptance Toward Progressive Rates of Exhibition Space Rental in Thailand

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Exhibition industry in Thailand has received substantial attention from organizers in various profiles. In every exhibition held, organizer aims to increase revenues as part of business achievement. However, this increment usually does not come easily. Understanding exhibitors' reasons for rejection and acceptance is crucial for trade show organizers in order to maintain their satisfaction while satisfying own business objectives. This paper proposes the conceptual framework of the antecedents of exhibitor's acceptance toward progressive rates of exhibition space rental in Thailand based on three related theories: Unified Theory of Acceptance and Use of Technology (UTAUT2), Willingness-to- Pay, and Satisfaction. Through systematic literature reviews, five antecedents are identified: Organizer's performance expectancy, Perceived benefits, Trust, Perceived fairness, and Satisfaction with Resistance as a moderator. Theoretical contribution assists academics with effective acceptance model, while managerial contribution advises exhibition organizers of factors influencing exhibitors' acceptance or rejection. Suggestions are also provided for future research.

Keywords

Acceptance, Exhibitions, Progressive Rates, Trade Shows

The Attractiveness of 2nd Tier City in Thailand for Corporate Meeting & Incentive Industry Success: Covid Era

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In Global context, 2nd tier cities become more and more crucial in terms of economic contribution and tourism destination growing hub. Same as the tremendous growth of MICE industry businesses, especially in Asia, the rise of 2nd tier cities as the spot of new experiences and diverse destination's selection has particularly been noticeable. While COVID-19 pandemic impacts the speed of change in the business landscape, the meeting industry also begins to consider 2nd tier cities as the host city now more than ever. There are a number of studies on major cities' destination competitiveness for MICE destination criteria, but rarely on 2nd tier cities' aspects. This paper aims to compile Thai Government's policy of generating economic impact to 2nd tier cities through MICE businesses and give better opportunities for 2nd tier cities to capture these high quality MICE participants. Additionally, to investigate attributes of 2nd tier cities that provide satisfaction toward corporate meetings and incentive travels. The conceptual framework model is presented to showcase key attributes of 2nd tier cities in order to provide levels of attractiveness as a host city in terms of the city's capabilities & readiness, marketing mix – 8Ps and market condition of demand & supply. The exploratory research of mixed method, combining quantitative survey of 212 respondents from meeting planners, DMCs, corporates and organizations, using statistics of frequency, percentage, standard deviation, mean and multiple regression, and qualitative survey using semi- structured purposive in-depth interview of 15 experts with more than 10 years of experiences in the meeting industry from 4 government agencies, 1 academic, 5 DMCs, and 5 corporates to confirm the quantitative findings and suggest "SMART" concept for 2nd tier cities' development to attract meetings regarding the impact from COVID-19.

Keywords

Second tier city, Corporate Meeting, Incentive Travel, Destination Attributes, Satisfaction

Performance Appraisal from a Multi-Level Perspective: Case Study of a Government-Linked Company

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Performance appraisal (PA) can be controversial hence some organizations have removed the practice completely from their human resource assessment. However, a majority still retained the practice seeing it as an important tool for performance feedback, reward and promotion in an organization. The issue of PA has always been about employees' fairness perception, but less research is focused on the views of top management, line management and human resources section that designed and implement the system. It is crucial to consider their perspectives, since successful implementation of PA depends on the coherency of PA, starting from the design of the system to its implementation and employees' experience. This paper attempts to fulfill the literature gap by adopting a multilevel analysis based on a qualitative case study of a government-linked company in Brunei Darussalam. The findings of the research were profound. The top management, the line managers and the human resources section were at odds with the system; not only was there a lack of communication between management levels; there were also different opinions on the expectations and implementation of the appraisal system. In addition, employees find it difficult to appeal if they disagreed with the assessment made by their line managers. In view of the findings, the paper will propose areas for improvement on the appraisal system.

Keywords

Performance appraisal, fairness, Brunei, multi-level

An Examination on The Effectiveness of Contest Through Social Media Platforms on Attitudes toward the Company and Purchase Intention

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Nowadays, as social media became a prominent platform for marketing, more businesses around the world are utilizing social media in an attempt to widen the consumer base, enhance sales margin and build stronger consumer relationships. In an attempt to lure consumers, sales promotions through social media are increasingly used by companies. Online contests are one of the sales promotion techniques that could be employed in social media as contests are trending among the social media community. Despite widespread use of online contests on social media, there lacks empirical evidences on effectiveness of online contests. Henceforth, the emphasis of this paper is on effects of online contests on consumer behaviour. Specifically, it aims to examine (i) the various contest techniques that consumers are keen to participate in, and (ii) the various prize categories that influence attitudes toward the company and purchase intention. Additionally, this research further examines the type of prize categories on consumer behaviour for two groups of consumers: (i) consumers who have ever participated in an online contest, and (ii) those who have never took part in any online contest. The study uses a quantitative approach where questionnaire was administered to respondents residing in Brunei. A total of 206 valid responses was collected and the collected data was analysed with independent sample T-test to compare between the two groups of respondents. Findings revealed that for those who have ever took part in a social media contest, they often engage in giveaway contest (39.6 percent), followed by like and share contest (30.4 percent), online quiz (18.3 percent) and others. It was also found that a luxurious prize item, cash prize and company's own product enhance attitudes toward the company for both groups. Significant differences are found on attitudes toward the company if the prize is a company's own product/service or if it is aluxurious prize between the two groups. Meanwhile, no significant differences were reported on attitudes toward the company if it is a cash prize, redeemable cash voucher or random goodie for both groups. Surprisingly, findings imply that the type of prizes used in a social media contest do not enhance purchase intention.

Keywords

Social media, online contests, attitudes toward the company, purchase intention

Re-thinking Malaysian Universities' Business Models – Building sustainable Business School graduates

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The COVID-19 pandemic has severely disrupted businesses globally, challenging their resilience to survive during this crisis. The Malaysian university sector has its fair share in this tumultuous journey with lockdowns forcing the immediate implementation of academic programs in fully online form. This disruption has been categorized as 'emergency remote learning' (Krisnamurthy, 2020). Not only has university learning had to transition to online form, but in the business world dependence on information technology and meta-dimensional analytics is now seen as crucial to their longevity. In preparing business graduates for this world of business, it is incumbent on schools of business within universities to also adjust their educational offerings, aligning them with this ever-changing business landscape, especially in terms of technologically based inputs. Such an approach also indicates sustainability of business academic programs, supporting Sustainable Development Goal 4 (SDG 4) of quality education so that it meets the needs of the nation and its socio-economic development.

Now that academic programs in higher education business schools have implemented online learning in emergency remote learning form, it is timely to explore the degree of their transition to Krisnamurthy's (2020) next stage of development in online learning, entitled instructional design and where online academic programs provide coherent educational experiences. The result of this is that, in terms of sustainable and quality education, business academic programs prepare undergraduate students with skills, capacities and approaches aligned with the changes in business operations brought on by the pandemic.

This study explores and reports on current business school programs in private universities in Malaysia in terms of the degree of their inclusion of information technology and meta-dimensional analysis skills and capacities. Audit of information presented in online websites for university business programs will be supported by survey of business school staff. As the world emerges from the pandemic, it is vital that the re-modelling of business schools fulfils SDG 4 and in so doing, supports effective business operations that position Malaysia well in the highly competitive world of the knowledge society.

Keywords

Business school, Covid-19, online learning, sustainable goal 4, business programs

Adopting Drone Technology as An Alternative for A Forthcoming Transportation Designed For Online Shoppers: Are We Ready?

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Drone usage for delivery purposes in the supply chain pipeline has attracted a lot of attention in recent years. However, this technology has not seen much applied in day- to-day delivery activities and has only been used in experimental settings. There is no clear understanding of what factors affect potential consumer's intention to adopt this technology. By utilizing an adapted form of the unified theory of acceptance and use of technology (UTAUT2) this study aims to understand the factors affecting the behavioral intention of urban population to adopt drone delivery services if they were to be made available. The study focus on quantitative approach where questionnaire was used for data collection. Among the objective of the study is to determine factors affecting behavioural intention towards delivery of drone adoption amongst urban population in Kuala Lumpur and to suggest a model of drone usage in the delivery option amongst urban population in Kuala Lumpur in replacement of transportation traditional delivery method. Major finding from the study revealed that effort expectancy, social influence and perceived risk were among the main factors affecting the behavioral intention to adopt drone delivery services in urban area particularly in Kuala Lumpur metropolitan. The research concludes with a significant predictor's model on drone and delivery usage among urban user's and their behavioral intention to adopt drone technology in parcel delivery for the online shoppers.

Keywords

Drone, Delivery, Transportation, Online Shoppers, Supply Chain

MICE Experts' Views on Outcome-Based Education Curriculum Development in Muslim-friendly Meetings and Exhibition Management in Thailand

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Due to the significant growth of the Meetings, Incentive travels, Conventions, and Exhibitions (MICE) sector in Thailand, and since Muslim MICE attendees, both national, and international, have been expected to grow in the nation, it is necessary to prepare the nation for hosting MICE events, that are in harmony with Islamic teachings for this potential target group. The purpose of this study is to develop a training curriculum that is in line with the outcomes-based education. Research and development (R&D) method approach was utilised. Professional MICE practitioners in Thailand and experienced lecturers in business events from Thai universities were included as key stakeholders for the curriculum development. The findings reveal that it is notable that there is still a great lack of understanding about Islamic practices in the MICE industry. There is also a severe shortage of services and facilities for halal-conscious customers in venues. Opinions were positive as the development in Muslim-friendly meetings and exhibition management curriculum, which complied with outcome-based education could be effective in accordance with the needs of MICE management, venue staff, and organisers. As Thailand is a Buddhist nation, this curriculum can be used as an instruction for up-lifting knowledge and skills of MICE employers and employees for conducting an event which meets the requirements of Muslim customers in the mentioned industry. On this basis, it appears that if the curriculum in accordance with outcome-based education was delivered, the competencies of MICE management and staff would be no further doubts in the minds of Muslim clientele that everything would be prepared according to Islamic specifications. This would go a long way in reducing stress, both for the venue hosts and their Muslim clients. The research sheds light on the perspectives of MICE experts on how the curriculum is designed and how outcome-based education is integrated into the course. The research provides recommendations for policy makers, academics, and practitioners on how to improve Thai MICE capabilities.

Keywords

Outcomes Based Education, Training Curriculum, Muslim-friendly Services, MICE Industry

The Effects of Blockchain Adoption on 'Sertu' Cleansing in Halal Logistics Operation: A Case Study on Halal Logistics Operation in Klang Valley

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Blockchains technologies have the most drastic effect on market structure, challenging the market power of incumbents and lowering the cost of entry for new entrants. Nevertheless, given the relatively high costs of the proof of concept, it is likely that most early adoptions of blockchain will take place in the form of value -added applications built on top of existing blockchains, private or semi-private blockchains targeting process efficiencies in any services and extensive margin applications enabling new marketplaces. Hence, blockchain adoption is the most fundamental and crucial in logistic processes where it highly requires the presence of human with the main goal of reducing the error and transparency during logistic operation. This study will be providing the information on the effect of blockchain adoption in halal logistic operation in Klang Valley. The study will be carrying out using quantitative approach with the sample size of more one hundred respondents from logistics company in Klang Valley. The procedures of data collection using quantitative methodology will be shown where a detailed insight will be provided through using the variables based on tabulation of category of the previous researchers. The variables for this study on effect of blockchain adoption in halal logistic operation where the overall of this study will be highlighting the effect and will be proposing the impact at the end of study using quantitative research method. This study have been explored so blockchain adoption in halal logistic operation would lead to promising new research directions.

Keywords

Blockchain technology, Halal logistics, Sertu cleansing

Digital Ecosystem: A Preliminary Framework to Measure the Health of an Ecosystem

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The analogy of 'ecosystem' has been a developing area of interest recently, continuously linked to the advancement of technology where ecosystem is considered to be resilient, extendable structures that can decode dynamic and sophisticated challenges. Digital ecosystem imitates that of a biological ecosystem which is related to the intricate and interrelated networks and their fundamental structures, where all of the components interact and present themselves as a complete self-organizing, extendable and maintainable function. Digital ecosystems are made up of various and self-reliant entities such as organizations, individuals, services, applications, and software that contribute to one or numerous tasks and concentrates on the connection between them. A keystone exists in an ecosystem as a facilitator that manages interaction and the value exchanges between other entities in the ecosystem. An ecosystem can be represented by a value exchange network (VEN) where it depicts the value exchanges between entities within the ecosystem. This study included the concept of service-dominant logic to provide a micro-theoretical level exposition in the context of digital ecosystem. The fundamental idea of service-dominant logic (S-D logic) is derived from marketing practices that are concerned with the exchange of service among organizations, markets, and society. S-D logic is a perspective for a standardized understanding of the objective and nature of organizations, markets, and society. Service-dominant logic incorporates the concept of value-in-use and co-creation of value. The purpose of this study is to propose a framework that can measure the health of an ecosystem. The integration of digital ecosystem and service dominant logic provides an opportunity to develop an instrument to be used to define the well-being of an ecosystem.

Keywords

Digital business ecosystem, Value network, Service-dominant logic, Value co-creation, multi-sided network

Factors Influencing The Engagement of Youth in Agropreneurship: Malaysian Perspectives

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Agropreneurship can be best defined as a person who set up an agricultural business either in small or large scale, bearing most of the risks to obtain a profit. It leads to economic growth by developing a new idea and transforming them into capital investments. The participation of youth in agropreneurship can contribute a huge impact towards agricultural sector development. However, in Malaysia the participation of youth in agropreneurship specifically after their graduated from higher institutions still considered as low, and not many of them choose agropreneur as their top career of choices. Furthermore, apart from personal factor, institutional factors also become an important role in shaping the agropreneurial intention among students in tertiary level of education (Musa et al. 2021). Therefore, this study will examine the relevant factors that influence the engagement of youth in agropreneurship. The specific objective for this study are: 1) To identify the relationship between each factors towards the engagement of youth in agropreneurship and 2) To determine the most influencing factors that contribute to the engagement of youth in agropreneurship. This study is driven by the Theory of Planned Behaviour (TPB) and will employ a simple random sampling technique. A total of 189 students who enrolled in Agricultural entrepreneurship course will be sampled and the data will be analysed using SPSS (Version 25). The result from this study will further highlight the main component that might influence the engagement of youth in agropreneurship, and that will lead to improve the participation of youth in agricultural sector, particularly in embracing a new paradigm during economic uncertainties in the Malaysian context.

Keywords

Agropreneur, agribusiness, entrepreneurship, youth, Malaysia

Depression, Anxiety and Stress among Tertiary Students during Covid-19 lockdown and its Related Coping Strategies: A Cross Sectional Survey in Emerging Economies

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The higher education sector has not been spared in this pandemic, having to face enduring challenges since early 2020. Institutions of higher learning (IHL) have rolled up their sleeves to address unsurmountable challenges to ensure students are not short- changed and been given the proper nurture, coupled with adherence to syllabuses. Parallely, the Covid-19 pandemic has caused unscrupulous pressure on students of these institutions. The psychological waves are creating mammoth consequences, affecting these youth and their families. Recent studies by Patias et al., (2021); Almomani et al., (2021); Jiang et al., (2021); Villani, et al., (2021); Sood and Sharma (2021); Mekonen et al., (2021); Capone et al., (2020); Nurunnabi et al., (2020); Lai et al., (2020); Baloran (2020); Wathelet et al., (2020) postulates that Covid-19 pandemic has resulted in mental and emotional disorders among tertiary students, leading to behaviour abnormalities and health challenges.

Hence, with limited studies on psychological impact among tertiary students on a cross country basis and the degree of coping strategies, we were motivated to investigate the degree of depression, anxiety and stress (DAS), among this cohort of students encompassing the 1st to the 3rd year of undergraduate programs at Sunway College and Sunway University Malaysia. In addition, we stretched our data to cover undergraduate programs in countries such as, Indonesia, India, Romania, South Africa and China, representing the emerging economies. A cross sectional survey will be conducted to collect the data, followed by a quantitative analysis. The subsequent aim of this study is to recognise whether there is a relationship between the psychological impact of DAS and the coping strategies adopted by these undergraduate students during the lockdown. Besides, our study employs the general self-efficacy scale (Schwarzer & Jerusalem, 1995), as a moderator in order to identify the coping strategies which are intended to mitigate the level of DAS.

This study engages the social cognitive theory (Bandura,1986, 2008), as its theoretical stance, which holds

that environment, cognition and behaviour are key influencers on the belief system of an individual. In social cognitive theory, self-efficacy is seen as a source with respect to stress vulnerability. Hence, an event can be viewed as negative only after a negative cognitive assessment. This study would result in a deeper understanding of DAS

among undergraduates in emerging economies and their degree of coping behaviour, which will enable regulators and institutions to better address DAS in IHL, coupled with prudent mitigative actions.

Keywords

Covid-19, Social Cognitive Theory, Higher Education, DAS

MICE Venue Management Perspective Towards ASEAN MICE Venue Standards

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The purpose of this research was to assess the perspective of MICE venue managers in Songkhla on the ASEAN MICE Venue Standard (AMVS) that would upgrade the MICE venues in Songkhla to MICE cities there will have an interview five Thailand MICE Venue Standards (TMVS) in Songkhla that certified TMVS at least. Accreditations to assess the viewpoints of site managers in preparation for the development of standards from national level to ASEAN level. By meeting Thailand MICE Venue Standards (TMVS) qualification standards first and holding the TMVS logo for at least 1 year, they can be upgraded to ASEAN or ASEAN MICE Venue Standard (AMVS) level by assessing ASEAN MICE Venue Standard venues in 3 categories: meeting rooms, exhibitions venues and Special event venues. Currently, ASEAN MICE Venue Standard (AMVS) has been accredited by the ASEAN Cabinet in 2 categories: meeting rooms and exhibition venues. Another type is under development. Special Event Venues (ASEAN Org, 2018) The ASEAN MICE Venue Standard (AMVS) logo certification will be able to enhance the good image of any venue in Songkhla. and foresee the direction of the venue's perspective towards the future development of the venue. From the information the result could conclude, most of the interviewees have a positive view of AMVS. Each venue featured different indicators, but most viewpoints that all indicators are equally important. And there are no indicators that hinder the application of the AMVS standard because most venues do not see it as a barrier but as a step in the implementation. They are ready to improve the venue in the AMVS standard to enhance its image and be a guaranteed tool in terms of the venue. The event has received international standards.

Keywords

Venues in Songkhla , Thailand MICE Venue Standards , ASEAN MICE Venue Standard

Purchase Abandonment in In-store Shopping

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Purchase abandonment is a common problem for businesses since it translates to loss of sales and loss of potential customers. A review of the literature suggests that there is yet a study on in-depth exploration of purchase abandonment in in-store shopping. Hence, this study aims to examine the nature of product abandonment in in-store shopping, explore the factors that influence purchase abandonment in in-store shopping, and understand how the difference in the features of product categories affect purchase abandonment in in-store shopping. This qualitative study involved 12 in-depth interview with consumers in Brunei Darussalam and the data was thematically analysed. The findings of this study provided new definitions for purchase abandonment in in-store shopping where the definitions differ in terms of the formation of purchase intention, and uncovered additional factors that lead to purchase abandonment in in-store shopping that were not identified in previous studies. This study also uncovered how product abandonment differs across product categories where specialty products are more likely to be abandoned than convenience products and shopping products due to the perception that specialty products are usually not a 'need' product and that specialty products are expensive.

Keywords

Purchase Abandonment, In-store Shopping, Product Categories

Assessment of Fisheries Co-Management in Sarawak, Malaysia

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Co-management is important in fisheries management and development as it serves as a mechanism for not only resource management, but for social, economic and community development by promoting participation and empowerment of people to actively solve their fisheries problems. Studies have shown co-management to be more effective than centrally planned fisheries management in addressing the issues of economic efficiency, equity and user conflict, alleviating poverty and increasing the welfare of small-scale fishers. However, currently fisheries co-management is not so effective in Sarawak. The small-scale fishers do not fully understand the fisheries co- management concept. The fishers still depend on state authorities or central planning agencies for allocating fisheries resources and rights. Therefore, education of fishers is needed to promote fisheries co- management. The various stakeholders such as university academicians, researchers and non-governmental organization need to provide education and create awareness among the fishers on the importance of co- management.

Keywords

Co-management, fisheries resources, development and management.

The Development of Anti-Corruption Disclosure Index for Malaysian Companies

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The purpose of this paper is to explain the development of an anti-corruption disclosure index for Malaysian companies. The final index consists of seven general themes and 40 sub-categories. The general themes include: accounting for combating bribery; board and senior management responsibility; building human resources to combat bribery; responsible business relationships; external verification and assurance; codes of conduct and whistle-blowing. The development of a disclosure system such as the anti-corruption disclosure index is timely as it enables the relevant parties to measure the level of commitment of business organizations in combating corruption activities and translate these actions into disclosure practice. In addition, this index can become a tool to assist the agencies in monitoring the achievement of corrupt-free business organizations in Malaysia and consequently will create awareness of corporations to increase the initiative in disclosing anti-corruption practices.

Keywords

Anti-corruption, Disclosure, Index, Malaysia companies

Assessing the Effectiveness of Competition-based Learning Winning Video as a Pedagogical Tool in Preparing Business Plan among Accounting Undergraduate Students

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The competition-based learning model is one of the pedagogical methods employed by educators in universities to overcome learners' shortcomings in their knowledge acquisition. Using the competition-based learning model, a specific learning activity was conducted via the business proposal pitching video competition for the course of Strategic Management. The winning video has been utilized as reference for future students in preparing business plan. The objective of this paper is to examine the effectiveness in using the competition-based learning winning video as a pedagogical tool for preparing the business plan in the Strategic Management course. The questionnaire was particularly developed and distributed to all 41 students from the Bachelor of Accountancy Program, Universiti Teknologi MARA, Sarawak Branch, who underwent the course in Semester March - August 2021. Generally, the respondents agreed that the winning video was effective for preparing a business plan. In addition, this effective and self-reliant learning supports a self-directed and regulated learning system among accounting students. The advanced technology necessitates learning from winning video. This paper contributes a new knowledge in the area of accounting education.

Keywords

competition-based learning, video pedagogy, accounting students

The year that the world stops: Pandemic, religiosity and sustainability affecting Muslim consumers

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The year 2020 marks the year that the earth stops with the outbreak of Covid-19 globally. It has forced curfew and other critical measures in response to the pandemic. Therefore, disrupting the normal economic and social landscape. This paper ought to discuss the Covid-19 pandemic and the concept of Halal in food consumption. Then further highlight Muslim consumer behaviour on their religiosity affecting the consumption of Halal food. It will offer an insight into five Muslim consumer religiosity dimensions. It includes the social and environmental aspects that are the core aspect of sustainability. An exploratory-sequential research method was used in identifying the dimensions. Ultimately, this newly developed instrument offers wider dimensions of religiosity for Muslim consumers in understanding their behaviour. Thus, perhaps embracing religiosity as the forgotten paradigm in the world and economic uncertainties.

Keywords

Pandemic, religiosity, Muslim consumers, Halal, consumer behaviour

Effects of Work-Life Balance on Perceived Stress Amidst COVID 19: Evidence from a Malaysian Telecommunication Infrastructure Company

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COVID-19 pandemic has brought about unprecedented changes unseen before. It has brought about various challenges to everyone since March 2020. The full extent of the impact on workers general well-being is gradually emerging through scholarly research, news reports, as well as social media. This paper aims to investigate the effects of work-life balance on perceived stress amidst COVID-19 in a telecommunication infrastructure firm in Malaysia. Quantitative data was collected from 139 respondents using simple random sampling method. The findings showed that in general slightly less respondents (48.2%) suffered from high level of stress compare to 51.8% who suffered low level of stress since COVID-19 pandemic started. For respondents between 26 to 40-year-old, or the Gen Y, 60% of them perceived high level of stress. Findings also showed that every nine of ten respondents were worried about their finances, fear of being infected by COVID-19 and losing their job. As for work-life balance, respondents generally indicated low level of work interference with personal life, and a low level of personal life interfering with work. However, the number of days working from home was a significant determinant of work interfering with personal life. For those who work four days and more per week from home showed that work indeed interfere with their personal life. It was also found that both work interfering with personal life, and personal life interfering with work are significant contributing factor to respondents' stress during COVID-19. Recommendations for organisation are also discussed. This study has shed more light on employees' stress and work-life balance midst COVID-19 pandemic and it is essential for employers to create more impactful initiatives to ensure their overall well-being are taken cares of.

Keywords

COVID-19, Work-life Balance, Perceived Stress, inference of work, interference of personal life.

Rerouting Service Operation Management

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Operations management related approaches since the past have been influenced by manufacturing practices, that are based on specific functional segregations commonly associated within manufacturing organizations structures. Though, such approaches may naturally apply to services, emulating such practices might not be effective due to the inherent differences in delivering a service to that producing a product. Due to the critical nature of these differences, the study attempted to identify a mechanism as an approach in managing service operations towards achieving operations capabilities. Operations executives from the service industries participated in the study. The procedures include literature reviews, interviews, expert opinions, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The study identified System Delivery, Human Delivery, Technological Applications, Service Quality Culture, Customers Oriented Layout, Service Design and Employees Management, as a holistic requirement for service operations management. Unidimensionality, reliability and validity analysis concluded the model fit well and represents a reasonably close approximation in the population. Further analysis indicated that Human Delivery, System Delivery, Technology Applications, and Service Design, are determinants for operations capabilities. The findings provided an alternative perspectives and platform in managing service operations. It also provides a basis for further empirical works in SOM, a platform for hypotheses developments and theoretical testing.

Keywords

Managing service operation, Operation capabilities, Systems delivery, Technology application, Service design

Recalibration of Cultural Landscape in Malaysia

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It is a common fact that culture has a significant role in human life, affecting behaviors and decisions making. To understand its impact cultural frameworks are applied. These frameworks are based on the assumption of population homogeneity. Though, pure national culture may, yet factor such as ethnicities has led to population fragmentation and social segmentations resulting in unique multiple cultural niches. Therefore, frameworks that based on the assumption of population homogeneity may not be a complete yardstick to explain populations that are ethnically diverse. The study attempted to ascertain cultural landscape in an ethnically diverse population. The procedures include literature reviews, focus group interviews, Exploratory Factor Analysis and Confirmatory Factor Analysis. More than 1000 consumers from different ethnics participated in the study. The study identified Selfness, Religiosity, Humanity, Communion, Ethnic Identity, Moralistic and Environmentalism factors. Unidimensionality, reliability and validity analysis clearly indicate a good model fit. The findings indicated that customers tend to favor brands with abstract definitions of Religiosity, Selfness, Humanity, Communion, Ethnic identity, Moralistic and Environmentalism. This comprehension is seen as being compatible and accommodating the needs for preservation of individual life, community and nature. The outcome has painted a new perspective on the relevance of adopting a notion of national culture.

Keywords

National Culture, social segmentation, cultural landscape, ethnic identity, moralistic

Explaining Consumers' Intention to Purchase Products of Socially Responsible Organizations

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This study integrated values attitude and behavior hierarchy model with social identity theory to explain the causal sequence of consumer response to socially responsible organizations. Corporate social responsibility has become the right thing for organizations, and consumers increasingly demand and evaluate organizations for their proactive role in the welfare of society and the environment. This study investigated the role of consumer

values that are altruistic values and religiosity on consumer CSR beliefs and their subsequent influence of consumer identification with the company and purchase intention. Results showed the consumers with high levels of altruism and religiosity have positive CSR beliefs. They believe that organizations must move beyond making profits to proactively work for the welfare of society and the environment. Findings also revealed that consumers with positive CSR beliefs identify with organizations engaged in CSR, and consumer-company identification leads to purchase intention. This study also provides managerial implications. Managers can use the study findings to increase the customer base and establish long-term relationships with the customers. Also, findings show that organizations must invest in CSR initiatives and build a CSR-based identity that resonates with consumers for positive attitudinal and behavioral outcomes and brings long-term returns. The study also suffers from some limitations that offer the opportunity for future research.

Keywords

Corporate social responsibility, religiosity, Consumer-company identification, values, purchase behavior

Social Darwinism, the economic implications in the context of COVID-19 & the Islamic perspective

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Social Darwinism is a highly contested term in the world of academia. In a general sense, the term Social Darwinism can be used to refer to any effort made toward applying concepts from Darwin's theory of evolution by natural selection to other domains of human social life (Dickens, 2000). Darwin's ideas have been used to justify eugenics (Nourse, 2016), racism and imperialism (Leonard, 2009) which are arguably linked with "survival of the fittest." In the context of the recent pandemic of COVID-19, there are economic issues which link to Social Darwinism as a phenomenon. Firstly, the issue of global vaccine equity ties with the idea of a hegemony, that developed nations inherently own a monopoly over the distribution of vaccines in comparison to the developing world. The economic consequences can be argued to either run counter to or in concurrent with natural selection per Social Darwinism. Secondly, the issue of crippling debt that effects economies impacted by COVID-19 also raises questions to do with Social Darwinism. For example, modern economist Joseph Stiglitz suggests that American economic recovery from the pandemic of COVID-19 hinges on Americans' debt (Brancaccio & Shin, 2020). Stiglitz places emphasis on the problems of usurious interest rates to do with credit card debt, federal student debt and even small business mortgages. As the problem of usury is further exacerbated by COVID-19, it is noteworthy that Islam forbids the use of "Riba" (usury). This paper will examine the economic implications which relate to Social Darwinism in the context of COVID-19 and include the Islamic perspective.

Keywords

Social Darwinism, economic implications, COVID-19

The Moderating Effect of Corruption on the Relationship between National Culture and Entrepreneurial Orientation: Evidence from Informal Enterprises in Hostile Environments

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Corruption is one of the fundamental problems affecting the entrepreneurial development of hostile environments. The cultural peculiarity of these environments signifies the extent to which corruption is embedded into their national culture, which consequently affects their entrepreneurial orientation (EO). This paper used a sample of 475 small informal enterprises in hostile environments and examined the extent to which corruption moderates the effect of national culture on entrepreneurial orientation. Results obtained using PLS- SEM shows that corruption significantly moderates the nexus between four dimensions of culture (uncertainty avoidance, power distance, masculinity, and individualism) and EO. The finding shows that corruption strengthens the negative effects of uncertainty avoidance and power distance on EO, and weakens the positive effects of masculinity and individualism on EO. The findings further show that the higher the corruption, the stronger the negative relationship between uncertainty avoidance and EO, power distance and EO, and the weaker the positive association between masculinity and EO, and individualism and EO. The findings reinforce the theory of national culture and anomie theory in the context of small informal enterprises in hostile environments and highlight the implication of national culture on entrepreneurial orientation. We conclude that carefully developing a positive culture is essential to promote entrepreneurial orientation. We recommended that policymakers strengthen the institutional settings to fight corruption and promote a favorable national culture that supports small informal enterprises.

Keywords

National culture, entrepreneurship orientation, small informal enterprises, hostile environments, corruption

The Role of Domestic and Foreign Economic Uncertainties in Determining the Foreign Exchange Rate: An Extended Monetary Approach

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This study extends the monetary model of exchange rate by incorporating domestic and US economic policy uncertainties (EPUs). We consider 12 economies, namely Brazil, Canada, Chile, China, Euro, India, Japan, Korea, Mexico, Russia, Sweden, and the UK, and use monthly data covering 2000:M1 to 2017:M2. We estimate the extended monetary model by employing the panel method of moments quantile regressions of Machado and Santos Silva (2019). The estimates illustrate that domestic EPU adversely affects the exchange rate between the domestic currency and the US dollar, implying that domestic currency appreciates as domestic EPU increases. On the contrary, the US EPU has no significant effect on the exchange rate. The other control variables, for instance, relative money balance, relative income, relative interest rate of domestic economy and the US economy, hold expected signs and are statistically significant at each quantile. However, we obtain different effects of EPU for developed and developing economies. In the case of developed economies, the domestic EPU has significant influence in appreciating domestic currency, while the US EPU significantly depreciates domestic currency. On the contrary, domestic and US EPUs have no significant impact on exchange rates except at the lowest and highest quantiles in developing countries.

Nonetheless, the Wald test shows that EPUs have significant asymmetric effects on the exchange rate at different quantiles. To check the robustness, we further estimate the same model using the common correlated effects (CCE) estimation technique as postulated by Pesaran (2006). The CCE estimates show that domestic and US EPUs positively affect the exchange rate in developed economies during the long run. At the same time, the EPUs do not affect the exchange rate in the short run. Furthermore, domestic EPU positively and US EPU negatively affect developing countries' exchange rates in the long run, whereas the US EPU only remains valid in the short run. It appreciates the domestic currency of the developing country. To check the asymmetric effect of EPUs, according to Salisu and Isah (2017), we decompose EPUs in their positive and negative cumulative sum. Applying the nonlinear panel ARDL model, we find that domestic EPU depreciates domestic currency in the long run, disregarding whether uncertainty increases or decreases.

By contrast, both positive and negative cumulative sums of the US EPU positively affect developed economies' currencies and negatively affects developing economies' currencies in the long run. The Wald statistics support the asymmetric effects of increasing and decreasing EPUs. In the short run, only the US EPUs are significant. In the Wald test, only the US EPU has a significant asymmetric effect in the developed economies. In contrast, only the domestic EPU has a significant asymmetric impact in developing countries in the short run. Finally, Dumitrescu and Hurlin (2012) causality test shows bidirectional causality between each determinant of exchange rate and the exchange rate. Overall, domestic, and foreign economic

uncertainties significantly affect developed and developing economies' exchange rates, at least in the long run. Therefore, economic uncertainty should be considered in determining the exchange rate. This extended model might be more appropriate in the post-Covid-19 era.

Keywords

foreign economic, foreign exchange, common correlated effects, economic policy uncertainties

Will Belt and Road Initiative Reshape Global Trade? Evidence from Network Analysis

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This paper examines the impact of Belt-Road Initiative (BRI) to the trade connectivity between the belt-road countries. Using network analysis, this paper visualizes the connectivity of the belt-road countries through trade. The study then proceeds to examine how these connectivity changes during the BRI period. The results show that connectivity between belt-road countries have improved over the period of BRI, however, African, and Central Asian countries require further investment. The implications of the study suggested that improvements in connectivity have benefited participating countries during the BRI period, thus China and the BRI countries have a role to play in further enhancing this connectivity in the region.

Keywords

Trade; Connectivity; Belt-Road Initiative; China; Network Analysis

Structural Empowerment, Knowledge Self-efficacy, and Knowledge Application Behaviour: A proposed framework

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Knowledge is a valuable asset, and its application is especially crucial in knowledge-based organisations, where it could contribute to long-term organisational success. To date, little research has focused on understanding knowledge application behaviour and its enabling factors. Based on an extensive literature review, this paper aims to propose a model linking structural empowerment to knowledge application and integrating knowledge self-efficacy as a boundary condition in structural empowerment-knowledge application linkage. The paper draws from structural empowerment theory and social cognitive theory as the theoretical lenses to illuminate the proposed relationships. Collectively, this paper offers several theoretical and practical implications relevant to knowledge management initiatives in organisations. The proposed framework provides an initial understanding on how structural empowerment could stimulate an individual's knowledge application behaviour. It also brings forward the potential role of knowledge self-efficacy in moderating the association between structural empowerment and knowledge application behaviour.

Keywords

Knowledge application, Structural empowerment, Knowledge self-efficacy

Islamic Social Finance, Institutional Quality and Stability of Islamic Banks

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The objective of Shariah law is to promote wellbeing in society. Islamic social finance instruments are expected to contribute to the objectives of Maqasid al-Shariah. We explore whether the level of quality of institutions matters for risk-sharing financing tools and philanthropy to drive the stability of Islamic banks. Our sample consists of 12 banks from 4 countries; Bangladesh, Bahrain, Indonesia and Malaysia over the periods from 2006- 2019. We employed the feasible generalized least squares method for the analysis. The results indicate that zakat and charity induced the stability of Islamic banks via institutional quality while mudarabah and musharakah expose the banks to more risk-taking behavior. Moreover, we found that musharakah financing raises the stability of Islamic banks without the conditioning effect of institutional quality. The results are robust when different measures of stability such as liquidity and portfolio risks were used. Lastly, policy recommendations are proposed to ensure the solvency of Islamic banks as going concern entities.

Keywords

mudarabah, musharakah, zakat, charity, institutional quality

Shariah Audit Development – A Survey of Literature

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Shariah auditing has over the past decade been recognised by financial regulators, practitioners, academicians and other stakeholders as an important element for the sound Shariah governance of Islamic financial institutions. The increasing need for Shariah governance, justified by the global development of Islamic finance, has further increased the need for Shariah auditing. The Shariah auditing is obligatory in countries in Malaysia, Pakistan, Brunei, amongst other. Together with this development is an increase research in Shariah auditing. Consequently, this paper seeks to review the published studies from 1985 up to March 2021 in order to identify the trends/ issues in Shariah auditing research and to propose future research agenda. The paper adopts a chronological review from Shariah auditing related literature limited to journal articles. The keywords such as Shariah audit, Shariah auditing, Shariah compliance audit, Shariah review, religious audit, Shariah auditor and religious auditor were searched from the google scholar, Scopus and emerald databases. The study also included the search on Shariah audit AND Shariah governance, since there are articles looking at both Shariah auditing and Shariah governance. This study used a simple statistical analysis to present the distribution of yearly publication/by journals/by countries. The Shariah auditing research trends is analysed by dividing the time period into three: (1) 1985-2000 (early stage); (2) 2001-2009 (pre-implementation of Shariah governance framework) and (3) 2010-2021(post implementation). It is hoped that the paper will provide valuable insights to the present and future Shariah auditing practitioners who are interested in the evolution of the subject matter and/or identifying avenues for future research.

Keywords

Shariah Governance, Shariah Auditing, Shariah Auditing Research

An Exploratory Study on SMEs towards the Fourth Industrial Revolution: Their Readiness, Challenges and Opportunities

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The fourth industrial revolution (4IR) has begun, ushering in a new era of digital innovation, unlocking new markets and opportunities for small and medium enterprises (SMEs). Indeed, the impact on SMEs, as well as other industries and organizations, is significant. While previous studies have examined the importance of SMEs in terms of socio-economic growth, innovation, competitiveness, and employment, more recent study has started to focus on the adoption and implementation of 4IR, including its impact on SMEs. The aim of this study is to explore and assess the readiness, challenges, and opportunities of SMEs in Brunei Darussalam towards the 4IR. Qualitative research methods such as literature reviews and in-depth interviews have been applied to gather data. This exploratory study makes a substantial contribution to management and practice by identifying four components towards embracing the 4IR: social-impact, strategy, talent and the workforce, and technology. A set of recommendations is proposed to adapt to the changes brought about by industry 4.0, which involves technological convergence that blurs the distinctions between the physical and digital domains.

Divergent economic impact of COVID-19 in advanced and emerging economies

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Abstract

Policy makers have adopted a wide range of Non-Pharmaceutical Interventions (NPIs) to mitigate the spread of the coronavirus disease (COVID-19). However, these NPIs, which include closing schools, closing workplaces, and cancelling public events, restrict mobility and certain economic activities. This paper investigates the impact of NPIs on the economic growth of 106 Advanced Economies (AEs) and Emerging Market and Developing Economies (EMDEs), highlighting the divergent impacts experienced by AEs and EMDEs. The paper will further investigate whether continued experience with imposing, withdrawing and re-imposing NPIs allowed AEs and EMDEs to utilise NPIs with reduced negative economic consequences.

Note: An earlier version of this paper was published as Kok, J.L.C. (2020) Short-term trade-off between stringency and economic growth, Covid Economics Vetted and Real-Time Papers Issue 60, 4 December 2020, pp. 172-189. This paper is an update with additional data and further extension covering whether the economic impact of subsequent NPI usage is smaller than the impact of initial NPI usage.

Keywords

COVID-19, non-pharmaceutical interventions, advanced economies, emerging economies

[^] Until 30 September 2021

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Introduction

The coronavirus disease (COVID-19) represents a simultaneous health and economic shock for the vast majority of countries around the world. The use of non-pharmaceutical interventions (NPIs) such as school closures and work from home arrangements have been commonly used by governments to tackle the spread of COVID-19. It has been widely agreed that NPIs impose an economic cost, resulting in a trade-off between health and economic outcomes that policymakers must consider when setting which NPIs to impose and the severity of NPIs.

The improvement in health outcomes from NPIs can be assessed through the effect on COVID-19 case incidence, severity, deaths and/or any other health metrics. However, the economic costs of NPIs are still being investigated with the applicability of research from past pandemics or disasters to COVID-19 being unclear, and the lack of very high frequency economic data to reliably monitor current economic conditions in countries across the world. Currently, economists' single best indicator to assess economic health and progress is real Gross Domestic Product (GDP) growth, despite the inherent limitations in the compilation of this statistic and in data timeliness for useful policymaking.

It is not yet clear whether the introduction and relaxation of NPIs within countries will be a smooth process. It may be the case that the introduction of NPIs could occur suddenly in a scenario where a large COVID-19 outbreak is detected.

Although there has been successful development of a number of COVID-19 vaccines which are gradually being rolled out worldwide, the divergent rollout of vaccines globally as well as concern on vaccine efficacy has meant continued use of NPIs by countries well into 2021. This along with fears of COVID-19 becoming endemic suggests that countries will frequently utilize NPIs along with vaccinations to tackle COVID-19 for quite some time, which may be in the order of years.

This paper aims to contribute to the developing literature on the economic impact of COVID-19 by studying the short-term trade-off between the stringency of NPIs and economic growth. It is not the intention of this paper to suggest that economic growth should be prioritised over the health of the public. It is hoped that the paper can provide more information on the economic costs of NPI introduction and/or calibration that can help policymakers to make evidence-based decisions. This paper contributes to the literature in a number of areas; a wider sample of countries particularly developing economies are examined, the effects of NPIs on economic growth are directly assessed rather than relying on a proxy of economic activity; differentiated effects between advanced and developing economies are assessed; and the effects of a wider range of economic and health system policies are evaluated.

Literature review

This section describes the relevant literature in the area of economic growth and NPIs.

Hale et al. (2020) developed the Oxford Covid-19 Government Response Tracker (OxCGRT), which provided a standardised methodology to assess the various government policies on COVID-19. The tracker contains 17 indicators covering containment and closure policies, economic policies and health system policies. A number of indices were also developed by Hale et al. (2020) to assess certain aspects of government policy on COVID-19 such as the Government Response Index, Containment and Health Index, Economic Support Index and Stringency Index. More detailed information on OxCGRT has been made available online by the Blavatnik School of Government, University of Oxford.

Literature has tried to draw lessons from history on the potential impact of COVID-19. Jordà et al (2020) looked at the long run impact of major pandemics since the 14th century on real rates of return. They found that real rates of return are depressed for decades after a pandemic which might be due to labour scarcity. A pandemic with high mortality causes capital per unit of surviving labour to increase which may result in lower real rates of return. Beach et al (2020) undertook an extensive review of the literature on the 1918 influenza pandemic to determine the effects on mortality, fertility and the economy. There was mixed evidence on the medium-term effects of the pandemic and NPIs on economic activity. In the short-term while the pandemic was ongoing, countries experiencing higher pandemic mortality appeared to experience lower economic activity due to inadequate labour supply.

Based on the estimates of Barro et al (2020),

the 1918 influenza pandemic that killed on average 2% of the population of the sample countries resulted in decrease of real GDP per capita by 6% and real consumption per capita by 8%. Arthi and Parman (2020) looked at the potential long-run impact of COVID-19 on health, labour and human capital by comparing it to past pandemics and recessions. Pandemics tend to have long-term negative health outcomes for affected individuals. Recessions tend to cause long-term economic penalties (i.e. long-term scarring effect) for individuals experiencing the recession who would tend to have lower lifetime earnings.

Some authors have developed real-time indicators of economic activity to provide up-to-date monitoring of economic conditions during the recession caused by COVID-19. Chetty et al (2020) utilised anonymised data from private companies to provide a real time county-level view of the US economy in terms of consumer spending, small business revenue, small business openings, job postings and online math participation. Lewis et al (2020) developed a Weekly Economic Index (WEI) of the US based on 10 indicators of real economic activity. Luohan Academy (2020) developed a Global Pandemic Economy Tracker based on the relationship between mobility and economic growth. Given COVID-19 impact is still on-going, readers may obtain up-to-date estimates of economic activity for the papers mentioned in this paragraph online.

Literature has explored the potential differing impacts of COVID-19 in developed and developing countries. Dingel and Nieman (2020) undertook an exercise to

classify the feasibility of working from home on an occupation level basis for 86 countries. They found that around 5% to 60% of jobs can be carried out from home, and this percentage has a positive correlation with GDP per capita, that is, higher income countries have a higher proportion of jobs that can be carried out from home. This suggests that developing economies face more challenges in work from home arrangements. Saltiel (2020) used the Skills Towards Employability and Productivity (STEP) survey of ten low and middle income economies to estimate that only between 6% to 23% of the workers in the sample countries can work from home. Gottlieb et al (2020) found that in poor countries only about 20% of workers can work from home compared to around 40% in rich countries. This is driven by a larger share of agricultural and self-employed work in poor countries. Alfaro et al. (2020) investigated how the economic structure in developing economies, particularly relating to microenterprises and informal work, might cause differing economic outcomes compared to developed economies. They explored the structures of the United States and Colombia to identify the differing impact that COVID-19 might have on employment and aggregate value added.

Voluntary reductions in mobility and economic activity has come up as a key driver for reductions in economic activity. Goolsbee and Syverson (2020) used mobile data to determine the extent to which declines in US consumer activity were driven by state shutdown orders and voluntarily staying at home. They found that consumer activity mainly declined due to voluntary curtailment of activities due to fears of

infection that appeared to be linked to the number of COVID-19 deaths in the county. Maloney and Taskin (2020) used Google mobility data to identify that voluntary reductions in mobility were the major contributor for the decrease in mobility across country income groups, except for low income countries. NPIs also reduced mobility but much less than voluntary reductions. Voluntary reductions in mobility appeared to be driven by the number of COVID-19 cases. Chen et al. (2020) used high frequency indicators on electricity usage and unemployment in Europe and the US to assess the economic impact of COVID-19. They found that the main economic impact was due to reduced mobility, with voluntary social distancing playing a key role and there was no evidence that NPIs had any additional impact.

This paper most closely follows upon the work by Deb et al. (2020) and König and Winkler (2020). Deb et al. (2020) assessed the economic impact of the OxCGR T Containment and Closure Policies on real-time indicators of economic activity in 57 countries. Economic activity was represented by mainly Nitrogen Dioxide emissions with some assessment using alternative indicators such as international and domestic flights, energy consumption, maritime trade, as well as retail and transit-station mobility indices. They explored the impact up to 30 days after the introduction of measures. High levels of fiscal or monetary stimulus helped to alleviate the decline in economic activity relative to low levels of fiscal or monetary stimulus. Further, they assessed the effectiveness of individual components of Containment and Closure

variables to account for the differing impact that the pandemic has had in each country. This is expressed in terms of COVID-19 Cases per Million and COVID-19 Deaths per Million, which scales the magnitude of the impact to the population size of each economy. Deb et al. (2020) utilised cases and deaths in absolute terms which may not fully account for the difference between 100 cases or deaths in a country with a population of 1 million compared to a country with a population of 100 million. König and Winkler (2020) only assessed the fatality rate which was expressed as deaths per 100,000. The inclusion of these severity variables would likely account for voluntary reductions in economic activity as found by Goolsbee and Syverson (2020), Maloney and Taskin (2020) and Chen et al. (2020). These variables are expected to have a negative relationship with real GDP growth as a more severe outbreak is likely to depress economic activity.

Control variables related to the pace of vaccination were also considered. The work by Ritchie et al (2020) in compiling various statistics relating to the COVID-19 pandemic, including the pace of vaccinations across countries was a key data source for this. The control variables chosen were People Fully Vaccinated Per Hundred and Daily Vaccinations Per Million. It is expected for these variables to have a positive impact on real GDP growth. There may be some concern on potential correlations with the NPI indicators from OxCGRT, for example faster vaccinations allowing for relaxation of NPIs. However, it is argued that NPIs and vaccines interact in a nuanced way; NPIs focused on reducing spread of COVID-19 while vaccines are primarily aimed at

reducing the severity of COVID-19 infections. The current literature on the economic impact of COVID-19 vaccines is still developing, with no existing literature examining the independent economic impact of vaccines on growth or economic activity. In terms of data availability, data on People Fully Vaccinated Per Hundred is not readily available across the time period examined for Algeria, China, Cote d'Ivoire and Nicaragua. Within the dataset, Tanzania only began vaccinations in Q3 2021.

Additional control variables in terms of time dummies were included to represent subsequent quarters from Q1 2020 until Q2 2021. This is to investigate the possibility that a country's own experience with NPI adoption as well as lessons learned from other countries allowed for differentiated economic impact over time. Should this assertion be accurate then it is expected that the later quarters will have a positive effect on real GDP growth. During the time period of study there was no other major worldwide event apart from COVID-19 that affected multiple countries. Thus, the time dummies should be mainly capturing the time varying effects of NPI adoption.

The final control variables are to account for the fiscal and international aid support provided to countries that may counteract the negative economic impacts of COVID-19. These variables are represented as a percent of nominal GDP in order to scale the magnitude of fiscal and international aid support to the size of the economy. Deb et al. (2020) instead used a smooth transition model to differentiate between low and high fiscal stimulus. This paper considers the

direct impact of fiscal support as well as international aid support and unlike Deb et al. (2020) the monetary policy response is not included. These variables are expected to have a positive relationship with real GDP growth as increased stimulus would likely boost economic growth.

The indicators from OxCGRT are the main independent variables examined for their effects on short-term economic growth. Rather than utilising the indices from OxCGRT, this paper examines the indicators to identify NPIs that may have statistically significant impact on growth. Indicators under Containment and Closure Policies are expected to have a negative relationship with real GDP growth as economic activities will be curtailed. Indicators under Economic Policies are expected to have a positive relationship with real GDP growth as they alleviate negative economic outcomes (e.g. default, unemployment). Indicators under Health System Policies are expected to have a positive relationship with real GDP growth as good health systems are likely to benefit consumer and business confidence.

Deb et al. (2020) only considered Containment and Closure Policies. Unlike Deb et al. (2020), this paper does not attempt to assess the effectiveness of individual Containment and Closure Policies at reducing COVID-19 cases and deaths as this ventures into epidemiological forecasting and introduces additional complexity into the factors that need to be considered. König and Winkler (2020) looked at the overall Stringency Index rather than individual components of measures and their impact on short-term growth.

A total of 106 countries were selected as the sample for this cross-sectional analysis, which is almost double the number of countries examined in Deb et al. (2020) and König and Winkler (2020). The countries were chosen based on their membership in the Group of 20 (G20) membership in Organization for Economic Cooperation and Development (OECD), as well as EMDEs as defined by the International Monetary Fund (IMF). The selection of EMDEs was based on countries for which quarterly real GDP growth statistics were available for at least the first quarter of 2020. Taiwan and Singapore were also considered in the sample as these countries have been highlighted as success stories of COVID-19 containment. Table 1 below summarises the countries selected.

Table 1: Matrix of Countries

Country	G20 or OECD	AE	EMDE	Country	G20 or OECD	AE	EMDE
Albania			X	Lithuania	X	X	
Algeria			X	Luxembourg	X	X	
Angola			X	Malaysia			X
Argentina	X		X	Mali			X
Australia	X	X		Mauritius			X
Austria	X	X		Mexico	X		X
Bahrain			X	Mongolia			X
Belarus			X	Morocco			X
Belgium	X	X		Mozambique			X
Bolivia			X	Namibia			X
Bosnia and Herzegovina			X	Netherlands	X	X	
Botswana			X	New Zealand	X	X	
Brazil	X		X	Nicaragua			X
Brunei Darussalam			X	Niger			X
Bulgaria			X	Nigeria			X
Burkina Faso			X	Norway	X	X	
Canada	X	X		Panama			X
Chile			X	Paraguay			X
China	X		X	Peru			X
Colombia	X		X	Philippines			X
Costa Rica			X	Poland	X		X
Cote d'Ivoire			X	Portugal	X	X	
Croatia			X	Qatar			X
Czech Republic	X	X		Romania			X
Denmark	X	X		Russia	X		X
Dominican Republic			X	Rwanda			X
Ecuador			X	Saudi Arabia	X		X
Egypt			X	Senegal			X
El Salvador			X	Serbia			X
Estonia	X	X		Seychelles			X
Finland	X	X		Singapore			
France	X	X		Slovak Republic	X	X	
Georgia			X	Slovenia	X	X	

Country	G20 or OECD	AE	EMDE
Germany	X	X	
Ghana			X
Greece	X	X	
Guatemala			X
Honduras			X
Hungary	X		X
Iceland	X	X	
India	X		X
Indonesia	X		X
Ireland	X	X	
Israel	X	X	
Italy	X	X	
Jamaica			X
Japan	X	X	
Jordan			X
Kazakhstan			X
Kenya			X
Kosovo			X
Latvia	X	X	
Lesotho			X

Source: G20; OECD; IMF

Country	G20 or OECD	AE	EMDE
South Africa	X		X
South Korea	X	X	
Spain	X	X	
Sri Lanka			X
Sweden	X	X	
Switzerland	X	X	
Taiwan		X	
Tanzania			X
Thailand			X
Togo			X
Trinidad and Tobago			X
Tunisia			X
Turkey	X		X
Uganda			X
Ukraine			X
United Kingdom	X	X	
United States	X	X	
Uruguay			X
Vietnam			X
Zambia			X

Real GDP growth data was obtained from Trading Economics¹ on 31 July 2021 and is expressed as a whole number with no percent symbol (i.e. 3% is 3). All 106 countries had GDP growth data for the first quarter of 2020, at the same time a number of countries had not yet published GDP growth data for the second quarter of 2021 at the time of data compilation. The data is converted to relative to 2019 terms in order to remove base effects when looking at real GDP growth data in 2021, i.e. Q1 2021 real GDP growth in this paper is the growth in percentage terms comparing Q1 2021 with Q1 2019.

Real GDP growth data for 2019 was obtained from IMF's World Economic Outlook Database April 2021. The countries in this sample accounted for roughly 96% of global nominal GDP in US Dollars in 2019. The OxCGRT dataset was used as the source for confirmed COVID-19 cases and deaths. Our World in Data was used as the source for COVID-19 vaccinations. Quarterly estimates of confirmed COVID-19 cases and deaths were derived by taking the average of daily cases and deaths in a particular quarter. These were then divided by the population size in 2019 with data from IMF World Economic Outlook Database April 2021.

Fiscal and international aid support was taken to be the sum of daily announcements of US Dollar packages as reported in the OxCGRT dataset (E3, E4) for the relevant quarters. These were then divided by the nominal GDP in US Dollars for 2019 from IMF World Economic Outlook Database October 2019.

Data from OxCGRT was used to assess the NPIs, with daily data converted into quarterly data by taking the average of the respective indicators under Containment and Closure Policies (C1, C2, C3, C4, C5, C6, C7, C8), Economic Policies (E1, E2), and Health System Policies (H1, H2, H3, H6, H7, H8) across the relevant dates in a quarter. The indicators mentioned above are measured in an ordinal scale with 0 being no relevant policies in place, to the maximum value (2, 3 or 4) representing differing magnitudes of stringency based on each indicator. The full definition for each of the indicators are available at the OxCGRT website.

Analysis

This section will analyse the relationship between short-term economic growth and the stringency of NPIs. Firstly, Figure 1 shows a simple graph of the Stringency Index (comprised of C1, C2, C3, C4, C5, C6, C7, C8, H1) against real GDP growth. Visually, there appears to be a strong negative relationship between the Stringency Index and economic growth. There are a number of outliers that performed better or worse than the simple relationship, which have been labelled accordingly. However, this simple analysis cannot provide concrete results on the underlying relationship between stringency of NPIs and economic growth.

¹ <https://tradingeconomics.com/>

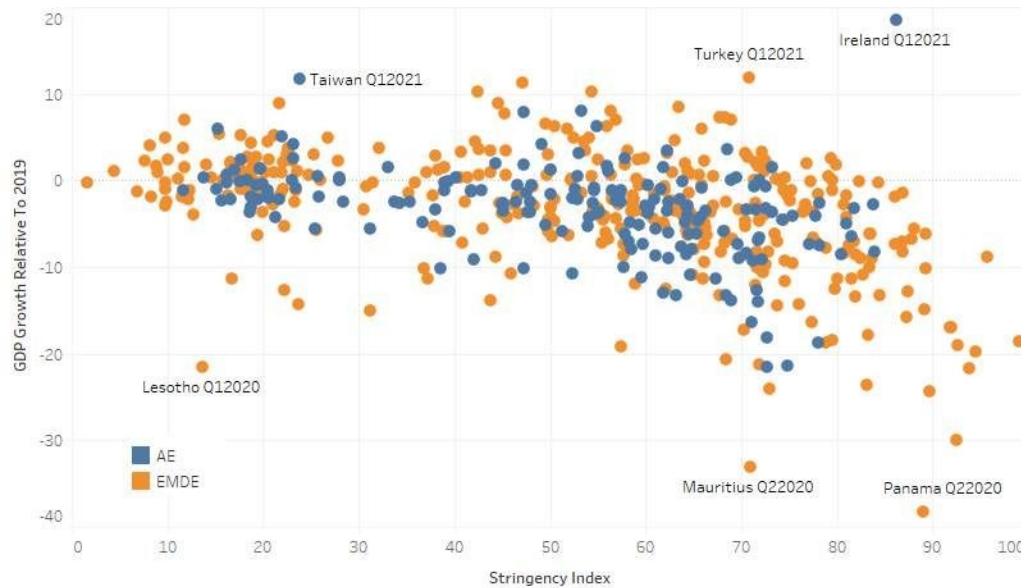
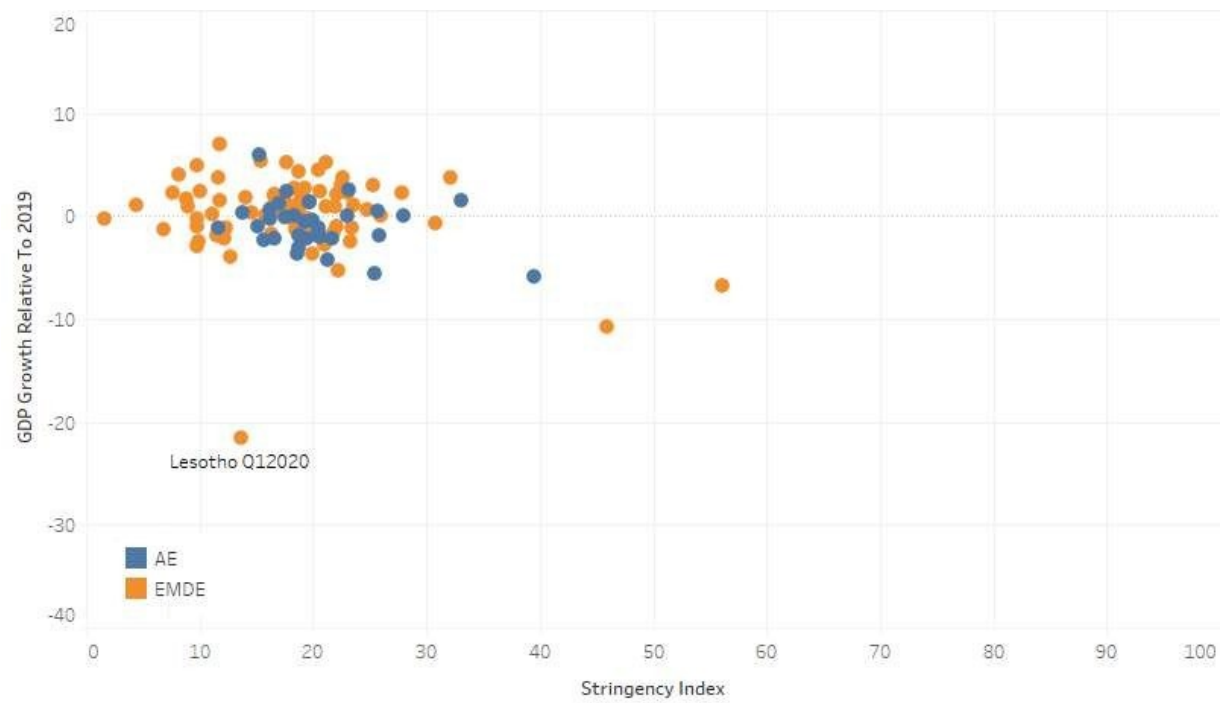


Figure 1: Scatterplot of Stringency Index and Real GDP Growth Relative to 2019

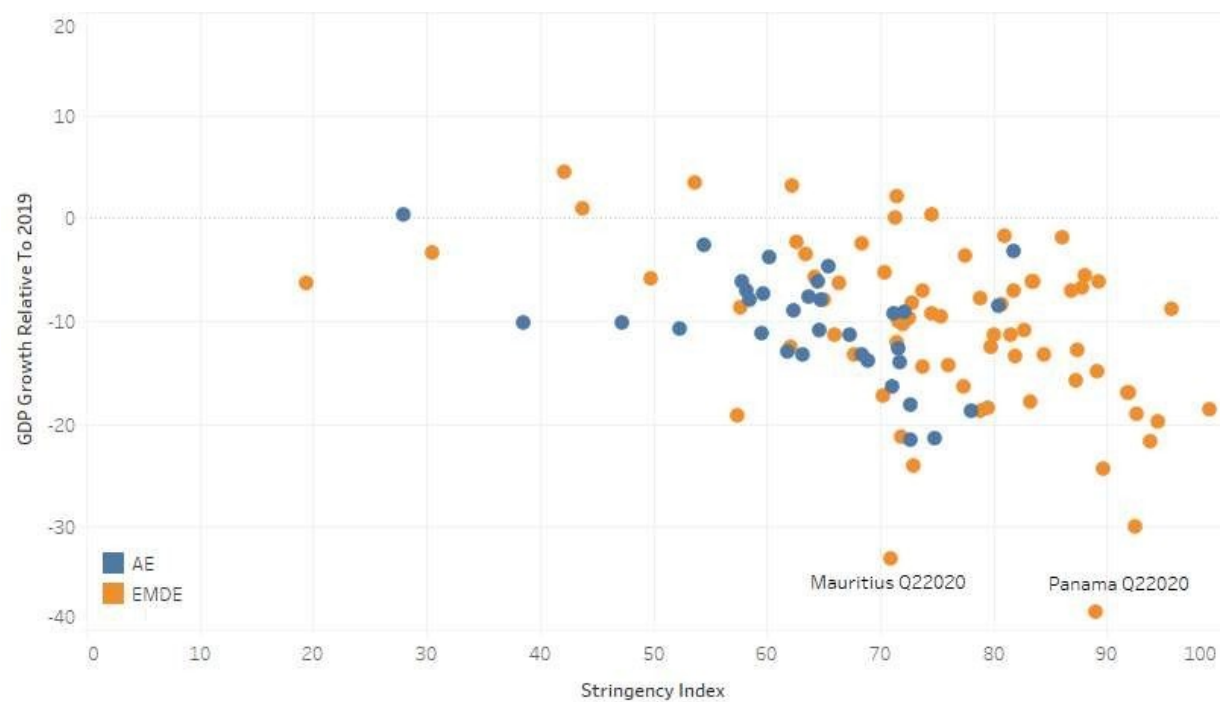
Source: OxCGRT; Trading Economics;
Author's own calculations

Figure 2 shows the graph of GDP growth against the Stringency Index by each calendar quarter from Q1 2020 until Q2 2021. It can be observed that each quarter still exhibits the negative relationship between stringency and growth. Additionally, stringency increased for both AEs and EMDEs in Q2 2020 before declining towards the end of 2020. There has been some increased stringency for AEs in Q1 2021.

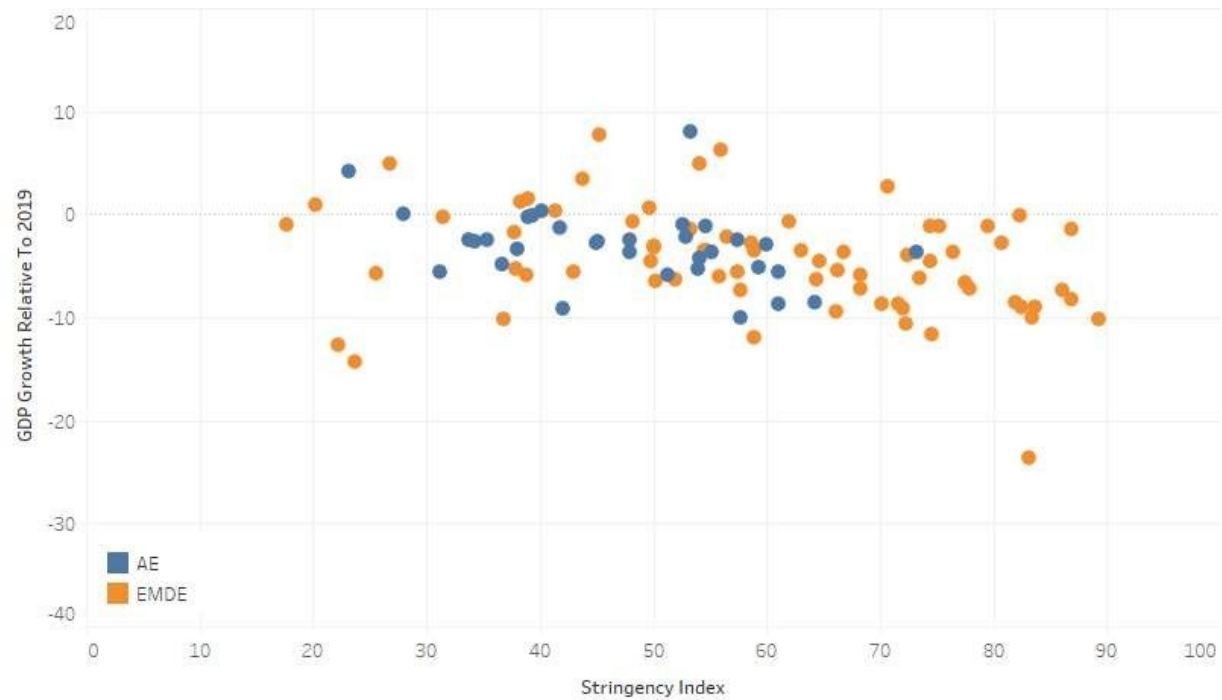
Q1 2020



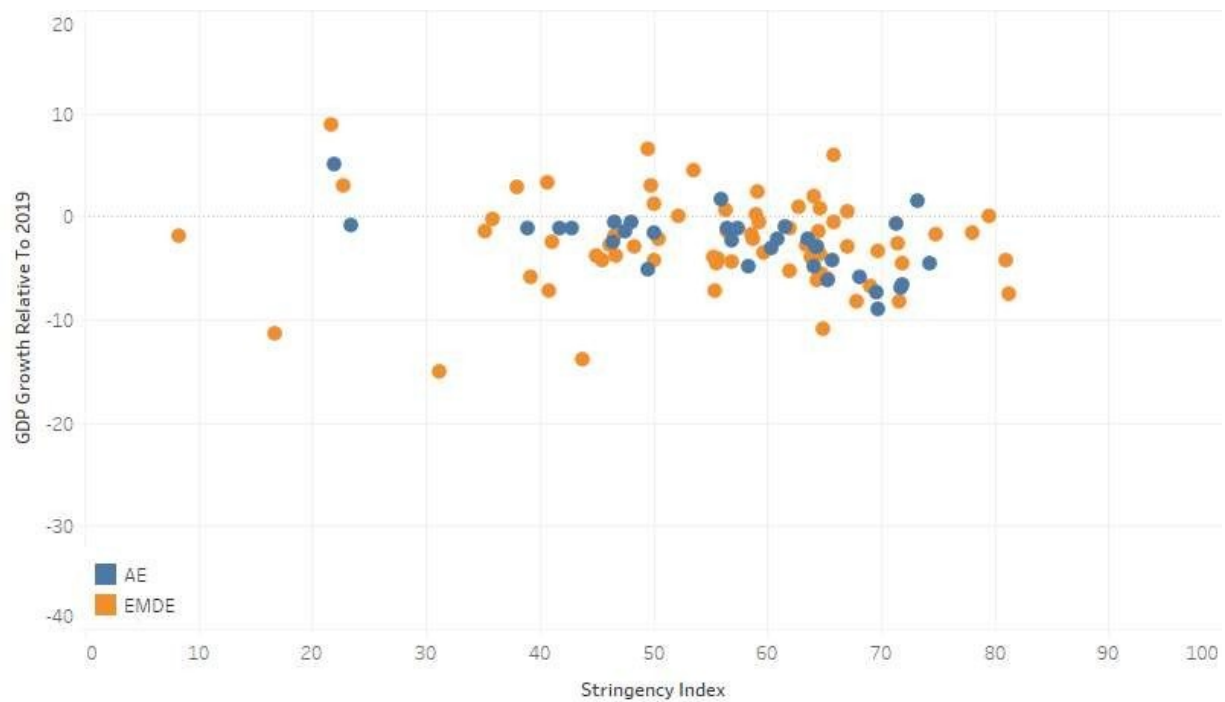
Q2 2020



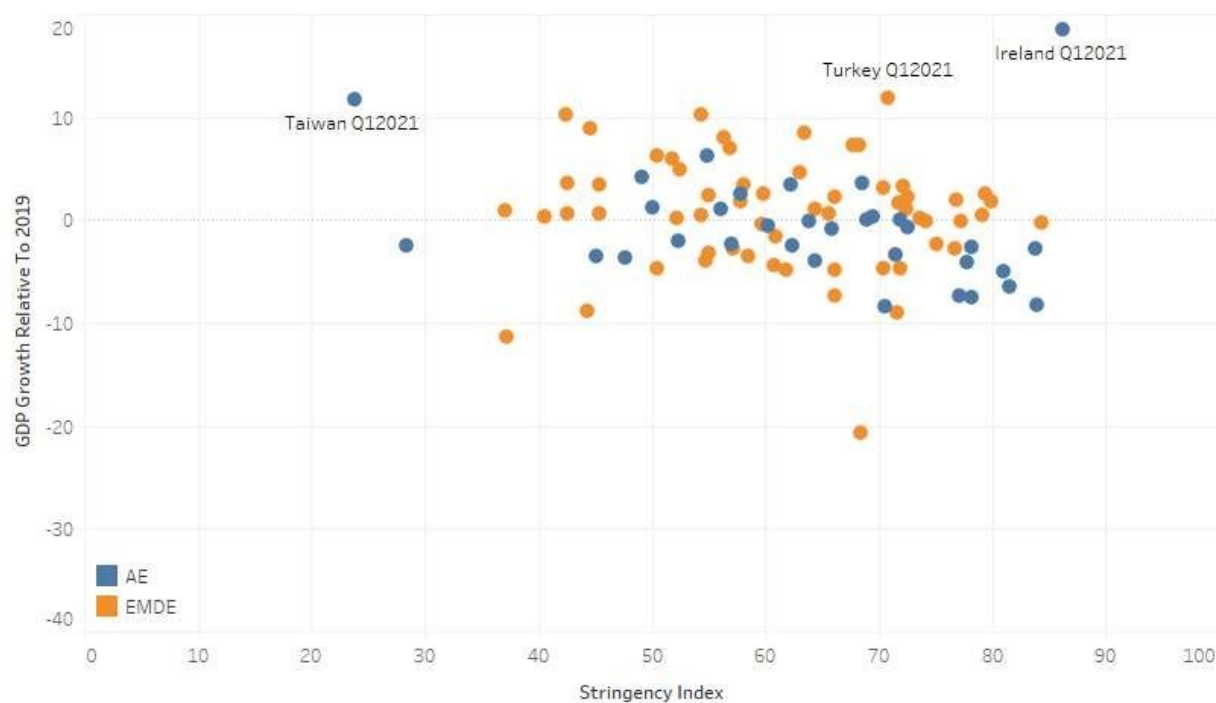
Q3 2020



Q4 2020



Q1 2021



Q2 2021

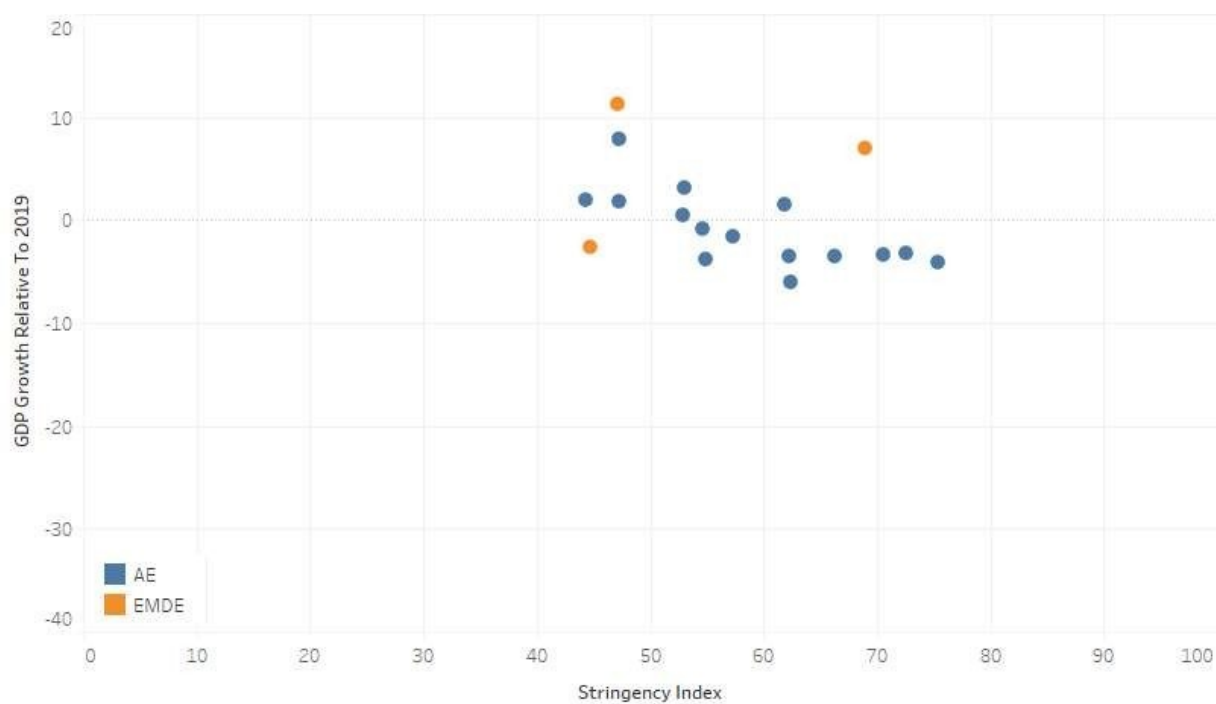


Figure 2: Scatterplot of Stringency Index and Real GDP Growth Relative to 2019 by quarter

Source: OxCGRT; Trading Economics; Author's own calculations

Table 2 below highlights that AEs tended to experience a more widespread COVID-19 outbreak with higher number of cases. AEs face higher average deaths but EMDEs have experienced higher maximum deaths per million since Q3 2020. Vaccinations have progressed much faster in AEs, although some EMDEs such as Seychelles have made substantial progress with vaccinations.

Table 2: COVID-19 Cases, Deaths and Vaccinations

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021
COVID-19 Cases Per Million (AEs)						
Minimum	1.87	18.09	20.29	26.59	39.28	239.39
Average	93.18	1,891.12	3,490.67	15,741.80	39,066.85	55,025.24
Maximum	452.18	6,156.32	11,527.40	43,378.40	105,736.14	153,580.37
COVID-19 Cases Per Million (EMDEs)						
Minimum	0.00	1.62	3.78	3.85	3.99	4.06
Average	6.48	777.44	3,850.75	9,657.62	18,927.33	30,563.73
Maximum	76.36	13,978.84	40,786.88	56,462.46	77,173.26	140,156.64
COVID-19 Deaths Per Million (AEs)						
Minimum	0.00	0.27	0.30	0.30	0.36	5.21
Average	2.45	123.91	166.57	295.81	707.55	951.30
Maximum	27.62	667.82	862.52	1,255.08	1,878.64	2,760.52
COVID-19 Deaths Per Million (EMDEs)						
Minimum	0.00	0.00	0.00	0.00	0.21	0.21
Average	0.08	19.02	99.66	222.97	416.14	654.99
Maximum	0.46	441.85	1,917.99	2,651.92	3,454.63	5,236.44
People Fully Vaccinated Against COVID-19 Per Hundred (AEs)						
Minimum				0.00	0.01	0.14
Average				0.00	2.94	15.62
Maximum				0.00	29.75	58.55
People Fully Vaccinated Against COVID-19 Per Hundred (EMDEs)						
Minimum					0.00	0.01
Average					2.07	7.71
Maximum					20.71	58.48

Source: OxCGRT; Our World in Data; Author's own calculations

Figure 3 below compares the Containment and Closure Policies (C1= School closing; C2= Workplace closing; C3= Cancel public events; C4= Restrictions on gatherings; C5= Close public transport; C6= Stay at home requirements; C7= Restrictions on internal movement; C8= International travel controls) used in AEs (blue) and EMDEs (green). The most commonly used policies are "Restrictions on gatherings" and "International travel controls". There appears to be a pattern for AEs to tighten policies in Q1/Q2 2020, relax by end 2020, tighten again in Q1 2021, and relax in Q2 2021. Conversely, EMDEs tended to tighten in Q2 2020 then relax measures and maintain them roughly constant.

The measures of "School closing" and "International travel controls" were tightened much more in EMDEs at the early stages of the pandemic. However, there was rapid relaxation in the second half of 2020. Policies for "Close public transport", "Stay at home requirements" and "Restrictions on internal movement" were more widely used in EMDEs rather than AEs.

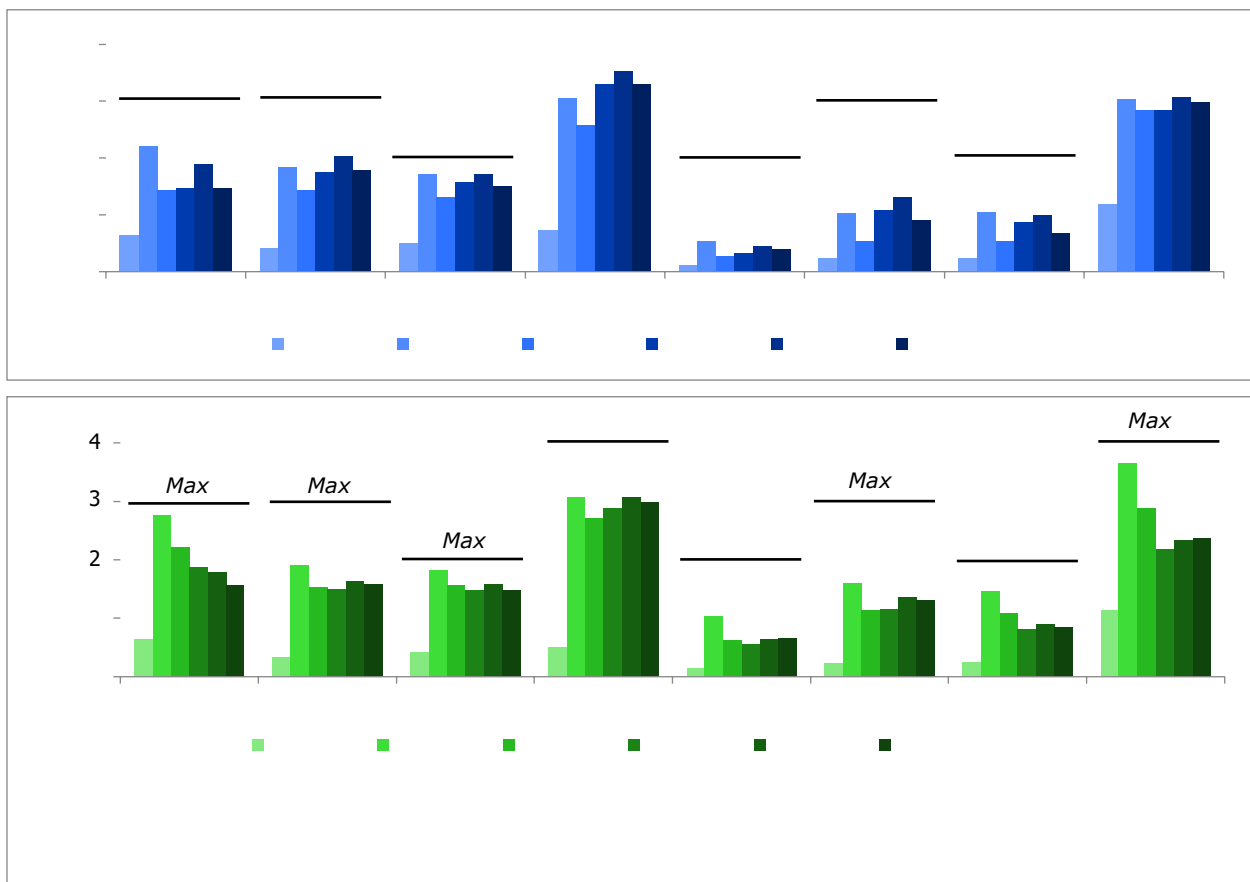


Figure 4 below compares the Economic Policies (*E1= Income support; E2= Debt/contract relief*) and Health System Policies (*H1= Public information campaigns; H2= Testing policy; H3= Contact tracing; H6= Facial coverings; H7= Vaccination policy; H8= Protection of elderly people*) used in AEs (blue) and EMDEs (green).

AEs in general were more likely to use all the policies compared to EMDEs. Taken together with Figure 3, AEs have tended to use more Economic Policies and Health System Policies, and less of Containment and Closure Policies compared to EMDEs.

Policymakers in both AEs and EMDEs have maintained their Containment and Closure Policies, Economic Policies, and Health System Policies alongside the progress of vaccinations shown in Table 2. As larger shares of the population get vaccinated, it would be informative to examine the timing and ordering for the unwinding of policies.

Next, we will examine the regression results of a number of model specifications examined as shown in Table 3 below. Specification (1) looked at a full specification including all control variables and relevant indicators from OxCGRT.

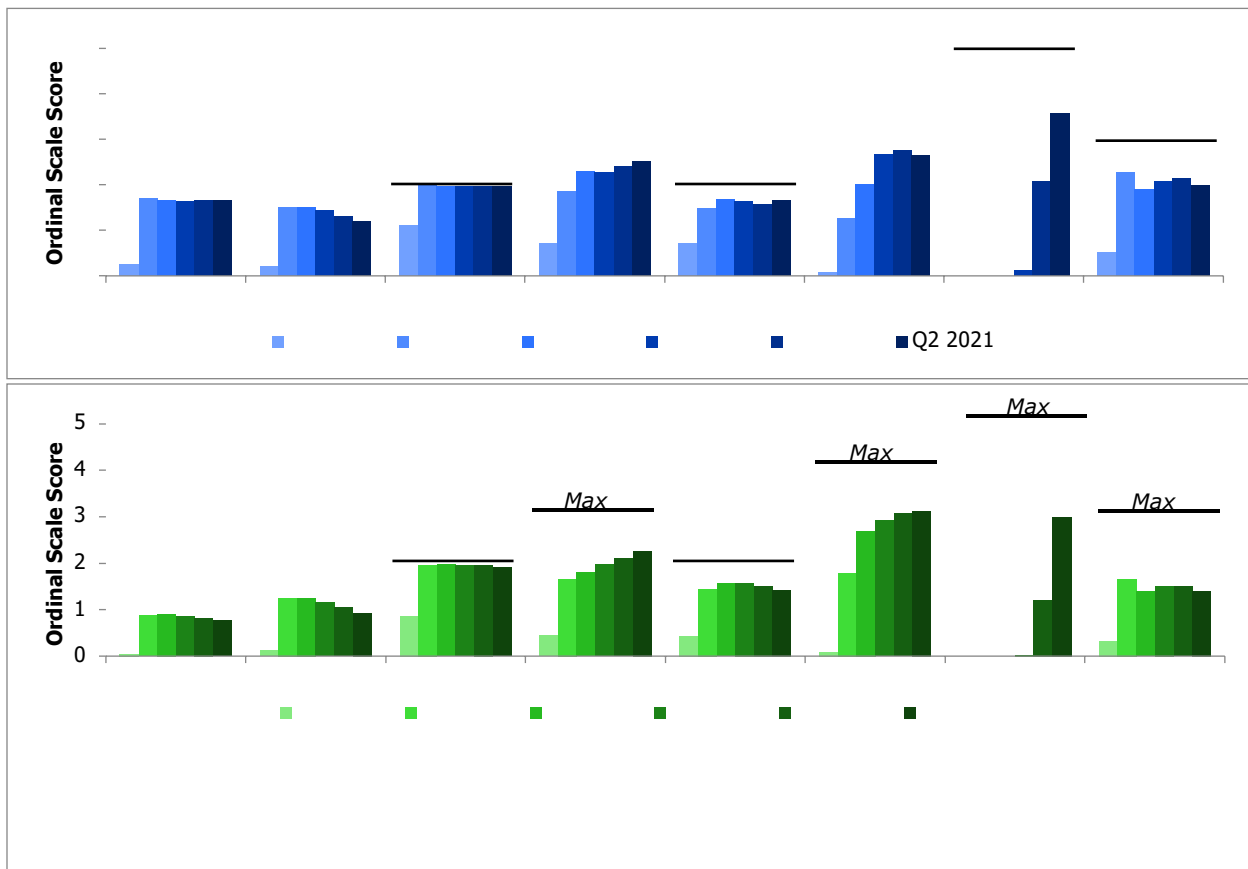


Table 3: Regression Results

	(1)	All countries (2)	AEs (3)	EMDEs (4)
Real GDP Growth in 2019	0.83*** (0.10)	0.81*** (0.09)	1.42*** (0.18)	0.76*** (0.11)
Change in COVID-19 Cases per Million	0.0001 (0.0000)		0.0001** (0.0000)	
Change in COVID-19 Deaths per Million	-0.0041** (0.0017)	-0.0022* (0.0012)	-0.0079*** (0.0021)	
Change in People Fully Vaccinated Per Hundred	-0.15 (0.13)			-0.31* (0.18)
Change in Daily Vaccinations Per Million	-0.0005* (0.0003)	-0.0006** (0.0002)	-0.0005* (0.0003)	
Time Dummies				
-4.63*** Q2 2020		-5.86*** (1.25) (0.66)	-4.97*** (0.89)	
1.13 Q3 2020			5.17*** (0.73)	
2.72** Q4 2020		2.23*** (1.35) (0.63)	6.02*** (0.80)	1.30* (0.78)
Q1 2021		6.48*** (1.53)	9.96*** (0.93)	5.73*** (0.88)
Q2 2021		8.46*** (2.33)	10.55*** (1.56)	10.08*** (3.34)
Fiscal Support as % of GDP	-0.02 (0.06)			
International Support as % of GDP	0.14 (0.26)			
Containment and Closure Policies				
School closing (C1)	-0.23 (0.41)			
Workplace closing (C2)	-0.82 (0.50)	-0.79* (0.43)	(0.50)	-1.57***
Cancel public events (C3)	-0.37 (0.64)		-2.36*** (0.51)	
Restrictions on gatherings (C4)	0.28 (0.30)			
Close public transport (C5)	-0.78 (0.53)	-0.93* (0.49)		

<i>Stay at home requirements (C6)</i>	-0.73 (0.47)	-0.70* (0.40)		-0.82* (0.48)
<i>Restrictions on internal movement (C7)</i>	0.19 (0.45)			
<i>International travel controls (C8)</i>	-0.41 (0.27)			-0.79*** (0.27)
Economic Policies				
<i>Income support (E1)</i>	-0.81** (0.40)	-0.65* (0.35)	-1.05** (0.44)	-1.14** (0.49)
<i>Debt/contract relief (E2)</i>	-0.25 (0.35)		-2.26*** (0.35)	
Health System Policies				
<i>Public information campaigns (H1)</i>	-1.16* (0.64)	-1.61*** (0.46)	-2.30*** (0.61)	
<i>Testing policy (H2)</i>	-0.01 (0.39)			
<i>Contact tracing (H3)</i>	0.77** (0.39)	0.74* (0.38)	0.98** (0.47)	
<i>Facial coverings (H4)</i>	-0.62** (0.29)	-0.50**		
<i>Vaccination policy (H5)</i>	0.57 (0.55)			
<i>Protection of elderly people (H8)</i>	0.05 (0.29)			
Observations	526	526	180	346
Adjusted R-squared	0.51	0.51	0.69	0.49
Standard error	4.58	4.55	2.95	5.08

Note: Significance levels at 10%(*), 5%(**) and 1%(***). Standard errors for coefficients are presented between parentheses.

Variables were then progressively removed in order of least statistically significant, resulting in specification (2) that shows only statistically significant variables for the sample of all countries. The control variables representing severity of the COVID-19 outbreak represented Change in COVID-19 Deaths per Million was significant along with Change in Daily Vaccinations per Million. The coefficients for vaccinations and "income support" are of the opposite sign to that expected. This may reflect endogeneity of the vaccinations and income support measures, where a deeper than expected economic downturn due to COVID-19 may cause policymakers to undertake more aggressive vaccination strategy and income support. The coefficient for "Public health campaigns" is also of the opposite sign than expected, potentially reflecting the lack of variation in Figure 4.

Subsequently, it was explored in specifications (3) and (4) whether the relationship between NPIs and economic growth differs in AEs compared to EMDEs. Serial correlation was present in all specifications. Heteroscedasticity is present for all four specifications which is not surprising given the dispersion of experiences seen in Figure 1, particularly at high levels of stringency.

For specification (3), the coefficient for COVID-19 cases in AEs is of the opposite sign than expected in the literature, although the coefficient is small (Goolsbee and Syverson, 2020; Maloney and Taskin, 2020; Chen et al., 2020). The coefficient for COVID-19 deaths in AEs is of the expected sign and larger than the coefficients for COVID-19 cases and vaccinations. This

could suggest greater emphasis on severity of COVID-19 represented by deaths on economic activity.

The coefficient estimates for COVID-19 deaths would be much higher than the estimates by Barro et al (2020) of the economic impact of mortality from the 1918 influenza pandemic. This is likely due to the lower mortality of COVID-19 in the time period of study compared to the 1918 influenza. This could suggest that the negative economic impact from additional deaths faces declining marginal effectiveness at higher mortality rates. The coefficient found by König and Winkler (2020) for a fatality rate scaled to a population of 1 million was -0.01, which is identical to the coefficient found for AEs. This may reflect the large number of OECD countries in the sample used by König and Winkler (2020). The coefficient for vaccinations, "Income support", "Debt/contract relief" and "Public health campaigns" are of the opposite sign compared to initial expectations.

Comparing between (3) and (4), there are a number of interesting observations highlighting the differences between AEs and EMDEs. AEs appear to have a stronger persistence of growth trends from 2019. The positive coefficient for COVID-19 Cases per Million for AEs remains unexpected. This control variable was not significant for EMDEs. Both AEs and EMDEs had one of the vaccination control variables being significant but both are of the opposite sign than expected.

"Contact tracing" was only significant for AEs. This could reflect such policies only being effectively carried out in AEs that

tend to have better trained healthcare services.

The increasing coefficients on time dummy control variables over time also appear to reflect potential adaptation to NPIs without constraining growth. In particular, AEs experienced sharp rebound in the coefficient for Q3 2020 with EMDEs only reaching this size of coefficient in Q1 2021. EMDEs experienced sharp decline with negative coefficient in Q2 2020 which was not present for AEs, potentially reflecting a larger negative impact of COVID-19 and NPIs to EMDEs. The relative tapering off of coefficient size for AEs in 2021 suggest some maximum threshold of adaptation. It is not clear if EMDEs have reached this level yet considering from Figure 2 that the dataset for Q2 2021 has only 3 EMDEs.

Fiscal support was not significant for both AEs and EMDEs. This greatly differs from the findings of Deb et al. (2020) which may be due to the longer time horizon (3 months versus 1 month) examined. This could suggest short-lived effects of fiscal support. An alternative explanation could be some unobserved country characteristic which induced higher Nitrogen Dioxide emissions for the group of countries with high fiscal stimulus in Deb et al. (2020).

The differences in significant Containment and Closure Policies are also informative. AEs have negative economic growth impacts from requirements to "Cancel public events" which may reflect a larger services sector in AEs. Whereas for EMDEs, "Workplace closing" and "Stay at home requirements" were significant policies which sequentially reduced the ability of workers to work from home as the lack of

childcare services burdened households, particularly women, to take on more informal childcare at home, thereby bringing about negative economic consequences. The significant economic impact from workplace closures aligns with the concerns raised by Dingel and Nieman (2020), Saltiel (2020) and Gottlieb et al. (2020) on the difficulties faced by developing economies due to lower share of jobs that can be done at home compared to developed countries.

EMDEs also had negative growth implications from "International travel controls". This aligns with König and Winkler (2020) who found that tourism receipts and trade openness were significant at explaining cross-country differences.

Relative to the findings of this paper, Deb et al. (2020) found that "Cancel public events" and "School closing" were insignificant, while finding "Restrictions on gatherings", "Close public transport" and "Restrictions on internal movement" rules as significant. This could be due to the differing time horizon of study in this paper (3 months versus 1 month). Additionally, Deb et al. (2020) explored the impacts of Containment and Closure Policies for their entire sample of 57 countries. Meanwhile this paper identified differing experiences in AEs compared to EMDEs.

As policymakers typically enact and relax multiple NPIs at the same time, the regression results should be cautiously interpreted. It is likely that the estimated coefficients are overstated, capturing some effects from other correlated NPIs. A factor analysis of the NPIs (C1-C8, E1-E2, H1-H3, H6-H8) indicate two derived factors. All the NPIs

load for the both factors for AEs and EMDEs. Additional data with countries implementing varying different NPIs would help to reduce correlation between NPIs and can give greater certainty to coefficient estimates. This issue may not be resolvable in a cross-country analysis of the form explored in this paper. Disentangling the effects of specific NPIs may require a county/district level analysis within a country utilising higher frequency economic activity indicators such as the work by Goolsbee and Syverson (2020), Maloney and Taskin (2020), and Chen et al. (2020).

Conclusion

This paper has investigated the short-term trade-off between the stringency of NPIs and economic growth. It was found that the NPIs that affect short-term growth differed between AEs and EMDEs.

Based on the estimated coefficients and the average stringency of measures, Containment and Closure Policies deducted on average approximately 3.0 percentage points of growth for AEs in 2020 and 3.8 percentage points in 2021, whereas the corresponding impact for EMDEs was a loss of 4.8 percentage points of growth in 2020 and 5.5 percentage points in 2021.

The coefficients on the time dummies suggest that countries gained experience with NPIs over time, helping to mitigate the negative growth impacts of NPIs. The findings suggest AEs managed to adapt by the second half of 2020, while EMDEs adapted by Q1 2021. However, it is important to qualify that this analysis does not consider longer-term growth outcomes.

Furthermore, only AEs appeared to benefit from Health System Policies, suggesting EMDEs lack healthcare systems that can bring positive growth impacts from "Contact tracing".

Further research in this area would be useful to better understand the interaction of NPIs and the economy across different time periods, as for example the introduction of NPIs could have heterogeneous impact on growth compared to the relaxation of NPIs. Exploration of the inclusion of monetary policy responses as a control variable may warrant further investigation.

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Service Quality Design for Online Bootcamp Services: A Case at an Education Technology Start-up

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Abstract

Indonesia is currently in the midst of a digital transformation era and projected to experience a shortage in digital talent supply. A number of education start-up companies have emerged to bridge that talent gap by providing an educational service in a form of a bootcamp training program. Not only does this service provide an online class vocational training to their customers, but it also gives them the opportunity to work on a final project under the supervision of a mentor and offers them the opportunity to connect with the companies' hiring partners after graduation. PT Rakamin Kolektif Madani, a bootcamp service provider that is the subject to this research, is currently exploring for ways to provide a better service to their students through its bootcamp program. To do so, the company needs to further understand the quality components that their customers are seeking in the bootcamp program in order to better match the customers' expectations.

This research has resulted in the development of a new method for developing the curriculum using the modified version of the evoked set-based attribute selection (EVAS) method which is hoped to minimize the mistakes that stem from the inability to filter attributes that do not have significant influence on the hiring partners' preference. Moreover, a new set of quality management standards, which is based on the seven quality management principles, is proposed to improve the quality of the online live teaching and mentoring experience. The implementation of the curriculum development method is performed by a dedicated team which consists of a learning designer, researcher and data analyst. On the other hand, the implementation of the new quality management standards includes having the whole organization to support a commitment around aligning the resources, incentive and appraisal system, as well as the operations in the company to perform according to the new quality mindset and policies.

Keywords

Bootcamp, Digital, Education, Quality, Technology

Introduction

There are still concerns surrounding the sustainability prospect of EdTech start-ups in Indonesia. It is reported in a World Bank article published in May 2020 that less than five percent of users convert to paid users once free trial period expires. As mentioned in the article, given that firms do not systematically interact with those who do not use or purchase their products, it is sometimes hard for them to accurately price their product/service because they do not know if people are not purchasing due to price or other reasons, such as quality (World Bank Group, 2020: 50).

As EdTech services are becoming more and more ubiquitous, PT. Rakamin Kolektif Madani is facing the challenge of finding a way to differentiate itself from the competitors. The company is currently exploring for ways to provide a better service to its students through its bootcamp program. In order to do so, the company needs to further understand the quality components that the students are seeking in an online bootcamp program to better match their expectation. Since technology mediated learning was not commonly implemented prior to the COVID-19 pandemic, many institutions are still in the quest for finding the best standardized way for delivering an interactive online service to their customers.

Based on the aforementioned problem, the objectives of this research are as follows:

1. To assess the bootcamp service quality at PT. Rakamin Kolektif Madani
2. To create quality improvement strategy for the online bootcamp program

Literature review

SERVQUAL Method

SERVQUAL is a method commonly used to measure quality of an education service. Due to the intangible nature of service, it is difficult to come up with a set of objective measures like those used in goods. Thus, the approach used in SERVQUAL analysis involves measuring the quality from the customer's perception or global judgement relating to the superiority of the service. According to Gronroos (1982), perceived service quality is viewed as a form of attitude: the discrepancy or gap between consumer's perception of the performance of the service and their expectation or desires. SERVQUAL analysis measures those expectations and perceptions along five main dimensions. The description of the dimensions upon which the SERVQUAL model is based are written as follows (Source: Parasuraman, 1988).

1. Tangibles: Physical facilities, equipment, and appearance of personnel
2. Reliability: Ability to perform the promised service dependably and accurately
3. Responsiveness: Willingness to help customers and provide prompt service
4. Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence
5. Empathy: Caring, individualized attention the firm provides its customers

IPA based Strength-Weakness Framework

In order to identify the strengths and weaknesses of a company using the IPA method, the following steps must be followed (Source: Phadernroda, 2019):

1. Calculate the attributes' performance: The performance for each attribute of the SERVQUAL survey is calculated by averaging the "Perceived Service Quality" ratings from all respondents.
2. Calculate the attributes' importance: One potential application of SERVQUAL is to determine the relative importance of the five dimensions in influencing the customers' overall quality perceptions. An approach for doing this is to regress the overall quality scores on the SERVQUAL scores for the individual dimensions (Parasuraman, 1988: 31). Multi linear regression (MLR) is applied to the survey data to obtain the relationship between the average quality perception scores of each of the SERVQUAL dimension and overall satisfaction index, ranging from 7 = excellent to 1 = poor, for both of the customer segments in this research. Each dimension is set as the independent variable and overall quality score as the dependent variable. The regression coefficient is used as the basis to determine the importance of each dimension in the given context.
3. Construct the IPA matrix: The centroid of the Matrix is located by calculating the grand mean of the attributes' importance and grand mean of the attributes' performance. This will consequently divide the matrix into four quadrants. Each of the attributes is then plotted based on their importance and performance along the x-axis and y-axis of the IPA matrix.
4. Identify strength and weaknesses through the IPA matrix: The plotting of the performance vs importance index is best illustrated with an IPA matrix displayed in the figure 1. Quadrant 1 and 2 are

classified as strengths whereas the Quadrant 3 and 4 are the weaknesses.

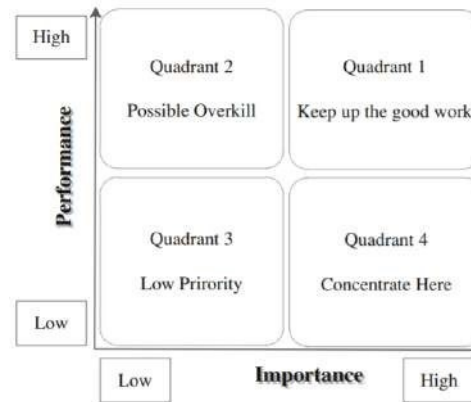


Figure 1: Importance-Performance Analysis Matrix (Source: Hosseini, 2013)

The Gap Model of Service Quality

The five service quality gaps that Parasuraman (1985) considers may affect the expected service are described as follows:

1. Gap 1: Discrepancies between the customer's expectation and the management perception. Some examples of the causes of discrepancies may include lack of knowledge or information, insufficient market research or miscommunication between the customers and management team.
2. Gap 2: Discrepancies between management perceptions of consumer expectations and service quality specifications. Some examples of the causes of discrepancies may include lack of quality standardization, employee training or management commitment to service quality.
3. Gap 3: Discrepancies between service quality specifications and service delivery.

Some examples that may contribute significantly to this gap are team work related issues, role ambiguity and lack of supervision.

4. Gap 4: Discrepancies between service delivery and external communication. Some examples that may contribute significantly to this gap are miscommunication issues where customers are not fully aware of the delivered service.
5. Gap 5: Discrepancies between the customers perception and their expectation. Some examples that may contribute significantly to this gap are those generated from the customer's needs and personal experiences.

Methods

Research Variables

A survey was issued to 66 alumni of the Digital Marketing dan Data Science program who had graduated between the months of October 2020 and May 2021. There is a total of 16 components that were used to measure the service quality level of the bootcamp program. Each component was divided into two types of questions: the alumni's expectation and perception of the bootcamp service. The perceived service quality score is obtained by subtracting the expectation with the perception score.

Table 1: SERVQUAL Survey Attributes

Service: Live Teaching Session (A)	
Dimension	Attribute
Tangibility	1. Bootcamp programs should use up-to-date tools during their live teaching sessions
Reliability	2. Bootcamp programs should design the curriculum according to the relevant needs of student
Reliability	3. Tutors should respond to their students' problems in a reassuring and sympathetic way
Reliability	4. Tutors should be dependable to help the students understand the class materials
Empathy	5. Live teaching sessions should be held during convenient hours for all students
Empathy	6. Tutors should understand the needs of their students
Responsiveness	7. Tutor should always be willing to help their students during the live teaching session
Assurance	8. Tutor's credibility should be trusted
Assurance	9. Tutors should behave in a polite manner throughout the live teaching sessions
Service: Final Project Mentoring (B)	
Dimension	Attribute
Reliability	1. Tutors should respond to students' problems in a reassuring and sympathetic way
Reliability	2. Tutors should be dependable to help the students with their projects
Reliability	3. Tutors should be able to deliver a good quality mentoring service within the agreed upon duration/time frame
Assurance	4. Tutors should behave in a polite manner throughout the mentoring sessions
Empathy	5. Tutors should understand the needs of the students
Empathy	6. Tutors should give students individual attention
Responsiveness	7. Tutors should respond to students requests or questions promptly even during busy hours

Table 2: Perceived Service Quality Calculation

Service: Live Teaching Session (A)		
Expectation ($E_{A,i}$)	Perception ($P_{A,i}$)	Perceived Service Quality ($G_{A,i} = E_{A,i} - P_{A,i}$)
$E_{A,1}$	$P_{A,1}$	$G_{A,1}$
$E_{A,2}$	$P_{A,2}$	$G_{A,2}$
$E_{A,3}$	$P_{A,3}$	$G_{A,3}$
$E_{A,4}$	$P_{A,4}$	$G_{A,4}$
$E_{A,5}$	$P_{A,5}$	$G_{A,5}$
$E_{A,6}$	$P_{A,6}$	$G_{A,6}$
$E_{A,7}$	$P_{A,7}$	$G_{A,7}$
$E_{A,8}$	$P_{A,8}$	$G_{A,8}$
$E_{A,9}$	$P_{A,9}$	$G_{A,9}$
Service: Consultation and Mentoring (B)		
Expectation ($E_{B,i}$)	Perception ($P_{B,i}$)	Perceived Service Quality ($G_{B,i} = E_{B,i} - P_{B,i}$)
$E_{B,1}$	$P_{B,1}$	$G_{B,1}$
$E_{B,2}$	$P_{B,2}$	$G_{B,2}$
$E_{B,3}$	$P_{B,3}$	$G_{B,3}$
$E_{B,4}$	$P_{B,4}$	$G_{B,4}$
$E_{B,5}$	$P_{B,5}$	$G_{B,5}$
$E_{B,6}$	$P_{B,6}$	$G_{B,6}$
$E_{B,7}$	$P_{B,7}$	$G_{B,7}$

Analysis/Discussion

After collecting the data, the study proceeds with plotting and prioritizing the survey data using the IPA based Strength-Weakness Framework. Finally, an online semi-structured in-depth confirmation interview with the hiring partners and management team is conducted to analyze the existence of the five service quality gaps in the bootcamp program.

Figure 2 and 3 illustrates the performance vs importance of each of the SERVQUAL attributes of the live teaching and mentoring session, respectively.

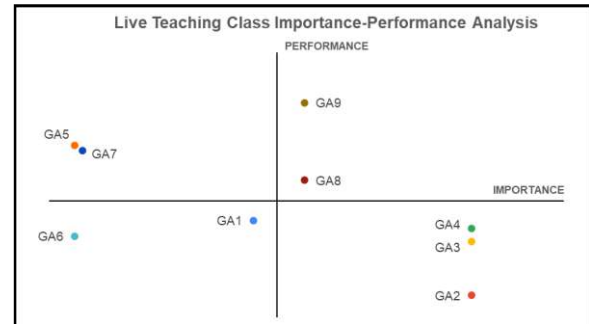


Figure 2: Live Teaching Class Importance-Performance Analysis

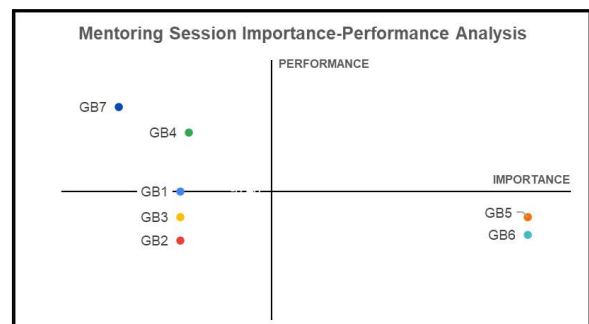


Figure 3: Mentoring Session Importance-Performance Analysis

Based on the Importance-Performance mapping of the SERVQUAL attributes, the focus of quality improvement should be concentrated upon the following components of the live teaching class:

- (GA2) The design of curriculum and its relevancy to the students' needs
- (GA3) Tutor's way of responding to the student's problems
- (GA4) Tutor's dependability in helping the students understand the class materials

Whereas, for the mentoring session, the focus of improvement shall be focused upon:

- (GB6) Individual attention that tutors give to students
- (GB5) Tutor's understanding of the students' needs

Based on the confirmation interview with hiring partner and the company's management, there is a still gap between the customer expectation and management's perception with regards to what specific skills need to be more emphasized in the curriculum and to what extent do those skills need to be further explored during the teaching-learning process. Even though the class managers communicate frequently with hiring partners, there is no mention of the standard way of communicating and standard level of specificity of the information expected from those conversations with hiring partners.

The quality strategies for tackling these findings are elaborated as follows:

Improvement of curriculum development: A new method for developing the curriculum which minimizes the mistakes that stems from the inability to filter attributes which do not have significant influence on the hiring partners' preference and focusing too heavily on a small subset of information that does not add value is proposed. The proposed method involves a modified version of the evoked set-based attribute selection (EVAS) to derive curriculum specifications directly from the hiring partners. The implementation of the curriculum development method is performed by a dedicated team which consists of a learning designer, researcher and data analyst.

Improvement of learning experience: A new set of quality management standard is proposed to improve the quality of the online live teaching and mentoring experience. The standards are formulated using the seven quality management principles which are defined in the international standard ISO

9001:2015, Quality management systems-Requirements. These principles consist of consumer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making and relationship management. With the new quality management standard, all the resources in the company can be better utilized to facilitate the quality improvement efforts which are planned and executed by the management, tutors and employees with the aid of the company's Learning Management System (LMS) technology. The strategy is expected to make the students feel that their problems are addressed in a more appropriate manner and enable them to understand the teaching materials better during the live teaching session. Furthermore, the strategy is aimed to make the students feel that they receive a better individualized attention and their needs are better understood. The implementation of the new quality management standards includes having the whole organization to support a commitment around aligning the resources, incentive and appraisal system, as well as the operations in the company to perform according to the new quality mindset and policies.

Conclusion

Based on the service quality analysis, there are three components that fall under the quadrant 4 category of "highly-important" and "under-performing". For the live teaching sessions, those components are:

- The design of curriculum and its relevancy to the students' needs
- Tutor's way of responding to the student's problems

- Tutor's dependability in helping the students understand the class materials

Furthermore, the focus of improvement for the mentoring session shall be concentrated upon:

- Individual attention that tutors give to students
- Tutor's understanding of the students' needs

Confirmation interviews with the hiring partners show that there is a still gap between the customer expectation and management's perception with regards to what specific skills need to be more emphasized in the curriculum and to what extent do those skills need to be further explored during the teaching-learning process. The recommendations derived from these findings involves two quality improvement strategies:

1. Improvement of curriculum development using a modified version of the evoked set-based attribute selection (EVAS)
2. Improvement of the learning experience through formulating new quality management standards based on the seven quality management principles

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K-Means Clustering Approach to Categorize the Maturity Level of Industry 4.0 Technology Adoption of MSMEs in Brunei Darussalam

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Abstract

Fourth Industrial Revolution (IR 4.0) technologies have been rising across the globe because of the impactful benefits to the industries such as agility, performance efficiency and productivity. Brunei Darussalam is a developing country that recently has begun to emphasize the importance of IR 4.0. It is important to identify the maturity level at which businesses are in to anticipate their readiness in adopting IR 4.0 technologies. In this paper, we have collected data regarding technology usage from forty Micro, Small, Medium Enterprises (MSMEs) across different industries in Brunei Darussalam to assess their maturity level. We have developed a novel categorization model using a K-means clustering algorithm and have categorized the level of maturity of these MSMEs in IR 4.0 technology adoption. This model helps to determine the level of technology adoption in various sectors and sizes of businesses which in turn will help to determine the impact of technology on the performance of the firm. From the findings, around 62.5% of the MSMEs in Brunei Darussalam are adopting mostly basic technologies, 27.5% are mostly adopting basic and intermediate technologies and 10% are mostly adopting basic, intermediate, and advanced technologies. The study also shows some challenges and benefit factors contributing to the adoption of IR4.0 technologies among the MSMEs as well as how much the businesses are willing to invest and their current level of interest and knowledge for digitalization.

Keywords

Digitalization, Industry 4.0, MSME, Maturity Level, Technology Adoption, K-Means Clustering

Introduction

The rise of the Fourth Industrial revolution has directed businesses in various industries to move towards the advancement of technologies to achieve global competitiveness and increase market opportunities. Different countries have different levels of IR 4.0 technologies adoption. Developed countries such as Germany and Sweden have advanced technologies implementation for MSMEs whereas developing countries such as Malaysia and Indonesia have their implementation mostly on basic and moderate technologies the most. These countries are facing difficulty in IR 4.0 implementation because of the lack of knowledge and government support. Whereas developed countries have skilled workforce and appropriate business strategies in going forward for IR 4.0 technologies adoption.

"Industrie 4.0" or well known as Industry 4.0 was started by Germany in 2011 to increase Germany's manufacturing industries strength in competitiveness (Hermann, Pentek and Otto, 2015; Issa *et al.*, 2018; Stentoft *et al.*, 2019). Industry 4.0 are initiatives that use technologies integrated with the Internet Of Things (Xu, 2012; Kagermann, Wahlster and Helbig, 2013; Lasi *et al.*, 2014; Kersten *et al.*, 2017). There are differences between SMEs and large businesses especially in terms of resources availability, types of processes and sizes (Kersten *et al.*, 2017). The way they use and implement technologies are also different, and there are challenges faced by SMEs when it comes to applying technologies to their businesses. SMEs are not ready for IR 4.0 comparing to big businesses

and SMEs are having challenges in using IR 4.0 technologies. There is also a lack of information on IR 4.0 among SMEs (Stentoft *et al.*, 2019).

In this study, we are focusing on Brunei Darussalam that has recently starting to diversify its economy and focus on the MSMEs and their use of technologies. The government of Brunei has slowly started to expose more awareness to digitalization. Bodies such as Authority for Information Communications Technology Industry (AITI), and Darussalam Enterprise (DARE) has highlighted the importance of digitalization for MSMEs. However, it is important to identify what are the MSMEs current maturity levels in adopting technologies before determining what are their challenges and benefits that are affecting the use of technologies. We have collected data regarding technology usage from forty MSMEs across different industries in Brunei Darussalam. This paper aims to assess their maturity level by analyzing the data through the K-means clustering approach and identify factors affecting the use of technologies in Brunei's MSMEs.

Literature review

In IR 4.0 technologies, there are different types of technologies having various characteristics and complexity to build and to be used.

Basic technologies are software and application such as Business Management systems, online applications, or software such as messengers, social media, E-mails, E-Commerce Platform, E-Payment systems, and Smart Devices that use internet networks. All these are technologies that are easily

implemented and only involve basic skills in handling technologies.

Intermediate technologies are quite moderate when it comes to complexity and usually consist of systems such as the "Off-The-Shelves" concept which are usually used for all businesses in all categories. Technologies are such as Big Data Analytics, Cloud Systems and Cybersecurity systems. These involve more cost and need more than the basic skill of IT. These technologies are mainly used for essential decision-making and improve quality products and outputs.

Advanced technologies are those involving high complexity and dense algorithm for the systems such as Artificial Intelligence, Robots and Advanced machinery, Augmented reality, Sensors and Networks and Cyberphysical Systems. This category of technologies often involves a high cost of investment and the need for experts or skilled people to handle which are usually used in large businesses for manufacturing and assembly industry.

Challenges factors in adopting IR4.0 technologies

1. Importance of E-Payment

Technologies used in financial processes can give benefits to organizations. For example, according to Lopes and Pereira 2019a and Mhlanga, 2020 that technologies such as Artificial Intelligence, machine learning, cognitive computing and distributed ledger integrated into the financial process will help to increase more performance (Lopes and Pereira, 2019; Mhlanga, 2020). There is less risk of losses, money stolen and other financial crimes issues when using digital financial services compare to using cash, also it can

save the cost of transactions with cash because the smaller transaction can be done with digital currency and mobile technology, this benefits the SMEs in terms of cost and process efficiencies (Dawei, Anzi and Gen, 2018; Mhlanga, 2020). Internet can increase more export and import of trading especially by new businesses. Internet technology helps in increasing the businesses ability to produce unique goods and services for new type of markets (Papachashvili, 2018). Online platform can help to reduce costs and increase more international trade such as e-commerce. It was agreed that SMEs are an important part of the players in becoming global exporters (Tan, 2017).

2. Support from government

Different countries that are quite advanced in technologies have started to have their initiatives by their government. For example German government support by having few research programs specific to digital transformation such as "Autonomik fur Industrie 4.0", "Industrie 4.0 - Forshung auf dem betrieblichen Hallenboden or "IKT 2020". Other countries such as Europe and France have programs to support Industry 4.0 such as "L'industrie du futur", and "Made in China 2025" funded by the Chinese government (Issa, Lucke and Bauernhansl, 2017). The government could help in terms of resources and providing training for digitalization. In Indonesia, cloud computing services helped to increase company performance however the companies are not willing to invest more in the technology therefore it is the Indonesian government responsibility to improve the industry by introducing incentives for companies to adopt Industry 4.0 technologies (Ari and Mardikyan, 2012).

Governments need to support and invest in creating high and digitally skilled employees in businesses to develop and create more jobs (Nagy *et al.*, 2018).

3. Cost of adopting technologies

Niche markets involve a smaller output of production (Knight, 2015; Kersten *et al.*, 2017). Kersten *et al.* agrees that SMEs are not having enough if resources and also skills and knowledge (Kersten *et al.*, 2017). The use of technologies is not easy for small-scale businesses because of not enough resources and market problems (Haseeb *et al.*, 2019).

4. Customers and supplier adaptation on technologies

Production processes with suppliers can be more efficient and lower the cost of the supply chain if there use of Industry 4.0 technologies which act as a push factor the reason why foreign suppliers are more incorporated (Issa, Lucke and Bauernhansl, 2017). But sometimes, there are cases where some other parties might not be ready for changes to Industry 4.0. According to a study from Agostini & Nosella 2020, SMEs managers from manufacturing industries agree that Industry 4.0 can help to increase advanced manufacturing process efficiency and cost-efficiency however, they mentioned that there are still some reluctant to use integrated systems with suppliers because they weren't ready which affect the decision to implement Industry 4.0 technologies (Agostini and Nosella, 2019). According to Jones and Kato, 2003 and Haseeb *et al.* 2019, that it is not easy for SMEs to use technologies (Jones and Kato, 2005; Haseeb *et al.*, 2019). Moreover, according to Zhou *et al.*, 2015 and Horvath and Szabo, 2019 that it will be hard

to integrate components and tools, as well as a method for the interface that is flexible because languages, methods and technologies required, are not the same (Zhou, Liu and Zhou, 2016; Horváth and Szabó, 2019) There is also a need for people with skills for successful implementation (Haseeb *et al.*, 2019).

5. Security issues

Security of data is an issue because data such as private information and identity could be a risk that could go worse in the future (Horváth and Szabó, 2019). There is a need to have protection for securing data information that protects privacy from cybersecurity risk. Not only that, according to Smit *et al.*, 2016 that data security methods and patents can help to protect innovative manufacturing business models. (Jan SMIT *et al.*, 2016)

Benefits of the use of IR4.0 technologies

1. Increase in competitive advantage

According to Horvath and Szabo, 2019 strong competitive market and push from rivals are other factors that by having innovation in the business with Industry 4.0 can help to increase their competitive advantage and it could help in having unique business models. This can be achieved by increasing more productivity and also quality to increase customers happiness and satisfaction (Horváth and Szabó, 2019)

2. Cost-saving

Industry 4.0 can help to increase micro-level improvement on the performance and Kiel *et al.*, 2017b mentioned that sales volume and cost-efficiency can be achieved by using Industry 4.0 technology (Kiel *et al.*,

2017). According to Winroth et al. and Machado et al., that businesses can get benefits such as sustainability, more flexibility, quality, cost-efficiency and process effectiveness by digitalization (Winroth, Almström and Andersson, 2012; Machado et al., 2019).

3. Marketing strategies

According to Cimini et al., 2017; Inezari and Gressel, 2017; Uden and He, 2017 and Horvath and Szabo, 2019 the use of data collected and processed from the field can help for quick decision-making and add more help in knowledge management (Cimini et al., 2017; Inezari and Gressel, 2017; Uden and He, 2017; Horváth and Szabó, 2019).

4. Level of Investment and frequency of investment

Although Balasingham, 2016 mentioned that lack of resources alone is not enough as the reason for not using Industry 4.0, other factors such as IT competencies and strategic thinking by the upper-level management should be considered as well (Balasingham, 2016).

But according to Hadjimanolis and Imran et al 2019, SMEs challenges to innovate are due to lacking resources and access to information (Hadjimanolis, 1999; Imran et al., 2019) Horvath and Szabo, Adolph et al. (2014), Erol et al. (2016), Shamim et al. (2016), Karre et al. (2017), Müller and Voigt (2017) and Kiel et al., 2017a, Kiel et al., 2017b all agreed that one of the big issues to the implementation of Industry 4.0 is the lack of skilled workforce and the need to retrain the employees to cope with the changed-situation (Adolph, Tisch and Metternich, 2014;

Erol et al., 2016; Shamim et al., 2016; Karre et al., 2017; Kiel et al., 2017; Kiel, Arnold and Voigt, 2017; Müller et al., 2017).

Moeuf et al. 2020 mentioned the crucial factors are trained employees, second is to have a study on Industry 4.0 plans and projects and third important factor is to always use regularly available company data, focusing on these three factors can help to increase people's agility and skills in a new organization and use of new tools (Moeuf et al., 2020).

There is a need for SMEs to have a digital strategy like how big businesses are (Toanca, 2016; Horváth and Szabó, 2019). According to Hortoványi, 2016, and Horvath and Szabo that businesses investing in new digital technologies will help to increase value-added to the business and be more competitive (Hortovanyi, 2016; Horváth and Szabó, 2019).

Methodology

Brunei Darussalam's MSMEs are defined according to number of employees in the businesses. For Micro businesses employees are less than 4 people, small businesses have between 4 to 19 employees whereas medium businesses are between 20 employees to 99 employees (Department of Economic Planning and Development, 2018).

Data Analysis Methodology



Figure 1.1: Data Analysis Methodology

We performed a cross-sectional in Micro, Small and Medium businesses in Brunei Darussalam from different industries. These samples are directly approached and using online survey form by random sampling method. We obtained 40 respondents from different industries in Brunei Darussalam. Table 1.1 below shows the composition of the sample regarding companies' size, respondents' profile and main market attended by the companies of the sample.

Data preparation for 3Mods Model

Raw data collected from online survey questionnaires were coded and sub-grouped to different areas based on the findings required such as types of technologies used, challenges encountered, benefits and future strategies. Data for numbers of Basic, Intermediate and Advanced technologies used in MSMEs are collected are computed for weightage in Excel Sheet before analyzing of K-Clustering.

Table 1.1: Demographic Characteristics of Samples

Category	Description	(%)	Category	Description	(%)
Main Industries	Agriculture	5%	Company Size's	Micro	75%
	Manufacturing	3%		Small	18%
	Construction	3%		Medium	8%
	Transport and Storage	5%	Respondents' profile	Owner	85%
	Wholesale and retail	43%		Manager	10%
	Real estate and ownership of dwellings	3%		Supervisor	3%
	Other services in private sectors	40%		Others	3%

Data Modelling - 3Mods Model

In this paper, the K-Means Clustering model is used to categorize the different groups on the use of technologies by MSMEs. RapidMiner Studio was used to apply the model. The data collected are pre-processed and cleaned and the model was applied. A 'k' value of 3 is set as it is suitable to be applied for this requirement. As shown in Figure 1.1 the model categorized the MSMEs into a total of three clusters i.e., Cluster 0, Cluster 1 and Cluster 2. Cluster 0 is representing the "Modest" category where MSMEs are using basic and intermediate technologies the most.

Cluster 1 is the "Modernized" category where MSMEs are using mostly basic, intermediate, and advanced technologies. In Cluster 2 it is the "Moderate" category where they are using basic, intermediate, and advanced technologies at a fair middle level. The objective is to see which MSMEs are falling under the same clusters and to investigate their characteristics on using types of technologies.

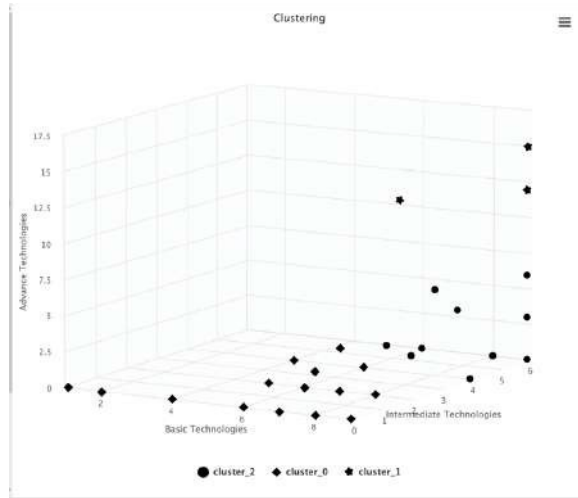


Figure 1.2: 3D Cluster of Brunei MSMEs

Data Evaluation

Table 1.2: Assessment table for clustering 3Mods Model

Type Of Business	Modest	Modernized	Moderate	Total
Micro	17	4	9	30
Small	5	0	2	7
Medium	3	0	0	3
Total	25	4	11	40

Referring to Table 1.2 above, the assessment of the 40 companies reveals that 25 MSMEs are on a Modest Level where the average of using basic technologies are high compared to intermediate and advanced technologies. 4 companies are on Modernized level where their advanced technologies are averagely high in comparison to other technologies. The rest of the 11 companies are in Moderate categories having a high average rate for basic and intermediate technologies.

Table 1.3: Total No. Of Businesses based on Sizes and Clusters

Cluster	Categories	No. Of Companies	Avg. Basic Tech	Avg. Inter. Tech	Avg. Adv. Tech
Cluster 0	Modest	25	6.080	1.040	0.240
Cluster 1	Modernized	4	8.500	5.500	12.750
Cluster 2	Moderate	11	7.909	5.273	1.909

1. Micro Businesses

In the Modest category, there are 8 businesses from Wholesale and retail, 1 Real Estate and 8 from other services in private sectors these include professional make-up, photography services provider, entertainment or art services. In Modernized category 1 business is from Wholesale and retail and 3 from other services in private sectors. In the Moderate category, there is 1 from Agriculture industry, 4 from wholesale and retail trade and 4 from other services.

2. Small Businesses

For the Modest category, there is 1 business from the Agriculture industry, 1 from the Construction industry, 2 from Wholesale and retail, and 1 from other services private sectors. There are no businesses from the Moderate category. 2 businesses are from the Wholesale and retail industry.

3. Medium Businesses

For Modest category, 1 business from the Manufacturing industry and 2 from Transport and Storage industry. There are no businesses from Modernized and Moderate categories.

Analysis/Discussion

Challenges faced by the MSMEs in adopting IR4.0 technologies.

This section will explain what are the challenges that have been affecting the way how businesses are using IR4.0 technologies.

Table 1.4: Challenges faced in adopting IR4.0 technologies

Challenge 1: High government taxes
Challenge 2: Regulation on the international transaction payment
Challenge 3: Regulation on import and export of technologies
Challenge 4: Awareness of the government's digitalization program
Challenge 5: High government supports
Challenge 6: Limited and lack of support for E-Payment
Challenge 7: High financial support for digitalization
Challenge 8: Awareness of the cost of implementing technologies
Challenge 9: Low and affordable cost of implementation
Challenge 10: Customer's reluctance in the use of technology
Challenge 11: Suppliers are supporting the use of technology
Challenge 12: Lacking of relevant applications & software
Challenge 13: Difficulty to install and use technologies
Challenge 14: Poor strength on the internet network
Challenge 15: Businesses do not need technologies
Challenge 16: Businesses do not need international's resources
Challenge 17: Sufficiency without technologies and fast internet
Challenge 18: Value-added and competitiveness of products
Challenge 19: Hassle to implement because of safety procedures
Challenge 20: Need to protect Intellectual Properties of the businesses
Challenge 21: Need to protect confidential data

Measurement from the questionnaire:

- 1= Strongly agree
- 2= Agree
- 3= Neutral
- 4= Disagree
- 5= Strongly disagree

Common Challenges faced by MSMEs under the Modest category

From the respondents, majority of the businesses from Modest category agreed that challenges they encountered from the use of technologies are government regulation on international transaction payment.

They also agreed that the use of E-Payment is limited and lack support. E-payment in Brunei Darussalam are strict when it comes to

or even local transfer. Some businesses in Brunei often encountered a problem when they were using their personal account to do business. One of the banks in Brunei was strict to adhere regulation for business to strictly use business account only to do a business transaction. This has been an issue to MSMEs because most of them are doing business on a very small scale, sometimes for their secondary income which they still must use a personal bank account because are not capable to register yet.

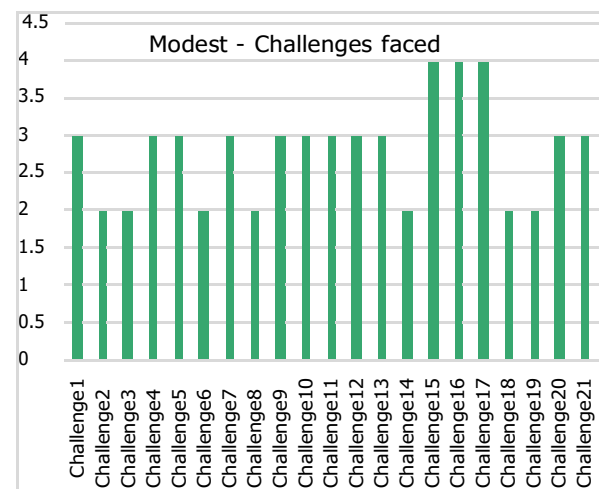


Figure 1.3: Modest – Challenges Faced

Another factor agreed by the businesses is the transfer of money from different countries

when government regulation has been affecting the import and export of technologies in Brunei Darussalam. For example, there is a regulation in Brunei for any radio/telecommunication products imported they must go through AITI for approval. Businesses agree that they need technologies in their business and their current products need to be more value-added and innovative to be more competitive. Businesses also need resources from other countries therefore fast internet can help to operate and communicate with international businesses more efficient.

However, most of the businesses under the category agreed that the internet in the country is poor which affects the use of technologies in the businesses. The structure of the network in Brunei is still under development. Recently in this year 2021, the 5G network has just started and is still in the introduction phase. Telecommunication providers such as Progresif Sdn Berhad, Unified National Network (previously called TelBru) and Data Stream Digital (DST) now shared one main network provider under UNN. Ever since network structure has been negatively affected and this has been a struggle for the businesses who require good internet to operate. Most of them agree that adopting technologies requires high safety and standard procedure which is a hassle to implement. Especially businesses that have high HSE policy. Businesses in the Modest category are aware of the cost of implementing technologies. However, most of the businesses under this category are neutral when it comes to cost and affordability.

Common Challenges faced by MSMEs under the Modernized category

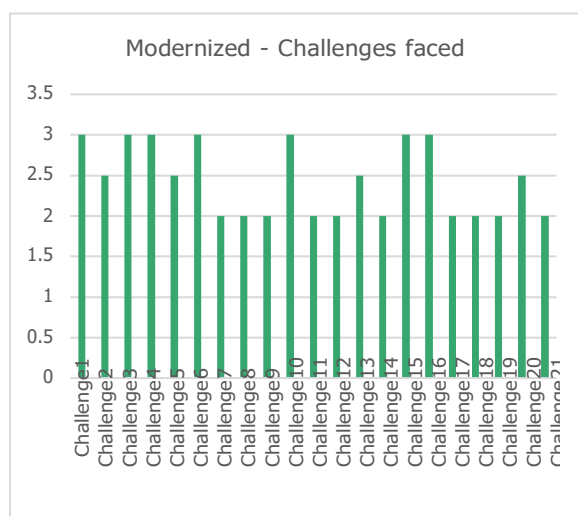


Figure 1.4: Modernized – Challenges Faced

Most of the businesses under the Modernized category agreed that one of the factors that hinder them from use of technologies is the lack of relevant applications and software for the businesses. Moreover, they agreed that the Internet network in the country is poor that hinders businesses from use of technologies.

However, based on the survey most businesses from this Modernized category agreed that they do not need technologies to operate and communicate efficiently with international businesses. This might be a reason why they are not using further technologies despite being in a Modernized category. Another factor is the adopting technologies requires high safety and standard procedures which is a hassle to implement. This category involves more advanced technologies comparing to the Modest and Moderate categories. Advanced technologies are usually a complex system that requires more skilled people to handle which possibly involves safety procedures. Not only that, but these businesses also agreed that there is important and highly confidential data in the businesses which advanced technologies couldn't be trusted.

In a comparison of Modernized to Modest and Moderate, some of the businesses in this category are in between agree and neutral that regulation from the government for international payment hinders them from use of technologies and the fact that government supports are high to support digitalization to the businesses. They also agree to neutral to decide if technologies are not easy to install or use. These could be

the fact that technologies they are venturing in are consisting of intermediate and advanced technologies as well. Usually, intermediate and advanced technologies require a special skill set and knowledge for handling such technologies. Not only that but there is also Intellectual Property concern for the businesses that needed to be protected which discouraged the business to use technologies.

Common Challenges faced by MSMEs under the Moderate category

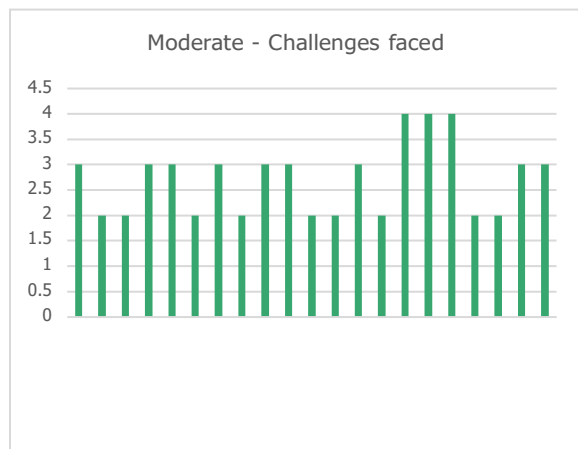


Figure 1.5: Moderate – Challenges Faced

Most of the businesses under Moderate categories agreed that government regulation on international transaction payment. Most of the businesses in the category are using E-Payment are limited and lack support. Similar to those MSMEs under the Modest category they have the same issues when it comes to e-payment transactions. They also agreed that government regulations are affecting the import and export of technologies.

Although most of the businesses under this category are aware of the cost of implementing technologies but same as the Modernized category, they agree that there

are lacking relevant applications and software for the business. Adopting technologies requires high safety and standard procedures which is a hassle to implement. Most businesses need technology and need to gain more resources from outside countries. They also need fast internet and technologies to operate and communicate with international businesses.

Benefits gained in the use of IR4.0 technologies.

In this section, we will explain the benefits gained by businesses when adopting IR4.0 technologies.

Table 1.5: Benefits gained in the use of IR4.0 technologies

Benefit 1 : Modern & Trendy Products
Benefit 2: Unique and competitive products
Benefit 3: Reaching local and international customers
Benefit 4 : Wider raw materials and other resources availability
Benefit 5: Better marketing strategies
Benefit 6 : Identifying market gaps
Benefit 7 : Effective and efficient communication
Benefit 8 : Production efficiency
Benefit 9 : Distribution efficiency
Benefit 10: Reduced manpower
Benefit 11: Decision making and planning

Measurement from the questionnaire:

- 1 = 0% - 20%
- 2 = 21%-40%
- 3 = 41%-60%
- 4 = 61%-80%
- 5 = 81%-100%
- 0 = No Answer

Common Benefits gained by MSMEs under the Modest category

Under the Modest category, by implementing IR 4.0 technologies most of the businesses are benefitting around 41% - 60% on modern and trendy products and unique

competitive products, moreover, benefiting by having better marketing strategies.

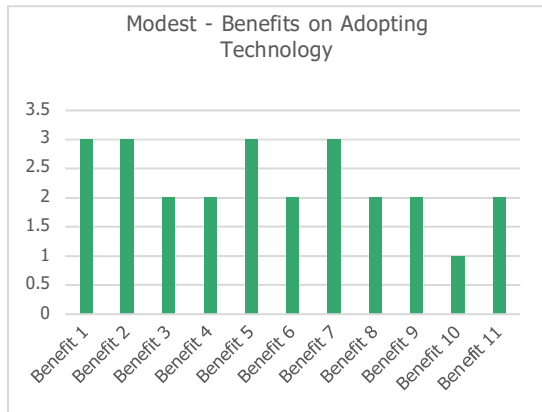


Figure 2.1: Modest – Benefits Gained

This shows technology could help in improving product designs to be more competitive. Businesses under this category are more to basic technologies where it involves the use of the mobile application and e-payment system. Mobile applications are such as social media apps and instant messenger apps. Businesses can go for better products by understanding more customers and their demands. Close communication with customers can help to build more customer relationships and businesses can gain more insights into what the demands and trends are.

They also agreed on the benefits of around 41%-60% in saving costs through an improved communication process. With the availability of technologies that involve instant messaging apps or social media, it is easy for these businesses to contact people efficiently at a low cost. For example, businesses in Brunei are always using WhatsApp messaging app because just the internet connection is required which is cheaper compared to carrier charged services and people in the country use the

apps widely. This is a push factor for businesses to use instant messaging apps even more.

In some benefit factors, there are around 21%-40% benefits gained by businesses such as being able to reach local and international customers, wider raw materials, and other resources availability. Identifying market gaps, production and distribution costs and processes. According to the survey, businesses under this category are benefiting only 0% - 20% from manpower costs. This could be because the businesses in the Modest category are only small-scale businesses that use fewer manpower.

Common Benefits gained by MSMEs under the Modernized category

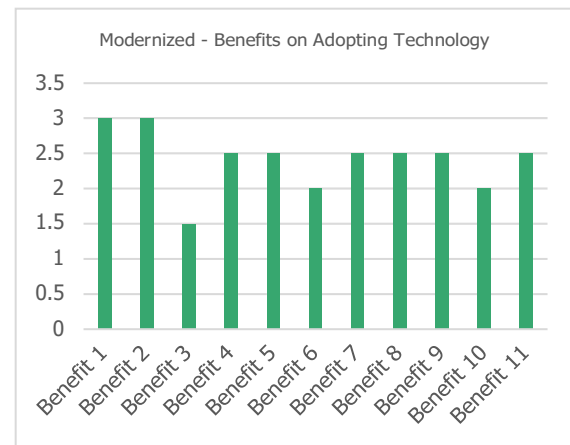


Figure 2.2: Modernized – Benefits Gained

Under the Modernized category, most of the businesses are benefitting around 41% - 60% for modern and trendy products and unique competitive products. They benefit in between 20% - 60% for as wider raw materials and other resources available, better marketing strategies, communication, production and distribution processes and costs, as well as decision making and planning.

Figure 3.0: Modest – Level Of Investment

Modernized: Level of Investment

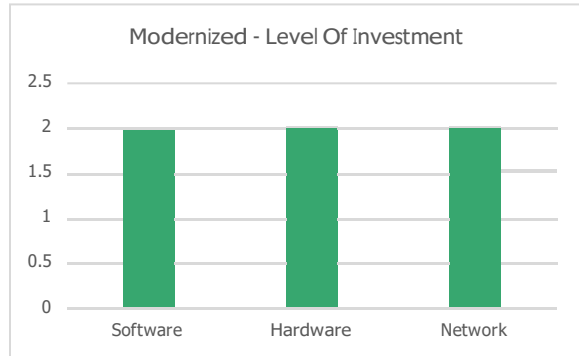


Figure 3.1: Modernized – Level of Investment

Under the Modernized category, most businesses are spending around BND 100 & below for software, hardware and network. It seems that businesses under this category are not willing to spend more to go forward in digitalization. Although, they showed some good investment levels for these three important technologies.

Moderate: Level of Investment

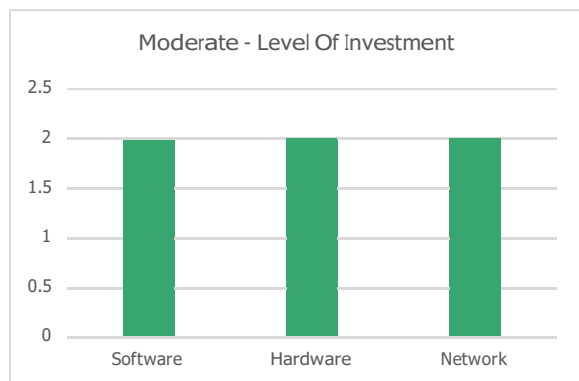


Figure 3.2: Moderate – Level of Investment

For most of the businesses under the Moderate category, they are investing around BND100 and less for software, hardware, and network as well. This shows

technologies and are willing to spend more for more than basic technologies. Most Intermediate and advanced technologies are usually paid or based on subscription because of their specialized and complex services.

Frequency of Investing

Measurement for the questionnaire:

- 1= None
- 2= At Least Once A Year
- 3= Few Times Per Year
- 4= More Than 5 Times Per Year
- 5 = One Time Investment

Modest: Frequency of Investment

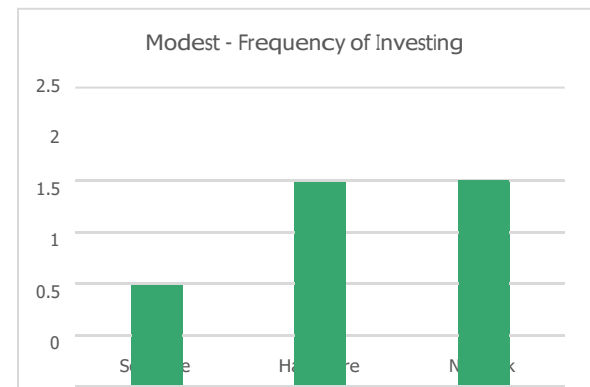


Figure 4.0: Modest – Frequency of Investment

Most of the businesses under the Modest category were not investing in software at all, but they are investing at least once a year for hardware and network technologies.

Modernized: Frequency of Investment

that Modernized and Moderate categories are
consisting of businesses that require more

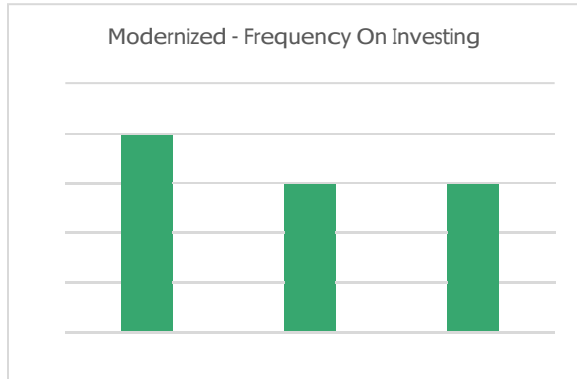


Figure 4.1: Modernized – Frequency of Investment

Under the Modernized category, most of the businesses are investing at least once a year for software, but only once a year to none for hardware and network

Moderate: Frequency of Investment

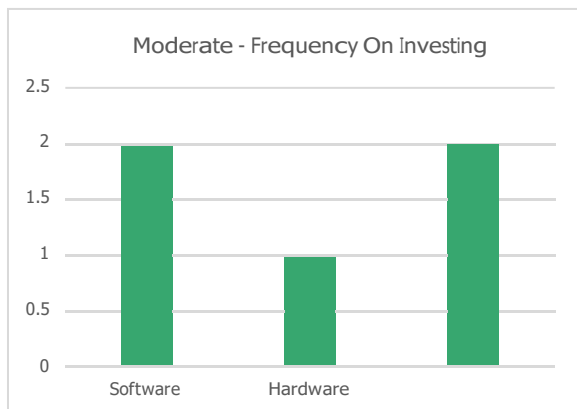


Figure 4.2: Moderate – Frequency of Investment

Under the Moderate category, most of the businesses are investing at least once a year for software and network, but none for hardware. This shows that most businesses are not purchasing more technologies within the years. This could be because technologies they are focusing on are software and internet network for operating intermediate and advanced systems.

Level of Interest and Knowledge

Measurement from the questionnaire:

- 1= None
- 2= Low
- 3= Mid
- 4= High

Modest: Level of Interest and Knowledge

Most of the businesses under Modest category owners have shown some good interest to go for digitalization and have adequate knowledge on digitalization. In this category, some of the businesses' employees have a medium level of knowledge on digitalization too. It appears like they also have done some average initiatives for going digitalization.

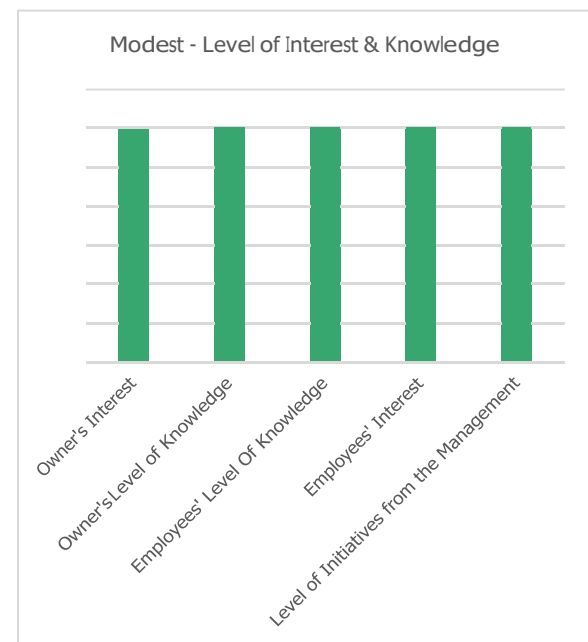


Figure 5.0: Modest – Level Of Interest

Under this category, most of the businesses are using basic technologies which only requires basic IT skills such as reading, use of phones and computers. Which in Brunei, digital literacy is quite high especially for the

youth. Thus, it explains the medium level of knowledge in basic technologies as well.

Modernized: Level of Interest and Knowledge

Most of the businesses under the Modernized category shows that they have between low to mid-level on the level of interest and knowledge. Businesses in this category have an almost average level of interest for digitalization and knowledge level for the owners.

Employees are also in between low and medium levels when it comes to knowledge and interest to go digitalization. Looking at the type of technologies they are adopting, it seems like they need more skills and knowledge to handle furthermore advanced technologies other than just basic technologies.

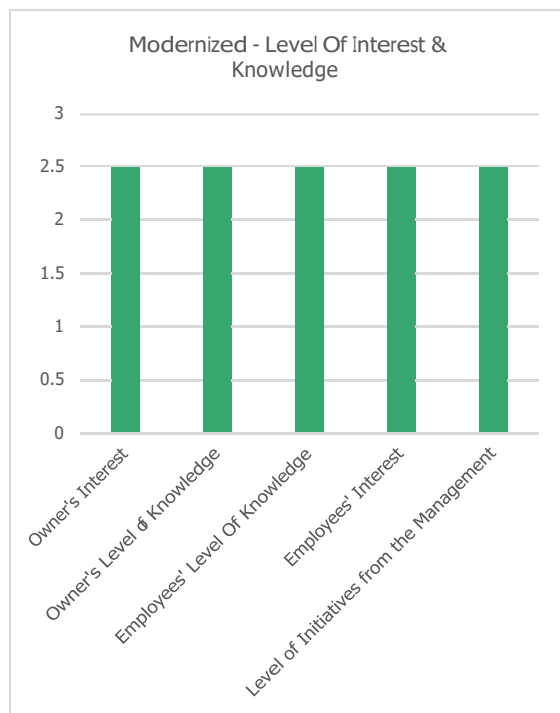


Figure 5.1: Modernized – Level Of Interest

The findings showed that even businesses that use more than basic technologies require more IT skills and awareness to increase more digitalization efficiently.

Moderate: Level of Interest and Knowledge

Most of the businesses under the Moderate category have motivated owners to go digitalization although they have mediocre knowledge levels.

Employee's knowledge and interest are low, but the businesses have made some initiatives to increase digitalization. It seems that businesses from this category are keen to use more technologies because it shows that they have made some initiatives while the owners' interest to digitalize is high despite their knowledge level.

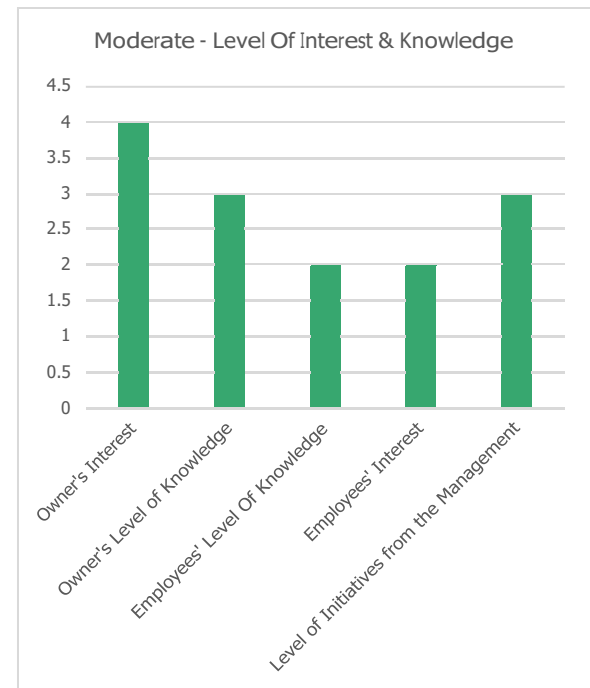


Figure 5.2: Moderate – Level Of Interest

This is a good opportunity for the government to help to increase more digitalization programs and awareness to the MSMEs.

Future Strategy: Willingness to Invest

Measurement from the questionnaire:

- 1 = None
- 2 = BND 100 & Below
- 3 = BND100 - BND900
- 4 = BND900 & Above

Modest: Willingness to Invest

In the Modest category, most of the businesses are willing to spend around BND100 and below for basic, intermediate, and advanced categories. For this, it shows Modest category are still willing to spend a little bit more for technologies to move towards digitalization.

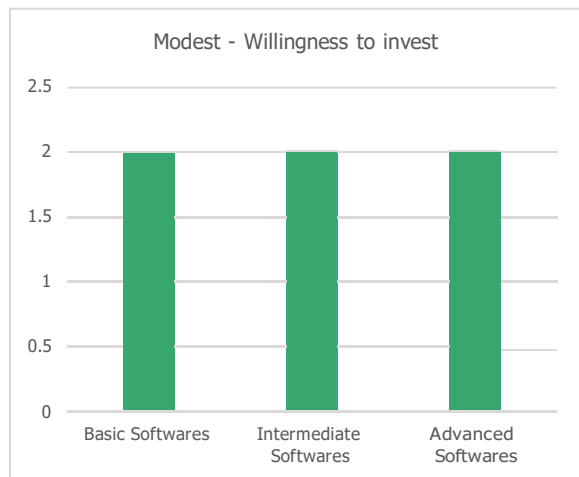


Figure 5.3: Modest – Willingness to invest

Modernized: Willingness to Invest

In the Modernized category, most of the businesses are willing to spend BND100 and less on basic software, but a little higher which is in between BND100 or less or BND100 – BND 900 for both intermediate and

advanced software but no more than BND 900.

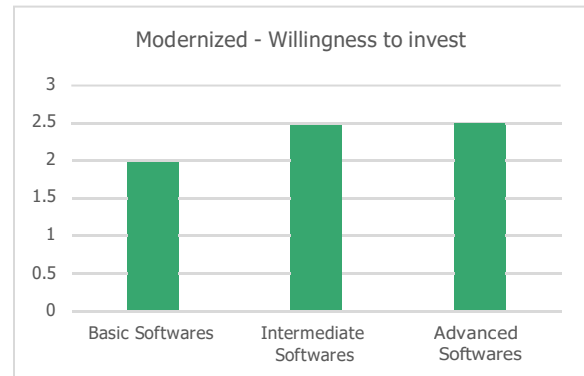


Figure 5.4: Modernized – Willingness to invest

This shows that the Modernized category is willing to spend a bit more on adopting more technologies.

Moderate: Willingness to Invest

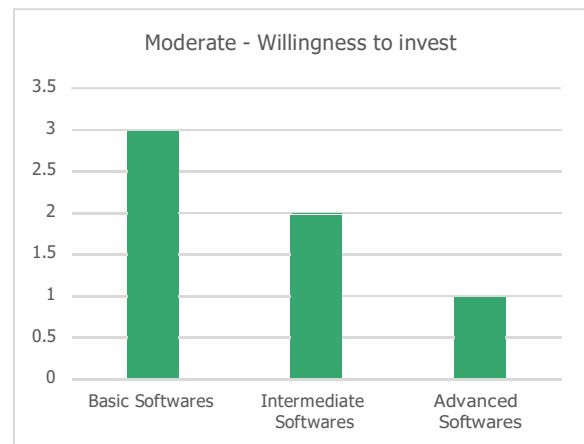


Figure 5.5: Moderate – Willingness to invest

In the Moderate category, most of the businesses are willing to spend around BND 100 - BND 900 for basic technologies but BND 100 and less for intermediate technologies, while not willing to invest anything for advanced technologies.

Future strategy: Types of IR4.0 Technologies to be adopted

In this section, we show what technologies the MSMEs are planning to adopt in the future.

Table 1.6: Future technologies to be adopted

Basic1: Mobile Communication Apps
Basic2: Business Management System
Basic3: Systems & Software with Internet
Basic4: E-Commerce Platform
Basic5: E-Payment System
Basic6: Website
Basic7: Internet Network
Basic8: Wireless Device/ Technologies
Basic9: Smart Devices
Intermediate1: Cloud Computing
Intermediate2: Big Data Analytic
Intermediate3: Cybersecurity
Advance1: Artificial Intelligence
Advance2: Cyberphysical Systems
Advance3: Augmented Reality
Advance4: Robotics and advanced machinery
Advance5: Sensors and network

Measurement in the questionnaire:

- 1-None
- 2-Less Likely
- 3-Likely
- 4-More Likely

Modest: Types of IR4.0 Technologies to be adopted

In this Modest category, most of the businesses are most likely to adopt business management systems and websites more but not mobile communication apps because they have been using mobile apps. They are also likely to adopt other basic technologies such as systems and software with the internet, e-commerce, e-payment system, more internet network, wireless device, and smart devices.

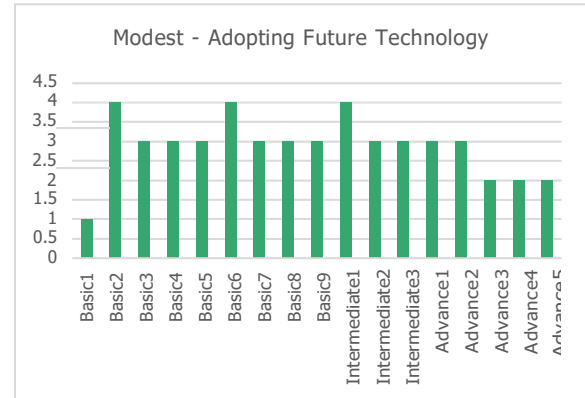


Figure 5.6: Modest – Types of IR4.0 Technologies to be adopted

As for intermediate technologies, there are most likely to adopt cloud computing and might be adopting big data and cybersecurity. As for advanced technologies, they are most likely to adopt artificial intelligence and cyberphysical system. They are less likely to adopt augmented reality, robotics, and advanced machinery, as well as sensors and network. This category only most focuses on basic technologies, but looking at their plan, they are showing to move towards digitalization.

Modernized: Types of IR4.0 Technologies to be adopted

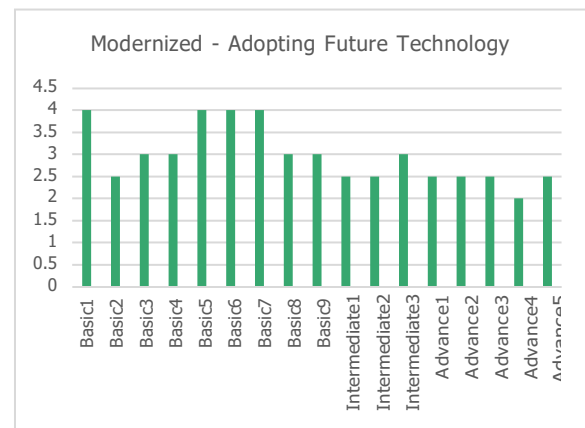


Figure 5.7: Modernized – Types of IR4.0 Technologies to be adopted

In the Modernized category, most of the businesses are most likely to adopt more on mobile communication apps, websites, and the internet for basic technologies but only likely to adopt systems and software with the internet, e-commerce platform, wireless device and smart devices. However, they are in between less likely and likely to adopt business management systems in their business.

Some businesses might be already using advanced technologies but lacking on emphasizing on basic technologies especially for marketing purposes. Looking back at the benefits gained by Modernized category, they only manage to get 0% - 20% of reaching international and local customers. Adopting more mobile communication apps and websites will help more to boost the reachability of customers.

According to the findings, most of the businesses from the Modernized category are likely to adopt intermediate technologies such as cybersecurity, and they are also in between likely and most likely to adopt cloud computing and big data analytic. In terms of advanced technologies, they are in between likely to most likely in adopting artificial intelligence, cyberphysical systems, augmented reality, and sensors but not keen on robotics and advanced machinery.

Moderate: Types of IR4.0 Technologies to be adopted

Most of the businesses from the Moderate category are most likely to adopt more basic technologies apps, websites, internet and wireless devices but likely to adopt business management systems, systems and software with the internet, e-commerce platform, e-

payment system, and smart devices for basic technologies.

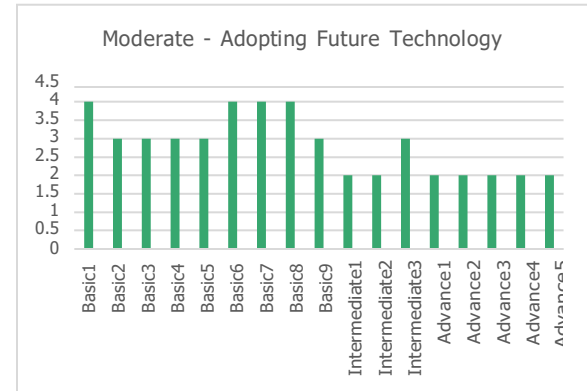


Figure 5.8: Moderate – Types of IR4.0 Technologies to be adopted

For intermediate technologies, businesses are most likely to adopt cybersecurity technologies but less likely to adopt cloud computing and big data analytic more. In terms of advanced technologies, this category is less likely to implement all advanced categories of technologies.

Conclusion

In conclusion, in between Modest, Modernized and Moderate categories, few characteristics distinguished amongst them.

For Modest category, around a total of 25 companies which is the largest cluster compared to Modernized and Moderate. This shows most of the MSMEs in Brunei is still under the Modest category. Those businesses seem to encounter more challenges such as regulations from the government and restrictions on E-Payment. This category appears to be more focused on products designs, marketing and the reach of customers. Because according to them, they need to have a competitive advantage and need more resources from outside countries.

With the use of mostly basic IR4.0 technologies, they are benefitting mostly on product designing, marketing, and communication process however, the technologies they are focusing on are not helping to reach more customers.

Businesses in this category are not so keen to invest in software but willing to spend a minimum amount for hardware and network which explains why they are not frequently acquire software but at least around once a year for hardware or network. They are willing to spend around BND100 and less for hardware and network but not software.

The owners in the businesses are mostly mediocre but still, it is good enough to start on basic technologies and create initiatives to digitalize in their business despite the low level of knowledge from employees.

Thus, in the future, they are mostly adopting basic technologies such as management systems and websites, e-commerce, the internet, and devices. They might want to venture into intermediate technologies such as cloud, big data, and cybersecurity. As for advanced technologies, artificial intelligence and cyberphysical systems.

The moderate category is around 11 businesses out of 40 which is the second large after the Modest category. Businesses under this category encounter similar challenges with the Modest category when adopting technologies such as government regulations and e-payment restrictions, lacking suitable application and safety hassle. However, they are highly benefitting in terms of product design, increase competitiveness, better marketing strategies, communication and reaching local and

international customers. But they are lacking benefits for reaching out to more resources.

The businesses have a high interest to go digitalize and have adequate knowledge as well. This is better than the Modest category. However, some of their employees have a low level of knowledge and interest even if they have done some initiatives for digitalization in the business.

For future strategy, this category is willing to invest around BND 100 and less for software, hardware, and network, different from Modest, which is only keen to invest in hardware and network only. Also, the businesses are mostly interested to adopt basic technologies such as application and business management systems, website and internet, cybersecurity for intermediate technologies but not too keen on advanced technologies.

For the Modernized category, around 4 businesses out of 40 which is the smallest category. According to the findings, the challenges to adopting technologies are the lack of relevant technologies, poor strength of network infrastructure in Brunei, safety hassle. Modernized category mostly concerns with the Intellectual property and confidential data to be protected, unlike Modest and Moderate categories.

Benefits from using IR4.0 technologies are product design, competitiveness, wider raw material access, better marketing strategies and saving cost through efficient production and distribution. However, they are lacking high benefit when it comes to reaching local and international customers which is the same problem encountered by the Moderate category.

This category is still spending for software, hardware, and network at least once a year.

The owners do not have a high level of interest and knowledge but are adequate to be interested and implement digitalization. Their employees have quite low interest and knowledge in digitalization even if there have been initiatives for digitalization done.

Most of the businesses are willing to lowly invest in basic technologies but a little bit more however less than BND900 for intermediate and advanced technologies. Those technologies the businesses are planning to adopt are most likely for basic technologies are mobile communication apps, internet, e-commerce, wireless devices and maybe for the business management system. As for intermediate, they are most likely to focus on cybersecurity, but only maybe to cloud and big data analytics. These categories are most likely to venture more into advanced technologies such as artificial intelligence, cyberphysical systems, augmented reality, and sensors but not to robotics and advanced machinery.

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An Analysis of Senior Friendly Hotel Attributes in Contributing to Guest Loyalty: A Case Study of Hotels in Phuket, Thailand

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Abstract

Over the past decade, the segments of senior tourists have substantially altered the tourism and hospitality industry. The lodging business is one of the services that the senior tourists expect to have a memorable experience when they are on vacations, especially beach hotels which are recognized as one of the fastest growing hotel types, and recently, it has been popular among global tourists. As an attempt to maintain this segment, the satisfied attributes of the hotel need to be considered to create positive satisfaction by providing well-managed services. The senior friendly hotel attributes hence represent a strategic challenge for hotel marketers. The aim of this research is to study the hotel attributes in creating satisfaction and loyalty targeting the senior tourists travelling to Phuket, Thailand. A questionnaire was collected the data from 350 foreign senior tourists in Phuket. A multiple regression and path analysis were used to test the hypotheses, and analyzed the data. The results revealed that the hotel attributes had directly positive influence on the guest loyalty. To maintain satisfaction and loyalty of the senior tourists, hygiene, security, and hotel facilities should be carefully paid attention. Furthermore, the hotel marketers should also focus on the other aspects of the hotel attributes in order to satisfy and attract more senior tourists which are perceived as one of the highest potential tourism segments to earn more trust, reliability, and income to the country.

Keywords

Senior tourist, Hotel attributes, Guest Satisfaction, Guest loyalty, Phuket

Introduction

Phuket, where is located in the Southern part of Thailand, is considered one of the most attractive beach destinations in the world (Fuchs & Sincharoenkul, 2021). In 2019, 10.17 million foreign visitors travelling to Phuket, which accounts 16 percent of total international tourist arrivals to Thailand (Ministry of Sports and Tourism, 2021). The reasons that Phuket is popular are from the beautiful sandy beaches, and many comfortable and good standard hotels around the island (Sastre & Phakdee- Auksorn, 2017). Also, the reasonable price of holiday package in high season (between December and March) attracts both domestic and foreign tourists to visit the destination.

However, a decrease of the occupancy rates during the low season (between April and November) affects the revenues in many hotels. To defeat this problem, the hotels start finding alternative clients during the low season, such as the senior tourists (Bu-Iud, 2017; Khaonoul, 2018) to fulfill the hotel revenue. As Silva et al. (2020), the senior persons mainly have both spending power and free time after their retirements, hence they are considered as an important potential market for tourism industry because the number of senior citizens is forecasted to be more than double from around 840 million in 2013 to more than 2 billion in 2050.

According to Kim et al. (2020), they proposed that the hotel managers should understand which hotel attributes, such as image, location, marketing strategies, security, and food and beverages (Melissen

et al., 2019; Paniandi et al., 2018) are important for the senior-tourist market and the effect of these attributes on the guest satisfaction in order to accomplish in providing the memorable experience to the senior tourists. Recently, the tourism scholars shown that various hotel attributes have influences on customer satisfaction (Bi et al., 2020; Davras and Caber, 2019; Xu, 2020), while some attributes construct a great satisfaction if they are perceived a great perform by the customers, and others may not increase customer satisfaction even their performance is high.

The authors realize that the senior tourists have a strong potential to become one of the important tourist markets in Thailand. Unfortunately, few articles study in analyzing hotel attributes targeting the senior tourists while they also have a high spending ability. Hence, to earn more senior tourists travelling to Phuket and Thailand, it is necessary to study the hotel attributes influencing senior tourists travelling to Phuket. Therefore, the researchers would like to study the attributes of hotels in creating guest satisfaction and loyalty targeting the senior tourists travelling to Phuket. The findings are expected to show the importance of hotel attributes, and their effects on the loyalty of the senior tourists.

Literature review

Senior Tourists

Senior tourists are defined as the tourists who are aged more than 65 years (Mary, Kong, & Wan, 2020; Otoo & Kim, 2020; Urbonavicius et al., 2017), have an increasing share in tourism sector. The

growth of this market is mainly related to the physical conditions of the seniors who are more active and healthier than previous generations (Kim & Jang, 2019). They have more available times with high spending power and love to enjoy their trips during the high seasons. The senior tourists spend more than other groups of tourists; they generate an attractive income for the tourism and hospitality businesses. In the meantime, they have loyalty and prefer a great service quality level (Alzaydi, 2021).

Therefore, the scholars studied various aspects of the senior tourists including; importance sources of information (Alén, Losada, & de Carlos, 2017), the travel motivation (Wijaya et al., 2018), the constraints of travel participation (Karl et al., 2020), the travel-health relationship (Wirawan et al., 2020), and the decision making process (Ebinger, Veit, & Fromm, 2019).

In a recent period, the identification of the attributes of hotel targeting the senior tourists' satisfaction has become a significant consideration for the practitioners and the scholars (Kim & Han, 2020). One of the study, Jeaheng, Al-Ansi, and Han (2019) conceptualized that the hotel attributes that were important for competing in the senior tourists market was the hotel staff should avoid using the improper words like elderly or senior. Moreover, they suggested the hotel staff using a large size of the printed materials. While Callan and Bowman (2000) studied the crucial hotel attributes when the British senior tourists select the hotels and found that the value for money was more important than the lower discounts or prices.

This is similar to a study of Moniz et al. (2020). In addition, the service and attitude of the staff were emphasized as the considerable factors of the service quality. They also summarized that the senior tourist segment was heterogeneous. That is to say that the importance of the hotel attributes for senior tourists was different according to their ages, genders, and retirement status. Caber and Albayrak (2014) investigated attributes of the hotels for pre-senior (age between 50 and 64 year-old) and senior (age 65 year-old and above) tourists to compare with young people from Germany, United Kingdom and the Netherlands. They found that a politeness and friendliness of staff were amongst the five most important hotel attributes for three nationalities and all age groups. The differences were food portions, special dietary menus.

To conclude, the hotel attributes such as cleanliness, service quality, in-room amenities, and non-smoking rooms were the most important attributes of the hotels to the senior tourists (Alén, Losada, & de Carlos, 2017; Chiang, Chen, & Hsu, 2019; Nakamura and Ashton, 2017; Vigolo, 2017). Moreover, many studies show that these various hotel attributes have direct influences on the customer satisfaction (Boo and Busser, 2018; Fajriyati et al., 2020; Pestana, Parreira, & Moutinho, 2020).

Hotel Attributes

The purpose of reviewing past approaches, 92 studies published between 2017 and 2021 in hospitality, tourism research and business journals (Academy of Management Journal, Almatourism-Journal of Tourism, Culture and Territorial Development, Current Issues in

Tourism, Interdisciplinary Journal of Information, Knowledge, and Management, International Journal of Contemporary Hospitality Management, International Journal of Culture, Tourism and Hospitality Research, International journal of environmental research and public health, International Journal of Hospitality Management, International Journal of Tourism Research, Journal of Business Research, Journal of Destination Marketing & Management, Journal of Environmental Management & Tourism, Journal of Hospitality and Tourism Technology, Journal of Quality Assurance in Hospitality & Tourism, Journal of Travel & Tourism Marketing, Management Science Letters, and Tourism Management) were reviewed. Then, a total of 78 attributes were extracted into and grouped into 8 categories: security, hotel image, physical appearance, location, price, facilities, staff, and hygiene.

Guest Loyalty

Loyalty often comes from people's perspectives (Wang et al., 2017). The guest loyalty is a sort of repeating behavior of the guests which is characterized in terms of re-visit or re-patronage intentions, recommendations, and word-of-mouth (Lee, Park, & Ahn, 2020; Mahmud et al., 2018; Tinakhat, 2021;). Lee et al. (2020) indicated that creating new guest loyalty depends on achieving guest satisfaction, which is affected by expectations. Guest loyalty occurs as a result of a guest feeling satisfied with the hotel and its goods and services (Anwar, Ferine, & Sihombing, 2020).

The researchers conceptualized a guest loyalty model caused by hotel attributes as

the independent variables motivating tourists travelling to Phuket. However, these attributes are bonded by guests' satisfaction as the mediating effect to loyalty as the dependent variable conceptualizing as a framework summarizing in Figure 1.

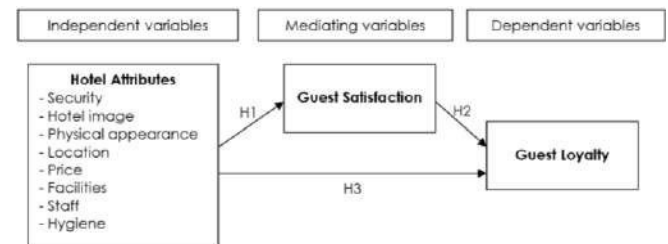


Figure 1: Conceptual Framework

Hypothesis

Hypothesis 1 (H1): Hotel attributes have a positive effect toward guest satisfaction.

Hypothesis 2 (H2): Guest satisfaction has a positive effect toward guest loyalty.

Hypothesis 3 (H3): Hotel attributes have a positive effect toward guest loyalty.

Methods

The quantitative methodology was used for this research. As summarized by Mohajan (2018), the purpose of the qualitative research is to get reliable variable measurements from the questionnaire, then analyze through the statistical methods such as SPSS. The population of this research is the foreign senior tourists who were visiting Phuket. To determine the number of samples based on observed variables by Bentler and Chou (1987), they stated that the number of samples sufficient for analysis can be calculated as 5 times the observed variables, whereas Nunnally et al. (1967) explained that the rule for defining the

minimum sample should be a ratio of 10 times the observed variable. In this study, Nunnally's approach was used by assigning samples 10 times the observed variables. The variables for this study consisted of 8 latent variables with 4 observed variables each. Total observation variables were 32 x 10 times, so the sample was 320. Kyriazos (2018) suggested that a sample of 200 or more would be appropriate for a relatively complex model. To avoid an error, a sample of 350 senior tourists was considered a good fit for the randomization of this study by a convenient randomization method.

A questionnaire of this study has been created from relevant concepts, theories, information, documents as a tool to collect the data. There are 4 parts: Part 1 is personal information of the respondent consisting of gender, marital status, age, education, occupation before retiring, nationality, monthly income, times of visiting Phuket, length of stay as a nominal scale. Part 2 - 4 are 5-Likert scale to collect the data about the hotel attributes, perceived value, and tourist satisfaction. These sections are designed to evaluate 5 levels of Likert scale (Level 5 = strongly agree, Level 4 = somewhat agree, Level 3 = neither agree nor disagree, Level 2 = somewhat disagree and Level 1 = strongly disagree). The researcher submits the questionnaire to 5 experts to recheck the reliability of the data considered from Index of Consistency (IOC) and the result of IOC is 0.75 meaning. As confirmed by Rovinelli and Hambleton (1977) if the result is exceeded 0.5, it is considered reliable and suitable (Precharattana, 2018; Rovinelli and Hambleton, 1977). The researchers use the

descriptive statistics (mean, S.D., percentage) to describe the respondents' demographic information, mean scores of hotel attributes, tourist satisfaction, and guest loyalty. A multiple regression analysis (inferential statistics) was used to analyze the independent variable on the dependent variable, which all statistical tests were performed the significance level at 0.05.

Data Analysis

This study applied Statistical Package for the Social Sciences (SPSS) software version 22.0 to analyze the data. Initially, Reliability Test and Exploratory Factor Analysis (EFA) were conducted to identify the interrelationships among a set of variables and to assure the reliability and validity. Subsequently, Multiple Regression and Path Analysis were used to test the causal relationships among variables, then conclude in the research hypotheses.

Variables	N	Mean	S.D.
Hotel Attributes			
Security	350	4.75	1.42
Hotel image	350	4.61	1.47
Physical appearance	350	4.68	1.45
Location	350	4.47	1.37
Price	350	4.29	1.39
Facilities	350	4.71	1.41
Staff	350	4.64	1.44
Hygiene	350	4.89	1.36

Table 1: Descriptive Analysis

Table 1 shows the mean, standard deviation of each attribute. Mishra et al. (2019) summarized that the normality could be

seen with a threshold of up to 3.29 when considering skew and kurtosis which mean all data were normally distributed. This study, Exploratory Factor Analyses (EFA) was used with Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity, and Varimax Rotation of 32 items of independent variables and 24 items of dependent variables because varimax rotation is a statistical technique which is used at a level of the factor analysis as an attempt to clarify the relationship among factors (Kotni and Karumuri, 2018).

Kiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were used to measure the sampling adequacy, which was suggested to verify a case to the variable-ratio for the study. Particularly in business studies, a test by KMO & Bartlett performs an important role in sample adequacy. KMO varies from 0 to 1, but the general index of acceptance reaches 0.6 (Rodrigues-Bigaton, de Castro, & Pires, 2017). Consequently, the KMO measure of sampling adequacy for both groups of independent (KMO = 0.774) and dependent variables (KMO = 0.805) was greater than the minimum value for a good factor analysis 0.60 ((Rodrigues-Bigaton, de Castro, & Pires, 2017). Subsequently, Bartlett's test of sphericity was significant (Sig.=.000), indicating the sufficient correlation between the variables.

Variables	Factor Loadings	Cronbach's Alpha	Initial eigenvalue	Variance explained %
Push Factor		.710	6.214	15.073
Security	.793	.716		
Hotel image	.784	.712		
Physical appearance	.767	.709		
Location	.668	.707		
Price	.689	.713		
Facilities	.713	.711		
Staff	.745	.716		
Hygiene	.608	.718		

Table 2 Factor Analysis and Reliability Coefficients of Independent Variables

Table 2 above shows the result of independent variables. All factor loadings of remaining items meet the minimum requirement (.40) (Costello and Osborne, 2005) ranging from .608 to .793. The Cronbach's alpha values used to estimate the internal consistency between items in each factor was .710. According to Nikkhah et al. (2018), Cronbach's coefficient alpha value above .60 is considered acceptable, while the more acceptable value should exceed .70 (Yu et al., 2019).

Skewness and kurtosis will be in the range from -2 to +2 in social sciences for data to be naturally distributed (Bandalos and Enders, 1996). The Z values for most of these parameters are greater than 1.96 imply that the parameters are significant (at $p < .05$) and support the data interpretation (Maxwell, E., Delaney, & Kelley, 2017), the value 1.96 is the precision coefficient needed for an interval estimate with 95% confidence (Bergman, 2018). Thus, this is considered acceptable to prove normal univariate distribution. Cronbach's alpha- coefficient measured the reliability of multi- item scales. Cronbach's alpha coefficient value was greater than 0.70 for all scales

used to operationalize the investigated constructs. A value of Cronbach's alpha coefficient of 0.70 or higher is considered acceptable (Bujang, Omar, & Baharum, 2018; Peterson, 1994; Taber, 2018), and indicates that the measurement scale tested is reliable. The measurement scales used in this research are reliable.

Variables	Factor Loadings	Cronbach's Alpha	Initial eigenvalue	Variance explained %
Guest Satisfaction		.773	2.185	13.173
I am satisfied with security of the hotel.	.783	.761		
I am satisfied with hotel image.	.765	.787		
I am satisfied with physical evidence of the hotel.	.742	.781		
I am satisfied with location of the hotel.	.719	.815		
I am satisfied with price of the hotel.	.693	.821		
I am satisfied with facilities of the hotel.	.668	.824		
I am satisfied with hotel staff.	.642	.741		
I am satisfied with hygiene of the hotel.	.672	.757		
Guest Loyalty		.739	2.813	12.527
I will recommend my friends, relatives, family to this hotel.	.773	.769		
I will visit this hotel again in the future.	.768	.746		
I will remain this hotel as my first choice if I travel to Phuket again.	.749	.741		

Table 3: Factor Analysis and Reliability Coefficients of Dependent Variables

From table 2 and table 3, EFA of the transformed data was carried out to extract the underlying motivational dimensions. A minimum peculiar value of one was used to regulate the number of factors extracted. One item of the 32 items was removed due to a low loading factor. To test the reliability of the factors, the alpha reliability test of a Cronbach was performed, and all factors showed reasonable reliability levels.

Findings

Factors Affecting Guest Satisfaction and Guest Loyalty

Linear Regression Analysis and Pearson's Correlation Analysis were applied to explore the relationship among variables. Table 4 shows that there were positive correlations between independent variable (Hotel attributes), the mediate variable (Guest Satisfaction), and the dependent variable (Guest Loyalty). This means that the stronger hotel attributes the guests had, their higher satisfaction and loyalty degree to the hotel in the future.

	Correlations	1	2	3
1. Hotel attributes	.364**			
2. Guest satisfaction	.473**	.382**		
3. Guest loyalty	.490**	.476**	.563**	
Mean	3.86	4.38	3.96	4.42
S.D.	.786	.747	.573	.568

** Correlation is significant at the .01 level (2-tailed).

Table 4: Correlations between variables

Hypothesis 1 (H1): Hotel attributes have a positive effect toward guest satisfaction.

The result of the data revealed that there were significant positive relationships between the mediate variable of guest satisfaction and the independent variables: Hotel attributes ($r=.382$, $p<.01$). The regression coefficient of hotel attributes was $\beta=.438$, $p=.000$. This implied that hotel attributes had positive effects on guest satisfaction at the 99% confidence level. Furthermore, hotel attributes could explain

37.4% the variation of guest satisfaction ($R^2=.374$).

Hypothesis 2 (H2): Guest satisfaction has a positive effect toward guest loyalty.

There was a positive correlation between the mediate variable (Guest Satisfaction) and the dependent variable (Guest Loyalty) with $r=.473$, $p<.01$. The coefficient of determination ($\beta=.725$, $p=.000$) indicated the relatively strong influence of guest satisfaction on guest Loyalty at the 99% confidence level. The R squared value was .243, which means 24.3% the variation of guest loyalty can be explained by guest satisfaction.

Hypothesis 3 (H3): Hotel attributes have a positive effect toward guest loyalty.

The Pearson correlation analysis results also showed the positive correlations between independent variables (Hotel Attributes) and the dependent variable (Guest Loyalty), with $r=.364$, $p<.01$. Re-visit Intention is directly affected by hotel attributes ($\beta=.186$, $p=.001$) in the positive direction and at the 99% confidence level. The $R^2=.257$ implied that the hotel attributes can explain 25.7% the variation of guest loyalty.

Discussion

The results of this study supported the proposed model to explain the guest loyalty to re-visit hotels in Phuket of the senior tourists. The findings revealed that the hotel attributes did not only directly affect guest loyalty, but had indirect impacts on guest loyalty via guest satisfaction too. It means

when the senior tourists have stronger desires to be on holiday and perception towards the attributes of a hotel, they may have higher satisfaction about this hotel as well as higher intention to re-visit it in the future.

The finding of this study was supported by some academic researches of Assaker, O'Connor, & El-Haddad (2020); El-Said and Aziz (2019); Khuong and Nguyen (2017); Padma and Ahn (2020); Park, Bufquin, & Back, (2019). They agreed that the hotel attributes positively affected guest satisfaction to the destination, together with the intention to revisit.

Guest loyalty which is consisted of revisitation, recommendation, and remains as the first choice (Bausch, Humpe, & Gössling, 2019; Chi et al., 2020; Moise et al., 2018) was directly and positively influenced by the hotel attributes. Thus, it is likely to conclude that the hotel attributes are important in boosting the satisfaction and loyalty of the guests. In conclusion, the study about the casual relationship between hotel attributes, guest satisfaction and guest loyalty are summed up in Table 5. The research hypotheses were accepted and supported; thus, they gave defensible evidences that the conceptual framework of this study was examined statistically acceptable.

Hypotheses	Beta	Sig.	Results
H1: Hotel Attributes → Guest Satisfaction	.235*	.000	Accepted
H2: Tourist Satisfaction → Destination Loyalty	.794*	.000	Accepted
H3: Hotel Attributes → Guest Loyalty	.183*	.001	Accepted

* It is statistically significant.

Table 5: Results of the Research's Hypotheses

Conclusion

The purpose of this study is to study the attributes of hotels in creating guest satisfaction and loyalty targeting the senior tourists travelling to Phuket by emphasizing the analysis of hotel attributes along in developing the research tool to enhance the competitiveness and effectiveness in hotel business. After analyzing the data, all proposed models and hypotheses were accepted and the objective of the research is achieved.

The findings can be summed that the hotel attributes have a positive and significant influence on guest satisfaction and loyalty. The hotel attributes are the potent aspect to explain and forecast satisfaction and loyalty of the guests. The hotel marketers in Phuket should pay attention to the important aspects of hotel attributes in order to response the demands of the tourists.

On the side of the hotel attributes, the first top three ranking of hotel attributes were: hygiene, security, and facilities. These factors may be considered as the core services viewed from the perspective of the foreign senior tourists. This result was similar to the findings of Alén, Losada, & de Carlos (2017) who conducted the study in profiling the segments of senior tourists throughout motivation and travel characteristics and

which cleanliness, hygiene, and security were top attribute when the senior tourists considered when travelling. While Sirinaphaphan and Lertputtarak (2018) examined factors concerning twenty-three long-stay senior American and Australian tourists in Thailand and found that they were happy with the management of safety, hygiene, cleanliness, and hotel facilities when they were in Thailand. Hence, the results of the study can be applied as a competitive and effective source of information for hotel marketers in formulating the competitive hotel strategies not only to retain the existing markets but to earn more potential senior tourists to Phuket and Thailand.

Recommendation

The findings of this research showed some practical suggestions for hotel marketers. First, this research proved the possible evidences on the casual relationship between the hotel attributes, guest satisfaction, and guest loyalty to Phuket of foreign senior tourists to increase the awareness of hotel marketer about the importance of hotel attributes and the positive influences on the guest satisfaction and loyalty. The hotel marketers in Phuket can create the competitive marketing strategies to attract more tourists. Besides, the hotel promotions, advertisements, and campaigns should be boosted the motivation of the potential tourist markets. Second, the hotels should prepare and train the knowledgeable and skillful staff to be able to impressively serve the tourist to create guest loyalty. Last, as the impact of the COVID-19 pandemic the hotel should

extremely pay attention to the cleanliness and hygiene of the hotel, staff, machines, and equipment to ensure disease-free services to the guests because the senior tourists are very sensitive to the disease. On top of that, a basic medical advice from the staff should bring to the attention to the hotel in order to create trust from the guests.

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Synergistic Effects of Public Health responses and Fiscal Policy Measures on Tax Morale of Entrepreneurial Firms during COVID-19 Pandemic in Nigeria

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Abstract

Our paper examines the synergistic effects of public health responses (PHRs) and fiscal policy measures (FPMs) on tax morale (TM) of entrepreneurial firms in Nigeria during COVID-19 pandemic. The research argument is built on the social contract and fiscal exchange theories, which both explicate that there exists a social exchange relationship between the government and the firms. With or without the pandemic, the law obligates the citizens as individuals and firms to pay taxes to the government, while the government in return provides public goods and services to the citizens. Using a cross-sectional survey design, the authors collected primary data from 177 managers of entrepreneurial firms through anonymous questionnaires. The data collected were analyzed using descriptive and inferential statistics. Three linear models were tested. The first estimation in Model 1 suggests that the PHRs do not have a significant positive effect on the TM of entrepreneurial firms. The second estimation in Model 2 suggests that the FPMs do not have a significant positive effect on the TM of entrepreneurial firms. The third finding indicated that the synergy of PHRs and FPMs do not have a significant positive effect on the TM of entrepreneurial firms. The study, although modest, contributes to the literature on entrepreneurial behaviour of firms and tax moral in a period of economic uncertainties. We argue that proactive PHRs and supportive FPMs are critical elements that influence TM, hence should not be ignored by the government in its social exchange relationship with the firms. The study provides valuable insights, and validates the social contract and fiscal exchange theories in the recessionary period.

Keywords: COVID-19 pandemic, entrepreneurial firms, fiscal policy measures, public health responses, tax morale

1.0 Introduction

Undoubtedly, the COVID-19 pandemic caught the world unprepared, as it quickly spread to multiple countries and threatened the public health of the global community (Han et al., 2020). The boomerang effects of the pandemic on all aspects of life were felt by all countries, businesses and people, but some are less affected by the devastating effects than others (Lund et al., 2021). The nature of the pandemic makes it the most devastating public health crisis since World War II (World Bank, 2020a). The effects include loss of life, loss of jobs and livelihoods, global economic recession, international flights cancellation, and disruption of supply chains in several sectors of the global economy (Dzigbede & Pathak, 2020; OECD, 2020a; Osland et al., 2020). According to official statistics (as of 30 September 2020), there are over 33.5 million confirmed cases of coronavirus infection worldwide, including over one million deaths (World Health Organisation, 2020a). In addition, the International Monetary Fund (2020) had projected a drastic decline in global economic growth, and predicted worse growth outcomes for developing countries, especially those in Africa. In addition, the International Labour Organisation (2021) reported that the scale of disruption to the labour market was unprecedented, with working hours falling by 8.8 per cent in the fourth quarter of 2020, equivalent to 255 million full-time jobs.

The rising number of infections, low number of recoveries and deaths from the devastating coronavirus forced the various countries and international organisations to take public health responses (PHRs) and financial policies (FPMs) to contain and curtail its devastating health and economic consequences. The topics of PHRs and FPMs have repeatedly surfaced at policy summits and in professional discourses since the onset of the pandemic, and have also become an important topic in academic research (Dzigbede & Pathak, 2020; Moriarty et al.,

2020; Tabari et al., 2020; Ozili & Arun, 2020). Other pandemic-oriented themes emerging as keywords in academic databases include Public Health, Public Response, Health Policy, COVID -19, Novel Coronavirus, 2019-nCoV, and SARS-CoV-2 (Tabari et al., 2020).

The PHR issue has been of critical importance recently as it is the proactive strategy being pursued by various governments around the world to end the COVID-19 pandemic (Guest, Del Rio & Sanchez, 2020). As a health-oriented policy, it includes response areas such as (a) collecting data on those infected to clarify the extent of risks for prevention, treatment and measures to contain the outbreak; (b) improving health protection measures and ensuring equitable access to quality health care for all citizens (Boyle et al., 2020; Tabari et al., (2020). The FPM, on the other hand, is a government policy of expanding spending and reducing taxes, transferring money to the poor and providing subsidies to keep the economy running, boost aggregate demand, improve health care financing, improve the livelihood of citizens, secure jobs and promote business continuity in the economy (Dzigbede and Pathak, 2020). The PHR and FPM are inevitable due to the shutdown of the global economy during the pandemic.

Some of the PHRs implemented in the United States include massive COVID-9 testing for citizens, contact tracing for travellers, emergency response to individuals whose symptoms are consistent with the virus, and preventive measures that include social distancing, respiratory hygiene, and "the controversial wearing of face coverings" in public places where social distancing measures are difficult to maintain (Garg et al., 2020). In China, the country that is the epicentre of the pandemic, PHRs include: Fact-based health information on causes, prevention and management; large-scale quarantine measures in all major cities; lockdown of businesses and social activities to keep residents indoors; provision of protective medical supplies, provision of

more medical personnel and hospital beds in Wuhan and surrounding areas; and release of key intervention targets for six (6) groups: confirmed patients, persons being screened for COVID -19, health care workers in direct contact with patients, sick persons refusing treatment, and susceptible general public (Dong & Bouey, 2020; National Health Commission of China, 2020).

Later, PHRs were strengthened with FPMs because the public health crisis suddenly turned into an economic recession. The devastating effects of the pandemic also increased uncertainty, and stock market indices reacted negatively, leading to hasty consumption and investment decisions (Ozili & Arun, 2020). In Europe, the pandemic led to a sharp decline in Gross Domestic Product (GDP) in all member states of the European Union, to the extent that several households were exposed to an increased risk of unemployment due to the lockdown measures, but member state governments adopted the PHRs and FPMs to mitigate the devastating effects (Christl et al, 2020).

In Africa, the coronavirus pandemic crippled the economy including the food value chain and created several health and fiscal challenges. Dzigbede and Pathak (2020) reported that the economic shock triggered by the pandemic led to a rise in inequality and poverty in Ghana. The government responded with expansionary fiscal policies especially cash transfer programs, tax cut, and targeted expenditure and revenue policies designed to promote long-term economic resilience. In Nigeria, the FPMs was implemented to mitigate the challenges posed to lives and businesses by the pandemic. Some of the FPMs include government's N500 billion COVID-19 Crisis Intervention Fund, Government Enterprise and Empowerment Program (GEEP), N50 billion CBN Household and MSME Intervention Fund, N20.000 conditional cash transfers, tax relief, debt restructuring, debt relief, reduction in fertilizer prices and temporary reduction in fuel prices among

others (Okojie & Faminu, 2020; Raimi, 2021). The FPMs are aimed at boosting the operations of entrepreneurs in agriculture, manufacturing, entertainment, technology and services to avert possible economic recession, boost Gross Domestic Product (GDP), retain jobs and create more employment opportunities in the post pandemic period (Raimi, 2021).

Although efforts in many countries have been rapid and extensive, the impact is expected to be temporary and short-term (OCED, 2020b; IMF, 2020). Therefore, it is recommended that there is an urgent need to support entrepreneurial firms as they face high liquidity and solvency risks resulting from the catastrophic effects of the pandemic (Kalemli-Ozcan, 2020). Even before the pandemic, entrepreneurial firms were always at a performance disadvantage compared to established firms (Mosakowski, 2017).

Based on the above, this paper examines the synergistic effects of PHRs and FPMs on the TM of entrepreneurial firms in Nigeria during the pandemic. The research argument is based on the theories of social contract and fiscal exchange, both of which state that there is a social exchange relationship between the government and the firms (as corporate citizens). While there are previous studies on tax morale in relatively stable times. There are also empirical studies on FPMs and PHRs that focused on macroeconomic issues. The current study attempts to fill the knowledge gap created by the lack of literature on the effect of PHRs and FPMs on tax morale of entrepreneurial firms during a pandemic period.

Apart from the introduction (Section 1), there are other four sections. Section 2 discusses the concepts of PHRs, FPMs, and TM including theoretical underpinnings and research hypotheses. Section 3 explains the research methods. Section 4 presents the data analysis/findings. Section 5 concludes and discusses the implications, limitations, and recommendations.

2.0 Literature review

2.1 Conceptual Review

The three mutually-reinforcing concepts that form the building block of this study are public health responses, fiscal policy measures and tax morale. The three concepts are predicated on the reasoning that government interventions through PHRs and FPMs could plausibly impact tax morale of entrepreneurial firms during COVID-19 pandemic.

2.2 Public health responses (PHRs)

The terms PHRs refer to the various public health interventions deployed to control, manage and mitigate the effects of COVID-19 on people's lives, economic conditions and general well-being (Boyle et al., 2021; Dzigbede & Pathak, 2020). PHRs predate the current pandemic, as they are often adopted for managing public health crises and associated problems suffered by high-risk people, survivors and frontline healthcare workers (Mak et al., 2009; Glasser et al., 2011). Besides, PHRs represent a three-step coping strategy that include public health leadership, rapid innovations, and courageous political will (Guest, Del Rio & Sanchez, 2020). PHRs as community-specific interventions guarantee better emergency preparedness and responses against public health crises in the present and the future (Boyle et al., 2020; Garg et al., 2020; Gold, et al., 2020). The PHRs cover broadly three response areas, namely: (a) gathering data on those infected to help clarify level of risks for prevention, treatment and mitigation measures during the outbreak; (b) improving the health protection measures; and ensuring equity in access to quality of medical care for all citizens (Boyle et al., 2020). But, Tabari et al., (2020) noted that PHRs cover four main areas, namely monitoring, public education, crowd controlling, and care facilities.

2.3 Fiscal policy measures (FPMs)

FPMs are government interventions largely framed around public expenditure and taxation. In a normal period, devoid of economic crises, taxes are required by the governments to meet their fiscal obligations (Kneller et al., 1999; Alesina & Ardagna, 2010). At present, the ravaging pandemic has affected the income projections and expenditure plans of many countries, leading to significant fall in tax revenues. Instead of governments collecting taxes, they were forced to provide fiscal stimulus including lower taxes to save jobs and keep businesses afloat (Clemens & Veuger, 2020; Edelberg & Sheiner, 2020). The use of FPMs in a recessionary period had long been explained in the Keynesian economic theory.

During the period of recession, equilibrium is restored through expansionary FPMs (that is, increase in government spending and reduction of personal income taxes of businesses and payroll taxes of individuals) in order to stimulate the level of economic activities. In the inflationary period however, tight FPMs are invoked (that is, decrease in government spending and increase of personal income taxes of businesses or payroll taxes), which expected tame inflationary situations in the economy (Alesina & Giavazzi, 2013; Ramey, 2019). From the foregoing, the functioning of an economy is sustained through tax collections to fund public expenditure.

2.4 Tax morale (TM)

Tax morale refers to the attitude of the citizens regarding compliance, evasion or outright avoidance of tax paying obligation (Ramona-Anca & Larissa-Margareta, 2013). It extends to the willingness, the internalised obligation and the inherent motivation of people to pay tax to government agencies (Torgler 2006). TM also describes an individual's intrinsic motivation to pay tax or evade tax (Torgler & Schneider, 2004; Torgler & Schneider, 2007; Palil et al., 2013; Andriani et al., 2020). When viewed from the governance perspective, the TM is a moral obligation not a legal issue (Torgler &

Schneider, 2009), a view that is supported by the social contract and fiscal exchange theories. In the period of recession, the government is expected to reduce taxes and provide financial stimulus to individuals and businesses for the purpose of restoring economic equilibrium. Therefore, tax waiver, tax reduction and provision of subsidies are potent fiscal tools for stimulating economic activities in the period of economic shocks. In the absence of tax-paying capacity, it is the responsibility of the government to initiate policy interventions to support the citizens to meet the changing needs of labour markets as well as foster the resilience capabilities of the people in readiness for the Postpandemic era (OECD, 2021).

From the foregoing, the conceptual framework in Figure 2 below explains the synergistic effects of PHRs and FPMs on TM in the period of pandemic. The framework presupposes that PHRs and FPMs when adequately deployed by the government could plausibly stimulate TM. Payment of taxes by the citizens with or without the pandemic is rooted in a social contract between the government and the citizens. This exchange relationship is premised on the arrangement that the government would provide public goods and services for the citizens as benefits for tax compliance; and the citizens would in return pay personal income taxes to the government to run the governance machinery (Armah-Attoh & Awal, 2013; Beale & Wyatt, 2017).

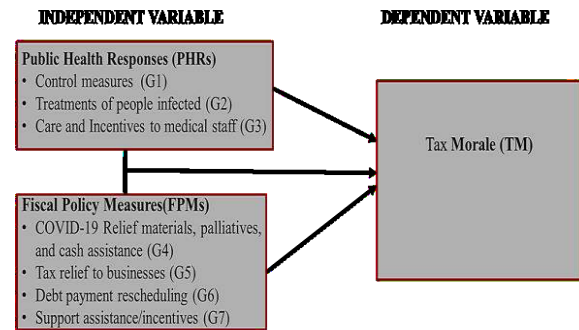


Figure 1: The conceptual framework explains the Synergistic effects of PHRs and FPMs on TM during COVID-19 pandemic. The framework is supported by the Social Contract and the Fiscal Exchange Theories.

2.5 Theoretical Framework

The social contract and fiscal exchange theories both provide logical explanations for the conceptual framework above. Fiscal exchange theory tax morale of the citizens would be reduced if citizens generally perceive the value derived from government expenditure, and the measures taken, in fighting COVID-19 is lower than the value of the taxes paid in exchange for government services. Social Contract and Fiscal exchange theories (linked together) postulate that there exists a psychological contract between the state and the citizens. The social contract allows for the imposition of fiscal obligations on each of the two parties in a social exchange relationship. The role of the state is to provide public goods and social services to the citizens. In return, the citizens and corporate businesses (as the beneficiaries of the goods and services) are expected to pay personal income taxes, which are required for financing public goods. Taxes are considered to be the prices paid by the citizens in exchange for the public goods (such as subsidized food, shelter, health care, schooling) enjoyed by eligible individuals and businesses (Ostrom & Ostrom, 2019). In any situation whereby any of the parties fails to discharge its share of the statutory duty, the social contract is considered to have been breached. As rational human beings, citizens would evaluate the value of the benefits derived from government services compared to the

value of the taxes they paid. It is rational and reasonable to expect that if citizens' perception of the benefits derived from government's effort in meeting the challenges from COVID-19 pandemic is not commensurate with tax paid, their tax morale (readiness to pay tax) could be negatively affected.

2.6 Previous Studies and Hypotheses Development

From previous studies, this section discusses the effect of PHRs and FPMs on tax morale of entrepreneurial firms.

2.6.1 Public Health Responses and Tax Moral in COVID-19

Across the globe, international financial institutions in collaboration with governments swiftly responded to address the challenges that COVID-19 poses to the economy, businesses and individuals through proactive PHRs. The PHRs were necessary to safeguard businesses because the pandemic made global economic activities vulnerable to recessionary shocks triggered by the pandemic. Worse still, the disruptions of the value chains restricted businesses' ability and capacity to work optimally to earn enough revenue to sustain operations and pay taxes.

Consequently, the IMF (2020) recommended PHRs such as (i) support for health priorities; (ii) protection of ailing businesses; (iii) protection of affected individuals; and (iv) protection of revenue sources. Moreover, the Chinese government pushed liquidity injections of 1.2 trillion yuan (\$174 billion) into the economy amidst the ravaging effects of the pandemic (Leng & Goh, 2020), and subsequent more fiscal stimulus followed. The total liquidity injection in China was estimated at RMB 8 trillion (Funke & Tsang, 2020). In Europe, governments have rolled out fiscal packages to prevent corporate bankruptcies, and increased fiscal spending. Particularly, European countries utilised their existing well-developed social safety nets such as sick benefits, unemployment allowance, social assistance, and active labor market policy to

mitigate the effects of the pandemic, while enforcing the PHRs (Yeo & Kim, 2020).

Like other continents, Africa launched the PHRs that comprise emergency declarations of curfews, lockdowns (partial and total), movement restrictions, capacity-building training of medical/healthcare personnel, provision of personal protective equipment (PPE) to health workers, establishment of specialized clinics/wards in hospitals for coronavirus patients, strengthening national surveillance in areas of contact tracing, quarantining, isolation and treatment, upscaling facilities for rapid testing/diagnosis, and aggressive dissemination of public health information campaigns to mitigate spread of infection and death (World Health Organization, 2020b). Furthermore, Oyedele (2020) noted that FPMs taken by African countries include mortgage reliefs, targeted cash transfers, concessions, suspension of anti-money laundering (AML), suspension of audit, tax waivers and deductions, force majeure, filing extension, interest free loans, employment reliefs, impairment write off, and payment moratorium.

Also, Ghana scaled up its monetary and fiscal policy responses to the ravaging effects of the pandemic through international financing support (Dzigbede & Pathak, 2020). The World Bank provided the sum of \$100 million to the government of Ghana to expand emergency response systems and mitigation efforts (World Bank, 2020). All these interventions were directed at improving the PHRs as well as stimulating economic activities. In Nigeria, the PHRs include, among others, release of contingency funds of over a billion Naira to Nigeria's Centre for Disease Control, Establishment of a N500bn COVID-19 Crisis Intervention Fund channelled to the upgrade of healthcare facilities, and employment of 774, 000 health support staff to boost manpower shortages.

Learning from the Chinese experience, Fan, Yang & Jia (2020) explained that at the early stage of the PHRs targeted at mitigating the

spread of the pandemic, the government faced financial and logistics challenges that affected the smooth distribution of materials across the country. Consequently, the policymakers launched a preferential tax against the pandemic, which was well embraced by the tax paying people and organisations.

The reactions of enterprises to the pandemic could be explained by the lead-lag conditional relationships (Matos, Costa & da Silva, 2021). The lead firms in spite of the pandemic have added \$275 billion to their expected economic-profit pool within a year, the lags on the other hand have lost \$373 billion (McKinsey & Company, 2020). Furthermore, lead firms were able to fulfil their tax obligation after receiving support interventions through the PHRs, while the lags are those that could not fulfil their tax obligations because of the devastating effect of the pandemic on their operations. On the strength of the insights above, it could be hypothesised that:

H₁₁: *The public health responses have a significant positive effect on tax morale of entrepreneurial firms during COVID-19 pandemic in Nigeria*

2.6.2 Fiscal Policy Measures and Tax Moral in COVID-19

The FPMs drive government's expenditure and taxation framework. During the pandemic, instead of collecting taxes, the governments launched the FPMs to enable the public authorities to provide aids and fiscal stimulus including lower taxes to save jobs and keep businesses afloat (Clemens & Veuger, 2020; Edelberg & Sheiner, 2020). Different countries provided fiscal stimulus to their citizens and businesses. For instance, the United States, paid unemployment claims to 28 million persons (Barrero, Bloom & Davis, 2020). Also, the US government promulgated the Coronavirus Aid, Relief, and Economic Security (CARES) Act to provide economic reliefs and stimulus packages to the small businesses. The CARES Act Paycheck

Protection Program (PPP) provides bail-out to businesses to ease the challenges of payroll, lease, rent mortgage, and utility payments (Bartik et al., 2020). Similarly, the Nigerian government launched a number of FPMs such as the N50 Billion credits facility for households and small businesses; credit support for healthcare industry; granting of one-year moratorium to debtors to payback all CBN loan interventions, reduction of interest rate from 9 to 5 percent per annum; moratorium to states; conditional cash transfers to the Internally displaced persons in camps, reduction of the petrol pump price per litre, suspension of increase in electricity tariffs, waiver of import duty on medical equipment, medicines, and protection equipment for the treatment of COVID 19 (Nevin, 2020).

In the developing countries, liquidity support through FPMs for businesses and vulnerable households became expedient because of inhibiting factors such as weak health care systems and other unfavourable market conditions including informality and scope of operations (OECD, 2020b). Intervention through FPMs is necessary to aid recovery of SMEs from the impact of COVID-19 (Women Entrepreneurs Finance Initiative (2020). It is believed that, when businesses are supported by governments through the FPMs, they should be able to fulfil their tax obligation.

In sub-Saharan Africa, the pandemic created severe economic and fiscal challenges for governments in this region. The various governments initiated aggressive monetary policy initiatives to boost liquidity in their economies, increase the funds availability to commercial banks and introduce debt repayment reliefs, which are considered to be insufficient considering the monumental effects of the pandemic (Fletcher, 2020). The FPMs provided by Ghana, Kenya, Mauritius, Ivory Coast, Nigeria, Senegal, and South Africa include tax payment deferrals and reductions, loans, and a moratorium on debt repayments, with

very limited fiscal interventions for saving jobs, bailing out for MSMEs and guaranteeing social protection and welfare programs for poor members of the society (Renzaho, 2020).

The World Bank group provided a \$14 billion package to assist companies and countries in response to the spread of the pandemic across countries (We-Fi, 2020). To what extent have these FPMs impacted economic activities and tax morale of companies?

A number of studies provided useful insights to the question above. Ozili & Arun (2020) investigated the impact of fiscal and monetary decisions of the government on the level of economic activities. They found that a long period of economic lockdown, monetary policy decisions and international travel restrictions have negatively impacted the level of economic activities including major capital market indices. However, expansionary fiscal policy measures in the form of increased government spending had a positive impact on the level of economic activities.

In Europe, Christl et al., (2021) investigated the effect of FPMs by comparing the 2018 and 2020 data sourced from the EU Statistics. They found that the monetary compensation schemes (FPMs) played a major role in cushioning the effect of the COVID-19 shock by 35.2% in EU countries that experienced a large drop in market incomes during the 2020 pandemic. In other words, the inequality-enhancing nature of the pandemic on market incomes was largely offset by the tax-benefit system implemented in most EU Member States. Also, over 30 million people in Germany, France, the UK, Spain, and Italy have applied for state support of their wages due to the adverse effect of the pandemic on livelihood and employment (Jackson, et al. 2020).

In the Latin American and Caribbean, Obando & Aguilar (2020) explored the learning curve in the region with regards to the implementation of FPMs during the pandemic. They found that the governments in the region provided fiscal support for

taxpayers for the purpose of sustaining tax revenue, but the tax morale was low during the health crisis because of lack of fiscal space, cooperative compliance, shortage of economic flows due to suspension of audits and debt recovery, and rushing digitalization in the region among others.

Other studies in developing economies produced interesting findings. Dzigbede & Pathak (2020) investigated the effect of FPMs on economic activities in Ghana using the Ghana Living Standards Survey (GLSS), and they found that well-targeted expenditure and revenue-augmentation policies of the government including the cash transfer program partly offset the economic shocks and positively cushioned the incidences of poverty and inequality, and has prospects of stimulating support long-term economic resilience (Dzigbede & Pathak, 2020)

From the foregoing review, it could be inferred that there is a need to assess the effect of FPMs of government on tax morale of entrepreneurial firms during COVID-19 pandemic in Nigeria. In a recessionary period, businesses are highly vulnerable to economic shocks because they suffer limited financial and infrastructural resources, fall in cash flows, disruption of the supply chain, and limited capabilities to cope and adapt to the unplanned situations (Jomo & Chowdhury, 2020; Raimi, 2021), which tend to restrict their ability and capacity to work at full capacity to boost their streams of revenues. The core objective of the FPMs is to boost the capacity of entrepreneurial firms to meet their financial obligations and enhance tax morale. It could therefore be hypothesised that:

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H₁₂: *The fiscal policy measures of government have significant positive effect on tax morale of entrepreneurial firms during COVID-19 pandemic in Nigeria*

3.0 Methods

We adopted a descriptive research design and utilised primary data collected from the entrepreneurial firms. From a target population of 2,300 entrepreneurial firms registered with the Lagos Chamber of Commerce and Industry (LCCI), a sample of 384 firms was drawn using the Parten's (1950) formula. The sampled firms were anonymously administered questionnaires using purposive sampling technique. At the end of the survey, 177 responses were received from the firms. The data collected from the firms were analyzed using descriptive and inferential statistics. Three linear regression models were compared on the basis of which inferences were made.

3.1 Sample Size Determination

Sample size was computed using formula of Parten (1950) as follows:

$$n = \frac{NZ^2 * 0.25}{d^2 * (N - 1) + (Z^2 * 0.25)}$$

$$n = \frac{2300 \times 1.96^2 \times 0.25}{0.05^2 \times (2300 - 1) + (1.96^2 * 0.25)}$$

$$2,208.92/5.749901 = 384.16 = 384$$

Where n = the sample size required and which is statistically representative
 N = the target population size (2300)
 d = confidence level (0.05)
 Z = number of standard deviation units of the sampling distribution corresponding to the

399desired confidence level given as 1.96 in the statistical table.

3.2 Model Specifications

Model 1: $TM = \alpha + \beta_1 G1 + \beta_2 G2 + \beta_3 G3 + \varepsilon$

Model 2: $TM = \alpha + \beta_4 G4 + \beta_5 G5 + \beta_6 G6 + \beta_7 G7 + \varepsilon$

Model 3: $TM = \alpha + \beta_1 G1 + \beta_2 G2 + \beta_3 G3 + \beta_4 G4 + \beta_5 G5 + \beta_6 G6 + \beta_7 G7 + \varepsilon$

Key:

TM = Tax Morale,

G1 = Control measures of the governments,

G2 = The treatments of people infected,

G3 = Care and incentives given to medical staff,

G4 = COVID-19 relief materials, palliatives, and cash assistance to the public,

G5 = Tax reliefs given to the business organizations by government,

G6 = Debt rescheduling by government, G7 = Support assistance to businesses, and ε = Error term.

A-priori Expectation: $0 < \beta_{1-7} < 1$

4.0 Analysis/Discussion

Results of the reliability tests conducted to determine the reliability of the constructs revealed that the sixteen items gave a *Cronbach* alpha of 0.899; the three items used to measure PHRs gave a *Cronbach* alpha of 0.762; and four items used to measure FPMs gave a *Cronbach* alpha of 0.809. This implies that the data used for the TM construct, PHRs construct and FPMs construct have 89.9%, 76.2% and 80.9% reliability respectively.

George and Mallery (2003) provided a benchmark for making a decision on reliability; they stated that Cronbach's Alpha reliability coefficient of > 0.9 is Excellent, > 0.8 is Good and > 0.7 is Acceptable.

Considering the fact that the *Cronbach* alpha values for the three constructs are greater than 0.700, they are all reliable and acceptable.

Table 1: Reliability Statistics

Variable	Cronbach's Alpha	No of Items
TM	0.899	16
PHR	0.762	3
FPM	0.809	4

Source: Output from Jamovi (2021)

4.1 Validity Tests and Assumptions

The Durbin Watson (DW) statistical test was conducted to detect autocorrelation in the residuals before carrying out the linear regression analysis. The autocorrelation showed a value of -0.0123, while the DW statistic test indicated a value of 2.00 in Table 2a below. The test confirmed there is no autocorrelation. The Durbin-Watson statistic must have a benchmark of value between 0 and 4. The values from 0 to less than 2 indicate positive autocorrelation, while values ranging from 2 to 4 indicate negative autocorrelation (Kenton (2021)).

Table 2a: Durbin-Watson Test for Autocorrelation

Autocorrelation	DW Statistic	p
-0.0123	2.00	0.998

Source: Output from Jamovi Software (2021)

The collinearity statistical test was conducted as shown in Table 2b. The Tolerance and the Variance Inflation Factor (VIF) help to detect if the independent variables (G1, G2, G3, G4, G5, G6 and G7) are highly correlated with one another in the model.

The benchmark for Tolerance is 1-R², while the benchmark for the VIF is greater than or equal to 1. VIF above 4 or tolerance below 0.25 indicates that multicollinearity might exist. Our results for Tolerance and VIF fall within the acceptable threshold, hence the problem of multicollinearity does exist among the independent variables.

Table 2b: Collinearity Statistics

Items	VIF	Tolerance
G1	1.81	0.551
G2	1.89	0.530
G3	1.51	0.660
G4	1.63	0.614
G5	1.97	0.508
G6	1.85	0.540
G7	2.16	0.463

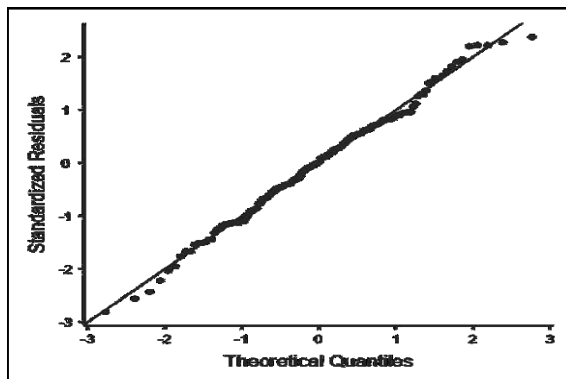
Source: Output from Jamovi Software (2021)

In this study, the numerical and graphical methods were used to test normality of data. The Shapiro-Wilk Test of normality indicated that the data are normally distributed. The P-value of 0.576 as shown in Table 2c is greater than 0.05. Also, normality is established in the Q-Q Plot because the data points are close to the diagonal line as shown in Figure 2 below.

Table 2c: Normality Test (Shapiro-Wilk)

Statistic	P
0.993	0.576

Source: Output from Jamovi Software (2021)

**Figure 2:** Q-Q Plot

4.2 Demographics

The results on Table 3 shows that 39 respondents (22%) were line managers, 50 (28.2%) were middle-level managers, 25 (14.1%) were top-level managers, and 63 (34.6%) were business owners/CEO. These suggested that respondents to the questionnaire had adequate experience

and were in relevant positions sufficient enough to give reliable, relevant and informed opinions on the effect of public health responses and fiscal policy measures of government on tax morale in Nigeria

With regards to firm size and operation, the demographic showed that 86 (48.6%) are from the small scale business, 58 (32.8%) are medium scale business, 25 (14.1%) operate in large-scale business and 8 (4.5%) are multi-national firms. Likewise, 120 respondents (68.6%) work with firms with 1-50 employees, 16 (9.1%) work with firms with 51 -100 employees, 15 (8.6%) are from firms with 101-250 employees, 8 (4.0%) come from firms with 251 -500 employees, and 15 (8.6%) work with firms with more than 500 employees. These suggested that majority of the respondents work with firms with employees that are not more than 100.

Sectoral analysis revealed that 126 (71.2%) of respondents work with services and retail companies, 21 respondents (11.9%) are from the manufacturing sector, 7 respondents (4.0%) work with construction and real estate firms, 7 (4.0%) work with the oil, gas and energy firms and 11 respondents (6.2%) work telecommunication and ICT firms and 4 respondents (2.3%) work with other unlisted sectors. These results showed that the respondents are spread across industrial sectors.

Table 3: Demographics

Items	Frequency	Percent (%)
Managerial Level		
Line Manager	39	22.0 %
Middle-Level Manager	50	28.2 %
Top-Level Manager	25	14.1 %
CEO/Business Owner	63	35.6 %
Firm size: Operation		
Small Scale Business	86	48.6 %

Medium Scale Business	58	32.8 %
Large Scale Business	25	14.1 %
Multinational Business	8	4.5 %
Firm size: Employees		
1 – 50	124	70.1 %
51- 100	16	9.0 %
101 – 250	14	7.9 %
251 – 500	8	4.5 %
Above 500	15	8.5 %
Industrial Sector		
Oil, Gas and Energy Industry	8	4.5 %
Manufacturing	21	11.9 %
Construction & Real Estate Industry	7	4.0 %
Telecoms & ICT	11	6.2 %
Services & Retail	126	71.2 %
Others	4	2.3 %

Source: Output from Jamovi Software (2021)

4.3 Tax Morale Level Descriptive Statistics

Table 4 shows positive descriptive statistics, as the means for the questions C1 to C4 are above 3.0 on a Five-point Likert scale. Only question C1 had Mean=2.81. Majority of the respondents agreed that they will register with the tax authority (Mean=3.19); get their taxpayer identification number (Mean=3.10); and honestly register with the tax authority even with the pandemic (Mean=3.24).

Table 4: Willingness to Register Tax Information during COVID-19 Pandemic

Items	N	Mean/SD	Min Max
C1. In spite of the COVID-19 pandemic and lockdown, I will register in time for tax purposes	177	2.81 1.147	1, 5
C2. Even with the COVID-19, I will register with the appropriate tax authority	177	3.19 1.089	1, 5

C3. COVID-19 pandemic does not affect my access to getting the Taxpayer Identification Number	177	3.10 1.144	1
C4. Even with the COVID-19 pandemic, I will still honesty register with the tax authority	177	3.24 1.094	1

Source: Outputs from Jamovi (2021)

Table 5 shows positive descriptive statistics, as the means for questions D1 to C4 are above 3.0 on a Five-point Likert scale. Majority of the respondents agreed that they will honestly disclose tax information to the appropriate tax authority (Mean=3.33); they will still ensure that all residential addresses are correctly disclosed (Mean=3.93); they will honestly report the total amount of all incomes even with the pandemic (Mean=3.55); and they will ensure that all incomes are reported under the correct sources even with the COVID (Mean=3.57).

Table 5: Willingness to Disclose Tax Information during COVID-19 Pandemic

Items	N	Mean /SD	Min Max
D1. I will still honestly disclose all sources of income even with the COVID-19 pandemic	177	3.37 1.151	1, 5
D2. I will still ensure that my residential address is correctly disclosed even with the COVID-19 pandemic.	177	3.93 0.898	1, 5
D3. I will still honestly report the TOTAL amount of my income even with the COVID-19 pandemic	177	3.55 1.092	1
D4. I will still ensure that my income is reported under the correct sources even with the COVID	177	3.57 1.142	1

Source: Outputs from Jamovi (2021)

Table 6 shows positive descriptive statistics, as the means for questions E1 to E4 are above 3.0 on a Five-point Likert scale. Majority of the respondents agreed that they will not claim allowances/exemptions they are not entitled to in spite of the pandemic (Mean=3.55);

they will claim all personal reliefs that they are entitled to from the tax authority in the period of pandemic (Mean=4.20); they will pay taxes at the required rate (Mean=3.20); and they will be honest in the calculation of the amount they pay as tax (Mean=3.64).

Table 6: Willingness to Correctly Compute Taxes during COVID-19 Pandemic

Items	N	Mean/ SD	Min Max
E1. I will not claim allowances/exemptions I am not entitled in spite of the COVID-19 pandemic	177	3.55 1.1261	1, 5
E2. I will claim all personal reliefs that I am entitled to from the tax authority in this period of COVID-pandemic	177	4.20 0.948	1, 5
E3. I will pay my taxes at the required rate in this period of COVID-19 pandemic	177	3.20 1.115	1
E4. I will be honest in the calculation of the amount I pay as tax in this period of COVID-19 pandemic	177	3.64 0.996	1

Source: Outputs from Jamovi Software (2021)

Table 7 shows positive descriptive statistics, as the means for questions F2 to F3 are above 3.0 on a Five-point Likert scale. But, the means for F1 and F4 are below 3.0. Majority of the respondents agreed that they will still pay their taxes to appropriate tax authorities seamlessly in spite of the negative impact pandemic (Mean=3.10); and they will ensure they pay the appropriate amount as tax in lockdown. (Mean=3.11).

Table 7: Willingness to Appropriately Pay Taxes during COVID-19 Pandemic

Items	N	Mean/ SD	Min/ Max
F1. I will still pay my taxes as at when due even with the COVID-19 pandemic	177	2.99 1.220	1, 5
F2. I will still pay my taxes to appropriate tax authorities	177	3.10 1.209	1, 5

seamlessly in spite of the negative impact pandemic			
F3. I will ensure I pay the appropriate amount as tax in spite of the negative impact of COVID-19 lockdown.	177	3.11 1.185	1, 5
F4. I will not seek opportunities to reduce total tax payable in spite of the negative impact of COVID-and lockdown	177	2.77 1.237	1, 5

Source: Outputs from Jamovi Software (2021)

Table 8 shows poor descriptive statistics, as the means for questions G1 to G3 are below 3.0 on a Five-point Likert scale. Less than 50% agreed that control measures put in place by the governments is adequate (Mean=2.36); quality of treatment of people infected is adequate (Mean=2.44); and quality of care and incentives given to medical staff is adequate (Mean=2.23). Overall, the PHRs are perceived to be inadequate.

Table 8: Public Health Responses to COVID-19 Pandemic

Items	N	Mean/ SD	Min Max
G1. Control measures put in place by the governments in fighting COVID-19 is adequate	177	2.36 1.051	1, 5
G2. Quality of treatment of people infected by Coronavirus is adequate	177	2.44 1.010	1, 5
G3. Quality of care and incentives given to medical staff managing by Coronavirus is adequate	177	2.23 1.027	1, 5

Source: Outputs from Jamovi Software (2021)

Table 9 shows poor descriptive statistics, as the means for questions G4 to G7 are below 3.0 on a Five-point Likert scale. Less than 50% of the respondents agreed that COVID-19 relief materials, palliatives, and cash assistance the vulnerable people by the government is adequate (Mean=1.49); COVID-19 tax reliefs given to the business organizations government is adequate

(Mean=1.87); COVID-19 debt payment rescheduling given to the organizations by the government is adequate (Mean=2.23); and COVID-19 support assistance and incentives given the government is adequate (Mean=1.80). Overall, majority of the respondents opined that the FPMs are inadequate.

Table 9: Fiscal Policy Measures to COVID-19 Pandemic

Items	N	Mean/ SD	Min Max
G4. Adequacy of COVID-19 relief materials, palliatives, and cash assistance the vulnerable people by the government	177	1.49 0.820	1, 5
G5. Adequacy of COVID-19 tax reliefs given to the business organizations government	177	1.87 0.948	1, 5
G6. Adequacy of COVID-19 debt payment rescheduling given to the organizations by the government	177	2.23 0.946	1, 5
G7. Adequacy of COVID-19 support assistance and incentives given the government	177	1.80 0.886	1, 5

Source: Outputs from Jamovi Software (2021)

4.4 Inferential Analysis

4.4.1 Correlation Analysis

From Table 10, the correlation test revealed that G1 is $r=0.111$, P-value of $0.070 < 0.05$, G2 is $r=0.127$, P-value of $0.046 < 0.05$, G3 is $r=-0.088$, P-value of $0.877 < 0.05$, G4 is $r=-0.082$, P-value of $0.139 < 0.05$, G5 is $r=-0.045$, P-value of $0.275 < 0.05$, G6 is $r=-0.056$, P-value of $0.222 < 0.05$, and G7 is $r=-0.085$, P-value of $0.131 < 0.05$. Apart from G3, the six (6) other correlation coefficients are positive with P-values that are less than 0.5, the result is a strong indication that the synergistic effect of public health responses and four fiscal policy measures (G1, G2, G3, G4, G5, G6 and G7)

have positive significant relationships with tax moral. In other words, public health responses and fiscal policy measures follow the same direction and tend to vary together with tax moral.

Table 10: Correlation Matrix

	TM	G1	G2	G3	G4	G5	G6	G7
TM	Pearson's r: — p-value: —							
G1	Pearson's r: 0.111 p-value: 0.070	—						
G2	Pearson's r: 0.127 * p-value: 0.046	0.581 ***	—					
G3	Pearson's r: -0.088 p-value: 0.877	0.444 ***	0.527 ***	—				
G4	Pearson's r: 0.082 p-value: 0.139	0.444 ***	0.340 ***	0.291 ***	—			
G5	Pearson's r: 0.045 p-value: 0.275	0.417 ***	0.368 ***	0.393 ***	0.513 ***	—		
G6	Pearson's r: 0.058 p-value: 0.222	0.414 ***	0.423 ***	0.334 ***	0.268 ***	0.547 ***	—	
G7	Pearson's r: 0.085 p-value: 0.131	0.418 ***	0.459 ***	0.319 ***	0.501 ***	0.599 ***	0.611 ***	—

Note. It, is positive correlation

Note. * $p < .05$, ** $p < .01$, *** $p < .001$, one-tailed. Source: Authors' Computation using Jamovi Software (2021)

4.4.2 Linear Regression Analysis

Since the import of correlation test is to determine the strength and direction of the linear relationship between two continuous variables (Frost, 2021), there is need to test for causality using the regression analysis. This section carries out a linear regression on the effects of PHRs and FPMs on TM.

Model 1 estimates in Table 11 suggest that, p-values of two measures of public health responses (Q1, Q2 and Q3) are greater than 0.05 level of significance. These suggested that the control measures put in place by public health authorities (Q1) and the quality of treatment of people infected (Q2) do not have significant effect on tax morale of entrepreneurial firms, but the quality of care and incentives given to medical staff (Q3) has significant effect on tax morale of entrepreneurial firms. We therefore accept the null hypothesis and conclude that public health responses do not have significant

positive effect on tax morale of entrepreneurial firms during COVID-19 pandemic in Nigeria.

Table 11: Effect of PHRs on TM during COVID-19 pandemic

Model 1	R	R-Squared	F	Sign	
	0.237	.0563	3.45	0.018	
	B	Std. Error	Beta	t	Sig
Constant	48.59	2.317		20.97	.001
Q1	1.07	0.940	0.105	1.14	0.257
Q2	2.00	1.032	0.189	1.94	0.054
Q3	-2.44	0.922	-0.234	-2.64	0.009

Source: Outputs from Jamovi Software (2021)

Model 2 estimates in Table 12 suggest that, the p-values of the four measures of fiscal policy (Q4, Q5, Q6 and Q7) are greater than 0.05 level of significance. These suggested that the relief materials, cash assistance, tax reliefs to the businesses, debt payment rescheduling, and other support incentives do not have significant effect on tax morale of entrepreneurial firms. We accept the null hypothesis and conclude that fiscal policy measures do not have significant positive effect on tax morale of entrepreneurial firms during COVID-19 pandemic in Nigeria.

Table 12: Effect of FPMs on TM of entrepreneurial firms during COVID-19 pandemic

	R	R-Squared	F	Sign	
	0.0999	.00998	0.433	0.784	
	B	Std. Error	Beta	t	Sig
Constant	48.219	2.30		21.006	.001
Q4	0.818	1.21	0.0628	0.679	0.498
Q5	-0.395	1.18	-0.0351	-0.336	0.737
Q6	0.221	1.13	0.0196	0.195	0.846
Q7	0.751	1.32	0.0623	0.570	0.570

Source: Outputs from Jamovi Software (2021)

Model 3 estimates in Table 13 suggest that, the p-values of the fiscal policy measures (FPM) and public health responses (PHR) are greater than 0.05 level of significance. These suggested that the fiscal policy measures and public health responses do not have significant effect on tax morale of entrepreneurial firms. Overall, we accept the null hypothesis and conclude that the synergy of public health responses and fiscal policy measures do not have a significant positive effect on the tax morale of entrepreneurial firms during the pandemic.

Table 13: Synergistic Effect of PHRs and FPMs on TM

Model 3	R	R-Squared	F	Sign	
	0.0847	.00718	0.629	0.534	
	B	Std. Error	Beta	t	Sig
Constant	48.410	2.548		18.845	.001
FPMs	0.0765	0.393	0.0727	0.195	0.846
PHRs	0.2600	0.347	0.0182	0.777	0.438

Source: Outputs from Jamovi Software (2021)

5.0 Conclusion, Implications, Limitations, and Recommendations

The study sets out to examine the synergistic effects of public health responses (PHRs) and fiscal policy measures (FPMs) on tax morale (TM) of entrepreneurial firms in Nigeria during the pandemic. At the end of the investigation, it was found that individually PHRs and FPMs do not have a significant positive effect on the TM of entrepreneurial

firms. And when combined, the synergistic effects of PHRs and FPMs on tax morale (TM) also do not have a significant positive effect on the TM of entrepreneurial firms.

Some key research implications have clearly emerged from the study. Theoretically, the study contributes to the entrepreneurship and tax literature by analysing the tax morale of entrepreneurial firms in a period of economic uncertainties. Additionally, the study validates the social contract and fiscal

exchange theories in the recessionary period.

Furthermore, the study underscored the need for the policymakers to proactively deploy the right PHRs and FPMs for stimulating economic activities, in order to safeguard jobs, boost aggregate demand, keep business afloat, and finally to influence tax morale of entrepreneurial firms. This is in full compliance with government's role in the social contract in the fiscal exchange relationship.

The study has some limitations. Firstly, the sample size of 177 entrepreneurial firms may be inadequate and unrepresentative of entrepreneurial firms Nigeria. Future research should therefore increase the sample size in order for the findings to aid generalisation and prediction of research outcomes. The second limitation is the use of the purposive sampling technique, which is a non-random sampling perceived as subjective. It is relevant in this study because the target population is very large, and there is no defined sampling frame and the issue being investigated requires enterprises to have practically experienced the pandemic situation in Nigeria. In spite of the above limitations, the study is unique because it empirically opens the space for further studies on the effects of public health responses and fiscal policy measures on tax morale of entrepreneurial firms. However, future research may consider using secondary data on PHRs, FPMs and tax revenues to explore the nexus of relationships, which is believed would enhance stronger generalisation and prediction.

Based on the insights on the effects of PHRs and FPMs on tax morale, it is recommended that governments and other relevant agents should take proactive and prompt steps to induce tax morale of entrepreneurial firms. Lateness by the governments in launching PHRs and FPMs may account for the low tax morale of the business community. The

business community should also be prepared for a preferential tax, following the example of China. It is believed that a preferential tax would enhance the readiness and capabilities of the governments to respond proactively and quickly to future public health crises and economic recessions.

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Public Private Partnership in Small States: The Case of Brunei Darussalam

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Abstract

For the past three decades, Public-Private Partnerships (PPPs) have transformed the provision of public infrastructures and services globally. However, the impact and success of PPP implementation are still unascertained, particularly in small states as limited studies have been conducted in those states to understand its outcome. This paper revisits prior research done on Brunei Darussalam's PPP initiatives and constraints and the government's recent policy objectives that seek to use PPP as a tool to promote private sector investments in the development of the country's future social and industrial infrastructures. Based on qualitative interviews with relevant government-affiliated agencies, the paper finds that constraints highlighted in previous research persist and the government is encouraging more ministries to submit proposals for PPP projects. At the same time, while guidelines are being revised the capabilities of ministries to propose PPP projects seemed limited. The research also finds that there is one Ministry that is actively implementing PPP projects without much publicity. The study adds to the limited literature on PPPs in small states.

Keywords

Brunei Darussalam; public-private partnership (PPP); small states; project financing; government infrastructure projects

However, it took just 26 years for PPPs to officially end in the UK as announced by the Chancellor of Exchequer in 2018 after the collapse of the government's large private sector developer and partner, the nine years old company, Carillion Plc. PPPs when not managed properly, are expensive, inflexible, and overly complex (Davies, 2018; Sherratt et al., 2020). Recent literature on PPP is more cautious (Bertelli et al., 2020), more so as Covid-19 continued to damage global economies nearly two years after it put the world into a panic and pandemic, jeopardizing PPPs economic and commercial viability (Casady & Baxter, 2020). In 2020, only 252 PPP projects worth US\$45.7 billion were reported by the World Bank, down by 52% compared to the year before (World Bank, 2021b). While the bigger economies have used PPPs extensively, there is limited literature on PPPs in small economies. The limited literature on PPP in small economies or small states provided the impetus of this study as the government of

Because PPP is believed to be associated with lower costs, lower risks, lower budget deficits, higher efficiency, and greater

effectiveness and equity, PPP is preferred in countries where there is a need for new social and economic infrastructures (Wang et al., 2018). There are other reasons for the adoption of PPP to finance public projects. For instance, bigger states in China utilized PPP for their projects due to provincial pressure, peer pressure, and influential experts that encourage PPP mechanism; while in Russia, excessive government financial support for PPP leads to more PPPs being used, although, it lacks standard and consistency of PPP approval procedures. This according to Wang et al. (2018) leads to a greater risk of policy failure in PPP projects.

Although the literature on modern PPPs is nearly three decades old, there is little agreement on PPPs definition, risk management, reasons for adopting PPP, and evaluation of its performance (Wang et al., 2018). The literature performed by Wang et al. (2018) which focused on PPP in the field of public administration or political science between 1983 to 2016, found 186 articles referring to PPP projects and most of the literature came from developed economies as these countries have 'mature' system of government regulations. Proper regulatory systems, as well as market rules, are 'crucial preconditions for any PPP' and the governments had highlighted its preference to use PPP in its infrastructure development (Wang et al., 2018:296). Contract management, process management and strategies, organizational forms, and political support are important criteria for PPPs' success. A successful PPP means the project is completed during the concession period and achieved the intended aims, such as providing sufficient, quality, and quantity expected of public goods, improving

efficiency and value for money, and fulfilling the societal and environmental objective. PPPs that are deemed to be a failure, refer to contract suspension due to conflict, legal proceedings, technical faults, or early termination due to performance failure in delivering acceptable quality and quantity of specified contracted public goods, project nationalization, and post-evaluation, efficiency, and value for money were not achieved (Xiong et al. 2019). Risks are uncertain (expected or unexpected) possibilities, opportunities, or threats that could occur therefore, proper management is required to analyze, justify, and respond throughout the life of the whole project (Rybníček et al., 2020).

PPPs is complex, due to their lack of transparency, accounting rules, and implicit liabilities which makes it almost impossible to perceive the amount of public expenditures involved and the long-run impact it has on taxpayers, providing room for fiscal illusion – that PPPs are less expensive than traditional public investments (Smith, 2018; Cepparulo et al., 2019), a 'perfidious financial idiocy' (R. Smith, 1999). In their analysis of 20 PPP studies from 1990 to 2019, Cepparulo et al., (2019) found that PPPs are employed as a mechanism to circumvent budgetary restrictions that fuel an 'availability' illusion. Since there is a lack of transparency of data on projects, the authors found that costs are larger with PPP between 8% to 71%. The reasons for these high costs are due to higher costs of private debt or financial charges (such as professional fees, fees for preparing bids, consultancy fees, legal, technical, and financial advice costs). The higher cost can also be linked to the increase in asset bases or due to being a monopolistic supplier. The

risk transfer is around 50% of the total capital cost in certain cases (Cepparulo et al., 2019).

Corruption in PPP projects is not unheard of as in other development projects globally (Locatelli et al., 2017; Schomaker, 2020). A recent study by Fleta-Asín & Muñoz, (2021) review of over 4,500 PPPs projects in developing countries between 1997 to 2017, found that investments in PPP projects are inversely related at the low and high-end spectrum of corruption but the relationship is positive in the middle, due to high investment of PPP projects in less developed countries.

PPP in Small Countries

Most PPP literature focused on bigger projects worth more than US\$25million. The World Bank's database shows 40% of projects in 2016 were valued at US\$25million to US\$50million (Ahmad & Shukla, 2016; Thierie & De Moor, 2017) and by September 2021, this jumped to US\$100-500million as the most 'common' PPP project; covering a third of the projects. Most of the projects are in the electricity sector (World Bank, 2021a). Even when the World Bank published a report on 'small' PPP, the contract value that is focused was on projects below US\$50million (World Bank, 2014). For some countries, US\$50million can be considered huge while for bigger economies, it would be seen as small. Despite the huge numbers recorded by the World Bank, this does not mean that small projects cannot be undertaken as PPP projects; as Ahmad & Shukla (2016) remarked,

... the industry often measures success in "billions" and increasingly "trillions," with less attention to the quality and nature of the constituent

elements, it makes sense for practitioners to dream of high profile transactions.

Small PPPs can make a huge difference to people lives, improving their quality of life especially in developing countries (Ahmad & Shukla, 2016), and the literature on small PPP are often neglected, ignored, and scarce as it is believed that small PPPs are not viable due to the high transaction costs that outweigh its benefits (Koch & Jensen, 2009; Ahmad & Shukla, 2016; Thierie & De Moor, 2017; Thierie & Moor, 2018; Liang & Ashuri, 2021). Nevertheless, Koch & Jensen (2009)'s study found that small PPPs were more common in the United Kingdom (UK) and Italy than thought during the 2000s. Based on the data they accessed in 2006, they found that projects under £2 million were more common in the UK. Koch & Jensen (2009) concludes that some other economic activities were in play, other than transaction costs that allow small PPP to work in the UK, but once the small PPP market matures, eventually it would 'die' out as governments and businesses then opt for bigger projects.

The consequences of wanting bigger projects, led to the 'the most spectacular collapse' (Parliament UK, 2018) of UK's giant construction firm, Carillion, which had 450 government contracts and debts of £1.5 billion (BBC News, 2018), costing British taxpayers an estimated £148 million in 2018. Hajikazemi et al., (2020) attributed the collapse to 'normalisation of deviations from good practice;' normalization of late payments, aggressive accounting, and high dividend payments to shareholders despite the questionable financial status of the

company (Hajikazemi et al., 2020). Financial scandals seemed to be more common in the 20th century due to globalization and financial deregulations (Coffee, 2019; Toms, 2019) and despite corporate governance being in place together with a more comprehensive auditing system due to past financial scandals, human greed is no match to those systems; if they find means and ways to circumvent the regulations. If greedy humans could defraud, they will, until they get caught.

Although small PPP projects may mean higher transaction costs, it does not mean that PPP projects cannot take place in small economies. Thierie & De Moor (2017a) proposes an environment that enables small PPPs to take place, by developing standard documentation and procedures to reduce time, cost; and allowing more financial models to develop, to make PPP more viable in small economies. The lack of public sector capability to develop, finance, and implement PPP projects are a factor, hence there is a need to build those capabilities to let the public understand more on why the government needs to embark on private sector financing. Different countries have different economic, social, and political circumstances therefore the authors of this paper do not see why this cannot be used in the context of Brunei Darussalam, a small country in Southeast Asia, with a population of less than half a million. It has not been easy for Brunei Darussalam to attract foreign investments into the country, hence the government has to create a conducive business environment to make it more appealing for local (or international) businesses to fund the infrastructure projects in the country.

PPP in Brunei Darussalam

Before the introduction of PPP, the government has introduced the idea of privatization and corporatization under its 7th National Development Plan (NDP) (1996-2000). Telecommunications, domestic waste collection, and power generation were said to be privatized in the previous plan and by the 8th NDP (2001-2005) a Privatization Committee was set up and several departments were earmarked for corporatization; among them electrical, postal, public works department (technical, road, sewerage and sanitary, water, and public housing), international airport, ports department, printing department, land transport department, and information communication and state store department. After 15 years, in 2021, only two government agencies have been corporatized, namely Brunei Telecoms in 2006 as the first government agency to be corporatized (Roslan, 2019), followed by the printing department in 2020. These companies are under Darussalam Assets,

... a private limited company established in 2012 to own Brunei's Government-linked companies. Its shareholder is the Minister for Finance Corporation (MOFC) (Darussalam Assets, 2021)

While the ports department was converted into a statutory authority and renamed Marine and Port Authority of Brunei in 2017, the operations of Muara Port operations initially privatized in 2000 to Singapore's Port Authority of Singapore (PSA) (Port Strategy, 2007) and by 2017, the government through Darussalam Assets operates the port as a joint venture with China's Guangxi Beibu Gulf

Port Group, named Muara Port CompanySdn. Bhd. (Muara Port Company Sdn Bhd, 2021)

Under the 9th NDP (2007-2012), E-speed and B-mobile communications were identified as sectors that are to be PPPed, however, by 2021, B-mobile has been absorbed as one of three government-linked companies that provide mobile and telecommunication services in the country. By the 10th NDP (2012-2017); though both the term PFI and PPP were mentioned it was to highlight that any projects that are to be used for PPP must be reviewed by the Department of Economic Planning and Development (DEPD), Prime Minister's Office before approval is given. In essence, DEPDP is considered the 'PPP' unit in Brunei.

In 2015, DEPDP published the National PPP guidelines (Department of Economic Planning and Statistics, 2015). In it, the report highlights the reasons why the government is embarking on PPP; reduce the government's expenditure and administrative burden as well as encouraging private sector participation in economic development.

The report defined five types of PPP projects namely management contracts; lease contracts; build-operate-transfer and its variants, concessions, and PFI. The report also highlights the payment mechanisms of PPP projects namely, user charges and availability of performance-based payments. The PPP suitability criteria highlight that the projects considered to be PPPed must be aligned with Brunei Vision 2035 (accomplished, well-educated highly skilled people; high quality of life, and dynamic and sustainable economy); the economic infrastructure projects must be B\$40million or

B\$10million for social projects; and that the project must be 'bankable'; viable and implemented using international best practices and better value for money for the government (Department of Economic Planning and Statistics, 2015). The framework also gave an exception to the minimum project value, if there is a directive from higher authority and the project does need any financial obligations from the government especially in revitalizing and utilizing idle government assets.

Despite publishing the PPP guidelines in 2015, there was only one project which can be identified as a PPP project under DEPDP's definition, the refurbishment of the Ong Sum Ping apartment for 20 years with a guaranteed lease rental of B\$750,000 for 20 years in 2011 (Pang & Ali, 2017). Pang & Ali (2017) interviews with senior government officers in 2017 found that the officers knew what PPP and believed the public knew it too, and why PPP is necessary for Brunei. However, despite having the guidelines, there was still no PPP national policy or legislative framework for it and the interviews highlight the difficulties of attracting investment into Brunei's small economy as well as institutional readiness for PPP were not in place. Pang & Ali, (2017) also highlighted ethical and national policy considerations which are at odds with how a PPP can be undertaken. If the government has a policy of not burdening the public, then PPP would be difficult to be implemented. As with privatization or corporatization, there are bound to be price increases if there is a monopoly in the market. Brunei is also constrained by its small private sector and the issue of transparency can be a cause for concern.

While the Ministry of Development has not been able to PPPed its project, several projects have been PPPed in the Ministry of Primary Resources and Tourism (MPRT) without much publicity. It was revealed by the Minister that Ulu Temburong National Park management and maintenance costing B\$3.2 million and the building of a restaurant at Bukit Patoi Forest Reserve

It was also reported in the media that the Ministry of Home Affairs is seeking P Cube Sdn Bhd (P Cube or P³) and Darussalam Assets to revitalize the three buildings in the capital; the Bumiputera Commercial and trade Centre, multi-story car park, and local employment and workforce development agency building. The minister also expressed his hope to PPP the night market (Tamu Selera) which will be relocated to Jubilee Park at Kumbang Pasang (Othman, 2020; Mahmud, 2021b).

Based on the above reports, it was the first time the P Cube has been mentioned by the Ministry of Home Affairs to help it look for suitable partners for the projects to be PPPed. As there was no clear announcement on P Cube's establishment or role, this research aimed to find out the current structure of the PPP governance in Brunei, especially after DEPD was merged with the Ministry of

Finance and the Ministry became known as the Ministry of Finance and Economy (MOFE) in September 2018 (Bakar, 2018). With the government's renewed emphasis on PPP as per Fiscal Consolidation Programme Guidelines announced in the 2019 (Borneo Bulletin, 2019) and the Economic Blueprint, it is time to review what changes have been made to the PPP structure in Brunei.

Methods

The research uses qualitative research approach, using semi-structured interviews with the organizations currently overseeing PPP projects in Brunei. Based on our research, P Cube's office is located at MOFE and an appointment was set up on June 10th, 2021 with senior officers from the organization. From the meeting, the researchers were also introduced to another organization within the Ministry, known as Strategic Management Office (SMO) which also oversees PPP policy in Brunei. Therefore another meeting with SMO was set up on July 3rd, 2021. During the meeting, semi-structured interview questions were prepared and conducted with the presence of seven officers from both organizations held at MOFE. The meetings lasted about two hours in both sessions and no tape recordings were used during the meetings.

Findings & Discussions

Facilitating Change: Establishment of New Agencies

DEPD, a former department that oversees PPP projects before the merger with MOFE, is now known as the Strategic Management Office (SMO). SMO acts as the Secretariat to PPP projects that ministries wish to submit for

approval. SMO was established in July 2020 and currently has five staff working at the section.

The authors were informed that all PPP projects must go through SMO for initial screening and then it is sent to the Special Committee For Corporatisation and Public-Private Partnership, chaired by the Minister of Finance and Economy II. When the project is believed to be viable, the project will then be sent to P Cube to conduct a financial assessment. If the SMO believes the project fits the criteria set by the government, specifically on the state's strategic interest/assessment, fiscal (affordability and positive implications), viability, and positive economic and social output, regardless of the project amount, the project will be submitted for review. This differs from the statement based on the 2015 guidelines, which state B\$10 million for social projects or B\$40 million for economic infrastructure projects.

P Cube Sdn Bhd is a company established under the Brunei Economic Development Board (BEDB) on May 14th, 2019. BEDB is a statutory board established by the government in November 2001 to attract foreign investments into the country. In the organization chart of the BEDB website, P Cube, which has about ten staff members, reports directly to the Chief Executive Officer (CEO) of BEDB. The current acting CEO of BEDB is the Deputy Minister of Finance and Economy (Economy) of Brunei.

P cube was established with the intention to accelerate the adoption and delivery of PPP projects and assist ministries in advising on projects that they wish to PPP. The five priority areas of BEDB to attract foreign investments

would be in the downstream petroleum industry, info-communication and technology, services, tourism, and food industries. P cube essentially provides the second screening after SMO, and before it is forwarded to the Ministry for approval. For projects which seek foreign investments, P Cube will advise and provide guidelines that were used previously under the 2015 guidelines. However, the interview did reveal that new guidelines will be made at the end of the year to give ministries a better understanding of how the government views PPP projects.

After the assessment by P Cube, and if P Cube believed that the project could attract foreign investment, then P Cube will send an 'expression of interests' (EOI) to P Cube stakeholders. It was revealed during the interview that there is one project which is currently overseen by the company, a PPP project which could not be revealed at the time of the interview, as the paperwork is currently ongoing. Nevertheless, the PPP project can be done with P Cube as a company under BEDB.

Lack of Understanding of PPP

The interviews with both agencies revealed that it is believed many of the ministries are still not familiar with the concept of PPP despite it being part of the government's objective for the past decade and highlighted by MOFE in recent years. As they are not familiar with the concepts, at times the projects that were submitted by the ministries were merely 'outsourcing projects'. There may have been confusion on the concepts of PPP, which is simply not a mere partnership between a public and private sector.

Further discussion with the agencies revealed that even if the ministries understood the concept, due to the complexities and difficult arrangements entailing PPP contracts, the implementation of such PPP projects requires frequent alterations and regular communications with the project holder or public sector procurer.

Therefore it has been difficult for ministries to submit projects to be reviewed for them to be PPPed. It becomes the role of SMO and P Cube to give guidance to ministries to properly submit documents necessary for the MOFE to approve their PPP projects.

As P Cube has been given the bigger mandate in terms of attracting foreign investments to local PPP projects, their staff are also undergoing training to further enhance PPP understanding, processes, and its implementation that will benefit the country as a whole.

No PPP Units in Ministries

It was revealed that to date, there is no unit within the ministries to oversee the implementation of PPP projects. Even though the ministries have their finance office, it is not known how many are pushing for PPP projects, despite being part of the NDP and MOFE's recent objectives. As highlighted in the media, while the Ministry of Home Affairs seeks P Cube assistance to search for foreign investors on its assets, and it seemed that MPRT has started PPP projects without the need for and assistance from SMO and P Cube. This observation was made as both organizations did not mention MPRT's efforts or PPP projects which were already publicized by the media before the interviews took place. The current Minister of

As such, officers that handle the implementation of PPP projects in the ministries are based on an ad-hoc basis as opposed to a full-time dedicated officer. This can be argued to breed inefficient and ineffective as the officers within the ministries have to juggle different work portfolios and responsibilities.

The government agencies, particularly the SMO and P Cube, aim to implement as many PPP projects as possible. They have been working on several initiatives to further enhance its adoption within government ministries.

There is a need for the government to draft a PPP law to ensure private sector participation in state projects is safe for them to invest in. There is a need to have proper assurance at times when litigation is the most undesired action that can take place locally or with international partners. As long as both partners are aware of the legislation and the protections available, only then the private sector can invest in the country without fear and hesitation. In the last World Bank's Doing Business Report 2020, Brunei was ranked 144 out of 190 economies in property registration and 128 in protecting minority investors (World Bank, 2020) therefore in times of the law must be in place to protect both parties.

There is still a dilemma on the issue of PPP projects, where the government will support if there are no fundings required from the government and that it must not affect the welfare of the people. In the case of the Ministry of Home Affairs's for example, the Ministry managed the wet markets in the country, as low as B\$1 per day rental to the stalls in the markets; could that rate be maintained if private sector developers renovate or refurbishment the sites? There is an expectation that the rate will still be maintained. This may not be plausible for their private partner. Hence the dilemma that is faced by the organizations that oversee the PPP projects in Brunei. In the case

of MPRT, there was no government funding involved, whereby only existing infrastructure or a forested land area in which the private sector can utilize to build or conduct a business. Thus, in this case, there are no contentious issues for the ministry.

Lack of transparency of PPP projects has been highlighted in the literature; where PPP projects, without proper auditing, can lead to corruption and cost-overruns and with no proper accountability structure in place to manage or scrutinized such projects. In Brunei, this could be the same scenario, where the projects were only known to the public once it is publicized and studied. There is no performance update or data to show how the project was approved or its progress. The public is not given access to such information; hence caution is needed as information is necessary to prevent abuses of the system that can affect the welfare citizens and government of the country.

Challenges Within Facilitating Agencies

Although the agencies were established to help facilitate the implementation of PPP projects in government ministries, they also encounter several challenges that need to be addressed. Discussions with the officers at SMO revealed that there is a significant lack of PPP depth within the ministries. Most of the ministries and government agencies do not have the PPP expert yet hence they have to be nurtured and trained further on the actual concept behind a PPP project.

Further discussions revealed that the facilitating agencies were left frustrated in wanting to hasten PPP projects as they were not the main procurer of the contracts. They must depend on their counterpart in the

ministry to obtain their feedback and move the project ahead. At times, changing ministerial workforce is common as officers in the ministry moved to other departments or obtain promotion elsewhere, hence there are no dedicated PPP officers at the ministries to work on the PPP project. This means that there is little continuity within the project itself which is crucial for a smooth adoption of a PPP project.

Implementing PPP in Small State: An Example?

Based on the interviews with both agencies, it is clear that the government of Brunei is keen to push for PPP projects in the country, as seen with the country's Economic Blueprint and new leadership at MOFE where the issue of the country's fiscal consolidation reform is taking a centre stage. Ministries are expected to propose PPP projects and while there are Ministries that have done it, there are those which have not.

Given the challenges in the implementation of PPP projects within Brunei as outlined earlier in this paper, the adoption of such PPP concept within the small states is still feasible.

In the context of Brunei, only MPRT has highlighted their PPP projects in the media, and their projects do not cost more than B\$5 million. Therefore small PPP projects have taken place in Brunei, headed by the MPRT, from the Ulu Temburong National Park management and maintenance costing B\$3.2 million and the building of a restaurant at Bukit Patoi Forest Reserve valued at B\$350,000 and the Fish landing complex valued at B\$28 million. As long as there is a willing private sector that is willing to fund a project without government funding, the

government is willing to support the PPP project. The success of MPRT's effort could be an example for other ministries to follow.

The Ministry of Development has highlighted the possibility of making changes to the land laws to allow PPP projects to take place. Without clear guidelines, it is not known how the assets of Ministries can be used for PPP and under what conditions can those assets be used. Since the country still has unutilized lands belonging to other ministries, what criteria can respective ministries use the land for is a question.

There is a need to have strong political support at ministries to push for PPP projects in the country. If the higher level ministries are supportive of PPP ideas, then the SMO and P Cube are able, ready, and willing to assist further. SMO and P cube worked closely with each other and provides the necessary documentation and advice to ministries on which projects can be PPPed and which are not. Perhaps there is a need for SMO to talk or organize workshops to respective ministries' finance section to explain PPP projects and highlight which one they could submit for PPP. It is beneficial to request ministries to submit several proposals a year for projects which are viable for it to be PPP; projects that could help with government finance and improve private sector cooperation.

Further Research

The research did not interview MPRT on their PPP projects which is an oversight of this research. During the interviews, with SMO and P cube, there was also no mention of MPRT's PPP projects hence it raises the question of whether MPRT went through SMO before its PPP projects were approved? If not,

then it was peculiar why MPRT's PPP projects were not mentioned during the interviews. The success of MPRT PPP projects requires examination on how the Ministry could do it readily but not by other ministries, MPRT's PPP projects would suit a future area of study.

Similarly, the Ministry of Development's unsuccessful attempt to PPP the Lugu public housing project despite being highlighted in the Ministry's strategic plan requires can be researched further. It was also reported in the plan that there is a PPP Unit in the Ministry, hence future research could seek more information on the role of PPP unit and the challenges faced by the unit.

Conclusion

The constraints highlighted by Pang and Ali (2017) paper in 2017 persist on the condition of PPP implementation in Brunei, yet, recent examples have shown that PPP projects in Brunei can be as small as a few hundred thousand dollars, to just over a few million dollars project, a micro PPP project, borrowing from the term from micro small, medium businesses (MSME). The government's preference of 'no government funding is used' has been utilized in that Ministry. Brunei is a small country with a small market, and due to its heavily subsidized nature, it will be difficult to reconcile the need of the private sector to profit from a PPP project without any price increase. There are no publicly available documents that can be accessed to find out more about the projects that have been implemented in Brunei. Nevertheless, it shows that Brunei can be a place where small or micro PPP projects can be carried out. The success of such projects, which are still in their initial stage of implementation can be further research.

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Sustainable Human Resource Management Intervention through the Practice of Self-Certified Medical Leave within Civil Servant of His Majesty Brunei Darussalam

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Abstract

Human resource management (HRM) intervention is an interesting topic to be explored as its suiteto change, rapid development of information communication and technology, work complexities, emerging of new lifestyle and its effect towards work life behavior. This initiative may affect employee health and safety issues as these are worthy of serious attention. It may have a cause-and-effect factors to the issues on sustainable workplace and employee wellbeing. This study aims to explore the practice of Self-Certified Medical Leave (SCML) within the civil servant of His Majesty Brunei Darussalam. Specifically, this research is to study and explore the informant's perspective towards the government initiative on SCML. Thus, this research aims to explore the work-related changes, the uniqueness of SCML and how it affects the performance. The related issues arise and coping strategies for tackling the issues of SCML were being discussed in this study. This research was conducted in Brunei Darussalam public service by using research onion model propose by Saunder et al., (2019); using phenomenological research philosophy, deductive approach, case study strategies, cross sectional time horizon, semi-structured interview, and open-ended questionnaires Google form. 15 participants involved as a user of SCML, and data analyze using content analysis with verbatim protocol technique. Pilot study was conducted which involved 3 participants for maintaining the validity, reliability, and practicality aspects of this study. The findings of this study revealed that SCML has contributes to the well-being of the employees and improving the work-related lifestyle of the informants. From the findings, it can be concluded that the uniqueness of SCML is based on the application and approval which is fast and convenience. It can be concluded that SCML does contributes as a source of motivation to the employees. SCML also facilitates the employees to work more productive. There are still issues arises for the practice of SCML which needs to revise and improve. One of the coping strategies to overcome the issue is to have better understanding of issues within civil servant. The findings have been discussed critically and analytically with relevant literature. The findings from this research are crucial for the policy maker, organization, and the future researcher to cope with related issues. It is importance to demonstrate trustworthiness between employers and employees for SCML to work effectively. This research contributes better understanding of issues within the context of implementation of a new HRM intervention system in the organization and expand new dimension of knowledge in benefit and compensation discipline from civil servant of His Majesty Brunei Darussalam context.

Keywords

Coping strategies, civil servant of Brunei Darussalam, human resource management, Self-Certified Medical Leave, work-related lifestyle changes

Introduction

Benefit and compensation are one of the most important human resource management (HRM) function. Sick-leave management are one of the aspects of this function and must be managed effectively and systematically and highlighted by scholars in this area (Guenther, 2016; Uzialko, 2018 & Lovell, 2004). Self-Certified Medical Leave (SCML) is a government initiative and has been implemented in His Majesty Brunei Darussalam government which take effect on September 1, 2016. This benefit system only applied for civil servant in government sector and will be able to take self-certified paid sick leave up to six days in a year (Thien, 2016). However, civil servant's annual leave will be deducted when they avail the self-certified medical sick leave. Instead of having to get medical certificated prescribed by doctors, civil servants will be able to certify their own medical sick leave if they are having minor illnesses.

Literature review

SCML was introduced and applied to every civil servant in Brunei Darussalam. The primary reason of the introduction on this new policy were to thwart any abuse of sick leave certificates prescribe by doctor from the hospital. The policy studies brief recommended that SCML should be implemented for both public and private sectors as the existing system requiring medical certificates for sick leave prescribe by doctors was prone to abuse and tends to encourage longer and unnecessary absenteeism from work (Cheong et.al 2014). This present negative implication as it results in considerable direct and indirect costs of the workplace, individuals, and Ministry of Health (MOH). Therefore, medical certificates prescribe by doctor for taking sick leave on minor illness were abolished and self-certified medical leave (SCML) were implemented to replace it.

The previous study by Metassan et al (2016) showed that most patients did not warrant sick leave based on the doctor's assessment. Also, it suggests that there are other reasons for requesting sick leave other than presenting their illness. A large proportion was given sick leave mostly for one day on a peak day discussed above. Also, from the previous findings, most patients prefer previous sick leave system which is medical certification prescribe by doctor at the hospital and do not want a Self-Certification system which is SCML (Metassan et.al 2016). Monday recorded the highest number of sick leave followed by Saturday and Tuesday. This distribution of more sick leave post-weekends can be attributed to the "Blue Monday" phenomena and the trend of the public to come to hospital and clinic to get extended rest.

According to Ahmad (2019), self-certified medical leave system is beneficial for women as it contains the pain of menstruation in list of minor illnesses. However, mental wellbeing categories such as stress from overload work and depression are not included in the list of illness. These illnesses may be even more important than ever, evidence in a recent increase in the statistic of suicides in Brunei Darussalam, as individuals increasingly face problems in their personal life that need time off from work. Paid leave allows employees to recover at home and attend work with full productivity as well as to avoid any diseases spreading within the organization (Malony & Schumer, 2010). It shows that how health and productivity are linked and have connection with paid sick leave. This is HRM best practices to provide security and safety to employees. Instead of returning to work, paid sick leave preserves the health of employees by encouraging them to recover at home (Martin et al, 2018). Therefore, attending workplace when having illness may prolong illness and can reduce the employees' productivity at the workplace due to issues discussed. Furthermore, paid sick leave protects employees' income and jobs as

employee's wage payment continued and employment relationship intact during a period of illness (Martin et.al 2018).

According to Thewissen et al. (2020), the importance strategy for protecting employees' wellbeing during pandemic Covid-19 is the benefit of paid sick leave. it does not focus on avoiding the spreading of viruses to organization environment, but also to preserves the position and income payment during pandemic. It also discussed how various countries introduced paid sick leave during the pandemic. Over the course of just a few months, the pandemic turned from health crisis into an ongoing labour market crisis. This has enabled researchers and companies to conclude that nation have "act quickly and do whatever it takes" (Baldwin & Mauro 2020). According to Williams (2020), ensuring employees and organization knows their rights and chance to use the benefit leave provided to them is beneficial especially during this pandemic Covid-19. Thus, it is public health issue. Employees in essential roles with low wages tend to be directly exposed to Covid-19 (Williams, 2020).

A rising number of papers have indicated that any policy response must keep employees and unemployment low to avoid long-term scars in the country economy as the economic crisis 14 are deepens (Baqae et al. 2020). The unprecedented challenges have prompted rapid and unparalleled policy responses in many countries. According to OECD policy (2020), paid sick leave changes have also been part of this response. This is important for a successful response to job and social policy since paid sick leave will protect the health, employment, and wages of sick and quarantined employees at the same time. According to Merrel (2013), compensation and benefits model fit into Maslow's hierarchy of needs. Benefits system is offered to meet the basic needs of employees as well as their well-being. It does give

employees peace of mind for their future and needs (Merrell, 2013). Considering incentives is good initiative for work life balance. Research indicated that employees may feel valued from incentives offered by the organization. From recent study, findings showed that by offering time-saving services may improve the employee's happiness as well as flexibility on work-life (Frederick, 2019). This type of benefits was use as motivational tool which can help HR professional achieve organizational goals in improving employees' retention and employee engagement. Safety needs requires employees to get job security (Benton, 2016). Therefore, benefits given such as paid leave is offered as benefits system to address their health needs without losing job and pay.

Methodology

Research Onion Model proposes by Saunder et. al (2019) is used for research design. Phenomenological research philosophy used in this study as its suite to the spirit of this research which is to explore the SCML and explaining cause and effect of it. It is suitable for this qualitative research which emphasized the perspective of the informant on the investigation situation, relation, and process. It is used to explore individuals, group, or phenomenon. This research is using deductive approach since it concentrate and focus on the SCML. Case study strategies applied in this study as the context of this study is public workers of Brunei Darussalam.

Although it only involves small numbers of informants, case study can be used to investigate the real-life experiences from the informant in more complex and details. It provides better understanding and in-depth study on exploring informant different perspective. Only one time series use in this data collection, and it fall under cross sectional time horizon.

Semi-structured interview found the most appropriate technique used for data collection. This research instrument provides

informants the flexibilities in delivering more point of view on related issues discussed on the practice of SCML. However, because of the pandemic Covid-19 scenario in Brunei Darussalam, open-ended questionnaires Google form also practical to be used. It is secure the safety and health related issue arises among the informants. This study was conducted in government sector located in Bandar Seri Begawan, Brunei Darussalam, 15 informants are involved, and they are the user of SCML.

A pilot study was performed to three informants to ensure the interview question is relevant and accurate as well as to ensure the requirements of the information obtained are appropriate and met all the criteria. This will require the instrument to be reviewed in the interview guide for the validity reliability and practicality (doable) aspects and to tackle the issues on any errors and inconsistencies. For the data, it was analyzed using content analysis with verbatim protocol techniques. Verbatim transcription is the process of converting spoken words into text which the spoken information was captured exactly the way it has been spoken. Back-to-back translation from Malay Brunei to English language has been converted in this study. The purpose of using back-to-back translation is it allows to compare translation text with the original text for the accuracy and its quality. Face-to-face interview method has been conducted and open-ended questionnaires using Google form is used for data collection.

Analysis/Discussion

Objective 1 - Work-related lifestyle changes within civil servant after the implementation of SCML

From the findings, there are three part of related theme arises on this objective which are (i) Improving, (ii) Burdening and (iii) No Differences.

IMPROVING

Informant 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13 and 15 has agreed and stated that SCML has contributes to improvements in-term of their work-lifestyle. The quotes are as follows.

Informant 6 stated that:

"For me it is improving and motivates me especially for those people having problem of their health."

Informant 12 stated that:

"Application for leave becomes easier especially in a state of illness which makes it difficult/unhealthy to go to hospital and request a medical leave certificate."

Informant 15 stated that:

"It is improving... because it does give less burdens to us that we don't have to go to hospital and que up for 2 to 4 hours to get medical certificate and medicines. Especially during last time busy with the spread of Covid19..."

Informants 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13 and 15, stated that SCML brings an improvement to their work-related lifestyle changes after the implementation of SCML. Majority of the informants stated that SCML has lessens their burdens from taking medical leave certificate prescribe by doctors in hospital which they need to que up for long hours just to get the medical certificate prescribe by doctors and medicines for minor illness. However, after the implementation of SCML, it changes in term of work-related lifestyle which the employees can take time off and rest at home. They need to notify their superior when they call for minor illness and need to take SCML. Before the implementation of SCML, civil servants are forced to take medical leave certificate prescribe by doctors in hospital or private clinic when they call for minor sickness. However, after the implementation, it is more convenience in term of application for them to request SCML by using WhatsApp to their superiors.

From the findings, it can be concluded that SCML does contribute to the improvement in term of work-related lifestyle and the well-being of the employees. It can be supported with the past related studies on initiative offered that good initiative provided is good for work-life balance. Research indicates that employees will feel valued from the initiatives offered by the organization such as time-off (Frederick, 2019). From this finding, the employees are happy with the SCML as it is convenience in-term of work-related lifestyle, and it does not consume a lot of time. Moreover, SCML has lessens their time waiting at the hospital which they were able to certify their own sick leave by themselves. From here, it showed that SCML is convenience and has lessens their burdens in saving more time at home to rest until recover. This can be supported by recent study in which offering time-saving services may improve the employee's happiness as well as the flexibility on work-life (Frederick, 2019).

Furthermore, it is convenience in term of application, accessible to certify self-leave and time savings. SCML does contribute to making employee's work-life easier. This has reached the basic needs. SCML is a government initiative which gives the employees the rights to certify their own sick leave instead of going to hospital. It lessens their burdens. To reach human motivation, it is crucial to understand what employee's need and how employee's needs differ. When the government initiatives offer good deal such as paid time off and other aspects in improving work-related lifestyle, it helps to motivate the employees and boost their productivity (Sands, 2020).

BURDENING

Informant 9 stated that:

"It is burdening as it deducts from our annual leave..."

Informant 10 stated that:

"If burdening. Yes. Because it uses our annual leave..."

According to informant 9 and 10, their work-related lifestyle is not improving them. In fact, it is burdening them due to some reasons stated. Informants 9 & 10 has stated that this system SCML has burdening them as it deducts from their annual leave. SCML is a government initiative which contributes lessens the burden. Paid sick leave would reduce the burden on sick employees and give them peace of mind to stay at home when not feeling well (Sim, 2021). However, this statement has showed that the disagreement on the deduction of leave not on the work-related lifestyle.

NO DIFFERENCES

Informant 13 stated that:

"No difference given the work flexibility that I enjoy."

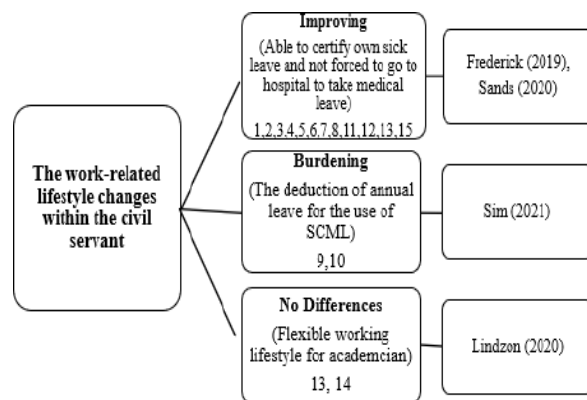
Informant 14 stated that:

"Honestly, I don't see any difference in my work lifestyle, the flexi hours allow us to be away from office when we are well or unwell"

According to informant 13 and 14, there is no differences in term of changes in work-related lifestyle due to the work flexibility of an academician or their nature of work. It does not impact both or give significant differences towards them. It applies for academician in Brunei Darussalam as they were given work flexibility unlike other government officers. According to the informants, the nature of work for academician is different from other government sector. Flexi hours allows them to be away from office when they are well and unwell. The line of work, productivity is not measured by number of hours in the office, but the quality of work done. Moreover, they are not required to sign in the attendance or

report to anyone if the academicians are absent. Productivity is not always an effective way to be measured by hours as it can discourage employees from being efficient with their time (Lindzon, 2020). Figure 1, summaries the findings and related literature for this objective in the following graphical form.

Figure 1: The Work-Related Lifestyle Changes Within the Civil Servant



Objective 2 - To study the uniqueness of SCML from the civil service perspectives

The informants stated that uniqueness of SCML can be classified into three parts which are (i) convenience, (ii) trustworthiness and (iii) lessen the burden of MOH.

CONVENIENCE

Informant 1, 2, 3, 4, 5, 6, 7, 8, 11 and 15 has stated that the uniqueness of SCML is in-term of application which is convenience. The quotes are as follows.

Informant 3 stated that:

"It's good for this system as it does facilitate. Just use WhatsApp and you will get approval."

Informant 4 stated that:

"If we are not feeling well just need to liaise with your own supervisor via WhatsApp so that's the uniqueness."

Informant 6 stated that:

"In term of its protocol, processes which is not burdening... you just messages"

Based on the perspective of the informants 1, 2, 3, 4, 5, 6, 7, 8, 11, and 15, most of the informants has stated that the uniqueness of SCML is in term of its application which is convenience. Also, the informants will get approval instantly by their superior. This has contributed to an easy and convenience way of lifework which saves a lot of time and simplifies their work. Way of communicating is now fast and easy which is using devices and WhatsApp.

TRUSTWORTHINESS

Informant 4, 5, 6, 13 and 15 has stated that SCML has its uniqueness in term of trustworthiness. The quotes are as follows:

Informant 4 stated that:

"It's unique that this system giving the opportunities to develop trust between the individual with their superior."

Informant 13 stated that:

"Trust plays a very important role. Superiors should place a high level of trust on their employees for SCML to effectively work. Likewise, employees should not abuse the given trust."

"Trust issues among superiors can cause SCML to backfire. Certain organizations may have a negative view on SCML... hence employees might feel reluctant to make use of it, even for genuine health issues."

Informant 15 stated that:

"Based on trust too, it's good that they trust the employees under them..."

According to informant 4, 5, 6, 13 and 15, this mostly refers to something that is dependable, honest, reliable which we able to be relied on as honest or truthful. The trust between the employees and employers are important. Trust starts with open communication, superiors need to find way to create organization cultures that foster transparency and frequently communicate with the employees (Martin, 2020). Trust issues among superiors can cause SCML to backfire. Furthermore, trustworthiness between employees with employers plays an important role in the organization. In Maslow motivational needs theory, building a culture around trust created a positive environment which can motivates the employees and boost their productivity. Employees want to know that their employers have their best interest at heart while employers want to know that they can trust employees to do a job well (Sands, 2020). When employees were put trust on them, they will feel valued and motivated with how the culture works within the organization.

Despite there is a weakness in SCML, which employees may abuse the use of SCML for taking it although the employees are not having minor illness, it can be an issue. However, it depends on the individuals trustworthy and honesty, as stated by the informants. This system SCML has given the opportunities to develop the trust between the employees with the superiors. Superiors should place a high level of trust on their employees for SCML to effectively work. Trust issues among superioris can cause SCML to backfire. Certain organization may have a negative view on SCML hence employees might feel reluctant to make use of the SCML even for the genuine health issues. According to the leader of the British Medical Association, employers should put trust on the employees can be genuinely ill for that long, as part of an overhaul of sickness absence to help family doctors (Campbell, 2016). Also, according to Dr. Richard Vautrey, the Deputy Chairman of the BMA's GP committee, patient should be trusted when

they were clearly has an illness that is going to last 10 days to two weeks. Employers should trust the employees and not need to get medical certification prescribe by doctors to tell the employers who probably knows already (Campbell, 2016).

LESSEN THE BURDEN OF MOH

Informant 4, 5, 7, 13 and 14 has stated that the uniqueness of SCML is it has lessened the burdens of MOH, the quotes are as follows:

Informant 4 stated that:

"It is lessening the time waiting and reduce time wasted in the clinic so that you don't have to wait for too long in the clinic and for MOH too...it helps to lessen the burden of MOH... so that they can improve their efficiency... to reduce number of long ques for taking medical leave bah...like before... when there is not yet SCML..."

Informant 5 stated that:

"Yes, because it impacts workers from sector...hospital and doctors. Individuals are not much going there...so it does give benefits to the hospital as the system has already implemented to reduce number of people taking medical leave... that's only the handful"

Informant 14 stated that:

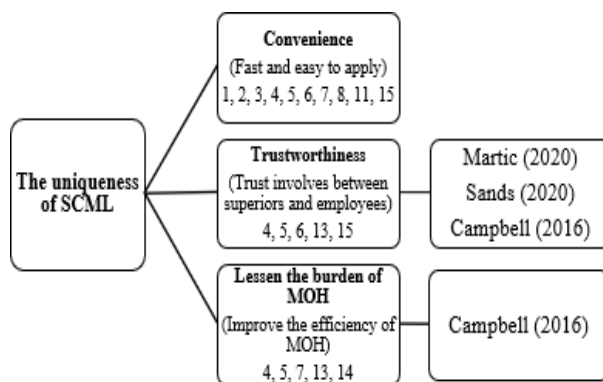
"It also lessens the burden of hospitals in giving out medical certificates for minor health issues."

According to informant 4, 5, 7, 13 and 14, this mostly refers to the other part of organization which is Ministry of Health (MOH). It reduces the burdens of MOH in handling the patience before the implementation of SCML to enhance their efficiency.

Based on the informant's perspective, this system has lessened the time waiting and reduce time wasted in the hospital, it can improve the MOH efficiency to reduce the number of long ques for taking medical leave before the implementation of SCML. Also, it helps to reduce range cost of medicines from the government, etc. Overall, it lessens the burdens of MOH in providing more medical leave certificate for minor illness and by that, it can improve their efficiency. Self-certification sick leave helps MOH for lessen the burdens of doctors giving out medical leave certificate to those who only need to be off work for a couple of days.

According to Dr. Richard Vautrey, deputy chairman of the BMA's GP committee, writing fit notes or medical certification for people who only need to be off for a couple of weeks take away appointments from patients who may need them more (Campbell, 2016). This has shown that, self-certification may help to reduce the number of people who only need the medical certification by the medical professional to tell their employers that they were sick and thus, employees can just certify themselves when call for sick. Figure 2, summaries the findings and related literature for this objective in the following graphical form.

Figure 2: The Uniqueness of SCML



Objective 3 – To study how SCML affects the employee's performance

Based on the findings, there are two part of related theme arises which are (i) source of motivation, in which the employees are motivated or demotivated and (ii) improved performance.

SOURCE OF MOTIVATION

In this part, there are two categories in which informants agree and disagree on SCML as source of motivation. Informant 3, 4, 6, 7, 11, and 15 has stated that SCML has contributes to be the source of motivation. However, informants 1, 2, 8, 9 and 11 disagree on it. The quotes are as follows:

NO

Informant 1 stated that:

"No, because deducted from annual leave."

Informant 9 stated that:

"No... it doesn't give source of motivation because it is deducted from our annual leave."

YES

Informant 4 stated that:

"It's under His Majesty Sultan which put concerns on his civil servant... in a way it's motivates us because government concerns on its employees the well-being..."

Informant 6 stated that:

"Yes, it motivates us because health is important right... hopefully our boss understands and that's why this system has been implemented... so can tolerate bah with us... since this is the given opportunities Alhamdulillah"

Informant 7 stated that:

"Yes, it's making life easier, and they concerned about our well-being. If there is no SCML, it will be burdening and forced to go to hospital to take medical certificate..."

Overall, SCML has a lot of advantages than the disadvantages. However, there are also sort of demotivation for the employees as this SCML were to deduct from annual leave. According to informant 1, 2, 8, 9 and 12 stated that SCML does not motivates them as it deducts and use their annual leave. However, some of the informants agrees that SCML is a source of motivation. This finding has been supported with the past related studies on motivation in which compensation and benefits model fit into Maslow's hierarchy of needs. Benefits system is offered to meet the basic needs of employees as well as their well-being. It does give employees peace of mind for their future and needs (Merrell, 2013).

This type of benefits was use as motivational tool which can help HR professional achieve organizational goals in improving employees' retention and employee engagement. By this, it supports that the SCML does helps in giving source of motivation to the employees.

IMPROVED PERFORMANCE

Themes related to improved performance are as follows. This refers to a statement from informant 4, 5, 7, 8, 13 and 14 regarding SCML affecting employee's performance.

Informant 5 stated that:

"If we are not feeling well, the productivity might be less. So, if there is an access to leave anytime when needed. It improves their productivity and performance after they're feeling well"

Informant 8 stated that:

"It's good as its concerned on our well-being... it's like an accessible to take emergency leave when we really need it to get rest for minor illness. So, when we get back to work, we can fully have that productivity which may affect the performance..."

Informant 13 stated that:

"Yes. Health issues may disrupt daily work, hence making sick leave more accessible can help employees to get the appropriate time off from work to recuperate."

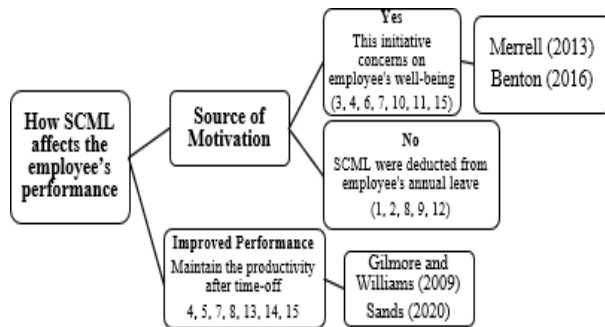
Informant 14 stated that:

"If use correctly, I agree that such initiative would reduce employee burnout and improve performance..."

As this SCML is a source of motivation, it improves the employee's performance. When the employee is unwell, the productivity is low. The easy access to get sick leave when call for sick has given them the opportunity to rest at home. This has improved their productivity and performance of the employees as they were given the opportunities to recuperate and having appropriate time off. Having a minor illness may affects the environment. Mental health can affect employee's work. So, making sick leave more accessible may help the employees from burnout. SCML has contributes to the improvement of performance. This can be supported that benefits compensation (paid leave) plays an important role in retention of employees as well as it aims to improve the employee's performance and behavior (Gilmore & Williams 2009) In Maslow's hierarchical needs theory, incentives such as paid time off which involves in employee's health has been a common tool to improve motivation towards the employees (Sands, 2020). By having a good initiative may engage the employees with organizational purposes which help in increasing their commitment to the job and improve their motivation.

Figure 3, summaries the findings and related literature for this objective in the following graphical form.

Figure 3: Effects of SCML to Employee's Performance



Objective 4 - Related issues arise from the implementation of SCML

INTERFERES WITH DAILY OPERATION

Informant 1, 4, 5, 7 and 14 has stated that SCML may interferes to the daily operations. The quotes are as follows:

Informant 4 stated that:

"It depends if that person has urgent work on that day and need to be done that day but then unexpectedly have to take SCML because if not we are not feeling well, it might affect a little bit on daily operation... need backup..."

Informant 5 stated that:

"If that individual taking SCML doesn't have any backup, then it may interfere the daily operation."

Informant 14 stated that:

"It could be an issue if more than one employee were to take SCML on the same day, especially those working on the front line dealing with public. But again, if not manage properly then it could lead to abuse by some and may interfere with daily operation."

According to informants' perspective, in need to have backup employees or any backup for work left by the person in charge as it might interferes the work operation especially for employees who have appointment with and working on front line dealing with public.

TECHNOLOGY SYSTEM AND MONITORING

Informant 4, 6, 14 and 15 has stated issues in term of technology and monitoring. The quotes are as follows:

Informant 14 stated that:

"There should be a proper system for reporting. SCML should be managed Online for transparency and data management."

Informant 15 stated that:

"Need to be well monitor too by the superiors to avoid individuals taking advantage...maybe from the system..."

Technology has rapidly change and up to date. With technology, it can help the organization to work more efficiently and effectively in several different way (Ahmed, 2019). Monitoring plays important role as it is to track and accessing the activities of the employees within the organization with the help of technology. In need to have a proper system feature for reporting and SCML should be managed by appropriate technology for transparency and data management. This must be done to avoid misuse of SCML.

CONSIDER SCML TO BE APPLY IN ALL SECTORS

According to informant 1, 2, 3, 4, 5, 7, 9, 11, 12, 13 and 14, this refers to SCML to be revise and apply in all sectors. All sectors include private sector and armed forces.

Informant 2 stated that:

"It's good to consider as long as it doesn't affect their operations."

Informant 7 stated that:

"For fairness, yes... better make it as a new standard."

Informant 13 stated that:

"Yes, should it help to further relieve the burden faced by MOH."

Informant 14 stated that:

"Yes, it would be a good initiative but again needs to be properly managed to ensure it is used responsibly and does not affect daily operation."

SCML to be apply in all sectors refers to not only focus on government sector. Based on the informant's perspective, it is good to apply in all sectors and make it as a new standard. It is for the fairness and may help further relieve the burden faced by the MOH. However, it depends on how the organization manage it to ensure it does not affect the daily operations.

DURATION AND DEDUCTION FROM ANNUAL LEAVE

According to informant 1, 2, 3, 7, 8, 9, 10, 11 and 15, it refers to the length of duration of SCML which current fixed duration of SCML is only six (6) days per year. Deduction from annual leave refers to current SCML that will be deduct from employee's annual leave.

Informant 1 stated that:

"Don't take from our annual leave...because some people are willing to take medical leave from hospital just to avoid deduction from their annual leave...if medical leave from doctor, our annual leave are not deducted. It's different from SCML...if by looking at different level, the lower levels only get 1.8 days in a month for their leave... sometimes 2 days...those having not much leave may feel burden by this...it depends on their levels... some will have a lot of leave...but for those in low grades are suffering and not enough..."

Informant 3 stated that:

"Duration of SCML should be extend especially for us women having menstruation. Having pain every month is not easy for us.... sometimes it is hard for us to move."

Informant 9 stated that:

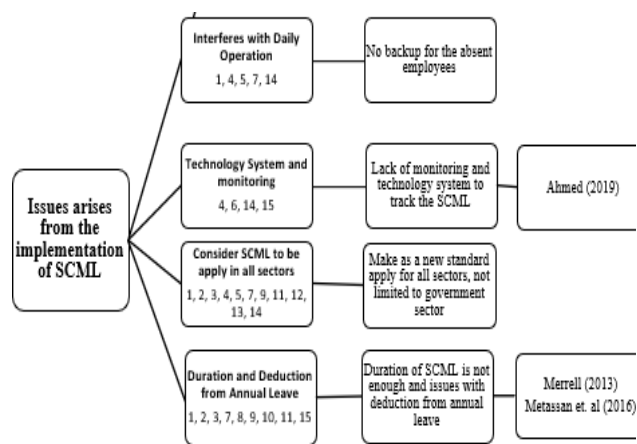
"If 6 days is not enough. Especially for women..."

In term of duration and deduction from annual leave. This has been a serious concern on the informants especially inferiors who suffers having few leave granted for them unlike those in high position. One of the informants has stated that their leave is not that much which only 1.8 days per month given to them for their annual leave. If SCML were to deduct from annual leave, it's unfair for them and burdening as they need to use their annual leave for minor illness. Benefits system is offered to meet the basic needs of employees as well as their well-being. It does give employees peace of mind for their future and needs (Merrell, 2013). Therefore, it is a worthy of serious attention to address these issues among the employees in different levels.

This can be supported from the previous findings by Metassan et. Al (2016), most patients prefer previous sick leave system which is medical certification prescribe by doctor at the hospital and oppose SCML because of "deduction from annual leave". It can be supported with statement of the informant 1, which stated that some employees are willing to take medical leave and still going to the hospital because of deduction from their annual leave. The option is depending on the individual either to take SCML or go to the hospital to take the Medical Certification which will not be deducted from their annual leave when taking time-off from work. Furthermore, the duration of the SCML has arisen the issues as the duration is not enough for a year especially for a woman who suffers a menstruation pain every month. In need to

revise back to address the issues. In fact, it's good to address these issues arises for SCML to work effectively. Figure 4, summaries the findings and related literature for this objective in the following graphical form.

Figure 4: The Issues Arises from the Implementation of SCML



Objective 5 - Appropriate coping strategies to tackling arising issues of SCML

The recommendations and suggestion for short-term and long-term strategies stated by the informants can be classified into four parts of related theme arises which are (i) extension of duration, (ii) conduct research and educate the benefits of SCML, (iii) SCML to be separated and not deducted from annual leave and (iv) improvement in technology.

EXTENSION OF DURATION

According to informant 2, 3, 7, 8, 9 and 11 suggested as follows.

Informant 3 stated that:

"If for me...in term of duration. 6 days per year is not enough...maybe 2 weeks...14 days in a year maximum should be enough for me..."

Informant 9 stated that:

"Extension until 15 days...like medical leave system..."

Informant 11 stated that:

"Not enough, because women period cramps every month... extend it..."

The suggestion is to follow medical leave system standard 15 days prescribe by doctor. Informants has suggested the maximum number of SCML which will be enough for them especially for women who suffers menstruation pain every month. However, according to past related research byKausto, et. al (2019) on effect of duration sickness absence periods, extending self-certification from one week to two weeks may increase the mean duration of sickness absence. Furthermore, the use of self- certified medical leave 6 days per year granted by the government is still needed to revise back by looking at the perspective of employees in different levels as well as the data per year of the absence period by the employees in the organization. As mentioned by the informants regarding the option for taking SCML and medical leave certification prescribe by doctors, the employees were given an alternative to choose in order to avail their sick leave.

This has shown that, the availability of medical certification prescribe by doctors are still available and this may burden the MOH. In fact, according to the Dr. Richard Vautrey, Deputy Chairman of the British Medical Association's GP committee has demands that the certification of fitness to work need not to be done by a medical professional and that there should be an extension of self-certification for illness from seven to 14 days. Leaders of the BMA suggests that the time off for employee taking leave from work because of the employee have certified themselves as sick need to be doubled from one week to two weeks before seeing the doctors. And in need for the employers to trust the employees as part of an overhaul of sickness absences to help family doctors (Campbell, 2016).

To extend the duration of SCML may lessens the burdens of MOH and that employer should put trust on the employees as to make the SCML work. In relation with Maslow's motivational needs theory, it is important to understand the basic needs of employees to keep them engage and motivated at work. According to Martin et. al (2018), instead of returning to work, paid sick leave preserves the health of employees by encouraging them to recover at home. Therefore, attending workplace when having illness may prolong illness and can reduce the employees' productivity at the workplace due to the issue discussed.

CONDUCT RESEARCH AND EDUCATE THE BENEFITS OF SCML

This refers to understand on issues and increase public awareness. Suggestion from informants 5, 14 and 15 are discussed for the strategies.

Informant 5 stated that:

"For the implementation of SCML... it is good to get survey to the whole government employees at least 50% to get what do they want...so that when we get their input...so we can make suggestion on what actually people want...what is the weaknesses, what is the improvements needed and usually their perspective some may having similarities right... so based on that we can structure the plan for long-term strategy...whether it is effective or vice versa...for example like...in different level...like myself as acting director...their superior...like how they give comments based on employees under them that request for SCML... how it impacts and how they ask their superior...so probably from there we can see the data then we can plan strategy on how to improve it..."

Informant 13 stated that:

"To educate and socialize the benefits of SCML especially to the management i.e., supervisors, etc. So as to appreciate its use and minimize negative sentiments associated with it."

Informant 14 stated that:

"The relevant offices should conduct studies to get feedback on the effectiveness of such initiative. In term of whether it has achieved its objectives, to identify limitations and improvements to ensure productivity."

Informant 15 stated that:

"If can, make it to all sectors including the private sectors. so can be improve with most of their opinion and suggestions on this system...this is for long-term strategy...to know how effective this SCML...if short-term...just use WhatsApp like we use today..."

Above are the strategy suggested by the informants for improvement of SCML. In need to understand the issues and increase public awareness. It is good to conduct survey to the whole government sector to get better input to structure plan for long-term strategy in identifying the effectiveness and the weaknesses in order to improve the SCML. Also, to educate and socialize the benefits of SCML especially to the management such as superiors, supervisor etc. as to appreciate its use and minimize negative sentiments associates with it.

SCML TO BE SEPARATED AND NOT DEDUCTED FROM ANNUAL LEAVE

According to informant 1, 2, 3, 7, 8 and 10, this refers to their suggestions and recommendation to contributes to the short-term and long-term strategies for SCML to be practice in government sector.

Informant 3 stated that:

"Just follow the medical leave system which is 15 days maximum and not deducted from our annual leave... make it as a new standard. If can, do not deduct from our annual leave, especially us from lower level...like me... having not much leave is suffering...for the high-level officer is okay eh...but for us in lower level?"

Informant 7 stated that:

"Okay ...if can, do not deduct from our annual leave...if can, make it the same as medical leave system which that is way better...Hopefully our voice can be heard by the top management"

Informant 8 stated that:

"Need to be separated from annual leave... so the best is to make it the same standard as medical certificate which is maximum 15 days not deducted from annual leave..."

As stated by the informants, SCML need to be separated and not deducted from annual leave. As mentioned in research question 4, some informants preferred and suggested that the SCML should be separated and not deducted from annual leave. It is good to follow the system like Medical Certificate prescribe by doctors' maximum of 15 days and not deducted from employee's annual leave as mentioned by the informants. This is because, some employees are still willing to queue-up at the hospital just to get medical leave certificate from the doctor as to avoid deduction from annual leave. Some informants may have less annual leave available for them unlike those in higher grades. This might be burdening them as the SCML for minor illness were deducted from annual leave. As suggestion for long-term strategy, it is good to be separated from annual leave and make it as a new standard of medical leave which is not deducted from annual leave.

IMPROVEMENT ON TECHNOLOGY

According to informant 4, 6 and 11., this refers to their statement on recommendation and suggestions for the strategies which need an improvement in term of current technology practiced.

Informant 4 stated that:

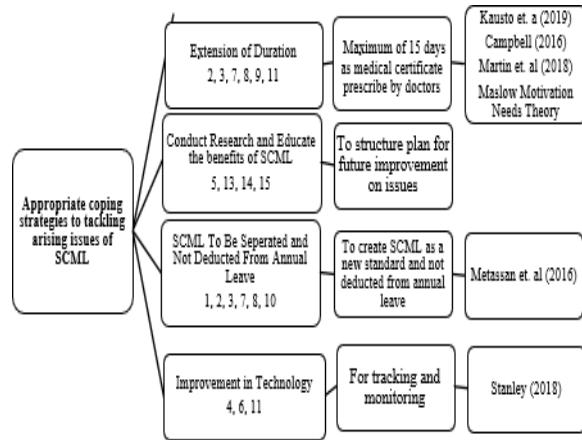
"Something to do with the application. Now we use GEMS... but then it does not track right? Its only for apply and approval only...it doesn't track location...I know it is some of privacy issue, but it is to lessen the chance for people to take advantage..."

Informant 6 stated that:

"Hmm...having an application that can monitor the SCML...whether the duration of leave have been used all or still have some left... it should be specific so people can track their leaves easily"

In term of improvement in technology. This refers to the informant's statement on recommendation for the strategies which in need to improve the current technology use for the SCML. Effective management and tracking of paid leave can lead to reduction in costs (Stanley, 2018). Current technology GEMS is not enough as it does not track and transparent on the duration of SCML use. Also, some organization has no proper system to monitor this SCML which may rise the issues of the use of SCML in the organization. Figure 5, summaries the findings and related literature for this objective in the following graphical form.

Figure 5: Appropriate Coping Strategies to Tackle Arising Issues of SCML



Conclusion

This study expands the discussion about the practice of SCML and the issues arises. It contributes to better understanding on issues for the practice of this system SCML especially within the civil servants in government sectors. Coping strategies are discussed which policy maker, organization and future researcher may use and revise for better improvement in the future. This is a worthy of serious attention in tackling the issues in this system for it to effectively works. Trust plays an important role between employer and employees for SCML to work effectively. This system SCML has contributes to improvement in employee's wellbeing and productivity. In term of application and approval, it is convenience and fast. This study contributes to the body of knowledge on benefit and compensation and on SCML from Bruneian public service with focus on the issues of work-related lifestyle changes, the uniqueness, the effects to employee appraisal, the issues arises and coping strategies to handle the issues. The implication of policy maker, this research contributes to better understanding on issues and helps give insight on how to address issues for short-term and long-term strategies recommended by the informants. Also, this study provides implication for the

organization which may help to educate and socialize the use of SCML for it to effectively work and not misuse it. As for future researcher, it is good to expand the research and widen the population by using quantitative approach on the practice of this system.

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Effect of Social Media Communication and Customer Engagement on Brand Equity: A Conceptual Framework

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Abstract

The challenge among the media and the global competition to improve the social media communication in Thai Automobile Industry. This paper focusses on 1) the definitions of social media communication, customer engagement, and brand equity, 2) social exchange theory and 3) the relationship between those variables. This paper employs literature reviews analysis to identify theories and related researches from electronic information source which are Taylor & Francis, Springer, Science Direct, JSTOR, Emerald, and Google Scholar. We founded that social media communication related to marketing communication and has two dimensions which are user-generated social media communication, UGC, and firm-created social media communication, FCC. Social exchange theory explains the cause that human communicate with the others in social media by weighting the cost and benefit of communication. Customer engagement should be specified in the name of the variable to fit the context. Customer-based brand equity, CBBE, emphasis on demand side and frequently employed in empirical research. Additionally, social media communication directly affects brand equity and indirectly affects brand equity through customer engagement. The finding is very essential to ameliorate brand equity through social media communication and customer engagement, the conceptual framework can be tested in Thai automobile industry and other context of studies, as well as the variety of research method can be applied in studying social media communication variable and marketing-related variables.

Keywords

Social Media Communication, Customer Engagement, Brand Equity, Thai Automobile

Introduction

The impact of the Internet on business marketing and marketing communications is enormous (Krizanova, A., Lăzăroiu, G., Gajanova, L., Klietkova, J., Nadanyiova, M., & Moravcikova, D., 2019; Porcu, L., del Barrio-García, S., Kitchen, P. J., & Tourky, M., 2020). This can be seen from net digital spending of Thailand with an 8% increase in spending in 2020 from 2019 with a value of more than 20 million baht. And the forecast of the year 2021 compared to the year 2020, the increase in value will be equal to 8 percent. In 2021, we found that the projected advertising expenditures of the motor vehicles industry is the first ranked, followed by the non-alcoholic beverage industry, skin-care preparation industry, communications industry, and dairy products and dairy substitute products respectively. (Digital Advertising Association (Thailand), 2021).

Interestingly, social media marketing communications are critical for advertising and public relations in the automotive industry. The brand, however, influences the customers purchasing decision and creates a memorable one. The understanding of the brand is also important to reach the customers' minds leading to a response to the brand's marketing activities, brand communication via social media, socialmedia brand engagement, and brand equity finally (Gómez R., M. & Lopez, C. & Molina C., A., 2019).

Social media brand communication, on one hand, is a communication between consumers and organizations through social networks. Moreover, social media communication has an effect on brand equity (Schivinski, B., 2011). Understandably,

social media communication has an effect on brand equity (Schivinski, B., 2011; Bruhn, M., Schoenmueller V. & Schäfer, D.B., 2012; Schivinski, Bruno and Dabrowski, D., 2013; 2014; 2015). In addition, the social media brand communication has an effect on social media brand engagement. (Corné D.; Peter K. and Camiel J. B., 2015; Gómez, M., López, C., & Molina, A., 2019). On one hand, customer brand engagement had an effect on brand equity (Hepola, J., Karjaluo, H., & Hintikka, A., 2017; Algharabat, R., Rana, N.P., Alalwan, A., Baabdullah, A., & Gupta, A., 2020).

From the reasons and literature mentioned above, the definitions of social media communication, customer engagement and brand equity will be defined, the theory applied will be identified, and the interrelation between those variables will be proved.

Literature review

1. Definition and Theory on Social Media Communication

1.1 Definition of Social Media Communication

Social media communication is a part of integrated marketing communication (Kotler, P., 2000). It was an effort to inform, motivate, arouse and remind consumers, directly and indirectly, about the brands being offered (Keller, K.L., 2001). Also, it is delivering goods and services to the market focusing on all activities the company communicates to its target audience (Žabkar, V. & Zbačnik, B., 2009) as well as it said to be used in different marketing channels and tools to communicate (Tomše, D. & Snoj, B., 2014).

The clear definition of social media communication found in the net. This means

that the sending messages through the platform to others (Heidi C. 2015). However, social media communication can be classified into two types which are user generated social media communication, UGC, and firm created social media communication, FCC (Schivinski, B. & Dabrowski, D., 2014;2015). The former means that is a form of advertising or communication and controlled by users or customers and may be for non-commercial purposes. The latter means that a form of advertising or communication that is controlled by the company and in accordance with the guidelines of the marketing plan. When consider the content in social media, it is also break into two parts which are firm-created social media content, and user-generated social media content. support by Schivinski, B. & Langaro, D. & Shaw, C. (2018).

In term of media and marketing communication, social media marketing communication variable found in Adetunji, R.R., Rashid, S., & Ishak, M.S. (2018). This divided it into two dimensions like Schivinski, B. & Dabrowski, D. (2014;2015). In that sense, the former, user-generated marketing communication is social media-word-of-mouth. The latter, firm-created marketing communication composes of social media advertising, social media slate promotion, and social media interactive marketing.

Finally, social media communication means the transmission of information in one form or multiple formats through the appropriate platform to the desired target audience with marketing objectives as a goal. Such communication can enable communication between consumers and organizations through social networks in various dimensions in terms of time and place.

1.2 Social Exchange Theory in Social Media Communication

Social exchange theory from Homans, G. C. (1958) considers social

behavior in terms of exchanging goods with the integration of the theory together with 4 groups. These are behavioral psychology, economics, dynamic of influence, and structure of small groups. It looks at what happens when two or more people are positioned to influence each other sorted by the size of relationship structure e.g., classes, firm, communities, and societies.

Furthermore, social exchange theory can be used to describe social media communication (Surma, J., 2016). This study shows that the online social network is almost an ideal form of social exchange because acquiring and maintaining relationships costs less than communicating offline by focusing on the mutual response of Facebook's users. The concept of social exchange theory also aims to describe social media participation as it is driven by the business needs of members which weighs more than their own personal needs. However, when interactions occur, they lead to the commitment (Gharib, R.K., Philpott, E. & Duan, Y., 2017)

Nowadays, the need for social exchange is evident in the online community. The online communities are sources for synchronization and sharing of information. Also, the suggestions and common interests which can be considered a popular social environment. Moreover, the study aimed to explain online community participation behavior by the influence of exchange ideology and perceived tie pass to perceived benefit. (Jahan, N. & Kim, S., 2020)

2. Definition of Customer Engagement

The definition of customer engagement has been widely discussed and there are variety types of engagement. For example, the customer brand engagement refers to the level of mental state about brand as well as the contexts arising from the cognitive, emotional, and behavioral activities at a specific level in the interactions that occur in the brand (Hollebeek L., 2011)

Also, it refers to the intensity level of a person's participation (Vivek, Shiri D., Sharon E. Beatty and Robert M. Morgan, 2012)

On one hand, the expand the scope of the description by defining the customer brand engagement. This refers to consumer's positively valence, brand-related cognitive, and emotional and behavioral activity that occurs jointly between brand-consumer interactions (Hollebeek, L. D., Glynn, M. S. & Brodie, R. J., 2014)

Besides, the definition of brand engagement which is a psychological state that arises between interactions to create the shared value of the customer or agent experience. under contextual conditions and dynamics (Calder, B., Isaac, M.S., & Malthouse, E., 2016). Additionally, it is arising from the push of social media (Gómez R., M. & Lopez, C. & Molina C., A., 2019)

As mentioned above, brand engagement is one of the things that marketers are interested in. A study by Yang, S., Lin, S., Carlson, J., & Ross, W.T. (2016) that prioritizes brand engagement on social media. Overall, brand engagement is related to various social media contexts as well as behavior both in terms of brand community, conversation, as well as firm brand page but customer engagement is that the actions that lead the customer to create a long-term bond with the organization or corporate brand.

3. Definition of Brand Equity

Brand plays an important role in marketing both business and academic fields because the brand is one of the company's key assets, and plays a key role in consumer evaluation and purchasing decisions. Brand is an added value that extends to companies and consumers. (Aaker, D., 1991)

On one hand, brand equity was considered in accordance with the approach of the strength of the consumer-based brand that affects the brand equity.

This, brand equity, is a condition that consumers are familiar with the brand and recognize it in terms of preference, strength, as well as the identity of the brand association (Keller, K.L., 1993). Also, there are belief that brand equity as the brand value. It is a key strategic return and brand benefits that the company has to offer. (Davis, S.M., 1995). Brand equity is as the whole thing that is the sum of attitudes and behavior patterns (Ambler, T. and Styles, C., 1996).

From the review of the conceptual literature on the definition of brand equity, it can be concluded that it is a measure of the strength of consumer access to a brand. It is also what describes the relationship of consumers as well as their beliefs about the brand which is in accordance with the guidelines of Feldwick, P. (1996).

4. The interrelation between social media communication, customer engagement, and brand equity

4.1 Relations between Social Media Communication and Brand Equity

Social media communication has contributed to many good results. There are study presented the connection of social media communication and brand equity in Facebook user context (Schivinski, B. and Dabrowski, D., 2013; 2014) Also, the relationship of social media communication affects brand equity in context of non-alcoholic beverages, clothing and mobile network operator founded in Schivinski, Bruno and Dabrowski, D., (2015). Interestingly, firm-created social media communication has an effect on brand equity in all dimension (Grubor, A. Djokic, I., Milovanov, O., 2017).

Moreover, the study in fast-moving consumer goods and garment brand found that firm-created social media and user-generated social media relate to brand

equity in positive way (Sadek, H., Elwy, S., & Eldallal, M., 2018). In the same way, firm-created social media communication and user-generated social media communication effect on brand trust and brand equity and pass to brand loyalty accordingly (Khadim, R.A., Hanan, M., Arshad, A., Saleem, N., & Khadim, N.A., 2018). However, firm-created content and user-generated content effect on three variables which are brand awareness, perceived quality, and brand loyalty (Vinh, T., Phuong, T.T., Nga, V.T., & Nguyen, N., 2019). When considering the relationship model of the variables, therefore hypothesized that

Proposition 1: There are exist relationship between Social Media Communication and Brand Equity

4.2 Relation between Social Media Communication and Customer Engagement

Based on literature reviews and research on social media communication and customer engagement. Firstly, the intensity of using social media that affect the engagement in social media activities of the company as a study in international airline context (Corné D.; Peter K. and Camiel J. B., 2015). However, a conceptual framework for studying factors affecting customer engagement and presented the concept of the effect of firm engagement on customer engagement developed by Payne, E., Peltier, J., & Barger, V.A. (2017).

Later, the relationship between social media brand communication and social media brand engagement studied in Gómez R., M. & Lopez, C. & Molina C., A. (2019). Moreover, the effect of social media communication on online community engagement had established by Trivedi, J., Soni, S., & Kishore, A. (2020). When considering the common points of concepts and studies of the literature therefore hypothesized that

Proposition 2: There are exist relationship between Customer Engagement and Brand Equity

4.3 Relations between Customer Engagement and Brand Equity

Based on literature reviews and research on topics related to customer engagement and brand equity. In the early stages of the study, customer engagement variables were not largely identified. It states that when the customer engagement results in a change in the brand equity dimension (Kuvykaite, R. & Piligrimienė, Ž. (2014). The description in the engagement intensity that affects brand equity in the context of Facebook brand community and firm-hosted online brand community founded in Weiger, W., Hammerschmidt, M. & Wetzel, H. (2018). In addition, the influence of customer brand engagement on brand equity is supported by research from Youssef, Y., Johnston, W., AbdelHamid, T., Dakrory, M., & Seddick, M. (2018)

Brand engagement is associated with a variety of social media contexts. An overview of the relationship of Factors affecting social media brand engagement and through to brand equity in the context of Gen Y using social media studied in Verma, A., Chahal, H. & Wirtz, J. (2020). In addition, the influence of customer brand engagement that directly affects the consumer-based brand equity in the context of students who use Honda motorcycles in Indonesia focused by Meirani M., Abror A., (2019). In the same way, the relationship of customer brand engagement to the customer-based brand equity in the context of fans and followers of mobile phone service providers via Jordan's Facebook fan pages explained by Algharabat, R., Rana, N.P., Alalwan, A., Baabdullah, A., & Gupta, A. (2020). Presently, the influence of brand engagement that affects the brand equity supported by Nannan X., Juho H. (2020). And from the literature review, it can be concluded that

Proposition 3: There exists relationship between Customer Engagement and Brand Equity

Methods

Research methods in this paper employing the concept from systematic literature review (Bocconcelli, R., Cioppi, M., Fortezza, F., Francioni, B. & Pagano, A., Savelli, E. & Splendiani, S., 2016, the Joanna Briggs Institute, 2013; 2014; 2016). Then it is adapted to the study to fit the context. Information of this study are collected from related researches and documents as well as research being done from electronic information sources: Taylor & Francis, Springer, Science Direct, JSTOR, Emerald, and Google Scholar. Key words of this study are: social media communication, customer engagement, brand equity. There are 4 steps in a summary sequence. These are: 1. Recruiting a research team/working group, 2. Writing a study outline, 3. Operating the procedure and process, and 4. Concluding summary of the results. However, conducting this research to achieve efficacy. The research team did not neglect to take the findings into account for inclusion and exclusion criterion, which would allow a more systematic review of the selected literature.

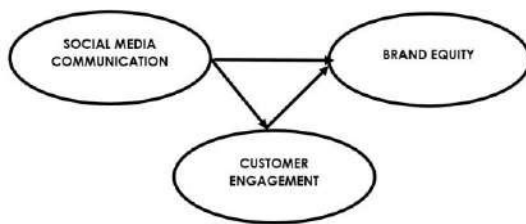


Figure 1: Model of Relations between Social Media Communication and Brand Equity

Analysis/Discussion

This research has three main objectives:

- 1) to study the definition of variables, 2) to find theories explaining social media, and 3) to explore the relationship of variables. The

discussion on the literature review and important issues can be summarized as follows:

- Social media communication is a variable and a topic that has been published during this decade by Schivinski, B.'s literature series. Most of the research focuses on social media communication as the independent variable. In addition, they have slightly different names, including social media communication, social media brand communication, social media marketing communication, and perceived social media communication.
- The dependent variable of social media communication. Most of the variables found were brand equity and brand equity-related variables, but some of studies employed other dependent variables such as brand attitude, brand event, social media brand engagement, message process involvement, sport involvement, online community engagement. Nonetheless, this will vary depending on the context in which the research is conducted.
- The social media communication dimension that is popular and used by most of Schivinski, B.'s literatures and citation papers. This divided into two dimensions: user-generated social media communication, UGC and firm-created social media communication, FCC.
- Research methods on social media communication. It is mainly quantitative research method, using the structural equation model, SEM, as a technique in empirical studies.
- Social exchange theory integrates knowledge in a variety of sciences. This theory is used to explain the weighing between cost and benefit in human communication which can be considered at both the interpersonal

level and large groups in society as well as social media communication, which is popular for its low cost of communication but high benefit as a result.

- The customer engagement found in the conceptually reviewed literature was dependent variable. There are sets of words with similar names, such as customer brand engagement or brand engagement, so further studies should provide specific name to prevent inconsistencies and confusion in variable definitions.
- Brand equity found in most literature series is customer-based brand equity, CBBE, acts as a dependent variable reflecting the value of the brand in the consumer or demand-side analysis.
- The relationship between the variables was found that social media communication directly affects brand equity and indirectly through customer engagement to brand equity as shown in the conceptual framework.

Conclusion

This research can be summarized in terms of both application and further research. with the following issues:

- Social media communication relates to marketing communication, brand management, social media, as well as marketing-related field of studies.
- Social media communication research can be extended in quantitative research. However, the gap in qualitative research remains a challenge in future research.
- The definitions of the three variables, social media communication, customer engagement, and brand equity, can be adapted to research areas such as communication and marketing, media, and consumer research.

- The interactions of those variables shown in this research were positive. Promotion of social media communication has a direct positive effect on brand equity and indirectly on customer engagement to brand equity. In practice, managers, marketers or business executives can apply this concept to stimulate social media communication to enhance customer engagement and brand equity.
- Future research applied concepts from this paper should consider the industries that primarily focus on the use of social media for marketing, the high proportion of social media investments, or the high social media presence in business. However, this research intends to test in Thai automotive industry as a result of investment in social media advertising is the highest in Thailand.

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Developing Business Sentiment Index for Brunei Darussalam

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Abstract

The most commonly used metric for economic progress and performance of a country is Gross Domestic Product (GDP). This indicator, which is also used in Brunei Darussalam, has proven to be a reasonable indicator of past performance. However, a key drawback is the publication lag with GDP data published at least a quarter behind. Further, GDP also lacks forward-looking elements that can inform policymaking. This has led to the development of numerous leading and coincident indicators of economic growth. One notable leading indicator that is widely used globally is a business confidence/sentiment survey.

This provides the rationale to develop the Business Sentiment Index (BSI) by Brunei Darussalam Central Bank (BDCB), which is hoped to provide a leading macroeconomic indicator of economic growth for Brunei Darussalam. The economy is split into eleven business sectors in the BSI, covering businesses of all sizes across all four districts in Brunei Darussalam. The BSI is seen by BDCB as a key project that will enable the central bank to better assess the current state of the economy and its potential future path, in line with the objectives and functions set out in the Brunei Darussalam Central Bank Order, 2010. BSI measures the level of confidence of businesses, recent conditions and outlook covering four aspects: business conditions, investment expenditure, employment of workers and cost of doing business. The data is collected through survey interviews with businesses that also allow qualitative comments to be collected regarding issues that may be supporting or hindering business activity.

The sampling methodology which uses a mixture of random and non-random sampling will be detailed, including an updated assessment of the margin of error based on sectors and business sizes. The sample currently comprises over 600 businesses which are approached on a monthly basis. The survey data is processed to compute for diffusion indices which is available for each

sector as well as the overall private sector. The overall diffusion index across all sectors is generated by scaling each sector's diffusion index with the sector's average gross value added (GVA) in constant prices.

From the survey data, several diffusion indices are generated. The headline Business Sentiment Index (BSI) is based on businesses' perception of current business conditions, scaled by businesses' sizes and sectoral sizes. Other diffusion indices generated are (1) businesses' expectations of future business conditions; (2) businesses' current investment expenditure; (3) businesses' expectations of future investment expenditure; (4) businesses' current employment changes; (5) businesses' expectations of future employment changes; (6) businesses' perception of current costs of doing business; and (7) businesses expectations of future costs of doing business.

The BSI project commenced in August 2020 amidst the de-escalation of COVID-19 restrictions in Brunei Darussalam. The results from BSI are assessed to derive insights on the economic performance of Brunei Darussalam, including the recovery from the first COVID-19 health and economic crisis as well as the onset of the second wave in August 2021.

Keywords

Business Sentiment Index, economic indicator, business survey, Brunei Darussalam

[^] Until 30 September 2021

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Introduction

Each country strives for economic progress, growth and prosperity for its people. Therefore, measuring economic growth is a way to inform policymakers and the public at large on the economic performance of the country. Typical indicators and data used to monitor the economy include Gross Domestic Product (GDP), labour statistics such as employment data, industrial production, Purchasing Manager's Index (PMI), Retail Sales Index (RSI) and so on. These statistics can be leading, coincident or lagging indicators of the pace of economic activities. Besides data on inflation expectations, the other forward-looking type of indicators (FLIs) such as PMI can measure business confidence while RSI measures consumer confidence. Under the International Monetary Fund (IMF)'s data standards initiatives such as the Special Data Dissemination Standard (SDDS), the economies are encouraged to disseminate such FLIs to the public, including financial market participants, as these data can provide useful insights into their economic development (International Monetary Fund [IMF], 2013).

In the case of Brunei Darussalam, the frequently used published economic indicator to measure economic output and growth is the GDP. This is generally a reasonable indicator to inform past performance by sectoral activities but it lacks a forward-looking element which can indicate how the economy may perform in the near future. The GDP data are lagged by at least a quarter and may not be able to inform policymakers about potential issues in a timely manner for them to act, unless

supplementary information or data are made available. This gap provides the rationale to develop the Business Sentiment Index (BSI) by Brunei Darussalam Central Bank (BDCB). The BSI is designed to measure the level of sentiment or confidence of businesses in Brunei Darussalam and hence can help gauge the level of economic activities. BSI covers eleven business sectors within the economy and businesses of all sizes across all four districts in Brunei Darussalam, which can be used as part of economic surveillance and associated activities that may affect the financial sector. The BSI is seen by BDCB as a key project that will enable the central bank to better assess the current state of the economy and its potential future path, in line with the objectives and functions set out in the Brunei Darussalam Central Bank Order, 2010.

BDCB uses the insights obtained through survey interviews with the businesses to feel the pulse on the ground and to understand the potential issues that may hinder businesses and economic activities. BSI measures the level of confidence of businesses, their recent conditions and outlook covering four aspects: business conditions, investment expenditure, employment of workers and cost of doing business. BSI can thus serve as a leading macroeconomic indicator of growth for Brunei Darussalam and is published on a monthly-basis starting October 2021.

Although the background work on BSI has started much earlier, the BSI project only commenced in August 2020 by adhering with the Ministry of Health's and BDCB's workplace health and safety directive and guidelines, without putting the health and

safety of the BSI field workers at risk in midst of the COVID-19 pandemic. Face to face interviews at the initial stage were essential and have proven to be more effective in establishing rapport and trust with business respondents. Subsequently as the business respondents became more comfortable, they had the option to opt for telephone interviews, though some still prefer face-to-face interviews. The project was initially announced to commence before the outbreak of pandemic in early March 2020, but with the slight delay in rolling out BSI project, we were unable to obtain insights of business situation in Brunei Darussalam to compare pre- and post- first wave of COVID-

19. The project was rolled out in early August 2020 amidst the de-escalation of COVID-19 restrictions which had taken place since the third week of May 2020 in Brunei Darussalam. Though the economy has somewhat regained some activities including events and mass gatherings to a higher number than initial restrictions, some businesses still feel the impact of the COVID-19 with some restrictions and mitigation measures remaining in place such as border closure.

Compared to many economies, Brunei Darussalam has managed the COVID-19 situation well since the outbreak in early March 2020. There was no local case reported for 457 days since last reported on 6 May 2020 with nationwide concerted efforts to contain the spread of the virus (Ministry of Health, 2021). New normal (Level 5) was

announced on 7 March 2021 (Kon, 2021) with much relaxed guidelines including mass gathering allowed up to 1,000 persons and all sport events are allowed. This was most welcoming news and life was back to as normal as it can be since the country did not experience any lock down.

Five months later after the announcement of new normal, on 7 August 2021, Brunei Darussalam was suddenly hit by the emergence of 7 local cases ¹ which then quickly escalated to the peak of 197² new daily local cases within 13 days. The total number of COVID-19 cases (both local and imported) has increased by 1,999% from 339 on 6 August, just before the second COVID-19 wave, to 7,116 cases as of 1 October 2021 ³. The country has entered a form of restricted movement nationwide where only one or two persons from the household can leave house to shop for essentials; with strict mask mandate and organisations are encouraged to adopt work-from-home arrangements while authorities implement contact tracing to identify other potential cases. The BSI project meanwhile, is still on-going with its Business Continuity Plan in place where only telephone interviews are carried out for the month of August 2021 and no face to face interviews conducted to safeguard the BSI field workers. BSI results for August 2021 partially reflected this new development to the COVID-19 situation

¹ Source: <http://www.moh.gov.bn/Lists/Latest%20news/NewDispForm.aspx?ID=978> (accessed 13 August 2021)

² Source: <http://www.moh.gov.bn/Lists/Latest%20news/NewDispForm.aspx?ID=1000> (accessed 21 August 2021)

³ Source: <http://www.moh.gov.bn/Lists/Latest%20news/NewDispForm.aspx?ID=1048> (accessed 1 October 2021)

which started half way through the survey period.

The results from BSI will be discussed and assessed in order to derive insights on the economic performance of Brunei Darussalam with the recovery after August 2020 from the first COVID-19 crisis and also new impact from the second wave given the recent outbreak in August 2021.

This paper is organised into a few sections starting with introduction followed by literature review and description of the methodology used to construct the BSI. Results will then be analysed and discussed followed by some conclusions.

Literature review

This literature review will discuss similar business sentiment or confidence indicators used in other countries and/or regions, as well as their usefulness as leading economic indicators in their respective jurisdictions. The Institute for Supply Management (ISM) Report on Business in the United States (US) is one of the first business surveys conducted, used since 1931. Baumohl (2005) considered it to be one of the most reliable economic barometers of the US economy. Former Federal Reserve Chairman Alan Greenspan once quoted that he finds the ISM Report "to be an excellent supplement to the data supplied by various departments and agencies of the government" (Wisner, Tan and Leong, 2017). The ISM Report is calculated as a diffusion index based on a national survey of purchasing managers that

tracks changes in the manufacturing and non-manufacturing sectors, resulting in the Manufacturing and Non-Manufacturing Purchasing Managers' Indexes (PMI). In particular, the Manufacturing PMI is the most prominent and closely watched index by policy-makers (Lahiri and Monokroussos, 2011), while the Non-Manufacturing PMI is considered a relatively newer index compared to the Manufacturing PMI but has become increasingly important as the service sector takes up a larger portion of US GDP. Between both of these PMIs, one can obtain important sentiment data covering industries accounting for more than 90%⁴ of overall US GDP. The ISM Report is valued not only for its timeliness (it is released on the first business day of the month) but also for the accompanying discussion and comments made by the purchasing managers participating in the survey. All these features make the ISM Report a valuable tool for government forecasters, business analysts and Wall Street economists and others aiming to get a head start in forecasting the movements of the US economy (Yamarone, 2012). The IHS Markit is another well-known provider of PMI data for not only the US, but over 40 countries and key regions as well. The methodologies of the ISM PMI and IHS Markit PMI are comparable, with some notable differences in panel structure and questionnaire design.

The Short-term Economic Survey of Enterprises of Japan (Tankan) is a quarterly statistical survey compiled by the Bank of Japan with the aim of providing "an

⁴ Actual figure is 97.0% of Q1 2021 GDP. Source: Author's own calculations based on ISM Report methodology ([https://www.ismworld.org/supply-management-news-and-reports/reports/ism-](https://www.ismworld.org/supply-management-news-and-reports/reports/ism-report-on-business/)

[report-on-business/](https://www.ismworld.org/supply-management-news-and-reports/reports/ism-report-on-business/)) and official US GDP statistics (<https://apps.bea.gov/iTable/iTable.cfm?reqid=150&step=2&isuri=1&categories=gdpind>).

accurate picture of business trends of enterprises in Japan, thereby contributing to the appropriate implementation of monetary policy” (Bank of Japan, 2020). It covers companies in the manufacturing and non-manufacturing sectors. The companies are asked about current trends and conditions in their business place and respective industries as well as their expected business activities for the next quarter and year. In particular, the portion of the Tankan survey that provides an index of large manufacturers or Japan Tankan Large Manufacturers Index, is the most closely-watched index considered to be a leading gauge of Japanese economic growth (Kajimoto and Stanley, 2014), since Japan relies heavily on the manufacturing industry that leads growth for the export-oriented economy.

The European Commission launched the Joint Harmonised European Union (EU) Programme of Business and Consumer Surveys (BCS) in 1961. It consists of tendency surveys carried out on a monthly or quarterly basis across all EU Member States and candidate countries, with the objective of producing harmonised data in order to facilitate effective monitoring of the current economic situation and short-term prospects, both at a national and at EU and Euro area level (European Commission, 2016). In an evaluation report on the programme, Wilkinson and Mathis (2012) finds that BCS data regularly feeds into policy-making (particularly monetary policy) and decision-making by businesses (relating to asset allocation and investments). The BCS have been used to build composite leading indicators, one of which is the well-known European Economic Sentiment Indicator

(ESI) which measures the confidence level among manufacturers, service providers, consumers, retailers and constructors. In a summary article, the European Central Bank (ECB) (2004) cites a number of advantages such sentiment indicators have over officially published data in Europe. They include the fact that sentiment indicators are timelier and published more frequently than official data, and that surveys can provide data that cannot be directly gathered, and also provide data that tend to be less volatile and are rarely revised.

Out of the three examples, IHS Markit’s PMI is closest in similarity with the BSI in terms of methodology. However, a key distinction lies in their index coverage – the PMI covers a broader and more complex and detailed set of indices which vary across different surveys (that is for Manufacturing, Services, Whole Economy, Construction, and Retail). The variables tracked include output, new orders, quantity and stock of purchases, employment and prices (including input and output prices or purchase prices and charged prices) across key sectors (IHS Markit 2017). The BSI utilises indices that are less detailed than PMI and more general that can be applied to all economic sectors of the whole economy.

Methodology

Sample

The selected businesses are grouped into 11 sectors (Table 1). A sample of 664 businesses was drawn using a mixture of random and non-random sampling. The objective of the sampling was to balance the need to obtain a sample that can provide representative responses for the sector whilst maintaining a

sample that is small enough to ease the logistics of managing a monthly survey.

Table 1: Subsector breakdown of BSI sectors	
Sectors	Sub-Sectors
Oil and Gas related	<ul style="list-style-type: none"> Oil and gas mining, Manufacture of liquefied natural gas and other petroleum and chemical products, Water Transport
Manufacturing	<ul style="list-style-type: none"> Manufacture of wearing apparel & textiles, Manufacture of food and beverage products, Other manufacturing Electricity and water
Construction	<ul style="list-style-type: none"> Construction
Wholesale & Retail Trade	<ul style="list-style-type: none"> Wholesale & Retail Trade
Transport & Communication	<ul style="list-style-type: none"> Land transport, Air transport, Other transport services, Communication
Agriculture, Forestry, Fisheries & Livestock	<ul style="list-style-type: none"> Vegetables, fruits & other agriculture, Livestock and poultry, Forestry, Fishery
Finance & Insurance	<ul style="list-style-type: none"> Finance & Insurance
Real estate & ownership of dwellings	<ul style="list-style-type: none"> Real estate & ownership of dwellings
Hotels & Restaurants	<ul style="list-style-type: none"> Hotels & Restaurants
Health & Education	<ul style="list-style-type: none"> Health services Education services
Other private services	<ul style="list-style-type: none"> Other private services

In case of non-usable responses, no replacements are drawn to retain the sample size. Non-random sampling was used for Oil & Gas, Wholesale & Retail, Finance & Insurance, Transport & Communication, Hotels & Restaurants, and Health & Education where the larger businesses were selected to represent these sectors. BDCB's general surveillance and understanding of Brunei Darussalam's economy was utilised to identify the major businesses in these sectors.

For the remaining sectors, random sampling was carried out with an aim to achieve 5-10% margin of error. The optimal sample size for the sectors was estimated using the general statistical formula:

$$\text{Sample Size} = \frac{z^2 \times \sigma \times (1 - \sigma)}{(\text{Margin of error})^2}$$

Where z is the Z-score from the normal distribution and σ is the standard deviation.

The margin of error for the BSI responses can be estimated by comparing with the optimal sample size calculated using data from the Annual Census of Enterprises 2019 (ACE) published by the Department of Economic Planning and Statistics, Ministry of Finance and Economy, Brunei Darussalam. As the ACE's sectoral classification differs from the BSI, sectors are combined together to be representative. Comparison could be based on either the number of businesses or the number of employees. Optimal sample size based on number of businesses assumes a Normal distribution of the businesses. However, the economic contribution of each business may not be Normally distributed. We will consider the number of employees to roughly represent the

economic contribution of each business (see Table 2 in the Appendix).

A secondary breakdown of BSI into micro, small, medium and large businesses is also produced. The definition of business size follows that of the ACE. Similarly, the sample size based on business size can be assessed against the ACE (see Table 3 in the Appendix).

Looking at the sample within BSI by sector, most of the sub-sectors either fall within the optimal sample range or represent over 50% of the reported employees in that sub-sector. One notable observation is Agriculture, Forestry, Fisheries & Livestock with the employees reported in BSI sample exceeding the ACE. This might suggest some businesses did not report in this category to ACE. The sub-sectors of Hotels & Restaurants and Health & Education have samples within BSI below the optimum, but they do represent over 30% of the employees in their respective sectors. This suggests some concern on the reliability of results for these two specific sub-sectors that could be addressed through increasing the number of business respondents.

In terms of business size classification, the optimal sample size is achieved for Small and Large businesses. However, the sample sizes for Micro and Medium businesses are below optimum with relatively low share of employees represented. This suggests concern in interpreting results for these specific business size categories that can be addressed through increasing the number of business respondents.

It should be emphasised that the BSI results representing the overall economy would be

reliable as the optimal sample size would be 95-362 compared to the 664 businesses currently in the sample. Additionally, the BSI sample incorporates businesses accounting for 50.9% of the total employees reported in ACE.

Estimation

The questionnaire has four parts: (1) Business conditions, (2) Investment expenditure, (3) Employment of workers and (4) Cost of doing business. Questions include businesses' own assessments on current conditions as well as on future outlooks on the aforementioned categories. Responses to the questions are of qualitative nature only (for example: better, worse, same or no change). Businesses are encouraged to elaborate on any supporting reasons for their answers for each question so that a more comprehensive analysis can be conducted. All responses are kept confidential.

The survey data is processed to compute for diffusion indices which is available for each sector as well as the overall private sector. The process involves: (a) assigning numerical values to answers for questions (+1 for positive responses, 0 for "no change" responses and -1 for negative responses); (b) scaling each business' answers by its size as proxied by the number of employees as at end of 2019; and (c) taking a simple weighted sum of scaled responses.

The number of employees will be asked during the first month of the rollout of the survey and repeated annually to assess if there are sufficient structural changes to warrant a reweighting of the responses. The threshold to reweigh is when a business' share of the sector measured in terms of

number of employees increases/decreases by over 50%, for example, 10.0% share increased to 15.1%. Historical published data will not be adjusted to reflect a reweighting.

The overall diffusion index across all sectors is generated by scaling each sector's diffusion index with the sector's average gross value added (GVA) in constant prices. The GVA for 2016-2018 will be used for the initial BSI and will be assessed annually for reweighting based on a rolling 3-year period. The threshold to reweigh is also when a sector's share of the economy increases/decreases by over 50%, for example, 10.0% share increased to 15.1%.

From the survey data, several diffusion indices are generated. The headline Business Sentiment Index (BSI) is based on businesses' perception of current business conditions, scaled by businesses' sizes and sectoral sizes. Other diffusion indices generated are businesses' (1) expectations of future business conditions; (2) current investment expenditure; (3) expectations of future investment expenditure; (4) current employment changes; (5) expectations of future employment changes; (6) perception of current costs of doing business; and (7) expectations of future costs of doing business.

The BSI and sub-indices can be interpreted as below:

BSI value	Interpretation
Above 50	Expansion / Optimism compared to the previous month
50	No change compared to the previous month

Below 50	Contraction / Less optimism compared to the previous month
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Analysis and Discussion

Data collection started in August 2020, which coincided with the year Brunei Darussalam reported its first case of COVID-19 on 9 March 2020, after which closures of mosques, bans on mass gatherings and travel restrictions, among others, were put in place (Ministry of Health, 9 March 2020). As the local transmission began to be effectively contained, a de-escalation plan was announced in May 2020, which was progressively expanded to relax restrictions initially put in place to contain the outbreak (Ministry of Health, 2020).

The headline BSI or the index for current business conditions since the start of the survey period (August 2020) up till August 2021, indicates sentiment has generally remained optimistic as the index have remained above the threshold of 50 (Current Business Conditions in Chart 1 of Appendix). Charts 2 to 5 illustrate other aspects such as investments, business costs, employment and respective sentiments by sector and business size.

This is in line with the expectations after de-escalation measures were put in place. Additionally, the economy experienced a boost in domestic spending and consumption as borders remained closed to non-essential travels. Some sectors recovered faster with the more relaxed conditions in the new normal such as Hotels & Restaurants while companies in tourism-

related sectors such as airline operators and travel agencies are expected to take much longer time to recover.

For the purpose of this paper, the most recent months of BSI results as the second wave of COVID-19 broke out, will be discussed. This provides a glimpse into business conditions in the new normal after the first COVID-19 outbreak in 2020 as businesses in Brunei Darussalam adjusted and also just as the second wave started. Since the impact from the recent COVID-19 outbreak in early August 2021 is still unfolding, more months of BSI readings will be needed to elucidate a clearer picture moving forward.

Table 4: BSI August 2021	
Current Business Conditions	50.3
One month (1M) Ahead Business Conditions	49.7
Current Investment	49.8
One month (1M) Ahead Investment	50.2
Three months (3M) Ahead Investment	50.5
Current Employment	50.2
One month (1M) Ahead Employment	50.1
Current Costs	50.3
One month (1M) Ahead Costs	50.1

De-escalation measures and the relaxation of restrictions to hold large events played a key role in the optimism during seasonal festivities during the April to June 2021 period. During this time, business optimism was largely driven by seasonal factors including the festive Hari Raya season as well as

celebrations and events being held in conjunction with the celebration of His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah, the Sultan and Yang Di-Pertuan of Brunei Darussalam's birthday. Businesses also cited that operations tend to pick up after the month of Ramadhan as businesses have longer operating hours and are able to produce or transact more.

For the month of August 2021, the current business conditions result was 50.3, indicating business conditions was generally better than July as the index stood at 50.0 in the previous month. This was due to more projects being awarded in August 2021. Nevertheless, some pessimism was detected as businesses expect conditions to deteriorate in upcoming month.

In terms of the one-month ahead expectations of business conditions, businesses have remained optimistic from the start of BSI survey in August 2020 up to July 2021 as the index has remained above the threshold level of 50 for similar reasons. However, the index fell below 50 for the first time in August 2021 after recording 50.0 in July due to the second wave of COVID-19 outbreak in the country which is expected to disrupt activities and production in the coming month.

The investment sub-indices reveal a trend that seems persistent month-over-month. Businesses tend to be far more optimistic on investment prospects three months ahead compared to current and one month ahead expectations on investments. In August 2021, the current investment sub-index was 49.8, indicating business investment was lower in August 2021 compared to July. Businesses do

not find the need to invest more. The one month ahead investment sub-index stood at 50.2, indicating businesses were looking to invest more in the coming month in September 2021.

Prior to the outbreak of the second wave of COVID-19 in the country, businesses were planning on investing more on upgrades and purchase of materials, renovations and branch openings. In August 2021, businesses cited increased investments for the month ahead due to the implementation of standard operating procedures (SOPs) to combat the spread of COVID-19 in the country. Businesses also cited purchases of servers and technology-related equipment to enable them to conduct businesses and continue operations from home.

The three months ahead investment sub-index was much higher, at 50.5, signaling business optimism about business prospects three months from August 2021 and are likely to go ahead with their planned investments. In general, businesses seem to be optimistic during the August 2021 survey period that the outbreak would be contained in 3 months' time and expect business operations to resume as normal. Nevertheless, compared to July 2021, the readings were generally lower in August 2021, indicating some moderation in business optimism and the willingness to invest.

Meanwhile, the current employment and one-month ahead employment sub-indices have also been recording above the threshold level of 50 as businesses continue to look for new hires. The Employment sub-index was 50.2 for the current month (compared to 50.1 in July 2021) and 50.1 (unchanged from July 2021) for the month ahead, indicating

that businesses were generally hiring in August 2021 and plan to continue hiring new staff in September 2021. While some businesses were looking to hire more due to more projects or opening of new branches, they also cited high turnover rate in the private sector and have started to hire more locals due to difficulty in hiring foreign workers due to border restrictions and COVID-19 outbreak outside the country.

The current costs sub-index was 50.3 for the current month and 50.1 for the month ahead, indicating that businesses felt the costs of running their businesses in August 2021 were higher compared to July 2021 and expect costs to continue to increase in September 2021. Broadly speaking, the costs of running business are expected to increase in line with more investment, hiring of workers in coming months and higher shipping costs. The current costs sub-index was higher in August 2021 compared to July 2021, indicating more businesses faced higher costs in August. This was also linked to increased costs due to the implementation of SOPs to combat the spread of COVID-19 in the country. On the other hand, the one month ahead costs sub-index was unchanged in August compared to July.

Table 5: BSI August 2021 by sector

Oil & Gas Related	50.5
Manufacturing	49.8
Construction	49.6
Wholesale & Retail Trade	49.6
Transport & Communication	50.4
Agriculture, Forestry, Fisheries & Livestock	50.4

Finance & Insurance	50.0
Real Estate & Ownership of Dwellings	49.3
Hotels & Restaurants	49.3
Health & Education	49.8
Other Private Services	50.0

In terms of sectoral performances based on the main index (current conditions), more sectors were in contraction in August 2021 compared to July. The index for six sectors: Manufacturing, Construction, Wholesale & Retail Trade, Real Estate & Ownership of Dwellings, Hotels & Restaurants and Health & Education sectors recorded below 50, compared to only two contracting sectors Wholesale & Retail Trade and Finance & Insurance in July 2021.

Meanwhile, there was optimism in three sectors: Oil & Gas Related, Transport & Communication and Agriculture, Forestry, Fisheries & Livestock. On the other hand, two sectors: Finance & Insurance sectors and Other Private Services sector had similar business conditions for August 2021 compared to the previous month.

Business respondents' comments provided during the interviews, do provide insights into sector-specific issues. The performance of the Oil & Gas Related sector generally relates to the expected prices of oil and gas. The index for the sector was higher in August 2021 compared to July 2021 due to improving global market conditions for the sector.

The pessimism in the Manufacturing sector for August 2021 was related to the second wave of the COVID-19 outbreak in the country as operations were disrupted and businesses

were receiving fewer orders compared to the previous month. The general sentiment was also lower compared to July 2021 at 50.1 and the sector has also been reporting challenges in terms of supply disruptions to their incoming materials.

The Construction sector's sentiment tends to depend on the prospects of projects being awarded, incoming payments and weather as project milestones tend to be delayed during the rainy season. For the month of August 2021, businesses cited similar reasons to the Manufacturing sector. Furthermore, the construction sector, which relies heavily on workers from overseas also cited inability to accept jobs as they face difficulties in acquiring foreign workers, not only due to COVID-19 travel restrictions but also the outbreak of mutated COVID-19 variants in other countries. In April 2021, the Prime Minister's Office announced a temporary suspension of approvals for the entry for incoming foreign nationals from the Republic of India (Prime Minister's Office, 27 April 2021). In May 2021, the temporary suspension was extended to four other countries from the Indian subcontinent, namely the Federal Democratic Republic of Nepal, the Democratic Socialist Republic of Sri Lanka, the Islamic Republic of Pakistan and the People's Republic of Bangladesh (Prime Minister's Office, 17 May 2021). In July 2021, approvals for the entry for foreign nationals departing from or through the Republic of Indonesia were temporarily suspended (Prime Minister's Office, 19 July 2021). The index for the construction sector in August 2021 was also lower compared to July when the index stood at 50.0.

In Q2 2021, the BSI was on average, generally lower compared to the average BSI in Q12021. The declines were contributed by declines in the BSI in the Oil & Gas Related, Construction, Finance & Insurance and Health & Education sectors.

In July 2021, just before the second wave of COVID-19 outbreak, five (Manufacturing, Agriculture, Forestry, Fisheries & Livestock Hotels & Restaurants, Health & Education and Other Private Services) out of eleven sectors were expanding/feeling optimistic while two sectors (Wholesale & Retail Trade and Finance & Insurance) were contracting/feeling less optimistic in their business conditions while four sectors (Oil & Gas Related, Construction, Transport & Communication and Real Estate & Ownership of Dwellings) cited no change compared to June 2021.

In August 2021, the Wholesale & Retail Trade sector recorded its third consecutive contraction since June 2021 after a period of positive sentiment in April and May 2021. Slower business was recorded in the Wholesale & Retail Trade sector in July compared to June, likely due to fading out of shopping for the festive Ramadhan and Hari Raya season. Meanwhile, these challenges were exacerbated by grim prospects brought about by the second wave.

The general sentiment of the Transport & Communication sector, which consists of airline, logistics and telecommunications companies was more optimistic in August compared to July 2021. Transport-related businesses were still impacted by lower demand from travel and border restrictions put in place to curb the spread of COVID-19, while telecommunications benefited with

more demand. Out of the businesses that reported positive business conditions in August 2021, two-thirds of them were interviewed before the start of the second wave of COVID-19 outbreak in the country. Results in the upcoming months would need to be analysed to see the impact of COVID-19 on the sector.

The index for the Agriculture, Forestry, Fisheries & Livestock continue to be positive in August 2021, with some moderation compared to the 50.5 level in July 2021. The positive sentiment in the sector was largely driven by larger companies. This was likely due to better weather and the seasonal period of "fruit season".

While the index was reported at 50.0 for the Finance & Insurance sector, this was an improvement compared to the reported contraction in July 2021. Optimism reported in the sector was offset by worsening business conditions in others of the same sector.

Meanwhile, sentiment in the Real Estate & Ownership of Dwellings sector depends on tenancy rates and receipt of rentals from tenants. The sector reported worsening business conditions in August 2021 compared to the indifference experienced in July 2021 (50.0). Businesses cited the second wave of COVID-19 outbreak as the main reason for the pessimism. During the first wave, when foot traffic was very low, some commercial property owners gave discounts on rental rates. This could be the case during the second wave as well.

The index for the Hotels & Restaurants sector moved back into contraction in August 2021 due to the second wave of COVID-19 after experiencing expansion in July. In July, the

optimism was largely driven by serviced apartments and hotels, likely due to public holidays and higher tenancy rates during the month of July 2021. In August 2021, a number of hotels closed and only offered take-away services from their restaurants.

Meanwhile, the Health & Education sector also moved back into contraction in August 2021 after experiencing expansion in July 2021. The worsening business conditions were largely driven by the second wave of the outbreak as clinics shortened opening hours, shifted resources to help the government combat the spread of COVID-19 in the country while some clinics were even closed for walk-ins and only offered online medical consultations.

The index for the Other Private Services sector was lower in August 2021 compared to July when the index stood at 50.1 as business activities slightly moderated due to the second wave.

In terms of sentiment by size of business, micro, small, medium and large sized businesses cited worsening business conditions in August 2021 compared to July 2021. In July 2021, some businesses cited better business conditions due to more events being held in conjunction with His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah, the Sultan and Yang Di-Pertuan of Brunei Darussalam's birthday and term holidays for international schools.

August 2021 registered the first contraction for large-sized businesses. The main reason for the pessimism across these business sizes was the outbreak of the second wave of COVID-19 in the country which has disrupted

operations as workers had to stay at home as well as fewer consumers going out.

Micro-sized businesses also cited lack of manpower as one of their main challenges. Meanwhile, a number of small-sized companies cited difficulties in acquiring raw materials in time and lack of manpower to enable them to accept more orders.

Meanwhile, challenges faced by medium-sized businesses included lack of projects and rising cost of raw materials.

Table 6: BSI August 2021 by business size

Micro (<5 employees)	49.6
Small (5-19 employees)	49.8
Medium (20-99 employees)	49.8
Large (100 & above employees)	49.8

Conclusion

Since the inauguration of the BSI project in August 2020, we have useful insights into how micro, small, medium and large businesses across the eleven sectors weathered the impact and how confident businesses felt within the Brunei economy.

At the time of writing, only the official GDP of Q1 2021 was published which indicated overall negative growth of -1.4% year-on-year with contraction in oil and gas sector while non-oil and gas sector expanded. Direct correlations between BSI and overall or sectoral economic growth is currently not possible due to the short time series for BSI. Based on the experiences of other countries, it is expected that a combination of the indices under BSI will provide forward looking

indicator for economic growth in Brunei Darussalam. This is an area that warrants future research once sufficient historical data for BSI is available.

With the second COVID-19 wave experienced by Brunei Darussalam since August 2021, GDP for Q3 2021 is likely to be adversely affected but the tell-tale signs might show up earlier on the BSI findings for September 2021 before the release of official GDP figures sometime after Q4 2021. With businesses sharing more insights into the challenges they faced during the survey and from the BSI findings, hopefully policymakers can address some of the challenges faced by businesses, in order to mitigate the impact.

With timely publication of BSI to aid policymakers, users of statistics and public in general to gain a better picture of the economy of Brunei Darussalam, the objective of BSI by BDCB is achieved. BSI can be seen not just as a value-add to the economic surveillance efforts but also fulfilling the role of a forward looking indicator (FLI) for Brunei Darussalam as recommended by IMF.

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Appendix

Table 2: Sample assessment of BSI by sectors

Sector(s) in BSI	Sector(s) in ACE	Total number of businesses in ACE	Optimal sample size (5-10% margin of error)	Sample number of businesses in BSI	Total number of employees in ACE	Sample number of employees in BSI	Percentage of total employees in BSI sample
Oil and gas related Manufacturing Transport & communication	Mining and Quarrying Manufacturing Electricity, Gas, Water Supply and Other Industrial Activities Transportation and Storage Information and Communication	1,091	89-285	158	30,817	22,501	73%
Construction	Construction	626	84-239	124	18,398	8,551	46%
Wholesale & Retail	Wholesale and Retail Trade	2,104	92-325	102	24,925	7,489	30%
Agriculture, Forestry, Fisheries & Livestock	Agriculture, Forestry and Fishery	171	62-119	51	1,398	1,526	109%
Finance & Insurance	Financial and Insurance Activities	127	55-96	12	3,626	2,577	71%
Real estate & ownership of dwellings	Real Estate Activities	101	50-81	27	1,112	634	57%

Hotels & Restaurants	Accommodation and Food Service Activities	716	85-251	26	12,475	4,195	34%
Health & Education services	Education Human Health and Social Work Activities	247	70-151	21	6,014	1,855	31%
Other private services	Professional, Technical, Administrative and Support Services Other Service Activities	974	88-276	143	17,248	9,785	57%

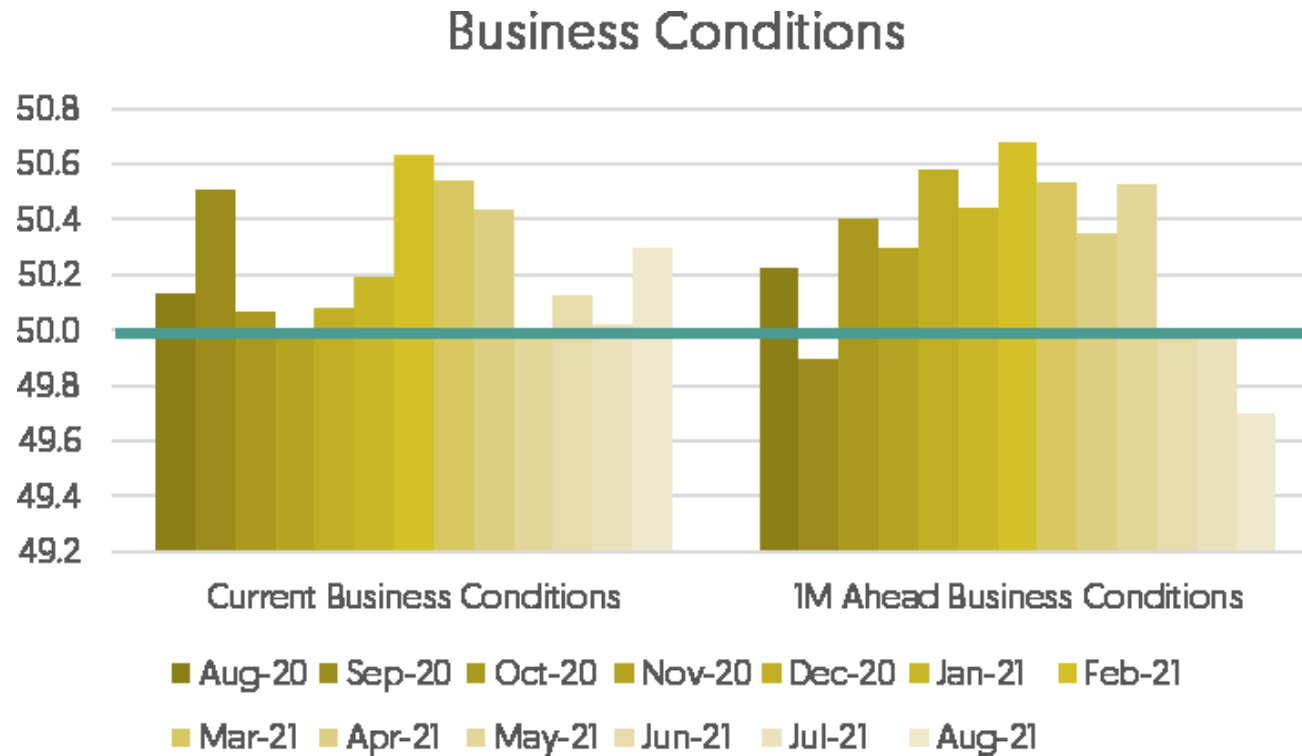
Source: Department of Economic Planning and Statistics, Ministry of Finance and Economy (2019)

Table 3: Sample assessment of BSI by business size

Business size in BSI/ACE	Total number of businesses in ACE	Optimal sample size (5-10% margin of error)	Sample number of businesses in BSI	Total number of employees in ACE	Sample number of employees in BSI	Percentage of total employees in BSI sample
Micro	2,575	93-335	55	6,164	327	5%
Small	2,520	93-334	276	24,073	7783	32%
Medium	895	87-269	56	34,280	5988	17%
Large	167	62-117	79	51,496	44906	87%

Source: Department of Economic Planning and Statistics, Ministry of Finance and Economy (2019)

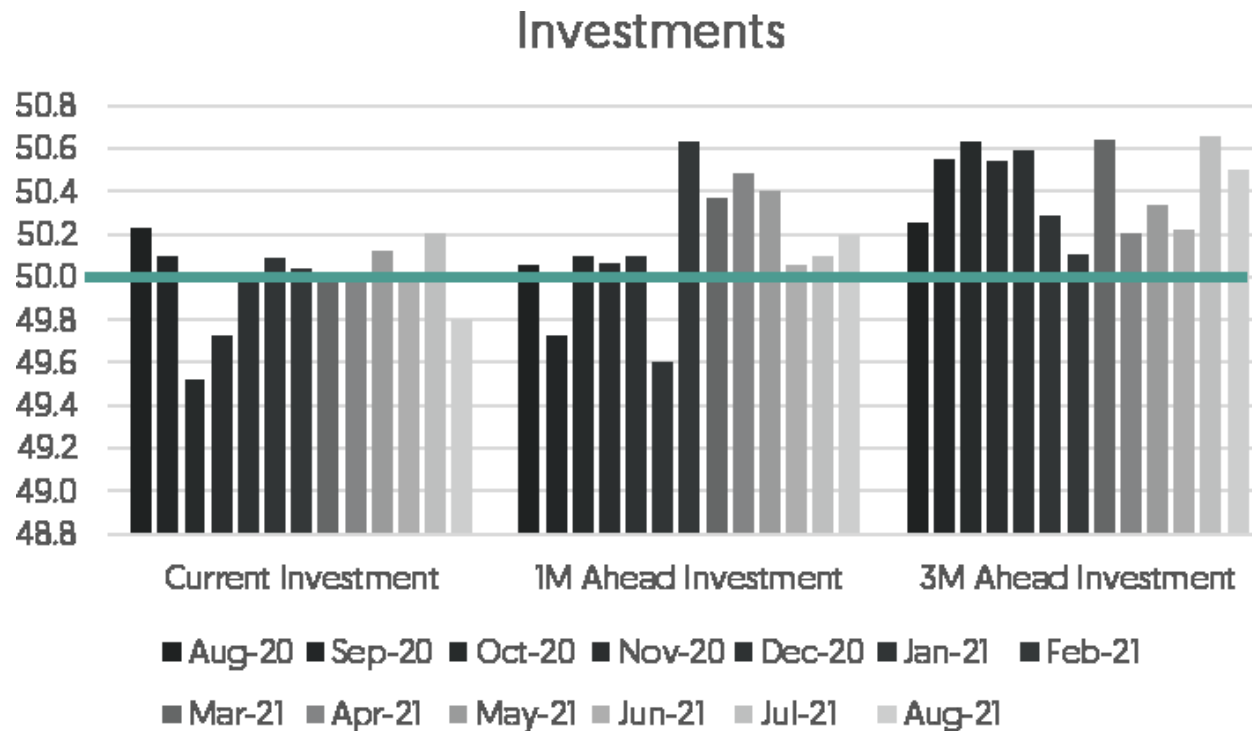
Chart 1: Business Conditions



Note: For 1M Ahead Business Conditions, the result compares expected business conditions in the month ahead compared to the current month.

For Business Conditions sub-index, above 50 indicates expansion / optimism compared to the previous month. 50 indicates no change compared to the previous month while below 50 indicates contraction / less optimism compared to the previous month.

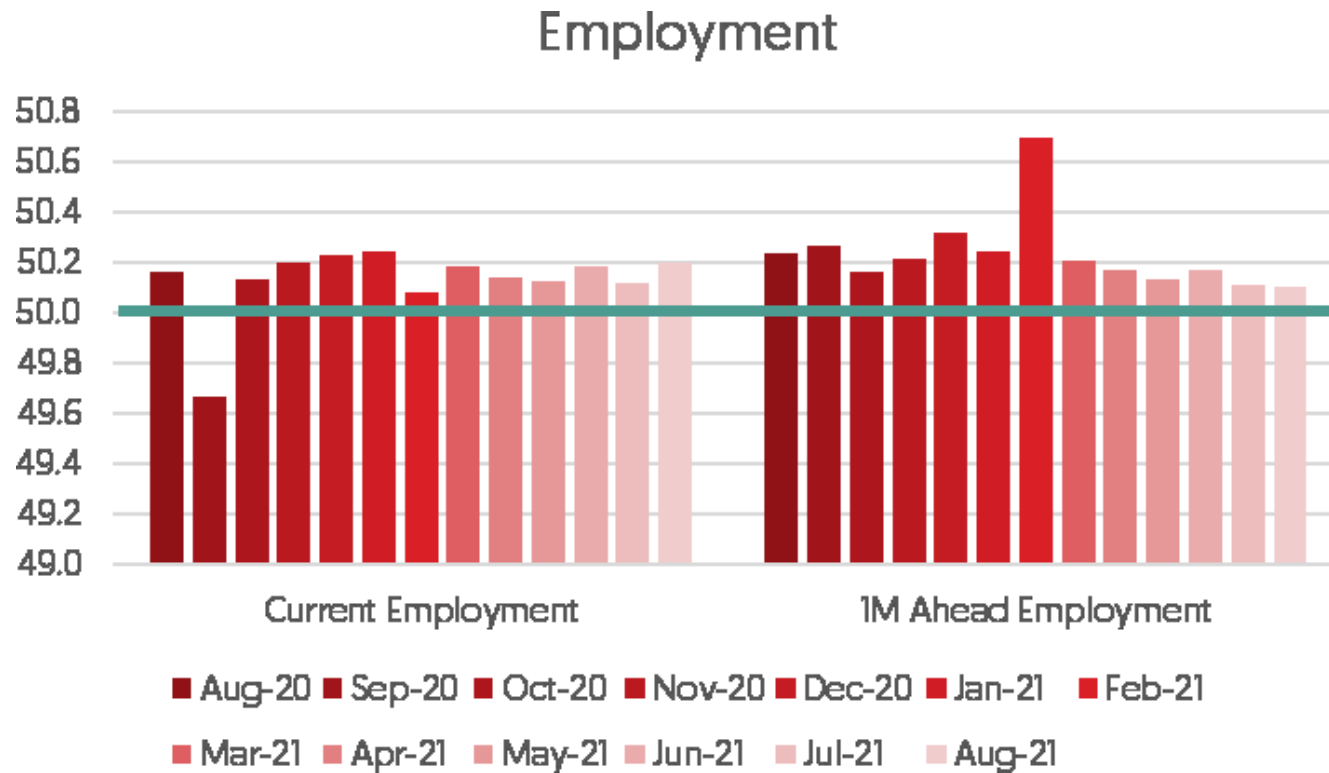
Chart 2: Investments



Note: For 1M Ahead Investments, the result compares expected investment in the next month compared to the current month while the 3M Ahead Investment, the result compares expected investments 3 months ahead compared to the current month.

For Investments sub-index, above 50 indicates expansion / optimism compared to the previous month. 50 indicates no change compared to the previous month while below 50 indicates contraction / less optimism compared to the previous month.

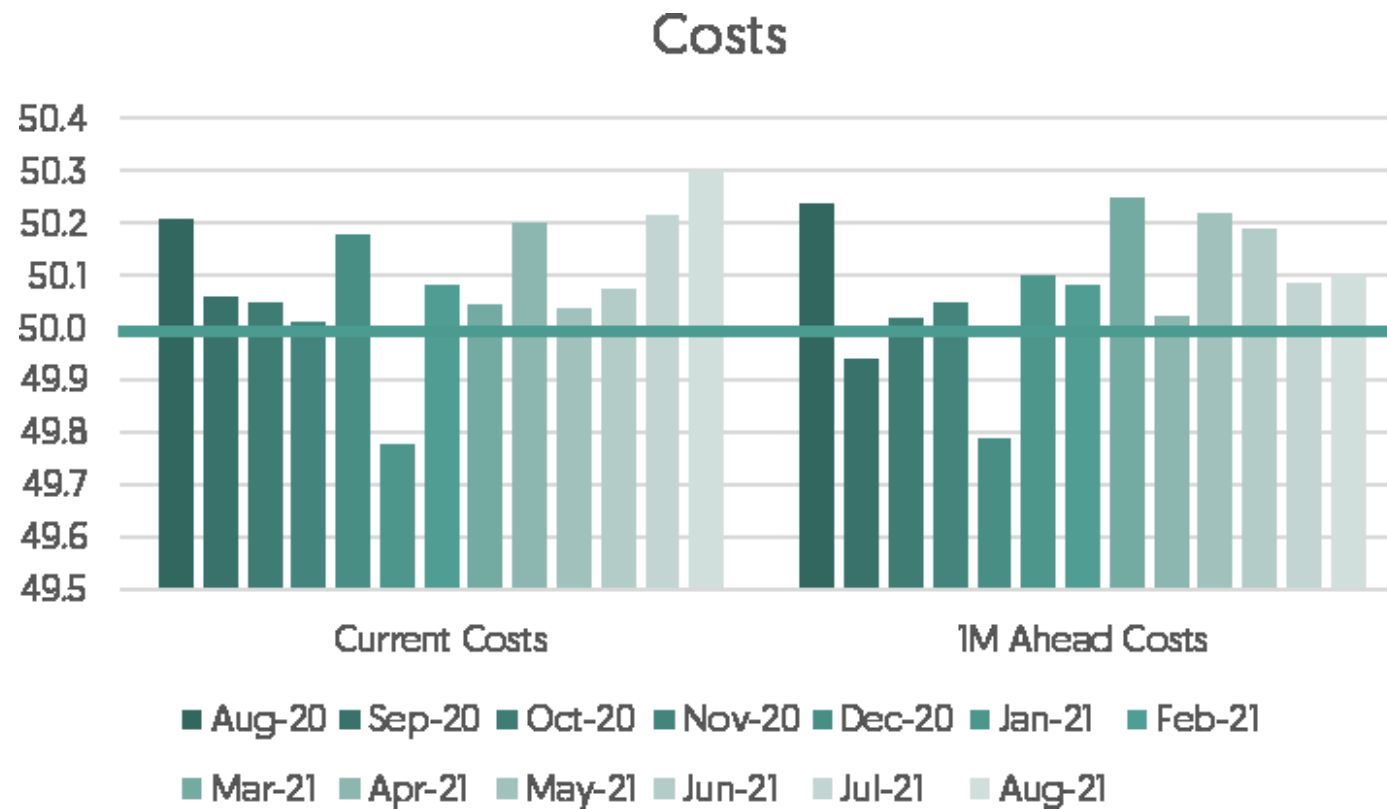
Chart 3: Employment



Note: For 1M Ahead Employment, the result compares expected employment in the next month compared to the current month.

For Employment sub-index, above 50 indicates expansion / optimism compared to the previous month. 50 indicates no change compared to the previous month while below 50 indicates contraction / less optimism compared to the previous month.

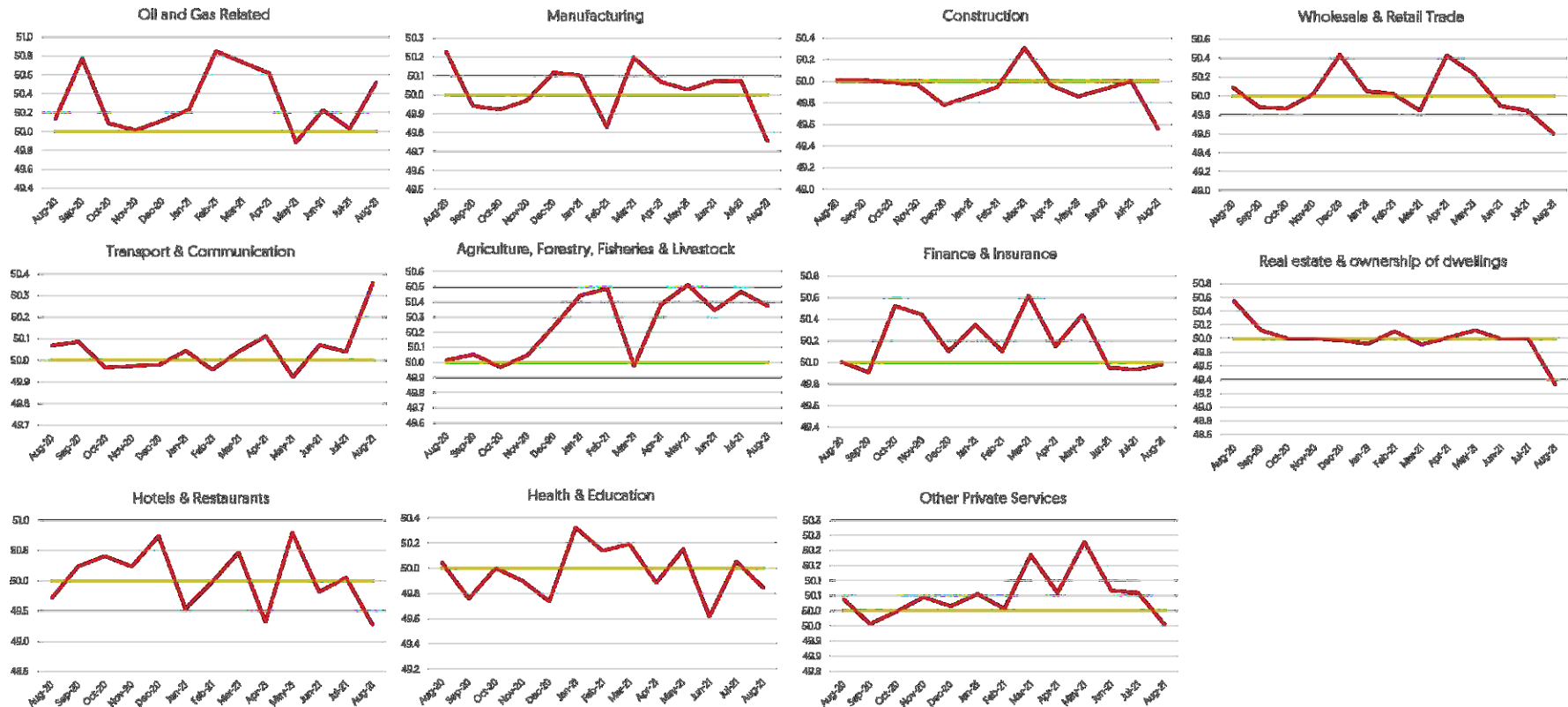
Chart 4: Costs



Note: For 1M Ahead Costs, the result compares expected costs in the next month compared to the current month.

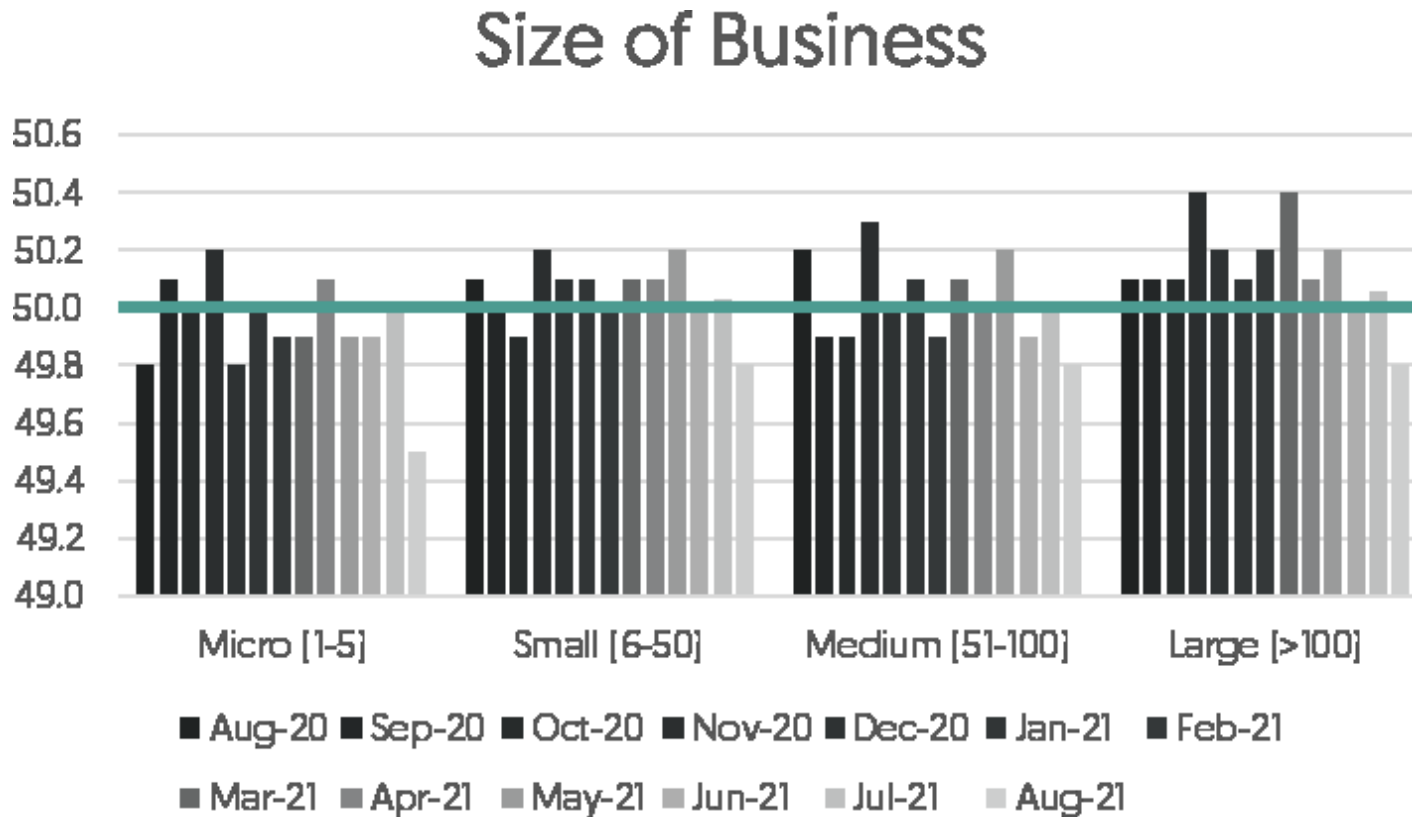
For Costs sub-index, above 50 indicates an increase in costs and conversely for below 50. Index of 50 indicates costs were more or less the same compared to previous month.

Chart 4: Current Conditions by Sector



Note: An index above 50 indicates expansion / optimism compared to the previous month. 50 indicates no change compared to the previous month while below 50 indicates contraction / less optimism compared to the previous month.

Chart 5: Current Conditions by Size of Business



Note: An index above 50 indicates expansion / optimism compared to the previous month. 50 indicates no change compared to the previous month while below 50 indicates contraction / less optimism compared to the previous month.

Developing the Residential Property Price Index for Brunei Darussalam

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Abstract

A country's residential property market is a key area of interest to the private sector, general public, and policymakers. The construction sector and relevant supporting services such as real estate, banking and legal generally obtain a significant amount of revenues from the domestic property market. In addition, home ownership by households is seen as a cultural norm for many countries as well as a part of the process of becoming an adult and starting a family. For policymakers, aside from the social implications of ensuring first-time homebuyers can get a foot on the property ladder, changes in the domestic residential property market have significant macroeconomic implications particularly in the case of a housing bubble.

This paper will explain the development of a Residential Property Price Index (RPPI) for Brunei Darussalam. RPPI is an index designed to measure the change in the average level of prices paid by households for residential properties. The RPPI is compiled from a variety of data sources. The principal data source is mortgage loans/financing transactions reported to Brunei Darussalam Central Bank (BDCB) by banks licensed in Brunei Darussalam. Thus, the RPPI computed for Brunei Darussalam excludes cash-based transactions, non-household transactions, the various Brunei Government national housing schemes and Brunei Government's/non-financial corporates' internal housing loan schemes for employees.

The data collected includes locational information such as kampong and mukim; property characteristics such as number of bedrooms and bathrooms, floor area and land size; mortgage loan/financing details; property type specified as detached, semi-detached, terrace, apartment or land; property identification details based on the plot number, lot number and EDR number. There are some data gaps from this data source.

To address data gaps in property characteristics such as the number of bedrooms and bathrooms, floor area and land size, these data are matched with the records kept by the Land Department, Ministry of Development and Authority for Building Control and Construction Industry, Ministry of

Development. Each property is identified based on the plot number, lot number and EDR number.to obtain the missing details for compilation.

The RPPI is computed using an 8-quarter rolling window hedonic regression model. A logarithmic-linear model is chosen to allow for non-linear trends in property prices. This methodology allows for the heterogeneous characteristics of individual properties to be accounted for when assessing pure price changes.

The RPPI is a project spearheaded by the BDCB which began in 2015 and concluded with the publication of the first official RPPI for Brunei Darussalam in July 2018. Quarterly data is available since 2015.

Keywords

Retail Property Price Index, economic indicator, Brunei Darussalam

[^] *Until 30 September 2021*

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Introduction

A country's residential property market is a key area of interest to the private sector, general public, and policymakers. The construction sector and relevant supporting services such as real estate, banking and legal generally obtain a significant amount of revenues from the domestic property market. In addition, home ownership by households is seen as a cultural norm for many countries as well as a part of the process of becoming an adult and starting a family. For policymakers, aside from the social implications of ensuring first-time homebuyers can get a foot on the property ladder, changes in the domestic residential property market have significant macroeconomic implications particularly in the case of a housing bubble.

This paper will explain the development of a Residential Property Price Index (RPPI) for Brunei Darussalam. RPPI is an index designed to measure the change in the average level of prices paid by households for residential properties. The RPPI computed for Brunei Darussalam excludes cash-based transactions, non-household transactions, the various Brunei Government national housing schemes and Brunei Government's/non-financial corporates' internal housing loan schemes for employees. The RPPI is a project by the Brunei Darussalam Central Bank (BDCB) with the assistance of Land Department, Ministry of Development (MoD) and the Authority for Building Control and Construction Industry (ABCI) under MoD. The RPPI project began in 2015 and concluded with the publication of the first official RPPI statistics for Brunei Darussalam in

2018. The RPPI is published on a quarterly basis.

The remainder of this introduction will set the context for why BDCB is and should be interested in developments in Brunei Darussalam's housing market. The collaboration with MoD is to leverage on their records to address data gaps in property characteristics.

BDCB, as the central bank and domestic financial regulator of Brunei Darussalam, has four main objectives as follows (Brunei Darussalam Central Bank Order, 2010):

- To achieve and maintain domestic price stability;
- To ensure the stability of the financial system, in particular by formulating financial regulations and prudential standards;
- To assist in the establishment and functioning of efficient payment systems and to oversee them; and
- To foster and develop a sound and progressive financial services sector.

The domestic property market has significant implications for the first two objectives, which will be elaborated in the next section.

Literature review

Macroeconomic Perspective

The housing market has significant importance for macroeconomic and price stability as it represents the largest highly leveraged investment decision that households make in their lifetime with housing wealth and the corresponding mortgage comprising a significant portion of household

balance sheets (Gerlach, 2012; Crowe, et al, 2014). There are two traditional theories of the transmission channel of monetary policy which influence the economy and inflation via the housing market:

1. Interest rate channel (Mishkin, 1995)

Monetary policy tightening \rightarrow Interest rates \uparrow
 \rightarrow Investment by firms and households (e.g. capital investment, house purchases, consumer durable expenditure) $\downarrow \rightarrow$ GDP $\downarrow \rightarrow$ Inflation \downarrow

2. Wealth effects on consumption (Modigliani, 1971)

Monetary policy tightening \rightarrow Interest rates \uparrow
 \rightarrow Price of assets (e.g. equity, houses) $\downarrow \rightarrow$ financial wealth $\downarrow \rightarrow$ GDP $\downarrow \rightarrow$ Inflation \downarrow

Thus, it can be seen that the housing market is seen as a key sector for monetary policy to influence household decisions in order to achieve some growth or inflation target. However, since the Global Financial Crisis (GFC), the financial stability perspective and its linkages to macroeconomic stability have taken center stage.

The general policymaker and academic consensus prior to the GFC was that housing booms and busts should be left alone, with policymakers only stepping in to “clean up” the economy after the market crashed (Crowe et al, 2014). In hindsight, we can all see the reality of the situation whereby a US housing market crash marked the onset of the GFC with global repercussions. A housing bust typically impacts the economy through a few sectors, notably construction, construction materials, mortgage lending, real estate sales, furniture, appliances and household goods (Thornton, 2009).

Analysis of 12 historical severe housing boom-bust episodes worldwide reveals that on average, in the three-year period after the peak of the housing market, house prices fall 25 percent and real GDP contracts by 6 percentage points (Crowe et al, 2014). This serves to further highlight the potentially damaging impact of a severe housing market crash. However, this is only considering the macroeconomic impact which based on historical evidence has led policymakers to believe the best course of action was to “clean up” after the housing bust. The next sub-section will examine the financial stability perspective and its linkages to macroeconomic stability which caused the shift in policymakers’ thinking.

Financial Stability Perspective

Banks are key players in a housing boom-bust cycle due to the use of mortgages by households to purchase homes. The issue arises when banks undertake rapid credit expansion to households with the properties as collateral during a housing boom stage (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). As long as house prices continue going up, there are no problems, but when house prices finally do crash and households default on mortgage payments, banks are faced with seizing illiquid real-estate that is rapidly losing value from bankrupt households (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). Banks, faced with regulatory and operational requirements to maintain sufficient levels of capital, attempt to sell off these bad assets but a mass sell-off during a housing bust triggers a “fire sale” (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009).

During the “fire sale”, all banks are trying to sell their bad assets at the same time leading to sharp falls in the prices of these assets which further worsens their capital position and gives further incentives to sell off these assets; this creates a perpetual loop which continuously worsens bank balance sheets (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). Simultaneously, non-performing loans would have risen leading banks to increase provisions and reduce incentives to undertake risky lending (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009).

Following from this, the banks’ lending capacity has diminished so they are unable to finance business activities, leading firms to face a drying up of credit (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). This in turn causes an economy-wide recession, particularly hitting the riskier borrowers of banks such as small and medium enterprises (SMEs) (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). However, the feedback loop continues with this recession further worsening the assets values in banks’ balance sheets and the loop continues resulting in a more severe recession. Financial crises of this type have historically been very damaging to the economy and post-crisis recovery is typically very sluggish due to the severe impact on banks’, households’ and firms’ balance sheets (Crowe et al, 2014; Gerlach, 2012; Thornton, 2009). This is evident by looking at the current macroeconomic environment whereby we are 8 years past the onset of the GFC but still in an economic recovery mindset.

The following sections will cover the data, methodology and results of the RPPI for Brunei Darussalam.

Methodology

Data

The RPPI is compiled from a variety of data sources. The principal data source is mortgage loans/financing transactions reported to BDCB by banks licensed in Brunei Darussalam. The data collected includes the purchase price of the property, locational information such as kampong and mukim; property characteristics such as number of bedrooms and bathrooms, floor area and land size; mortgage loan/financing details; property type specified as detached, semi-detached, terrace, apartment or land; property identification details based on the Plot No., Lot No. and EDR No. There are however, some data gaps from this data source.

To address data gaps in property characteristics such as the number of bedrooms and bathrooms, floor area and land size, these data are matched with the records kept by the Land Department and ABCi of MoD. Each property is uniquely identified based on the Plot No., Lot No. and EDR No. to obtain the missing details for compilation.

In order to illustrate the magnitude of the data gaps issue, prior to the matching procedure described above, for Q1 2015 until Q4 2016 only 284 observations were usable for the RPPI methodology chosen for Brunei Darussalam. Following the matching procedure, the number of usable observations increased to 533.

(Table 1 here)

Table 1 in the appendix details out the indicators used for main property

characteristics and their respective notations for subsequent equations in the methodology section. Additionally, a dummy variable (DUMPRIME) was created which includes Mukims approximately situated within Bandar Seri Begawan municipal area, Mukim Kuala Belait or Mukim Seria (with value 1 as "Prime" area while value of 0 for "Non-prime").

Methodology

Houses are intrinsically heterogeneous with characteristics that vary over time and between houses. In order to derive a pure price change with constant quality RPPI, four main methods are suggested in the literature (Eurostat, 2013):

- Stratification or mix adjustment - defines a number of homogeneous strata which proxies to control for a constant quality within that strata;
- Repeat sales – restricts price comparisons to houses that have been sold multiple times over the sample period;
- Assessment based methods – combines selling prices with periodic appraisals to compute price relatives (sales price appraisal ratios); and
- Hedonic regression – utilises information on relevant property characteristics to estimate quality adjusted price indices using regression techniques.

Due to the small market in Brunei Darussalam, where in the period 2015-2017 the average number of transactions reported was 378 per year, therefore some of the methods are immediately unsuitable for the country; namely stratification and repeat sales. There are also no periodic appraisals carried out in Brunei Darussalam by either the public or

private for all houses in the country so assessment based methodologies are unsuitable in developing a RPPI for Brunei Darussalam. Thus, the main methodology used is a hedonic regression.

There are two main methods of carrying out hedonic regression for RPPI (Eurostat, 2013):

- Time dummy variable method – a pooled time dummy regression is run for pooled sample data; and
- Characteristics prices and imputation methods – separate regressions are run for each time period.

The characteristics prices and imputation methods are unsuitable for use in Brunei Darussalam due to the small number of reported transactions. Thus, for Brunei Darussalam the methodology chosen for the RPPI is the hedonic regression using time dummy variable method with a rolling window approach.

A logarithmic-linear model is chosen to allow for non-linear trends in property prices, with a form as follows:

$$\ln p_t = \beta_0 + \sum_{i=1}^n \beta_i Z_{i,t} + \varepsilon_t$$

where:

- p_t is the property price
- $Z_{i,t}$ represents the set of property characteristics of which there are a total of n property characteristics
- β s are the coefficients and ε_t is the error term

Due to the sparseness of data, DUMMUKIM as well as DUMPROPTYPE for Land and Apartment were excluded from consideration as there were repeated

periods of low or no transactions. The remaining property characteristics were included for examination of whether they exhibited significant explanatory power in the hedonic regression. An 8-quarter rolling window was chosen to ensure enough observations in the hedonic regression. Two specifications of locational characteristics were examined; DUMDIST (to represent the district, that is, Brunei-Muara, Tutong, Belait and Temburong) compared to DUMPRIME.

(Table 2 here)

Three model specifications as indicated in Table 2 were initially tested using the first 8 quarters of the sample. The dependent variable is the natural logarithm of the property price to allow for non-linearities. The results of these model specifications are presented in Table 2. For brevity, the time variables are excluded in the table, although they were estimated.

(1) and (2) were full specifications of all relevant variables available with the difference being in the locational variable of DUMDIST compared to DUMPRIME. In specification (3), a number of variables are excluded for the reasons specified below:

- *DUMLANDTYPE* is excluded as the coefficient is insignificant and is of the wrong sign, that is, it implies lease properties have a premium over freehold. Also, there is a lack of transactions with strata titles.
- *DUMCONSTATUS* to represent the construction status of the property is excluded as the coefficients are insignificant.

- *LANDSIZE* is excluded as the coefficient is insignificant.
- *BATH* or the number of bathrooms, is excluded despite being significant as there are concerns of multicollinearity with *BED*, being the number of bedrooms as a house typically has bedrooms and bathrooms in a ratio.

DUMPRIME is chosen as the locational variable instead of *DUMDIST* due to issues in the lack of transactions for Temburong and allowing for more granular differentiation of different regions within a district. *DUMPROTYPE* and *DUMPRIME* are statistically insignificant but retained in the model as they are assumed to have explanatory power for the dependent variable which may be insignificant in this case due to outliers. The final model specification chosen of (3) is assessed to be parsimonious whilst maintaining key independent variables.

A shorter rolling window of 4 quarters was also tested but issues of lack of sufficient data for a reliable hedonic regression estimation arose. Thus, it was settled to proceed with a 8-quarter rolling window.

(Table 3 here)

Outliers are then excluded following Cook's Distance. This is to address properties with unusually low or high prices compared to their characteristics. Table 3 summarises the estimation results of model (3) under different Cook's Distance cutoff values. For brevity, the time variables are excluded in the table, although they were estimated. For reference, the initial sample size for model specification (3) without applying Cook's Distance is 533 observations.

It can be seen that excluding outliers via the Cook's Distance criterion results in DUMPROTYPE and DUMPRIME becoming statistically significant as initially assumed. A less stringent cutoff of $3/n$ resulted in a coefficient estimation with a relative magnitude different than expected. The coefficient estimate for DUMPROTYPE=2 (Semi-detached) is higher than the estimate for DUMPROTYPE=1 (Detached). The hedonic regression has already addressed other property characteristics that are pertinent to the dependent variable. A visual inspection of the raw data for the $3/n$ cutoff specification revealed transactions for Detached properties that appear to have an unusually low property price. More stringent cutoff values ($1/n$ and $2/n$) remove these transactions which resolves this issue. It is unknown why these transactions exhibited unusually low prices as the underlying reasons are subject to speculation. However, it was decided they likely are not reflective of the general market prices and the model proceeded with a Cook's Distance cutoff of $2/n$.

Analysis/Discussion

The inaugural RPPI for Brunei Darussalam was published by BDCB on 6 July 2018, with regular quarterly releases from then onwards. The index estimation of RPPI followed from the coefficient estimates of the time variables in the model which were incorporated as a dummy for each quarter. The chart below shows the official RPPI for Brunei Darussalam from Q1 2015 until Q1 2021.

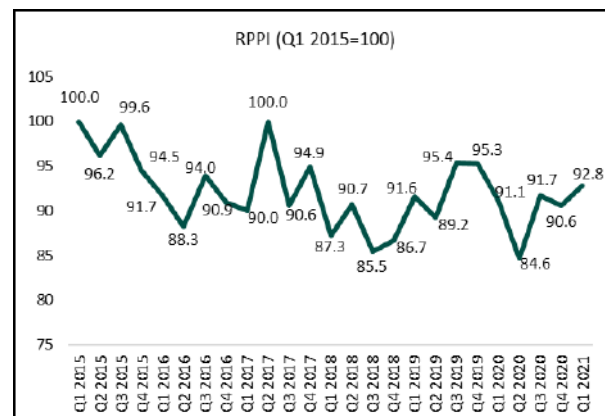


Figure 1: RPPI Q1 2015 – Q1 2021

Source: Brunei Darussalam Central Bank

The general residential property market appears to be in a downturn. Since earlier data is not available it is not clear when exactly the downturn began. Based on anecdotal evidence, there is a sense that the residential property market was in a downturn for a few years prior to 2015. Nevertheless, in terms of the number of transactions, the 4-quarter moving average shows that house purchases have picked up in recent quarters. Notably, there was a surge in the number of transactions in Q3 2020, likely due to consumers putting off their purchases during the first wave of COVID-19 in Brunei Darussalam to avoid physically going to bank branches.

In terms of number of transactions by property type, detached houses tend to be the most purchased property type followed by semi-detached and terrace houses (Figure 3).

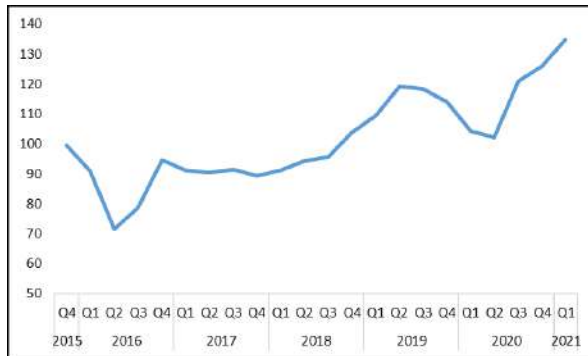


Figure 2: Number of Transactions (4-quarter moving average)

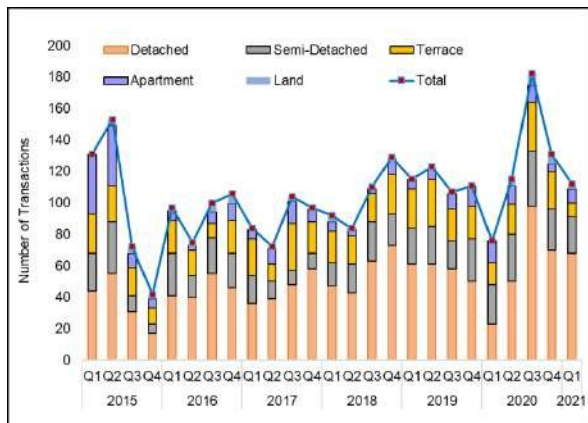


Figure 3: Number of Transactions by Property Type

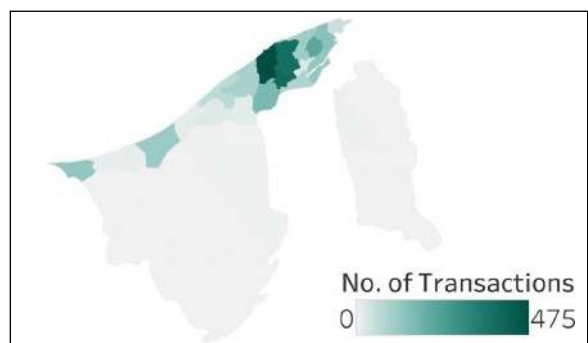


Figure 4: Heat Map for Number of Transactions by Mukim from Q1 2015 to Q1 2021

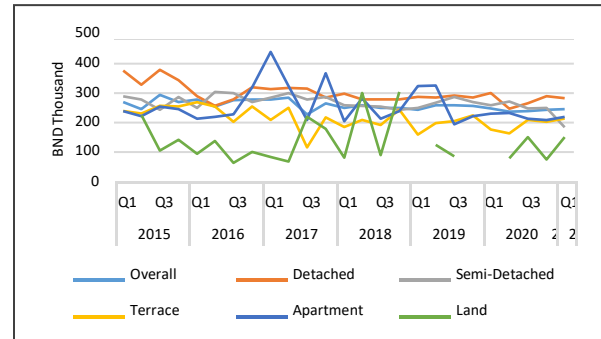


Figure 5: Median Purchase Prices

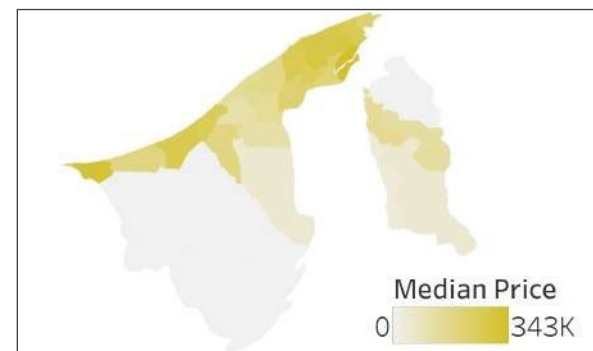


Figure 6: Heat map for property prices from Q1 2015 to Q1 2021

Figures 2-6 Source: Brunei Darussalam Central Bank

Naturally, the median purchase price of detached houses tends to be higher than for other property types and most transactions tend to be concentrated in the Brunei-Muara District.

In terms of demographics, most of house purchasers are between 28 to 38 years old (figure 7) and are Brunei citizens (figure 8).

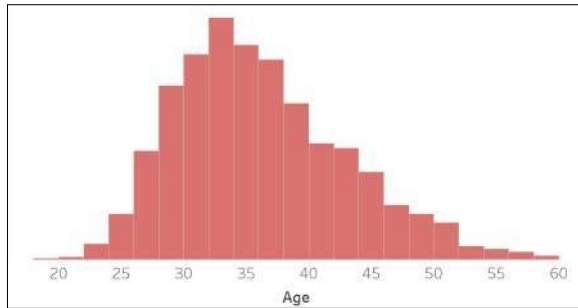


Figure 7: Histogram of Purchasers' Age from 2015 to Q1 2021

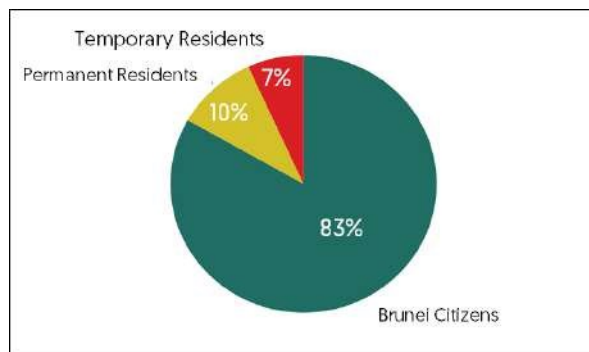


Figure 8: Pie Chart of Residential Status from Q1 2015 to Q1 2021

Figures 7-8 Source: Brunei Darussalam Central Bank

Conclusion

This paper has detailed the efforts made in developing the RPPI for Brunei Darussalam. It is hoped that this project will trigger additional interest in research relating to the residential property market, and lead to an overall better understanding of this market as well as its impact to the economy of Brunei Darussalam. BDCB will continue to explore further enhancements to the RPPI in order to improve the understanding of the residential property market. One key missing data source is cash purchases. A research could

be carried out to survey property developers to investigate the prevalence of such purchases. Another area of potential future research is the way that developers price their properties. This would allow for a more holistic view of the costs and risks faced by developers. Lastly, one topic with social and political interest is researching homeownership affordability in the country.

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Appendix

Table 1: Property characteristics and notations

Indicator	Notation
Purchase Price (BND)	PRICE
Property Type (Apartment/ Terrace/ Semi-Detached/ Detached/ Land)	DUMPROPTYPE (1 - Detached, 2 - Semi-detached, 3 -Terrace, 4 - Land, 5 - Apartment)
Land Type (Freehold/Lease/Strata Title)	DUMLANDTYPE (1 - Freehold, 2 - Lease, 3 - Strata Title)
Location (District)	DUMDIST (1 - Brunei Muara, 2 - Belait, 3 - Tutong, 4 - Temburong)
Location (Mukim)	DUMMUKIM (1 - Berakas A, 2 - Berakas B, 3 - Gadong, 4 - Kianggeh, 5 - Kilanas, 6 - Kota Batu, 7 - Lumapas, 8 - Mentiri, 9 - Pengkalan Batu, 10 - Sengkurong, 11 - Serasa, 12 - Keriam, 13 - Kiudang, 14 - Lamunin, 15 - Pekan Tutong, 16 - Rambai, 17 - Tanjong Maya, 18 - Telisai, 19 - Ukong, 20 - Bukit Sawat, 21 - Kuala Balai, 22 - Kuala Belait, 23 - Labi, 24 - Liang, 25 - Melilas, 26 - Seria, 27 - Sukang, 28 - Amo, 29 - Bangar, 30 - Batu Apoi, 31 - Bukok, 32 - Labu)
Construction Status (Proposed/ Under Construction/ Completed)	DUMCONSTATUS (1 - Completed, 2 - Under Construction, 3 - Proposed)
Land Size (Acres)	LANDSIZE

Built-up Area/Floor space (Square metre)	<i>FLOORAREA</i>
Bedrooms (Number)	<i>BED</i>
Bathrooms (Number)	<i>BATH</i>

Table 2: Model specifications and estimation results

Dependent Variable: log(<i>PRICE</i>) Sample: 2015Q1 2016Q4	Model Specifications		
	(1)	(2)	(3)
<i>Constant</i>	11.67215*** (0.084483)	11.62572*** (0.092980)	11.66474*** (0.092045)
<i>DUMPROPTYPE=1</i>	0.056031 (0.043797)	0.047464 (0.044698)	0.025907 (0.043281)
<i>DUMPROPTYPE=2</i>	0.093826* (0.047951)	0.094139* (0.049063)	0.063848 (0.047745)
<i>DUMLANDTYPE=2</i>	0.033931 (0.046782)	0.056734 (0.046799)	
<i>DUMLANDTYPE=3</i>	n.a.	n.a.	
<i>DUMCONSTATUS=2</i>	-0.013908 (0.036866)	-0.022756 (0.037683)	
<i>DUMCONSTATUS=3</i>	-0.016353 (0.049098)	-0.030700 (0.050172)	

<i>LANDSIZE</i>	-0.029052 (0.058340)	-0.027490 (0.059457)	
<i>FLOORAREA</i>	0.001035*** (0.000207)	0.001071*** (0.000212)	0.001459*** (0.000171)
<i>BED</i>	0.069157*** (0.020017)	0.067620*** (0.020423)	0.097058*** (0.018700)
<i>BATH</i>	0.063898*** (0.018470)	0.066180*** (0.018902)	
<i>DUMDIST=2</i>	0.065714 (0.099980)		
<i>DUMDIST=3</i>	-0.485386*** (0.094697)		
<i>DUMDIST=4</i>	n.a.		
<i>DUMPRIME=1</i>		0.049718 (0.042716)	0.049749 (0.042615)
R-squared	0.351356	0.318962	0.300866
Standard error of regression	0.365118	0.373755	0.374855

Note: Standard errors of coefficients are provided in brackets. * denotes a coefficient is significant at 10% level, ** denotes a coefficient is significant at 5% level and *** denotes a coefficient is significant at 1% level.

Table 3: Estimation results of model (3) under different Cook's Distance cutoff values

Dependent Variable: log(<i>PRICE</i>) Sample: 2015Q1 2016Q4	Cook's Distance Cutoff		
	1/n	2/n	3/n
<i>Constant</i>	11.65471*** (0.054923)	11.56355*** (0.056867)	11.55081*** (0.070008)
<i>DUMPROTOTYPE=1</i>	0.124880*** (0.023461)	0.152539*** (0.026338)	0.090427*** (0.030595)
<i>DUMPROTOTYPE=2</i>	0.110833*** (0.024506)	0.118943*** (0.02762)	0.100996*** (0.032974)
<i>FLOORAREA</i>	0.001779*** (0.000134)	0.00172*** (0.000147)	0.001927*** (0.000166)
<i>BED</i>	0.074102*** (0.013303)	0.087391*** (0.014037)	0.098898*** (0.016061)
<i>DUMPRIME=1</i>	0.083186*** (0.023734)	0.161299*** (0.025358)	0.075055** (0.029827)
R-squared	0.593454	0.587213	0.493103
Standard error of regression	0.179326	0.208214	0.251831
Sample size	416	461	489

Note: Standard errors of coefficients are provided in brackets. * denotes a coefficient is significant at 10% level, ** denotes a coefficient is significant at 5% level and *** denotes a coefficient is significant at 1% level.

Market Timing Skills of ESG Equity Funds in Asia

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Abstract

Environmental, Social and Governance (ESG) equity investing is a fast-growing field in Asia as nations are increasingly placing sustainability as a key priority and investors are becoming more aware of their responsibilities in mitigating sustainability risks. ESG investments are slightly different from conventional investments because of the added layer of ESG screening and integration into the investment process to build and manage an ESG-compliant equity portfolio. Similar to conventional investments, any excess performance of ESG equity funds over a benchmark can be attributed to either stock selection or market timing skills of the managers. Market timing skills are derived from rebalancing stock allocations in anticipation of price movements of either the individual stocks or the general market.

This paper will measure the market timing skills of existing ESG equity managers in Asia based on two prevalent models for measuring market timing skills developed by Treynor & Mazuy (1966) and Henriksson & Merton (1981). Although ESG equity funds in Asia are relatively young compared to the U.S. and Europe, the data collected include daily Net Asset Values (NAVs) and returns of a sample of ESG equity funds in Asian countries based on the classification on Bloomberg and for the corresponding benchmarks. The funds can be further split into domestic and global equity strategies depending on the geographical focus of the respective funds. The study found no evidence of market timing skills in the selected actively managed ESG equity funds in Asia.

Keywords

ESG equity funds, Asia, market timing skills, performance

Introduction

Environmental, Social and Governance (ESG) investing, also known as sustainable investing, socially responsible investing, impact investing, generally refers to the incorporation of ESG factors such as climate change risk, community engagement, business ethics, and gender equality into investment processes and strategies. Presently, there is no global standard definition of ESG Investing however, there exists a global network of investors called United Nations Principles for Responsible Investors (UNPRI) that outlines 6 principles that the signatories could adopt into their investment practices (UNPRI, 2021):

Principle	Description
1	We will incorporate ESG issues into investment analysis and decision-making processes.
2	We will be active owners and incorporate ESG issues into our ownership policies and practices.
3	We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4	We will promote acceptance and implementation of the Principles within the investment industry.
5	We will work together to enhance our effectiveness in implementing the Principles.
6	We will each report on our activities and progress towards implementing the Principles.

UNPRI was established in 2006 with a handful of founding signatories and today, there are more than 3500 signatories in more than 60 countries with approximately US\$121.3 trillion of assets under management (UNPRI, 2021).

The increase in the number of signatories reflects the increasing interest and commitment from investors and asset managers alike in combatting global sustainability issues through ESG investing. This is also evidenced by the record inflow into ESG funds in Q1 2021 of US\$185 billion, which is a growth of 17% q-o-q (Reuters, 2021).

Europe has been at the forefront of ESG investing, with more than 3500 funds domiciled in Europe, making up 76% of the sustainable funds universe in Q2 2021. In comparison, Asia including Japan, had approximately 490 funds domiciled in the region, which made up only 9% of the total sustainable funds universe in the same quarter (Morningstar Manager Research, 2021). This shows that ESG investing in Asia remains nascent although several countries such as Malaysia, Singapore and Indonesia have recently undertaken several initiatives to grow ESG investing in their respective jurisdictions. For example, the Monetary Authority of Singapore (MAS) announced in June 2021 that it would be deploying US\$1.8 billion into new climate-focused equity and fixed income mandates, which will be managed by 5 asset managers under their Green Investments Programme (GIP) (MAS, 2021). Among the asset classes, Asia including Japan has seen consistent positive inflow into ESG equity funds since Q4 2020 (Morningstar Manager Research, 2021).

In managing ESG equity funds, the UNPRI recommends investment managers to

integrate ESG into their decisions and processes in 4 stages (UNPRI, 2016):

1. Qualitative analysis to identify the material factors affecting a particular company through multiple sources such as the company strategy.
2. Quantitative analysis to assess the impact of the factors on the securities in the equity portfolio or fund through financial forecasting and modelling.
3. Investment decision whereby the manager needs to decide whetherto increase, decrease or maintain the weightage of each security in assessment.
4. Active ownership assessment through company engagement and voting.

This paper specifically examines the market timing skills of 19 actively-managed ESG funds in Asia. Similar to conventional equity funds, there are two different styles of equity investing in sustainable equity funds: passive and active. A passive sustainable equity fund typically involves a buy-and-hold strategy such as index investing, whereby the investment strategy is to replicate a specific benchmark or index. In contrast, an active sustainable equity fund would involve taking advantage of market inefficiencies such as finding mispriced stocks (stock selection skills) and anticipating the market movements (market timing skills). To illustrate market timing skills, if the manager expects the general market to fall, then the manager would adjust their portfolio or fund to shield itself from losses. If the manager's prediction is correct, the portfolio would do better than the market.

Literature review

One of the pioneering studies on market timing skills was done by Treynor and Mazuy (1966) where they analysed the market timing skills of 57 open-end mutual funds in the United States. According to the authors, a fund that would consistently outguess the market would generate the following results in Figure 1 and a fund that would outguess the market with better-than-average success would generate the following results in Figure 2:

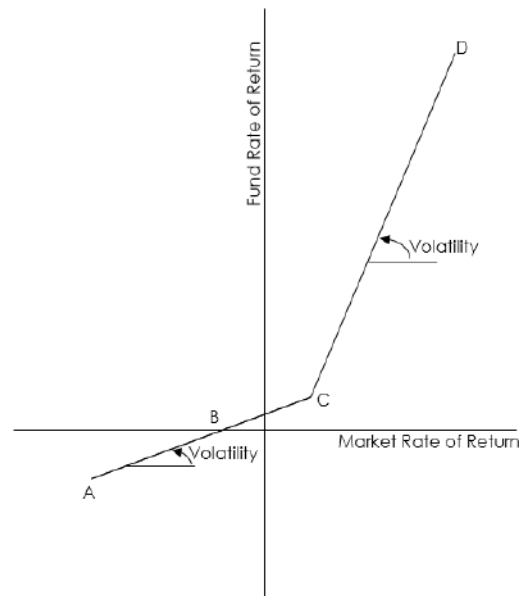


Figure 1: Graphical representation of a fund that would consistently outguess the market (Source: Treynor and Mazuy, 1966)

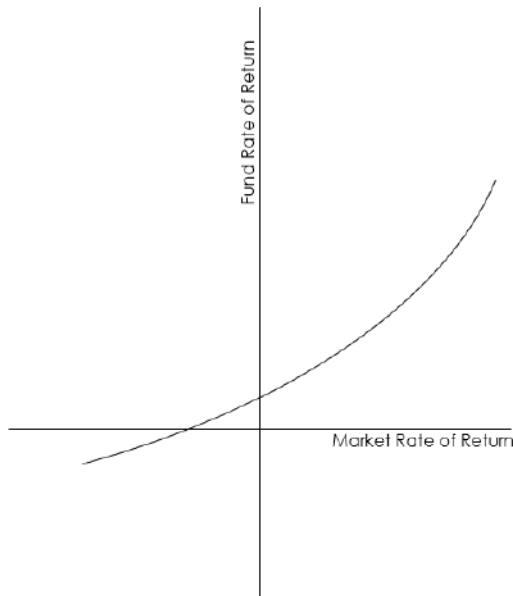


Figure 2: Graphical representation of a fund that would outguess the market with better-than-average success (Source: Treynor and Mazuy, 1966)

In the same study, Treynor and Mazuy (1966) concluded that they found no evidence that the managers of these mutual funds were able to correctly predict the market movements. The approach undertaken by the authors would later be widely used to assess market timing skills across different equity themes and strategies together with the statistical procedures derived by Henriksson and Merton (1981) (see **Methods**).

For example, outside the United States, Oliveira, Salen, Curto, and Ferreira (2019) assessed 163 actively managed European equity mutual funds and found no evidence that these managers had market timing abilities to generate superior returns. Škrinjarčić (2013) also applied methods described in Treynor and Mazuy (1966) and Henriksson and Merton (2013) to assess the market timing ability of 10 Croatian funds and

expectedly, the results indicated a lack of market timing ability in these funds.

In Asia, Rijwani (2014) used the data between 2003 and 2013 to assess two dimensions of investment performance of Indian funds, namely the stock selection ability using Fama's Selectivity measure and market timing ability using Treynor and Mazuy (1966) and Henriksson and Merton (1981). Their findings have shown that the mutual fund managers have not been able to demonstrate consistent superior stock selection ability and generate market timing ability over the 10-year period.

In the ESG space, there are not many available studies to measure the market timing skills of ESG funds. One notable study by Ang, Gregoriou and Lean (2014) assessed the market timing skills of 748 SRI funds based in North America and Europe. Their findings have interestingly shown that there were market timing skills in the funds from both regions.

To date, there are no existing published studies on ESG fund performance in Asia specific to market timing skills.

Methods

This paper studied 19 ESG funds in 6 different countries namely India (4), Indonesia (2), Japan (1), Malaysia (9), Philippines (2) and Thailand (1). Although there are other countries with significantly more ESG funds such as Japan, South Korea and China, data on these funds are difficult to obtain. In choosing the funds, feeder funds have also been excluded as they are linked to the master funds, which are typically managed by an external manager based in other jurisdictions. The funds under assessment can

also be divided into domestic (10) and global (9) strategies. Domestic strategy refers to sole investment in the domestic stock market and global strategy refers to diversification across different stock markets. Furthermore, even though all the funds are considered as ESG-

compliant, they may have different focuses such as carbon efficiency, Syariah compliance and social impact.

The monthly gross Net Asset Values (NAVs)

(including dividends) of these funds were extracted from Bloomberg for the time period between August 2018 and July 2021 since most of the ESG funds were relatively young with inception dates after 2018. To complete the calculations, monthly gross values of each strategy's comparable ESG equity index from the same time period were also extracted as benchmarks from Bloomberg excluding Philippines' strategy because the development of ESG index for Philippines is still underway (Business Inquirer, 2021). In lieu of this benchmark, the Philippines' conventional stock index has been used for comparison.

The monthly returns for the funds and the corresponding benchmarks were calculated using the following formula:

$$r_{p,t} = \frac{NAV_{p,t} - NAV_{p,t-1}}{NAV_{p,t-1}} \quad (1)$$

(Source: Calculations are author's own)

where:

$r_{p,t}$: the gross return of the fund in month t

$NAV_{p,t}$: the gross NAV (including dividends) at the end of month t

$NAV_{p,t-1}$: the gross NAV (including dividends) at the end of month $t-1$

The monthly returns were then used in the following model that transpired from the graphical representations constructed by Treynor and Mazuy (1966):

$$r_{p,t} - r_{f,t} = \alpha_p + \beta_1(r_{b,p,t} - r_{f,t}) + \beta_2(r_{b,p,t} - r_{f,t})^2 + \varepsilon_{pt} \quad (2)$$

where:

$r_{p,t} - r_{f,t}$: the excess return between the fund and the risk-free rate in month t

$r_{b,p,t} - r_{f,t}$: the excess return between the designated benchmark for the fund and the risk-free rate in month t

β_2 : the co-efficient that measures the market timing ability of the manager of the fund.

The same data were also used in the following model as constructed by Henriksson and Merton (1981):

$$r_{p,t} = \alpha_p + \beta_1(r_{b,p,t} - r_{f,t}) + \beta_2 \max(r_{b,p,t} - r_{f,t}) + \varepsilon_{p,t} \quad (3)$$

In both models, the null hypothesis is that $\beta_2 = 0$ which means that the manager has no market timing ability. A significant and positive β_2 would imply that the fund

manager has had successful market timing ability.

Analysis

Using the first model by Treynor and Mazuy (1966), 14 of the funds in assessment indicated positive β_2 , out of which 9 are global strategies and 5 are domestic strategies. Among the domestic strategies, there are 2 Indian strategies, 1 Malaysian strategy, 1 Indonesian strategy and 1

Thailand strategy. However, upon testing of the null hypothesis, none of the positive β_2 coefficients were considered significant.

In the second model by Henriksson and Merton (1981), 13 of the funds in assessment generated positive β_2 , out of which 8 are global strategies and 5 are domestic strategies. The composition of the domestic strategies is similar to the results from the first model, whereby there are 2 Indian strategies, 1 Indonesian strategy, 1 Malaysian strategy and 1 Thailand strategy. Interestingly, upon testing of the null hypothesis, only 1 global strategy generated significant and positive β_2 .

Conclusion

The empirical results have shown that there is no evidence of market timing ability in the selected actively-managed ESG funds in Asia. This finding is aligned with other market timing studies in conventional equity strategies across different regions. Regardless, this study has some limitations. The first limitation is the potential inconsistency between the ESG funds and their corresponding benchmarks because each fund might have a different ESG focus compared to the benchmark. Secondly, the ESG equity space is growing fast but it is still nascent in nature, therefore some of the funds had lower number of data points compared to the others. Hopefully, this paper will pave way for a more detailed market timing analysis with longer time period in the Asian ESG equity space.

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Factors of Business-to-Business Success of Thai for Healthy Rice Industry

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Abstract

Today's business is fiercely competitive. Running a successful business and complete advantage over competitors. It is indeed a channel for trading goods and services. Driving the country's economy as well make many businesses. Strategy must be adjusted. To create opportunities and expanding trade channels. The objectives of this research to study factors related to business success and develop business-to-business trading guidelines Thai Health of Rice Industry, with documentary research studies, literature review methods, and reporting. An analytical descriptive model uses studies from secondary sources, by the study to collect data from documents and searches using online databases. To select the factors that make the business successful. Find the variables that influence until the result is a conceptual framework. Consisting of adaptive learning, business networking, entrepreneurs core competencies, brand image building, customer relationship management, quality management and build relationships to create competitive advantages lead to business success. Which will be used as information continue in business development.

Keywords: *Business Success, Thai for Healthy Rice, Business to Business*

Introduction

Consumer behavior changes As a consumer 4.0, the focus is on outcomes in purchasing products. Which will choose to buy valuable items that are worth the investment and that will appeal to customers. Need entrepreneurs who are ready to help at all times real time, especially social media that can be used to find knowledge and advice. (Seree Wongmontha and Chusana Techkana, 2017), coupled with online trading and marketing in the Covid-19 or New Normal era. Travel out of the house Working style Work from House must stay at home. In addition, there are currently users Internet more than 47.5 million people. Making E-Commerce business in 2019 with a market value of 4,027,277 million baht No. 1 B2B business with a value of 1,910,754.36 million baht, followed by B2C business with a market value of 1,497,193.15 million Baht (Electronic Transaction Development Agency, 2020)

The attractiveness of the E-Commerce market, business-to-business (B2B) is characterized by purchasing volumes a lot. Purchasing is more logical and rational than B2C makes this market attractive. And it's very interesting to learn. Treats very specific marketing. The former will use the tools of Trade Show, Boucher and Sales.

Marketing (MarketingOpp, 2015) transforms consumers trust social media and gains support, from more organizations (Foux, 2006) and can create attitudes Creating word-of-mouth marketing (WOM) and creating high performance competitive advantages. (Trusov, M, Bucktin, R & Pauwels, K, 2009). This marketing focuses on the relationship between buyers and sellers. (Hakansson, H. & Snehota, I. (Eds.), 1995) customers and performance requirements. Quality management that is different than B2C (Wedel, M., & Kannan, P. K, 2016) in order for the business to survive. and can compete with competitors. Therefore, the business itself has to be adjusted.

which quality management It is one of the important strategies to create an advantage and make the business suffer achievements (Al-Damen, 2017)

Thai farmers in the healthy rice market It has to be very adaptable to the changes that occur. (ETDA, 2020), so will focus on communicating with a large number of people. This is to be able to break the cycle of middlemen out of the supply chain. It also helps expand the market. Make entrepreneurs aware of the market needs and access close to the customer. Nowadays, many merchants are turning to use this channel more, due to easy marketing. But resulting in income, thus causing more and more intense competition. (Wiwattananukul, 2021) More than percent of the population of Thailand

80 of the population in the country is a farmer and growing rice is the number one country in the country. make Thailand breed Rice is known all over the world. Especially jasmine rice, in addition, Thailand also has famous (local) rice varieties. Many varieties include Sangyod rice, Chom Thung rice, Lum Pua rice, etc., which are rice varieties with high nutritional value. a rice variety Indigenous dominant in nutrition Answer the question of health lovers is a domestic trade (Kittipong, 2015) and (Pintobtang, 2020)

Coupled with the current consumer behavior turn to pay attention take care of your health more have high market value over 140,000 million baht, (Kasikorn Bank, 2017) by choosing good food, especially " *Rice for Health*" is a niche market. can be divided into 3 groups 1) organic rice group rice obtained from the production without using All kinds of chemicals 2) Highly nutritious rice group 3) Geographically identified rice Wisdom that has been passed down from generation to generation geographical indication of rice. (Rice Department, 2017) but from the survey of consumers choosing to consume white rice / refined rice

More than the consumption of unpolished or brown rice. What consumers love is the texture of rice and the softness of rice. First of all, the aroma of rice, good for health, pot cooking as well as rice flavor and stickiness. of rice, respectively (Center for Agricultural Economic Research and Forecast, 2017) business success It is important to lead to growth, to gain a reputation, make business sustainable Create satisfaction for customers. (Bunnoon & Ussahawanitchakit, 2012) Especially now that there is a higher competition in doing business. To be successful there must be many components. On the other hand, farmers will have the power to negotiate through network building, with increasing knowledge of the network. Lack of cooperation, production planning, marketing, distribution channels, business quality management. Agriculture, various management, lack of bargaining power, etc. (Naphathawee Boonyarat. Sawanya Tham Apiphon, 2017) Farmer's problem coupled with little knowledge Lack of personnel management skills in production to the fullest and the problem of middlemen (Nattaset Namkham and Sorachai Booncharoen, 2017) The quantity of seasonal produce makes oversupply as a result, the price of agricultural products fell. There are problems with retention, adding value, organizing channels, Product Quality Management and lack of marketing insights (Nattawut Chiangpetch and Nantaphon KanJanawat, 2019) and including the production of good quality agricultural products. (Ruthaichanok Jangchit, 2013) In addition, the government has approaches to focus on agricultural production of agricultural products freely There is no control over quantity, quality and cost. produce, farmers need large quantities of produce therefore turned to use chemicals in order to produce large quantities of produce. Farmers also need relying on large government and private market management mechanisms. Therefore, small farmers do not

have the potential to develop their own channels. and unable to access a fair marketing channel system. However, another problem Marketing communication that meets the target audience and the right channels from the problem. As such, farmers have to adjust. in order to survive and be able to upgrade the way of production of the agricultural system that has sustainable quality seriously. (Nanta, 2019) and business success depends on a variety of factors in order to successful trading business from that reason Interestingly, this research studied the success factor components. Between business and business of the Thai healthy rice industry to study the components of success factors and be developing guidelines for quality management to create a competitive advantage for the healthy rice business as an alternative and more channels for doing business

research objectives

1. To study the factors related to success between business and business of the rice industry for Thai health
2. To develop business-to-business success guidelines for the Thai healthy rice industry

Literature review

Adaptive Learning Concepts of Entrepreneurs

Adaptive learning means learning that can be tailored to the business. and different skill levels It is the application of experience to the action to learn in the future Marquardt (1996) said that the organization of learning is to learn people in the organization as a network to create an intellectual concept of work. This makes organizations need to be flexible. and adjust to produce results in order to A business can survive which benefits the organization (Argyris, 1990). According to Roy's Theory of Adaptation (2009), every human being has an adaptive system. to the environment inside and out and outside to match the changing environment, things that come into life This is

caused by thoughts, feelings experience with systematic holistic adaptation As a result, it manifests itself as a dividing adaptive behavior. Out of 4 sides Physiologic mode , Self-concept mode , Role function mode and Interdependence mode. The effect of adaptation is both an effective adaptation and an ineffective adaptation. If Individuals have adaptive behaviors. can solve various problems that will affect the life and business

The concept of creating a business network (Business Network)

Lin, CY-Y., & Zhang, J.(2005) defined a business network as the process of creating Business relationships that occur in more than one network between business and business considered to be important and Cooperation between entrepreneurs and related businesses with the same interests (Street, CT. & Cameron, Ann- Frances, 2007) (Tajeddini, Martin & Ali E., 2020). This helps businesses or entrepreneurs benefit in Expanding business networks, reducing costs, and building better relationships with customers (Sylvie Chettya,, Desiree Blankenburg Holm, 2004) is a systematic and continuous link. with various activities to exchange learn to adapt to fit into a new lifestyle with intense competition However, doing business is considered networking as a tool. that have been used for a longtime and have both formal and informal relationships (Danis, WM; Chiaburu, DS and Lyles, MA , 2006) business networking It is for many businesses to come together. It is a link between a group of people or an organization. together voluntarily are independent of each other and equal Currently, Thailand has adopted Integrate groups or network forms for more business operations. Due to the support of the government caused Development cooperation (Naude, P., Zaefarian, G., Najari-Tavani, Z., Neghabi, S., & Zaefarian, R., 2014) to promote strength Small businesses, in particular, can attract investors. both in the form of creating

Collectively, it can be regarded as a strategy to strengthen the health of rice in Thailand. are grouped in the for Communityenterprises are creative. and product design from the extension of the concept It also makes the community know how to use local resources with self-reliance, family, and community, which between communities is to build confidence in the long term long (Nonthaburi Provincial Agricultural Extension Office, 2019). Building a network generates six factors of motivation (Farinda, AG, Kamarulzaman, Y.. Abdullah, A., & Ahmad, SZ, 2009), including 1. Necessity, the sharing of information to exchange information between each other increase income and reduce Conflict (Borch, OJ and Arthur, MB, 1995)2. Asymmetry, the creation of a network business is the coexistence of the network. Which party will exercise power or control? The other party may deprive the other party of the freedom to use resources (Oliver, 1990). 3. Reciprocity Collaborative Benefit Model for businesses to achieve common goals 4. Efficiency focuses on improving information through business networks. to increase knowledge, efficiency and increased returns from accessing that network's resources (Ebers, 1997). 5. Stability of Network is the cooperation in the business network by doing activities. Branding Together, collaboration, research and production provide a competitive advantage (Ebers, 1997). 6. Legitimacy is to build reputation. business image to have a unique identity competitive advantage

Therefore, the researcher is interested in building a business network or grouping. that focus on self-reliance exchange information live between groups to know how to use local resources for value and promote bargaining power to the business, to meet the needs and to increase the distribution channels in the present and in the future.

Entrepreneur's Core Competency Concept

Richard Boyatzis in 1982 was the first to give the concept of "competence" in the field of

management. Human resources has written a book on this subject "The competent manager: model of effective performance" (Richard E., 1982), where the term "performance" refers to the overlapping personality of the individual purposeful behavior that is a factor in the work relating to knowledge, abilities, skills and potential can empower the organization (McClelland, 1973). Various risks (Frese, 2000) for profit. and take advantage of the resources of the business (Norman M. Scarborough, Thomas W. Zimmerer, 2003) Emphasis on Valuable Creativity. which is different in each business for the target group to be satisfied (Hisrich, 2007). is considered a feature in each the person of the entrepreneur can make predictions that affect business success. (Li, YH, JW Huang, & M.T. Tsai., 2009) (Ahmad, 2007) The composition of entrepreneurial competency is based on McClelland's concept (1973) which can be divided into 5 aspects: 1) Knowledge 2) Skill 3) Self- Concept 4) trait) 5) Motives (McClelland, 1973). Scott B. Parry also embodies the concept of performance. Divided into 3 areas 1) Knowledge 2) Skills 3) and Attributes (Parry,1998) (Spencer, LM & Spencer, MS, 1993). The Boyatzis (1982) concept discusses the form of competency has 5 components: 1) Motives 2) Traits 3) Self-image 4) Social Role 5) Skill (Boyatzis, 1982) From the literature review, the researcher concluded that Entrepreneur's core competencies necessities to make successful in many areas of work and have a successful performance Not only intellectually, which must be competent to work and is considered a basic standard This can be divided into 2 aspects. 1) Visual performance. clearly include knowledge (Knowledge), skill (Skill) and 2) competencies that must be observed, namely, thinking. about oneself (Self-Concept) Personal traits (traits) Motives (Motives) (Spencer, LM & Spencer, MS, 1993)

Concepts and theories about brand image

Kotler (2000) said that the image (Image) refers to the image that arises from perception. This is holistic and exists in the minds of consumers to induce a person's beliefs, thoughts, experiences, towards something (Kotler, 2000). (Anderson & G., 1986) (Randall, 2000) The provision of services received or information through various channels can be either perceived or perceived, rational and emotional to create awareness to the target group. Brand image is a communication activity by an organization that makes consumers understand and Brand perception (Janosnis, Vytautas and Virvilaitė, Regina, 2007), which is positively linked about the brand makes consumers remember. Having good memories is often the information that is conveyed from the product, the organization. Word of mouth usually consists of 5 elements: 1) Origin of the product (Country of Origin) 2) Organization (Organization) 3) Product (Product) 4) Things created to create a brand image (Brand Effect) 5) Product personality (Brand Personality) in creating an image image must create a clear personality, for the target audience to remember the brand The complete image must have 3 components: 1) Strength. Brand (Strength of Brand) 2) Brand liking (Favorability of Brand) 3) Brand identity product (Uniqueness of Brand) (Keller, 2008) Image is important to a product. from communication, resulting in knowledge and understanding from that communication, which These things that make customers remember. It's what the customer expects and chooses that brand. In addition, the relay customers experience. The brand's directness through word of mouth (Keller K., 2003) is what customers think of before their competitors. It is considered a factor that generates revenue and brand success. Create a competitive advantage (Lindstrom, 2006)

Customer relationship management concept

Customer Relationship Management is an important market strategy, and is a process for managing individual customer management (Kotler & Armstrong, 2013) so that customers are interested and impressed with the product. due to intense competition usurp customers Therefore, the operator Must try to find something that attracts customers to buy continuously. which has been said by scholars that customer management relationships are what build good relationships between customers and entrepreneurs. Satisfied. Tell. Repeat. Buy again, and loyalty (Keramati Mehrabi & Mojir, 2010) The concept of customer relationship management of Lawson-Body and Limayem (2004) talks about component

1) Customer Prospecting is data collection. survey to prepare products and attract customers 2) Relationships with Customers are channel creation communication with customers to make customers feel taken care of; 3) communication between each other (Interactive Management) contact, link and exchange information between customers and the organization 4) understanding of the customer expectations (Understanding Customer Expectations) Knowledge Creation with what is expected and customer's need for the best service. 5) Empowerment (Empowerment) promotion process and Rewarding employees for initiating and contributing to customer solutions. 6) Partnerships. (Partnerships) 7) Personalization (Personalization) is the preparation of special products especially for customers. So that customers can stay with us forever (Lawson-Body & Limayem, 2004) From the study of customer relationship management It is a tool that leads to business success. Behavioral of customers to create value for the product customer demand to make customers satisfied Helping to provide better customer service. It is to build long-term relationship with customers.

Concept of Quality Management (Total Quality Management)

quality management It is a concept or approach to dealing with the techniques used. by improving organizational effectiveness (Oakland, 1989), both personnel and internal performance (Rahman, 2004), to meet customer needs and create customer satisfaction (Kaynak, 2003) (Kreitner R., Kinicki A., 1995) By continually improving products and services and engaging employees. which innovative method (Logothetis, 1992) Quality Management Objectives in order to reduce costs and increase quality (Gharakhani, D., Rahmati, H., Farrokhi, MR, & Farahmandian, A., 2013), of which there are three predominant philosophies in quality management. Philosophy Customer focus (employee-driven) and continuous Improvement (Tenner, AR, Detoro, L, J., 1992). Quality management is essential to business success (Parul, K & Rubal, K, 2016). Success (Akhtat, S., zameer, H. & Saeed, R, 2014) is the improvement of organizational efficiency with Performance in Finance (Khurshid, M, Amin, M., AL-ALLI, L. & AL-AALI, G, 2018). Implement quality and innovation (Sudikoglu, 2008), which is very popular in corporate management. (Gharakhani, D., Rahmati, H., Farrokhi, M. & Farahmandian, A, 2013) Quality management is very popular with academics. to use as a guideline for organizational management; and It examines the relationship between quality management and performance efficiency. The researcher has done Literature review can be concluded that Quality management is the collaboration of people in an organization with a focus. Respond to provide quality rice and gain satisfaction from customers. especially the presentation of products between businesses and business to Business (B2B) to lead the process improvement. It consists of 5 aspects: 1. Customer focus The process that needs to meet the needs of customers.

It is a management focusing on customers or consumers. by creating customer satisfaction or according to customer needs (Prajogo, D. I, & Sohal, A, S., 2006) and (Nekoueizadh, S. & Esmaeili, S, 2013), both external customers, which are judging the goods or services is good, quality and internal customers. people in the organization Must make customers to be satisfied maximum (Tenner, AR, and Detoro, IJ , 1992) 2. Leadership Support The management has the goal of providing emphasis on quality management with participation in quality improvement (Akhtat, S., Zameer, H., and Saeed, R., 2014) (Al-Damen R., 2017), and engage employees in improving product quality and production process to meet the needs of customers make customers satisfied

3. Continuous Improvement, a change in results or work procedures and continuous production process (Talib & Rahman, 2010) with performance evaluation. (Rujirawanich, P., Addison, R., & Smallman, C., 2011) and manufacturing processes. which must be adapted to the approach used (Nguyen, (TN, Lobo, A., Greenland, S, 2015) 4. Process Management is considered to be the management of the production process and has Inspect to control the quality of that production process. with standardized quality (Zhang, Z., Waszink, A. & Wijngaard, J, 2000) (Al-Damen R., 2017). 5. Employee participation (Employees Improvement) The importance of employees by Involve employees in work management to ensure quality and efficiency of work product development or services (Nekoueizadh, S. & Esmaeili, S, 2013). Therefore, entrepreneurs should seriously focus on quality management that is delivered to customers because,

It is what determines the ability of a business to generate income (B. Joseph Pine II and James H. Gilmore, 1999)

Proposition 1 Adaptive learning has a positive impact on the success of your business. Business-to-business trade of Thai healthy rice
Proposition 2 Building an image has a positive impact on the success of your trading

business. Business to Business of Thai Healthy Rice

Proposition 3 Customer relationship management positively affects the business success of the trading business, of the Thai health rice industry

Proposition 4 Quality management has a positive effect on the success of the business of trading, of the Thai health rice industry

Competitive Advantage Concept

Michael E. Porter (2005) said that the concept of creating a competitive advantage. is the heart of Strategic planning can be profitable above competitors. which competitors cannot imitate The fundamentals. The must-haves include knowledge created by learning, developing and learning, thus being a learning organization. affect satisfaction More than competitors (Siriwan Sereerat et al., 2004) Organizations must differentiate themselves from competitors in 3 areas: 1) Producing at a lower cost (Cost Leadership) produce products at a lower cost than competitors 2) Make a difference (Differentiation) products or services different from competitors which customers are willing to pay for something different although the price may be higher. 3) Response Customers faster than competitors (quick response) Product development with fast response. affect the demand customers. However, if the business can adapt to changes as well as being a cost leader. make a difference and A quick response will lead to good results in developing products or services to meet the needs of customers. (E. Porter, 2005) From the foregoing, it represents a competitive advantage. It is important to run a business in order to stay be superior to competitors by understanding business strategies. It also allows the company to produce products or services. Efficiency (Pridi, 2020)

Business Success Concept

McKinsey (1980) said that success comes from the analysis of business planning. Considered a tool of management of the importance of managing and running a business can check the strength of the business especially in marketing. In order to get a good marketing strategy, Ronald Daniel (1961) defines the key to success, and make the turnover increase efficiency. The main goal of entrepreneurs is to find steps, processes or a way to make a good profitable business. Customers are constantly and impressed

(Bunnoon, P., & Ussahawanitchakit, P., 2012) Effective and successful

business performance with standards, processes. Perform work, use personnel in a cost-effective manner causing satisfaction (Basiliki, 2014) with the following components: 1) Finance (Financial) (Sila, 2007) (Lakhal, L., Pasin, F., & Limam, M., 2006) 2) Non-financial (Non-Financial) such as customer satisfaction, marketing, product development, product quality (Nekouezadeh & Esmaeili, 2013) (Khurshid, Amin, Al-Aall & Al-Aall, 2018). Together with quality, efficiency and achieve the desired goals. The success factor depends on business policy. Defining Executive Objectives, which measure success can be measured by measuring the results. Equilibrium Business networking is an alternative that is considered an adaptive technique for small businesses to maintain. Highlights of the business. Corresponding to the research said that building a network of relationships with the potential to create business networks are correlated with competitive advantage. Cause the success of the business (Chanya La Sang et al., 2018) (Qiao, P., Ju, X., & Fung, HG, 2014). Business (Gulati, R., N. Nohria, and A. Zaheer, 2000)

Proposition 5 Networking through competitive advantages has a positive effect on the success of Business of the trading business of the Thai healthy rice industry

Proposition 6 Competitive Advantage positively affects the success of your trading

the Thai health rice industry Entrepreneur's Competency regarded as knowledge the ability to express efficiency and Specializing in entrepreneurial management affects the competitiveness of the business and results in especially related to oneself to business success (Kaewjomnong, 2019) and (Ladyga, 2015)

Proposition 7 Entrepreneur's performance through competitive advantage positively affects business Success of Thai Health Rice Industry Trading Business

Consumer attitudes towards brand image. It stimulates awareness and creates a positive experience with the badge. Trusted products are in the memory of consumers. It is considered as the basis for contributing to competitive advantages. Businesses are successful (Rissal, 1992), consumers generate repeat purchases and brand loyalty (Shaharudin, 2010).

Proposition 8 Entrepreneur's performance through competitive advantage has a positive effect on Business Success of Thai Health Rice Industry Trading Business

research conceptual framework

From the literature review, it can be concluded that the research conceptual framework elements of success factors between Business to business of the Thai healthy rice industry as follows.

Methodology

This research study has a research method that studies the issues, trends, components, factors of business success with (B2B) Thai Healthy of Rice Industry. Use the literature review method with document research for inductive purposes. Gather concepts and theories related to the success of business-to-business trade quality management. Thai health rice industry contains concepts and related theory and study from diplomatic resources by collecting data and studies from books, papers, research papers and various online information. Key Word Adaptive Learning, Business Network, Entrepreneur's Core Competencies, Brand

Management, Quality Management
Competitive Advantages and Business
Success of Research.

Education Benefits

This research can be useful for business entrepreneurs. Production and distribution of Thai healthy rice can use the information To improve and develop to make the business successful. by asking for opinions and additional customer demand To promote long-term impression and satisfaction for customers It is also Benefit to those interested in investing in the healthy rice industry for the production and distribution of healthy rice. Information to be used as a guide for investment decisions.

Conclusion

From a review of the relevant literature it can be concluded that Factors for the success of a trading business B2B The key to success must include: 1) Behavioral adaptation of entrepreneurs. The adaptation was divided into 4 aspects, physical adaptation (Physiologic mode), self-image adaptation. (Self-concept mode), role adaptation (Role function mode) and adaptation of dependency. between each other (Interdependence mode) 2) building a business network can be divided as follows: Necessity Asymmetric (Asymmetry) Reciprocity (Reciprocity) Efficiency Stability of the network (Stability of Network) Legitimacy 3) Competency of operators can be divided as follows: Performance that is clearly visible and performance that must be observed 4)) Brand image can be categorized as follows: Strong brand (Strength of Brand) in terms of brand liking. (Favorability of Brand) Identity Brand (Uniqueness of Brand) 5) Customer relationship management of the components of customer tracking. (Customer Prospecting) Relationships with Customers Communications between each other (Interactive Management) in understanding the expectations of customers (Understanding Customer

Expectations) Empowerment in partnership (Partnerships) Personalize (Personalization) 6) Quality management consists of customer focus (Customer focus) Leadership Support Continuous improvement (Improvement) Process Management Employee participation (Employees Improvement) 7) Differentiate from competitors: 1) Producing at a lower cost (Cost Leadership creates Difference (Differentiation) responding to customers faster than competitors (quick response) 8) success of the business can be divided as follows: Financial aspects other than financial aspects (Non-Financial) for income and Profits for the business will be able to make a business that trades through online channels successful. The research this time will focus on the development of entrepreneurs. Emphasis is placed on meeting the needs of consumers as a guideline. The business direction is set to be able to compete with competitors

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The Causal Relationship of Factors Affecting for Developing Strategies to Drive Business Employee Successors in Digital Industry of Thailand

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Abstract

This research aims to develop a model and verify the coherence of the causal relationship model of factors affecting for developing strategies to drive business employee successors in digital industry of Thailand. The research variables consisting of 6 latent variables: Entrepreneurial Orientation, Learning Orientation, Talent Management, Organization Transformation, Organizational Innovativeness and Sustainable Competitive Advantage. The sample group used in the research was executives and personnel in government agencies or the private sector in the digital industry, totaling 400 people (Hair, 2010). Step for research started from the study of documental, the instrument used to collect data was a 5-level questionnaire. This questionnaire has been checked for IOC which equal to 0.67-1.00 and check for reliability which excess 0.98. The statistics were frequency, percentage, mean and standard deviation and use inferential statistics, namely Confirmatory Factors Analysis: CFA and and Structural Equation Modeling: SEM has been used.

Research results show that the causal relationship model of factors affecting for developing strategies to drive business employee successors in digital industry of Thailand generated is consistent with the empirical data by checking from $\chi^2 = 114.69$ $df = 76$ $P\text{-value} = 0.19$ Relative Chi-square) $\chi^2/df = 1.509$ $GFI = 0.99$ $AGFI = 0.96$ $NFI = 0.99$ $CFI = 1.00$ $RMSEA = 0.039$ and $RMR = 0.015$ that pass all criteria (Hair, 2010) and variables: Entrepreneurial Orientation, Learning Orientation, Talent Management, Organization Transformation, Organizational Innovativeness and Sustainable Competitive Advantage have an indirect positive influence on sustainable competitiveness. It can account for 83% of the variance in strategy development to drive business successors.

Keywords

Entrepreneurial Orientation, Learning Orientation, Talent Management, Organization Transformation, Organizational Innovativeness and Sustainable Competitive Advantage

Introduction

In current world with serious business competition, achieving business operation and gaining competitive advantages are considered as challenges against entrepreneurs to develop new businesses or expand their businesses by developing existing products or services to respond to higher demands of customers. Such development may be in the form of product's image development and new product development through modern technologies or creation of products for developing businesses that is called value added products or services (Value Creation Handbook, 2017). Entrepreneurs or business owners should utilize strategies on product development, brand value adding, and differentiation as the guidelines for gaining more competitive advantages than other competitors (Phaphimolthanarungcharoenkij et al., 2017). Entrepreneurs are considered as the important force to cause external and internal resources mobilization for operating businesses (Hatten, 2009, 35), especially in digital industry with every clock change. Entrepreneurs will become the leaders of economic changes by using their performance and networks to build the society of entrepreneurship for managing their businesses to be grown while applying strategies to meet with their businesses (Baum & Locke, 2004, 587-598; Beaver & Jennings, 2005, 923-936) in order to build mechanism to drive their businesses to achieve their goals (Boonthawan Wingorn, 2013, 94) through entrepreneurship affecting to indirect performance obtained from seeking for opportunities and utilization of innovations. Such performance is able to be measured in the form of increased assets

based on experiences, expertise, and networks (Dale, 1996, 46; Kast & Rosenzweig, 1995, 23) because in intellectual capital or knowledge of personnel of each organization is considered as potential to create value (Youndt & Snell, 2004, 337-360). Thai entrepreneurs should study on their own information and information of other countries thoroughly. In addition, business partnership is also important for gaining competitive advantages (Wasuthida Nakkasem and Prasopchai Phasunont, 2018).

For previous researches, most of them emphasized on entrepreneurship in 5 dimensions of Dess, Lumpkin and Taylor (Dess, Lumpkin and Taylor: 2005) including: 1) autonomy; 2) innovativeness; 3) risk taking; 4) proactiveness; and 5) competitive aggressiveness. However, academicians currently expand the scope of research to internal strategies increasingly including: 1) organizational innovativeness; 2) market orientation; and 3) learning orientation. These three concepts are internal factors playing the important roles in developing innovations continuously. In addition, they are also the important factors directly affecting to performance of organizations (Hult, Hurley & Knight, 2004; MucHEELS, 2010; Engin & Omur, 2012; Suliyanto & Rahab, 2012). This is consistent of The Resource-Based View that emphasizes on internal factors, i.e., internal resources and organizational abilities are major foundation for operations and very important for gaining sustainable competitive advantages (Barney, 1991). Organizational Innovativeness is the origin for creating innovations and developing abilities to invent new products and services of company (Hult, Hurley & Knight, 2004). Organizational innovativeness is considered

as the strategy emphasizing on changes in production, services, process, and marketing for organizational competitiveness (North & Smallbone, 2000). From literature review, it was found that organizational innovativeness is the most important factor with influence on organizational operations (Li & Calantone, 1998; Pradthana Leekpai Mone et al., 1998; Panayides, 2006). In addition, organizational innovativeness is also one of the important strategic guidelines for organizations to achieve long-term success (Noble et al., 2002). This research was developed from the research of (Wang, C. L., 2008) who studied on

Entrepreneurial orientation, learning orientation, and firm performance whereas entrepreneurs had to promote learning organization in order to improve efficiency of entrepreneurial orientation as much as possible. Moreover, entrepreneurs should consider on changing business environment therefore it is also necessary to analyze on environmental condition continuously in order to enable organizations to gain competitive advantages sustainably.

To gain business competitive advantages, human resources, especially talents, are considered as another main factor helping to increase organization's profit. Consequently, many organizations start to be interested in and emphasize on investment for human resources development in order to obtain personnel with high potential. In addition, there are also activities related to innovativeness that is compared as the weapon for using in completion and being highly important for organization because it helps to promote and support organization to use knowledge and skills on technology as well as experiences to create novelty for products

and services, production process, delivery, and customer service (Tidd, J., Bessant, J., & Pavitt, K., 2005). Moreover, it also helps to develop organization in various dimensions. Such development is not only products and services but it is also able to be developed along with other external and internal parts. It can connect relationship to each other leading to success on innovative management that can create value to business and generate advantages on business operation of organization in long-term. Currently, there is a huge number of digital entrepreneurs who are important for Thailand's economy system because they help to generate incomes and add value that is the beginning of investment. In addition, they also enhance experiences and help to connect with large activities and other

production sectors leading to economic growth development in regional and national levels. However, previous researches often emphasized on innovativeness based on marketing and technology instead of organizational systems (Siguaw, Simpson, & Enz, 2006; Wutthirong, 2015). Consequently, there is the gap between causes and impacts of innovativeness in organizational level.

From mentioned reasons, they are the background of this research which the researcher realized on their importance and had interest in studying on causes and impacts of organizational innovativeness influencing on entrepreneurial orientation, learning orientation, and talent management affecting to sustainable competitiveness through organization transformation, organizational innovativeness for developing strategy for driving business successors in digital industry

of Thailand. The results of this research would be used as the guidelines for applying information to improve efficiency of business operation of entrepreneurs for operating their businesses efficiently and effectively. Moreover, organizational innovativeness that could overcome internal and external complexity and challenges is also another important mechanism to drive organizations to be successful with sustainable competitiveness.

Objectives

1. To study and develop causal relationship model of factors affecting to development of strategy for driving business successor in digital industry of Thailand.
2. To check consistency of developed causal relationship model of factors affecting to development of strategy for driving business successor in digital industry of Thailand with empirical data.

Hypothesis

Causal relationship model of factors affecting to development of strategy for driving business successor in digital industry of Thailand developed by the researchers was consistent with empirical data.

Literature review

To study on causal relationship of factors affecting to development of strategy for driving business successors in digital industry of Thailand, the researchers reviewed related literatures and concepts with the following conclusion:

Concept on Entrepreneurial Orientation

For successful business, it is highly necessary to have executives with entrepreneurial orientation (EO) connecting to compliance with planned strategy for using in challenging situations. Entrepreneurial orientation was firstly presented by Miller and Friesen (1983) as the activity on decision making related to new business entering. However, entrepreneurial orientation currently tends to be considered as the process of organizational culture instead of situation to create value by using all resources for utilizing opportunities.

To study on entrepreneurial orientation, academicians divided entrepreneurial orientation into several dimensions as follows. The studies of Covin and Slevin (1989), Hult et al. (2004), Rhee et al. (2010), and Peng (2008) presented 2 dimensions of model of entrepreneurial orientation, i.e., risk taking orientation and proactiveness orientation. In addition, they also presented some framework and perspectives of entrepreneurship that it was based on different organizational culture (Dess, Lumpkin & Eisner, 2007). Characteristics of entrepreneurship were important factors enabling businesses to grow rapidly (Harms, 2009). Generally, characteristics of entrepreneurship were often found to be related to risk encountering, especially in large businesses which entrepreneurs had to strive to develop and search for methods to operate their businesses successfully.

Dess, Lumpkin and Taylor (Dess, Lumpkin and Taylor: 2005) presented 5 dimensions of entrepreneur's abilities as follows: 1) risk taking referring to risk of entrepreneur to operate business divided

into 3 manners including risk taking on unknown things, risk taking on spending a large amount of personal assets to establish business and risk taking to borrow a large amount of money; 2) competitive aggressiveness referring to demands to compete and make competitors to approach the same market difficulty; 3) proactiveness referring to an ability to control situations, estimate problems and demands or future changes representing perspectives of entrepreneur on prediction with new innovations or activities that must be risk taking; 4) innovativeness referring to being a person with creativity on products, services, and modern technological methods; and 5) autonomy referring to ability and intention to seek for personal opportunities and being a person who can work himself/herself with ability to make decisions under pressure and leadership. Entrepreneurs had high determination to be advanced with foresight and actions to be superior to competitors in the market.

Therefore, from the concept on entrepreneurial orientation, there are various factors that are indicators and can be analyzed that entrepreneurs must follow up movement and changes of environmental condition continuously as well as evaluate on internal strengths and weaknesses in order to connect with opportunities on business operation or adjust themselves to overcome obstacles or external threats. As a result, the researchers developed the research of Peng (2008) who presented 2 dimension of model of entrepreneurial orientation including risk taking orientation and proactiveness orientation.

Concept on Learning Orientation

Baker & Sinkula (1999) defined meaning of learning orientation as a concept related to organizational knowledge and learning ability of organization. Organizational learning orientation could be measured through 3 elements including: 1) determination on learning; 2) mutual vision; 3) accept differences. From the study of Baker & Sinkula (1999), it was found that organization with learning orientation obtained direct effects on higher level of innovativeness and performance. This was consistent with the research conducted by Zahid & Ali (2011) who studied on relationship among learning orientation, innovativeness, and performance of banks in Pakistan. The results revealed that determination on learning, mutual vision, accept differences, and internal knowledge sharing gave directly positive effects to innovativeness and performance. This was consistent with other researches which found that learning orientation directly affected to market orientation, innovativeness, and performance of organizations.

Learning orientation is a concept related to knowledge and ability on learning of organization (Ferraresi, Santos, Frega, & Pereira, 2012). This is the manner of organization with various activities on building and using knowledge as well as market transformation, performance of competitors, acceptance and exchange of information on demands of each customer leading to development of new products with better properties and quality than those of competitors as well as ability to respond to demands of customers endlessly leading to

competitive advantages. This was consistent with the article of Mathuramaytha (2014) who said that if organization invested intellectual capital, such organization would gain innovativeness enabling such organization to achieve organizational goals, effective and efficient performance leading to sustainable competitive advantages. Simultaneously, learning orientation also influenced on types of information that were necessary for collecting, translating, evaluating, and exchanging knowledge and experiences of organizational members leading to changes of organization knowledge and understanding on interaction between organizational systems and better environment (Wutthirong, 2015). As a result, organizational learning orientation is highly necessary because it affects to survival of organization under competitive condition with changing environment as well as be the important basement for improving innovativeness.

Therefore, the researchers paid attention to learning orientation in order to gain sustainable competitive advantages. It consisted of various important factors including determination on learning, mutual vision, and accept differences in order to enable organizations to have efficient and effective performance.

Concept on Talent Management

Talent people mean persons or group of people in organization with creative thinking, abilities, potential, intellectual abilities or natural abilities as well as distinctive gifts in each field reflecting high potential from successful performance that is witnessed and accepted by other persons. In addition, they also demand to be advanced

in their works therefore they learn and develop themselves continuously (Wichai Wongyai, 2011). Outstanding characteristics of talent people can indicate quality works and competitive advantages of organization obtained from personnel with knowledge and abilities that are lacked in other organizations. Talent people must have these 4 basic characteristics:

1. Knowledge referring to having knowledge on operations precisely and deeply as well as other related fields of knowledge.
2. Skills referring to abilities to apply knowledge to be used in working and solving problems creatively as well as skills on consecutive learning and self-development plus with development of colleagues.
3. Personality referring to an ability on self-adjustment to express behaviors that are beneficial for operations with autonomy and good attitude towards operations.
4. Interpersonal referring to response to surrounding things during operations.

As a result, the researchers paid attention to talent management emphasizing on assigning talent people or people with knowledge and abilities to act as the leader of the groups who would be ready to develop their colleagues to have better knowledge and abilities as same as them for responding to current and future demands of organization. Talent management would enable organization to have more talent people with abilities to improve performance in order to achieve organizational goals.

Concept on Organization Transformation

To generate sustainable competitive advantages of organization, it must be started from organization transformation by supporting enhancement of potential of personnel with knowledge and understanding under the same direction that is correct and beneficial for all personnel and organization (Senge, 1990). There are 4 important factors causing organization transformation including: 1) vision that is compared as the compass for leading organization to the destination as defined in organizational objectives; 2) strategy that is efficient for using as the method to generate organization transformation in order to transform organization as the learning organization as defined by the goals under organizational vision; 3) structure that is considered as the supporting factor leading to appropriate performance in all parts; and 4) organizational culture that is considered as mutual belief, concept, values, and practices of organizational personnel. Organizational personnel must transform organization by building organizational culture that is beneficial for building learning organization, for example, values on teamwork, self-management, authorization, and decentralization, etc. (Marquardt, 2002).

For the concept of Marquardt, when considering on dimension of organization transformation for gaining sustainable competitive advantages, it was found that there was a group of important factors that was briefly called as ELVAS helping to promote organization transformation efficiently. It consisted of: 1) E-Environment Scanning, i.e., personnel were able to estimate transformation that may affect to

organizational environment and able to adjust themselves to catch up with transformation appropriately; 2) L-Learning Technology, i.e., personnel were able to apply appropriate technology for performing operations, promoting, and supporting learning process efficiently and thoroughly; 3) V-Vision, i.e., personnel had mutual foresight vision as unity for supporting things that would be happened in the future including missions that would drive operations to achieve success as defined by goals; 4) A-Appropriate Structure, i.e., having holist structure with flexible management system and flexible decentralization; and 5) S-Supportive Atmosphere, i.e., having atmosphere supporting development of learning, potential, and objectives of development of quality of work life.

As a result, the researchers were interested in organization transformation that would lead to sustainable competitive advantages. Important factors consisted of environment scanning, learning technology, and supportive atmosphere in order to drive transformation from establishment of policies, strategies, action plans, and tactics to management and operations, especially mechanism for promoting and developing works in all levels systematically.

Concept on Organizational Innovativeness

From literature review, academicians defined the meaning of innovativeness in various terms as follows. Hurley and Hult (1998) said that innovativeness was the direction of organization towards innovations. Hult et al. (2003) said that innovativeness was another dimension used for explaining on organizational atmosphere or organizational culture. Wang and Ahmed (2004) said that

organizational innovativeness referred to overall ability of organization to introduce the latest product to the market or open new market through integrating strategies with innovation behaviors and process. The study of Nybakk et al. (2009) defined the meaning of innovativeness as inclination to create and/or utilize new products, process, and business system that was consistent with the definition defined by Knowles et al. (2008). Simultaneously, Matsuo (2006) said that innovativeness was the tendency of the organization that supported innovations. Innovativeness was attitude trait or propensity towards development or acceptance of innovations. From literature review, it was found that academicians defined meaning of innovativeness into various ways based on objectives of each research.

To study on organizational innovativeness, types of innovativeness were classified into various dimensions as follows. In the study conducted by Alvontis et al. (1994), innovativeness was classified into 4 dimensions, i.e., product innovativeness, process innovativeness, behavioral innovativeness, and strategic innovativeness. In the study conducted by Lyon et al. (2000), innovativeness was classified into 2 dimensions including product innovativeness and process innovativeness. In the study conducted by North and Smallbone (2000), innovativeness was classified into 4 dimensions including product innovativeness, market innovativeness, process innovativeness, and behavioral innovativeness. In the study conducted by Wang and Ahmed (2004), innovativeness was classified into 5 dimensions including product innovativeness, market

innovativeness, process innovativeness, behavioral innovativeness, and strategic innovativeness. It could be said that definition and study on innovativeness could be considered on various dimensions including product, process, market, behavior, and organizational strategy, based on purposes of utilization.

From literature review, it was found that innovativeness significantly affected to firm performance, for example, the study of Calantone et al. (2002) revealed that innovativeness had directly positive effect on firm performance (coefficient = 0.24, $p < 0.01$). The study of Keskin (2006) also revealed that innovativeness had directly positive effect on firm performance (coefficient = 0.32, $p < 0.01$). This study was developed from the research conducted by Anuwat Songsom (2017) who proposed the concept on innovativeness and the conceptual model on causal factors and outcomes of innovativeness. This study emphasized on explanation based on the concept on resources and the concept on learning organization. The results represented the conceptual model in the form of developed structured model consisted of 3 variables of causal factors including entrepreneurial orientation, market orientation, and learning orientation whereas variable that was the outcome was competitive advantages. The researchers were interested in developing the research conducted by North and Smallbone (2000) who classified innovativeness into 4 dimensions including product innovativeness, market innovativeness, process innovativeness, and behavioral innovativeness.

From theories and concepts related to entrepreneurial orientation, learning orientation, talent manage, organization transformation, and organizational innovativeness, the researchers had the opinion that sustainable competitive advantages could be determined by those factors as mentioned above therefore it could be analyzed that entrepreneurs should always follow up movement and changes of environment and evaluate on internal strengths and weaknesses in order to connect with opportunities on business operation or adjust themselves to overcome external obstacles or threats.

Concept on Sustainable Competitive Advantage

Michael E. Porter (2005) mentioned competitive advantages that were higher than those of competitors and this concept was considered as major economic ability and business activity in the market with competitors. Competitive advantages could be maintained by overcoming competitors through improving or changing goals while creating innovations consecutively. Innovation was compared as the source of higher competitive ability.

The researchers applied the concept on differentiation of Porter (1998) who explained on the principles on differentiation consisted of 4 factors leading to success of business organizations including: 1) product differentiation that was creation of difference of product by focusing from developing products to be different with competitive advantages as well as focusing on product design, image, decoration, facilities, and utensils in stores, etc.; 2) Service differentiation that was the way to enhance

value and propose services that were valuable for customers through different service formats from competitors, for example, rapid servicing, convenience, comfort, attention, and other service formats that were not offered by other restaurants, etc.; 3) people differentiation that was making difference by selecting quality personnel and utilizing strategies to generate distinctiveness of personnel with good vision and attitude. Personnel should be trained and developed to have good service skills for causing differentiation from competitors; 4) image differentiation that was building good image in order to make organization more outstanding than competitors by using symbol or slogan conveying feature and position of product that was superior to competitors. However, protection of image of product or organization was considered as duty of all personnel in all levels of organization. Therefore, the researchers were interested in the concept on differentiation with 4 factors leading to success of organization as mentioned above including product differentiation, service differentiation, people differentiation, and image differentiation leading to sustainable competitive advantages of organization.

Methods

Scope of Study

1. Content Scope

In this part, the researchers reviewed related documents and literatures as well as analyzed on contents related to theories of development of strategy for driving business successors in digital industry of Thailand consisted of entrepreneurial orientation, learning orientation, talent management,

organization transformation, organizational innovativeness, and sustainable competitiveness.

2. Area Scope

In this research, the researchers defined the specific area of research as the area of Bangkok and suburb an because such areawas becoming Smart Cities to respond to demands on production, trading, energy, and telecommunication in digital era with consideration on physical potential, location, readiness on public utility system, and perfect living in all dimensions (Hooninside, 2020).

3. Timing Scope

The researchers set the research duration for 1 year and 10 months from November 2019 to August 2021 started from conducting qualitative research along with quantitative research.

3.1. From 1st –12th month, it was the study on concepts and theories related to researches and literature review in order to determine framework and research tools that were synthesized in order to obtain tendency of factors of development of strategy for driving business successors in digital industry of Thailand.

3.2. From 13th – 23rd month, it was a field study for collecting data and synthesizing data in order to obtain tendency of factors of development of strategy for driving business successors in digital industry of Thailand, dev elopment of structural causal relationship model (SEM) of development of strategy for driving business successors in digital industry of Thailand, and confirmation on development of strategy for driving

business successors in digital industry of Thailand.

4. Population Scope

Populations of this research consisted of 400 executives and personnel of government or private agencies in digital industry, personnel of HR Department, personnel, of Plan and Policy Department, academicians, and stakeholders in digit al industry (Hair, 2010). For research methodology, the researchers studied from documents by collecting data from texts, articles, researches, and theses, as well as electronic data in Thai and English language related to factors and this study.

Data Analysis

1. Quantitative data analysis on development of causal relationship model (SEM) of development of strategy for driving business successors in digital industry of Thailand in individual level was conducted by using questionnaires to analy ze andcheck construct validity of model and empirical data through Confirmatory FactorAnalysis in order to obtain model of strategy for driving business successors in digital industry of Thailand in individual level.

2. Statistics used for checking consi stency of model with empirical data were shown in Table 1.

Table 1 Criteria for determining the consistency of model

Index	Criteria	Reference
Chi-square: χ^2	$p > .05$	Hair et al (1998:2006), Bollen (1989)
Relative Chi-square: χ^2/df	< 2.00	Hair et al (1998:2006), Kline (1998)
Goodness of Fit Index: GFI	> 0.90	Hair et al (1998:2006), Kline (1998)
Adjusted Goodness of Fit Index: AGFI	> 0.90	Kline (1998)
Normed Fit Index: NFI	> 0.90	Hair et al (1998:2006), Mueller (1996)
Comparative Fit Index: CFI	> 0.90	Hair et al (1998:2006), Mueller (1996)
Root Mean Square Error of Approximation: RMSEA	< 0.05	Steiger, J. H. (1990)
Root Mean Square Residual: RMR	< 0.05	Diamantopoulos and Siguaw (2000), Kline, (1998)

From the above literature review, details are shown in Figure 1.



Figure 1: Model of the Causal Relationship of Factors Affecting for Developing Strategies to Drive Business Employee Successors in Digital Industry of Thailand

Analysis/Discussion

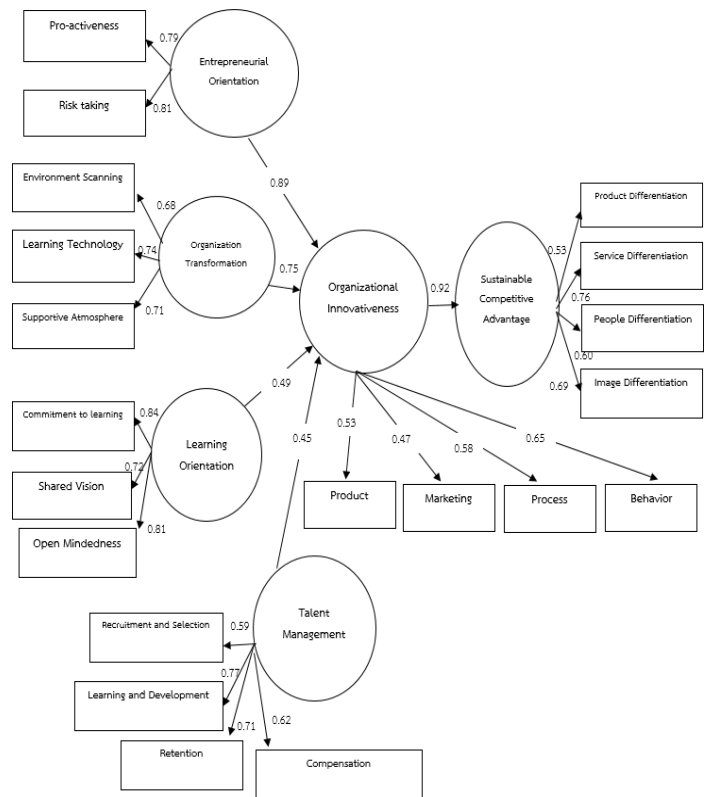
1. The results obtained from studying on personal data and information on operational behavior of the sample group revealed that: (1) Gender – Most samples

were males calculated to be 50.7%; (2) Age – Most samples had the age ranged from 21 – 30 years calculate d to be 49.3%; (3) Educational Level – Most samples graduated in Bachelor Degree calculated to be 51.5%; (4) Status – Most samples were single calculated to be 59.3%; (5) Position – Most samples hold the position of operational level calculated to be 85.0% ; (6) Most samples worked for HR Department/Planning Department/ General Management Department calculated to be 36.0%; (7) Most samples earned monthly income lower than or equal to 15,000 baht calculated to be 49.8%; (8) For working experience in this organization, most samples had work experience ranged from 6-10 years calculated to be 69.3%; (9) Most sample acknowledged on recruitment of the organization from email calculated to be 54.5%; (10) Most samples were trained on working from orientation calculat ed to be 63.7%; (11) Most samples were communicated by the organization via intranet calculated to be 56.8%; (12) Most samples were trained by executives calculated to be 39.5%; (13) Most samples were prepared before being appointed to hold new position t hrough on-the-job training calculated to be 50.5%; (14) Most samples were prepared after being appointed to hold new position from job rotation calculated to be 44.8% ; (15) Most performance evaluations were conducted by HR Department calculated to be 53.5 %; and (16) Under COVID –19 pandemic, working style and living was changed to New Normal and most organizations dealt with this situation through work from home calculated to be 62.3%.

2. From analysis for checking consistency of causal relationship model of development of strategy for driving business successors in digital industry of Thailand with empirical data based on the research objectives, it was found that the causal relationship model of development of strategy for driving business successors in digital industry of Thailand under hypothesis was consistent with empirical data with statistic of $\chi^2 = 114.69$ at degree of freedom of $df = 76$, P -value = 0.19, Relative Chi-square (χ^2/df) = 1.509, $GFI = 0.99$, $AGFI = 0.96$, $NFI = 0.99$, $CFI = 1.00$, $RMSEA = 0.039$, and $RMR = 0.015$. It represented that the causal relationship model of development of strategy for driving business successors in digital industry of Thailand under hypothesis was consistent with empirical and could pass all criteria whereas it could explain on variance of development of strategy for driving business successors by 83%. Criteria and results of consideration on Goodness of Fit Index are shown in Table 2 and Figure 2. .

Table 2 Adjusted Model Consistency Index

Statistics	Criteria	Results	Consideration
χ^2	$p > .05$	114.69	-
df	-	76	-
P-value	> 0.05	0.19	-
χ^2/df	< 2.00	1.509	Pass
Goodness of Fit Index : GFI	> 0.90	0.99	Pass
Adjusted Goodness of Fit Index : AGFI	> 0.90	0.96	Pass
Normed Fit Index : NFI	> 0.90	0.99	Pass
Comparative Fit Index : CFI	> 0.90	1.00	Pass
Root Mean Square Error of Approximation : RMSEA	< 0.05	0.039	Pass
Root Mean Square Residual : RMR	< 0.05	0.015	Pass



$$\chi^2 = 114.69, df = 76, P\text{-value} = 0.19, RMSEA = 0.039$$

Figure 2: Study Results

Conclusion

From the results of the study on causal relationship of factors affecting to development of strategy for driving business successors in digital industry of Thailand, the overall results met with the hypothesis of the researchers, i.e., the results were consistent with empirical data. The results could be discussed as follows:

Factors on entrepreneurial orientation, learning orientation, talent management, and organization transformation had directly positive effect on sustainable competitiveness through organizational innovativeness because successors driving

affecting to sustainable competitive advantages consisted of various factors as discovered by Maneenoot Suangsuratanakul (2016) who conducted the research on The Influence of Middle Managers in the Development of Innovative Organization: Case Study of True Corporation Public Company Limited that: (1) there were 3 elements of management of middle managers including being persons who create vision and attitude on operations, being analysts and developers on management, and being developers of practices. There were 6 elements of innovative organization including accept difference with consecutive development, mutual values and practices, innovative vision and operational attitude, clear communication and expression, building good work atmosphere and environment that was beneficial for creativity process, and response to changes; (2) Elements of middle managers had relationship and direct influence on innovative organization in high level; (3) The results of development of structural relationship model of middle managers for developing organization as innovative organization revealed that Goodness of Fit Index was consistent with empirical data and met with criteria; and (4) The guidelines for developing organization as innovative organization was developing executives, enhancing participation of executives and employees, and making clarity on roles and duties of personnel in organization.

Factors affecting to sustainable competitiveness were consistent with the concept of Phanu Limmanont (2003) who said that product innovation was a kind of product that was commercially produced

with better improvement or novelty in the market. This innovation may be new thing for the world, organization, or even ourselves. In addition, product innovation was also divided into tangible product or goods (e.g., new car model, seedless strawberries, High Definition TV (HDTV)) and intangible product or services (e.g., natural conservation tour package, Telephone Banking, internet surfing, consultancy service for specific purposes). Another dimension affecting to sustainable competitiveness was ability of entrepreneurs with clear goals, consecutive analysis on demands of customers and market, ability to adjust themselves to meet with changing economic and social condition, correct and reliable management with leadership, ability on teamwork with effort and determination to operate business successfully with proactive operations, daring to decide with creativity, searching for new techniques on management, utilization of information system for management and decision making, creation of new products and services, seeking for production methods in order to obtain quality products, rapid invention and development of new products to catch up with demands of market, being persons with creativity on products, services, and modern technology methods. These were consistent with the research of Pattranit Thongsamsee and Thirawat Chantuek (2016) who found that utilization of technology and modern information technology in working and project development could lead to the ultimate efficiency.

Factor on talent management had positive effect on sustainable competitiveness through organizational innovativeness that was considered as a strategy to drive

business successors in digital industry of Thailand. It indicated that talent recruitment was the way to seek for successor candidate with readiness to be developed and selected to perform operations of important positions of organization. Such talent recruitment was conducted by considering on qualifications of existing personnel of such position followed by works, potential, knowledge, skills, characteristics, interest, vocational goals, ages, mental and physical health. In addition, working under good environment could cause good work atmosphere that was beneficial for working leading to efficient operations. Consequently, such person could have quality works with self-development and creativity that would affect to work efficiency. This was consistent with the research conducted by Premjit Khlaipetch (2005) who indicated the psychological issue on perception and support from organization to make personnel to have feeling and belief that they were concerned, taken care, supported, and promoted by organization in various dimensions. Consequently, personnel would have commitment with organization with better efficiency on operation. It was necessary to consider on dimensions on remuneration, opportunities to be promoted, work security, social psychology, and work condition for perceiving support from supervisors.

For the guidelines for organization's succession planning, there should be succession plan in order to prevent the problem on the shortage of personnel for important positions in the future. Organization should prepare readiness on manpower and potential of personnel to hold important positions of organization

efficiently and meet with objectives for supporting the growth of company sustainably. This was consistent with succession planning model of Guru W. (2020), i.e., there should be specification on important succession plan with clear action plan to evaluate operational potential. Positions with importance on enabling organization to achieve goals under future direction should be specified based on organization's strategic plan. Employees with suitable potential for assigned positions should be recruited and employees should be promoted and developed to have leadership skills with readiness to be promoted in the future. Strategy on business successors in digital industry was divided into 3 stages of succession: 1) Internship - It was the stage of business operation and introduction to persons related to digital industry business. Successor would participate in some works while studying and learning; 2) Digital industry business stage - When successors graduated in their highest educational level based on their abilities, they would engage in operation of digital industry business as full-time job. When successors had expertise on working in digital industry, we were able to assign successors to be responsible for making decision and establishing goals for using as indicators; and 3) Succession - Successors must be responsible for all works and help to solve problems caused by working. When successors were trusted, they would be responsible for works fully and make decision on all responsibilities related to works of digital industry business. These 3 stages were consistent with the concept of Longenecker and Schoen (1978) who said that familiarity with business and experiences should be built

before succession, full -time operation, and promotion.

Contributions

Theoretical Contributions

This study caused some theoretical contributions. From the research framework, it caused integration of concepts and theories related to development of strategy for driving successors in digital industry of Thailand as follows:

1. Causes and effects of factors explaining on relationship could be represented by connecting 6 concepts, including entrepreneurial orientation, learning orientation, talent management, organization transformation, organizational innovativeness, and sustainable competitiveness, as the research framework for leading to paradigm on development of strategy for driving successors in digital industry of Thailand.

2. To gain sustainable competitive advantages, organizational innovativeness, including product innovativeness, market innovativeness, process innovativeness, and behavioral innovativeness, was considered as the important variable to lead organization to success. Successors must follow up changes of business environment consecutively and evaluate internal strengths and weaknesses for connecting with opportunities on business operation or adjusting themselves to overcome external obstacles or threats. The best way to build organizational security was creating competitive advantages that were the key of strategic planning.

Managerial Contribution

The study on causal relationship of factors affecting to development of strategy for driving successors in digital industry of Thailand caused management contribution as follows:

1. Be able to make businesses in digital industry of Thailand to see importance of organizational innovativeness affecting to sustainable competitiveness of business whereas entrepreneurs should pay attention to dynamic changes of environment. Organization that understood and found opportunities among changes would be able to gain positive business return.

2. To be used as information for entrepreneurs to establish strategy for driving successors in digital industry including entrepreneurial orientation, learning orientation, talent management, organization transformation, organizational innovativeness, and sustainable competitiveness.

3. To be used as information for successors to analyze on competitive environment for preparation against existing competitors in current situation and new competitors who would steal market shares in the future. In addition, it could be used as the guidelines for planning strategies of businesses in various levels for allocating existing limited resources to deal with competition under unpredictable environment. Moreover, it could be used for designing and developing business activities to gain competitive advantages in digital business efficiently and effectively.

Guidelines for Further Studies

For future studies, the framework for driving successors in digital industry of

Thailand could be utilized with unit of analysis in organizational level and mixed method research that was in the manner of multi-phase design should be used. The research should be divided into 2 main procedures, i.e., the first procedure should be quantitative research for studying on elements and models of organizational innovativeness. The causal research would be used for explaining relationship between antecedent and consequent for building conceptual framework on organizational innovativeness. Subsequently, qualitative research should be used by selecting phenomenological research for seeking for knowledge and truth from studying on phenomena and life experiences of humans. This kind of research emphasized on making understanding on meaning and life experiences encountered by individuals mainly through in-depth interview. The key informants should be business owners, executives, entrepreneurs in digital industry, and successors. Subsequently, obtained data should be analyzed, interpreted, and discussed.

To obtain new findings, further studies should study on the sample groups of other organizations that should be both government and private organizations as data for analyzing on guidelines for improving and developing quality internal management.

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Cross-functional Integration Focusing on Internal Productive Service Quality: A Case Study on New Product Development Speed

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Abstract

Recently, unavoidable competitive environment and fast-changing in business circumstances have compelled companies to improve or replace products by generating the new-to-the-world products. New product development (NPD) is one essential strategy for companies to search the potential opportunities in order to gain competitiveness and be survival. Two crucial key success factors for generating new products are efficiency of new product development process (NPDP) and effectiveness of new product development speed (NPDS). Establishment of efficient NPDP and effective NPDS needs tremendous cross-functional integration and honorable team. The major objective of this study is to review the previous studies addressed in three antecedent factors, 1) internal productive service quality (IPSQ), 2) team effectiveness, and 3) knowledge sharing influence on NPDS. The question about how productive individual employees related to IPSQ impact on NPDS so that companies could deliver fast service to satisfy customer expectations. This paper seeks to review a gap model for explaining the gaps between internal customer expectations and internal provider perceptions of customer expectations. In conclusion, the study finds that the efficient and productive cross-functional integration potentially enhance internal productive service quality, team effectiveness, and knowledge sharing influence NPDS.

Keywords

Cross-functional integration (CFI), New product development process (NPDP), New product development speed (NPDS), Internal Productive service quality (IPSQ)

1. Introduction

In recent years, there has been a dramatic increase in competitive environment and complex business circumstances, companies intend to improve or replace products by generating the new-to-the-world products. Using internal sources, establishment in an efficient NPDP is one of crucial element for engendering product improvements, product modifications, new products, and new brands. Kotler and Armstrong (2021: 271) demonstrated that a number of companies pursue their NPDP starting with "idea generation, idea screening, concept development and testing, marketing strategy development, business analysis, product development, test marketing, and ending with commercialization". To speed up new products into the market, several companies conduct team-based new product development approach. With regard to this approach, the linkages among different functional areas of organization have been adjoined the collaboration of overlapping in NPDP to save time and increase performance (Kotler & Armstrong, 2021). In addition, companies which have capabilities to enhance NPD speed by transforming new ideas to new products faster than competitors could potentially explore NPDS for delivering differentiate products, creating entry barriers, and carrying out new markets to remain competitiveness. Energetic NPDS requires internal productive integration of strong cross-functional team and honorable cooperation culture through a total-company (Zhu et al., 2019). Firms should therefore seek effective ways to interface inter-functional collaboration and take cross-

functional perspectives in developing their strategies to achieve NPDS.

Achieving the perspectives in cross-functional integration are associated with the collaborations among marketing, R&D, production, procurement, and finance function that work together from start to finish in NPDP at concept development, product development, and commercialization stage positively relevant to sustainable NPD project performance (Genc & Benedetto, 2015). To enhance effective collaboration among inter-department towards NPDP, top management could make encouragement and commitment to build excellent inter-departmental working relationships.

Additionally, one way to accomplish the smooth cross-functional integration is to reduce potential conflicts between differences in perspective of marketing and manufacturing teams. For instance, their conflicts could be different understanding in productions' capacities and demand forecast. Furthermore, another possible conflict area is the complaint from marketing teams about the inactive response of manufacturing teams, while manufacturing teams criticize marketing teams about inaccurate sale forecasts (Maynard et al., 2020). These conflicts potentially convey NPD slow, product failures, and lost sales and profits. Eventually, new product success requires not only new ideas to simply NPDP but also efficient cross-functional integration to speed up NPD in order to deliver fast service to satisfy customer expectations.

There have been a number of longitudinal studies involving cross-functional integration, IPSQ and NPDS. Parker (2016: 3) has revealed that companies which have efficient cross-

functional integration could win high success in meeting objectives and achieve proactive team-integration. Moreover, several previous studies have indicated that cross-functional integration have a positive impact on NPDS (Parker, 2016). Zapatero, Benito, and Lannelongue (2017: 771) have illustrated that creation of effective cross-functional team has potentially been positive influence on NPDS (Gonzalez-Zapatero et al., 2017).

Nevertheless, very little previous studies have identified the specific factors such as IPSQ, team effectiveness, and knowledge sharing be relevant to NPDS and carried out in a small number of areas. Therefore, this systematic review paper aims to determine those gaps and investigate the relationship between cross-functional integration addressed in three antecedent factors, 1) internal productive service quality, 2) team effectiveness, and 3) knowledge sharing are positively associated with NPDS.

Drawing upon those objectives, this study attempts to derive a conceptual framework of the relationship among three variables by systematically reviewing previous researches. The findings could make a potential contribution to the field of effective linkages of cross-functional integration through NPDP to enhance NPDS outcomes for sustaining competitive advantage. The successful implementation of this concept could lead to develop and launch appropriate new products faster than competitors and firms can eventually sustain their profit.

Furthermore, the question about how productive individual employees related with IPSQ impact on NPDS so that companies could deliver fast service to satisfy customer expectations. This paper seeks to review a

gap model by describing the gaps between internal customer expectations and internal provider perceptions.

To support the above-mentioned objectives, Section 2, literature review begins with reviewing the fundamental process of NPDP and the crucial roles of NPDS. Then, the review of cross-functional integration addresses in three antecedent factors consisted of 1) internal productive service quality 2) team effectiveness, and 3) knowledge sharing which could be the key components for success in NPDS. Section 3, the proposition development and conceptual framework are presented in this section. Last, the remaining parts of this paper are discussion, conclusion and recommendation for further field research.

2. Literature review

Currently, several literatures on NPD pay particular attention to NPDP. There has been an increasing amount of literature on the key factors relevant to NPDS. However, very small number of previous studies is demonstrated specifically about insight cross-functional integration factors influence NPDS. Hence, this study attempts to review previous study by drawing on systematic reviews into developing the propositions and conceptual framework. The following section brings an in-depth description of the association among variables as above-mentioned in the objectives of this study.

2.1 New product development process (NPDP)

Companies mostly establish a concrete R&D and marketing as a working team to carry out the potential new ideas for developing

new product innovations. Companies typically set up NPDP so that company have a systematic process for new product development. Kotler and Armstrong (2021: 271) demonstrated that a number of companies pursue their NPDP starting with "idea generation, idea screening, concept development and testing, marketing strategy development, business analysis, product development, test marketing, and ending with commercialization".

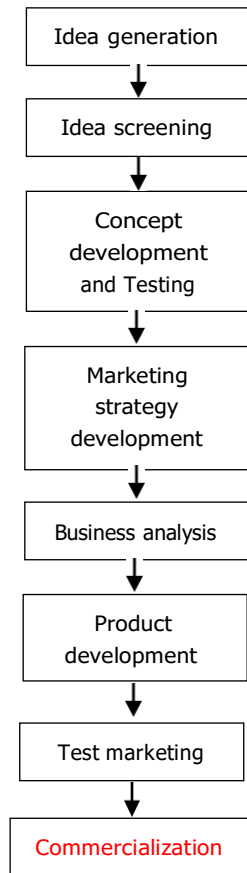


Figure 1: Major Stage in NPD (Kotler & Armstrong, 2021)

A longitudinal study of NPD decision process illustrated by Kotler and Keller (2016: 458-459) presents that several companies conduct the stage-gate system to detach each gate

into working stage. "The project leaders, working with cross-functional team, must bring a set of known deliverables to each gate before the project can pass to the next stage." To move from each gate to next stage, the sets of solid information for decisions are required. For instance, before making decision go or no-go from business analysis stage into product development need a solid and appropriate market research study of customer needs, demand and supply, a competitive situation, and a technical possibility. After that, head of stage gate or top management team reviews the proposal of each gate and makes a decision whether go, kill, hold or recycle (Kotler & Keller, 2016).

2.2 New product development speed (NPDS)

Although the NPDP has been set up clearly along with entire process, the lack of good collaboration among the team and slow responses across functions could make the delay of new product generation. This might lead to wrong decision whether kill or hold new products. Hence, NPDS represents how new ideas have been expedited through NPDP from idea generation stage to the end commercialization of new products in the markets. A number of recent evidences define that NPDS is an essential determinant, which have generous influence on new product performance (Cheng & Yang, 2019). Several attempts revealed in Zhu, Xiao et al. (2019) have been reported that rapid moving developments, fast changes in technology, and stringent pressure of competition, speed is an important determinant for driving NPD to change

market conditions. First launch in new ideas, accelerate product development process is able to enlarge firms' capability for generating new products and performance to take competitive advantage over competitors. For instance, continuous development of technology and rapid market changes in China, many companies over there have been stimulated to conduct NPD proactively and speed up in NPD process to provide new solutions to customers faster than competitors so that companies remain their competitive position in the market (Zhu et al., 2019).

According to Mostaghel et al. (2019: 603)'s study, the conclusion in their research has identified that "the complementary of marketing-manufacturing coordination, market intelligence quality, manufacturing supply chain coordination, and supply chain intelligence have been positively affected direct on product innovation performance" Moreover, In term of product innovation performance, efficient developments of new product innovation need the effectiveness and productiveness of team collaboration. For instance, Mostaghel et al. (2019: 597) also determined that increasing sufficient support and great internal collaboration between manufacturing and marketing is positively related to product innovation performance and increased in knowledge sharing (Mostaghel et al., 2019).

However, Nisula & Kianto, 2018 cited in Cheng and Yang (2019: 216) demonstrated that there have reported incompatible and opposite results regarding the benefits of NPDS. Two reasons of conflict of prior results have been explained that first, the role of generating products in the early stage of

NPDP has been neglected. Second, creativity factor has been treated as a single construct and associated with NPDS. Hence, the conflict finding of previous studies could be recognized and needed further empirical researches.

Several studies have revealed an association between NPD as a strategic orientation and performance outcomes. The empirical results have been mixed both positive and negative effect. A number of research have found positive associations between NPD strategic orientation, NPDS and performance outcomes. A clear strategic orientation could be an important success indicator of firm performance, including NPDS. In contrast, many studies have had opposite results reported that taking up a strategic orientation only is not ample for successful NPD outcomes. Hence, understanding clearly of the relationship between strategic orientation and NPD performance requires constructive interest in specific influence factors such as "innovativeness, knowledge type, competitive strength, co-worker relationship quality and environmental forces"(Mu et al., 2016). The effect on NPD performance are significant researches agenda. To meet this aspect, cross- functional integration could promote throughout the associated team.

2.3 Cross-functional integration (CFI)

In general, most firms conduct organization charts, line of commands, functionalities and work-flow procedures so that managements can organize businesses constructively. The meaning of cross-functional team illustrated by Tsuji, Ueki et al. (2017) is that "an organizational arrangement for the

exchange, dissimulation and sharing of different views or opinions from different sections of a firm that are related to innovation and which become a basis for creating new ideas" (Tsuji et al., 2017).

Cross-functional integration is one of significant driver of new product success. Generating new products typically need interdisciplinary perspectives and multi-departmental collaborations across different functions along with NPDP which can lead to speed up NPD successfully and earn positive results of new product performance. Linkage across functions grant crucial benefits for the NPDP, including encouraging new idea generation (Genc & Benedetto, 2015). This review presents the association between productive, efficient, and effective internal cross-functional integration and NPDS.

2.4 Internal productive service quality (IPSQ)

According to afore-mentioned, the present study on CFI has paid particular attention to internal service quality. Wirtz and Lovelock (2018: 54, 454) describes the meaning of service quality based on the expectancy-disconfirmation model of satisfaction that "in this model, confirmation or disconfirmation of pre-consumption expectations is essential to determinant of satisfaction". During and after customers' consumption, customers appraise the difference between their substantial experience gained from services and their expectations. If services can be delivered to them consistently and better than expectations, customers' satisfaction will be positive confirmation. In contrast, if service performances are worse than

expectations, customers' satisfaction will be negative disconfirmation. From internal user's perspective, productive service quality is a high standard of service performance that could be meet or exceed their expectations (Wirtz & Lovelock, 2018).

To better understand the difference between customer expectations and perceptions, Zeithaml, Bitner et al. (2013: 35) demonstrated that in a perfect world, the customer gap between their perceived services and expected services would be interchangeable. However, in a real world, there are some distance between customer expectations and perceptions (Zeithaml et al., 2013). The important point is how to identify and correct service quality in order to improve service performance to meet or exceed customer expectations. According to the gap model illustrated by Zeithaml, Bitner, et al. (2013: 45), there are four provider gaps, "Gap 1: the listening gap, Gap 2: the service design and standards gap, Gap 3: the service performance gap and Gap 4: the communication gap". The key of success in service quality improvement is to close provider gaps 1 through 4 constantly (Zeithaml et al., 2013). As well as, Wirtz and Lovelock (2018: 451) adapted and extended full conceptual gap model from Zeithaml, Bitner, and Gremler to identify six gaps, "Gap 1: the knowledge gap, Gap 2: the policy gap, Gap 3: the delivery gap, Gap 4: the communications gap, Gap 5: the perceptions gap, and Gap 6: the service quality gap". Based on Wirtz and Lovelock study, the most significant gap which need to be close is gap 6, the service quality gap. Hence, the service providers could intent to close this gap as much as possible for

improving service quality productively (Wirtz & Lovelock, 2018).

In term of internal marketing view, an employee-centric activity is one of key success in external marketing. The engagement of employee satisfaction and motivation by overcoming organizational resistance to internal change, motivating, cooperating across functionality and integrating employees could create customer satisfaction certainly. Additionally, establishing productive service quality to internal customers within the organization could enhance positive impact on better service quality to outside customers (Pomirleanu et al., 2015). Internal service quality reviewed in Lin et.al (2021)'s research reflects the perception of employees to serve colleagues outside their units to deliver better services to external customers. Providing excellent services across effective functions to satisfy customers is essential and this could enhance the value propositions to customer (Lin et al., 2021).

2.5 Team effectiveness

In the aspect of NPD organization, the exchange and sharing of different new ideas among the team related to new idea generation could potentially conglomerate ideas to constitute new creations through powerful communication. Cross-functional integration in term of team effectiveness has been recognized not only in the context of innovation but also solving problems in general. There have been a number of previous studies involved with the conditions relevant to cross-functional team effectiveness. Description of team effectiveness has been described in Parker's research (2016: 3) that team effectiveness is

the degree of effective team unity between two groups in which they perceived worthy achievement, as well as behave in productive integration. For instance, according to Tsuji et al. (2017: 198)'s report, "the R&D group promotes innovation by effective cross-functional teams of production, engineering, marketing, and IT use". Another example regarding social identity theory, Ambrose and Rutherford (2016) cited in Ambrose, Matthews et al.(2018) addressed that the more collaboration among sales and operation planning, the more team effectiveness could be achieved. Their studies also confirmed that the crucial great-coordinated and effective team identity in achieving sales and operation planning performance have enhanced acceleration of collaboration in having exclusive alignment for inter- department goals (Ambrose et al., 2018). To narrow down into NPDP, a few studies in functional collaboration focus on specific performance measure of NPDS. CFI has been demonstrated as a particle NPD accelerator. However, currently, a number of researches have tended to focus on studying in certain specific cross-functional integration effect on NPDS, such as the establishment cross- functional teams, the use of integration methods, technology synergy, or quality function deployment impact on NPDS. All those previous study helps to understand how these precedents potentially impact on NPDS lead to achieve company goals (Gonzalez-Zapatero et al., 2017).

2.6 Knowledge sharing

In the aspect of NPD organization, the exchange and sharing of different new ideas among the team related to new idea

generation could potentially conglomerate ideas to constitute new creations through powerful communication. With regard to knowledge-sharing behavior (KSB) approach, KSB is a part of knowledge management that managers have been interested in implementing knowledge sharing amongst team members in order to improve team efficiency and to perform a success in new service development projects (Hussain et al., 2020).

According to Keszey's research in 2018 addressed that knowledge management has certainly influenced innovation development. Wang and Noe (2010) cited in Keszey (2018: p.1061) reported that "knowledge sharing is the fundamental means by which employees contribute to knowledge application and innovation". The recognition of employees' knowledge sharing is useful for companies to capitalize their knowledge resources. Keszey's study concluded that boundary spanners' knowledge sharing has a positive direct impact on NPD innovativeness, NPDS and new product performance (Keszey, 2018).

3. Proposition development and conceptual framework

This section has ascertained the result of present study shows that the complementary of cross-functional integration addressed in three factors: 1) internal productive service quality, 2) team effectiveness, and 3) knowledge sharing influence positively NPDS. Consequently, it could conceivably be reasonable to propose three propositions as follow:

Proposition 1: Internal productive service quality is positively related with NPDS.

Proposition 2: Team effectiveness is positively related with NPDS.

Proposition 3: Knowledge sharing is positively related with NPDS.

A conceptual framework shown in Figure 2 describes the relationship of cross-functional integration comprised of: 1) internal productive service quality, 2) team effectiveness, and 3) Knowledge sharing influence NPDS. The contribution of this conceptual model could be applied for further study.

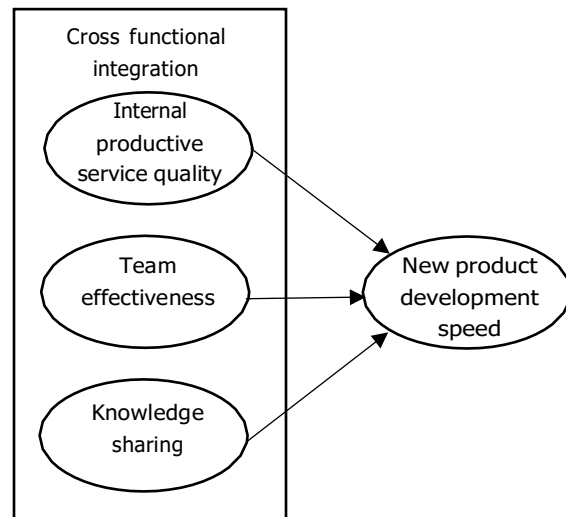


Figure 2: Schematic diagram of the association among dependent variables and independent variable

4. Discussion/Conclusion

Recently, unavoidable competitive environment and fast-changing in business circumstances have compelled companies to improve or replacement products by

generating the innovative products. NPD is essential for companies to improve their new products to gain competitive advantage and be survival. One of crucial key success factor is NPDS. Establishments of efficient NPDP for increasing NPDS requires a fantastic cross-function integration and honorable team. The aim of this paper is to investigate and systematically review prior studies that IPSQ, team effectiveness, and knowledge sharing influence NPDS.

According to NPD stage, from idea generation to commercialization, there are several success factors relevant to achievement of NPDS. One of significant aspects is cross-functional integration. Rather than leaving new-product development to someone in an organization work alone, across inter-departmental function in NPDP such as R&D, productions, planning, procurement, and marketing must work together and hand over there tasks along with NPDP efficiently, as well as deliver productive service quality to colleagues inside an organization. Team effectiveness importantly conglomerate ideas to construct new creations and carry out smooth workflow across functional integration. Furthermore, knowledge sharing among the team could be able to generate the exchange and agglomeration of different new ideas through effective communication.

In summary, the findings of this study illustrate that IPSQ, team effectiveness, and knowledge sharing, are positively associated with NPDS. However, a number of important limitations need to be considered. First, this study concentrates on systematic review of previous study. Although there are several studies about NPDP, there is very little

research in specific factors related with NPDS. Second, present study focuses on the association between the three dependent variables and NPDS. Other factors could be possibly identified by subsequent studies. Last, unfortunately, this study does not include the results of managers' interview. It would be interesting to compare experiences of individuals within any selective industry for further research. In addition, more field research is needed to better understanding when implementation ends and would scope the area of study such as specifically by industry, geography, type of products and so on.

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The intention to use the event technology between manager and operation level in Thailand

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Abstract

This empirical study aims to use factor analysis to determine the use behaviour and intention to use future technologies factors that contribute to a specific event technology with the event organisers that have a level of position in Thailand. The findings of this study could be of great use if adopted in subsequent integration of event technologies into Thai events in the Thailand event industry, as it will allow event organisers to access the effect of position to event technologies. There were a total of 329 samples after factoring out the outliers in the data collected using an online distributed survey (through relevant online networks.) After the CFA and SEM analyses, the researcher used path analysis (Figure 7 and 8) to find the relationship between the dependent and independent variables. The result of managerial levels found that the effort expectancy, the performance expectancy, intention to use future technologies, and use behaviour has a significant positive effect on level of position but social influence shows a negative effect with managerial level. However, for the result of operational levels, it showed that the performance expectancy, social influence, intention to use future technologies, and use behaviour has a significant positive effect on the level of position but the effort expectancy shows a negative effect with the operational level.

Keywords

Event Technologies, Event industry in Thailand, Levels of position in MICE industry.

Introduction

In Thailand, the simple answer is event organisers to search for a Meeting Incentive Convention and Exhibition (MICE) destination that is effectively dissimilar from others and offers benefits for delegates. These advantages include convenient accessibility to, from, and within the country; modern infrastructure; international standard venues, an abundant choice of quality accommodation together with a variety of entertainment and recreational activities, to name just a few along with value for money combined with excellence. Located in the heart of ASEAN and serving as a major hub of this region (Business events thailand, 2017). Thailand is one of the leading countries in event organisation and activities related to the event industry (TCEB, 2017). Given that there have been no prior studies into the determination of UTAUT factors to the adoption of Event Technologies with levels of position in organisers company, this ground-breaking study of considerable importance. Academically, it will act as a test of if the UTAUT, developed by Venkatesh et al. (2003) has application outside the adoption of computing systems in the business sector. More broadly, it will be beneficial for Thai event organisers attempting to integrate perception between level of position to wards to event technologies, and possibly other event technologies, into their businesses.

Literature review

Event Technologies is extensively driven by the need to provide new and intense experiences to attract their audiences, the event industry has been keen to adopt technologies to increase their potential

audiences. Indeed, so extensive has this uptake of new technologies by the event industry been that that are sometimes referred to as "event technologies" (Smit, 2012).

An event manager is a person responsible for the creative, technical, and logistic components who planned and executed the event. This comprises event design, brand construction, communication and marketing, audio-visual production, authoring scripts, logistics, budgeting, negotiation, and customer service (Schivinski, Langaro & Shaw, 2019).

According to Woodward Event management includes a variety of functions for executing large-scale events that include conferences, conventions, concerts, trade shows, festivals, and ceremonies. It involves handling the overall logistics of the event, working with staff, and conducting project management of the event as a whole (Woodward, 2020).

Methods

This study will collect information on event organisers with two levels of position. Since the responses of this survey will be designed to be encoded into numerical data, this study will use a quantitative approach to interpret this data, using it for Kruskal-Wallis test as data analysis tool.

The representative sample size of event technology users in this study are 329 persons, calculated based on the confidence level. Where the population is unknown, the sample size can be derived by computing the minimum sample size required for accuracy in estimating proportions by

considering the standard normal deviation set at 90% confidence level (1. 645) , percentage picking a choice or response (50% = 0.5) and the confidence interval (0.05 = ±5). The formula is:

$$SS = |Z2p (1 - p)|/ C2$$

where,

z = standard normal deviation set at 90% confidence level

p = percentage picking a choice or response

c = confidence interval

Hypothesis of this study

H1: The Levels of position has a significant positive on the effort expectancy.

H2: The Levels of position has a significant positive on the performance expectancy.

H3: The Levels of position has a significant positive on the social influence.

H4: The Levels of position has a significant positive on use behaviour.

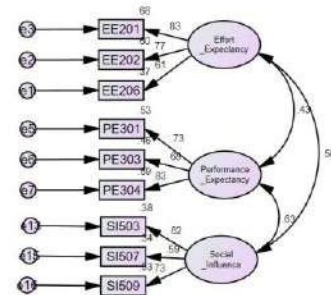
Analysis/Discussion

A statistical assessment of the model fit is necessary to evaluate whether there is enough evidence to support the proposed causal relationships. There is a wide array of goodness-of fit indices that researchers can rely on to evaluate models produced by SEM. were used to analyse the data.

Position				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Managerial level	55	100.0	100.0	100.0

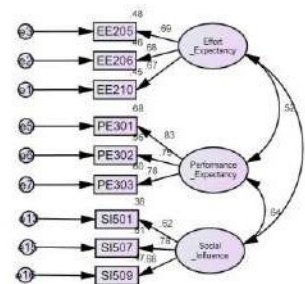
Position				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Operational Level	274	100.0	100.0	100.0

Figure 2: Frequencies of respondents



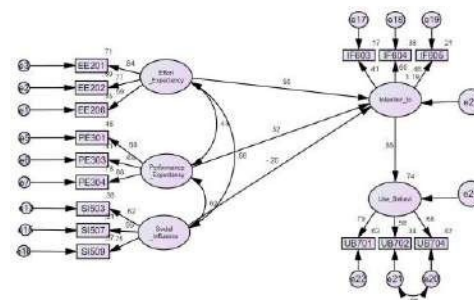
Chi-square=20.291; df=24; relative chi-square=icmindf p=.680; RMSEA=.000; RMR=.065; GFI=.928; CFI=1.000; NFI=.880;

Figure 3: CFA Model for UTAUT Model of managerial level



Chi-square=40.533; df=24; relative chi-square=icmindf p=.019; RMSEA=.060; RMR=.038; GFI=.970; CFI=.980; NFI=.953;

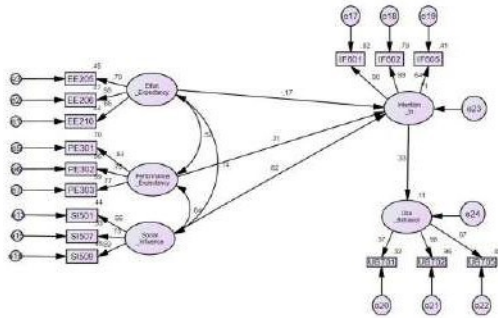
Figure 4: CFA Model for UTAUT Model of operational level



Chi-square=125.987 df= 85 p=0.003

RMSEA=0.094 RMR=0.128 GFI=0.784 CFI=0.872 NFI=0.704

Figure 5: Analysis of the UTAUT Model of managerial level



Chi-square=229.332 df= 83 p=0.000

RMSEA=0.080 RMR=0.082 GFI=0.908 CFI=0.920 NFI=0.882

Figure 6: Analysis of the UTAUT Model of operational level

Despite to 329 cases identified using Mahalanobis Distance techniques outliers (There was a significant difference between independent variables and dependent variables.), the hypothesis structural model is, if anything, an even poorer fit than the CFA measurement the indices for goodness of fit being outside acceptable levels.

Hypothesis	Hypothesis	P	Supported
Hypothesis 1	The Levels of position has a significant positive on the effort expectancy.	***	Supported

Hypothesis	Hypothesis	P	Supported
Hypothesis 2	The Levels of position has a significant positive on the performance expectancy.	0.007	Supported
Hypothesis 3	The Levels of position has a significant positive on the social influence.	0.340	Rejected
Hypothesis 4	The Levels of position has a significant positive on the intention to use event technologies.	***	Supported
Hypothesis 5	The Levels of position has a significant positive on use behaviour.	***	Supported

Figure 7: Results of structural path analysis of managerial level

Hypothesis	Hypothesis	P	Supported
Hypothesis 1	The Levels of position has a significant positive on the effort expectancy.	0.151	Rejected
Hypothesis 2	The Levels of position has a significant positive on the performance expectancy.	0.012	Supported
Hypothesis 3	The Levels of position has a significant positive on the social influence.	***	Supported
Hypothesis 4	The Levels of position has a significant positive on the intention to use event technologies.	***	Supported
Hypothesis 5	The Levels of position has a significant positive on use behaviour.	***	Supported

Figure 8: Results of structural path analysis of operational level

Conclusion

This study has two objectives. First to determine The UTAUT model results contribute to use and the use of event technologies the result showed some hypothesised are significant and second to investigate the factors that influence event technologies adoption in Thailand. the result showed event organisers with management level and operational level in Thailand have a high extensive on event technologies. The UTAUT model showed a positive of construct that independent variables have a significant positive effect on dependent variables. Managerial level that showed a positive on effort expectancy in contrast the effort expectancy has a negative with operational level because they have a low degree of ease associated with the use of the system. The performance expectancy has a positive with the intention to use future technologies so both levels of position had a high degree to belief that using event technology will help them to attain gains in job performance. The social influence has a negative with the managerial level because the decision-making power belongs on the way of the company more than the environment around them for experience of event technologies were positive significant of two levels of position so in part of patch analysis show event organiser base on level of position study in Thailand have a high degree of to the task of accepting and using new technologies when they have a positive intention to use them.

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A Pilot Study for Identify the Factor Influencing Productive Malaysian Cocoa Farmers (PMCF) Work Performance during Covid-19 Pandemic

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Abstract

Work performance of cocoa farmers has played a significant role in contributing more than 95% of cocoa production in Malaysia since 2006 (MCB, 2020). The low production was reported due to the low productivity of cocoa beans produced by the farmers (MCB, 2020). This article aims to describe the process of implementing pilot study to determine the validity and reliability of the instrument for a study on determine the factor that influencing Productive Malaysian Cocoa Farmers (PMCF) work performance. The instrument was adapted, developed, modified and restructured by the researcher based on past research with the variables namely personality traits, knowledge, practice and logistic and work performance. The instrument content also was validated from the expert via email, face to face validation from the expert panel and also a personal trial to answer the instrument. A total number of 105 PMCF were selected to answer the questionnaire which were 35 PMCF from Peninsular Malaysia, 35 PMCF from Sarawak and 35 PMCF from Sabah. The data from the pilot study was analyzed by using SPSS to determine the validity and reliability of the instrument items. From the result, the instrument then can be used for the real data collection after some minor adjustment with 32 numbers of items and 65 additional new items. Based on the result of the pilot study, the instrument considered valid and reliable. Pilot studies related to the work performance of productive cocoa farmers are vital element of producing a good study design. Pilot studies serve a variety of purposes and can provide valuable insight to the study. Conducting a pilot study does not ensure that the main study will be successful, but it will ensure to measure as well as answer the objectives of the study.

Keywords

Pilot study, instrument, validity, reliability and work performance.

Introduction

Cocoa is one of the major commodity crops in Malaysia after oil palm and rubber (MPIC, 2020). Malaysia used to be the third producer of dry cocoa beans in South East Asia (ICCO, 2007). However, cocoa production started to decline since the 1990s gradually (MCB, 2020). Cocoa farmers have played a significant role in contributing more than 95% of cocoa production in Malaysia since 2006 (MCB, 2020). The low production was reported due to the low productivity of cocoa beans produced by the farmers (MCB, 2020). Productivity in 2020 was 0.16 tons, which means 32% achieved from the expected outcome. Cocoa farmers play significant roles in determining the high yield of their cocoa farm (Roshidah et. al., 2016, Roshidah et. al., 2017 & Norlizah et al., 2017). In order to increase the cocoa production, government through Malaysian Cocoa Board (MCB) spent more expenditure on training and fertilizer to the cocoa farmers. However, the productivity in 2020 was decreased 10% from 2019 productivity (MCB, 2020). To achieve the sustainable improvement on cocoa production, there is a need to obtain feedback from Productive Malaysian Cocoa Farmers (PMCF) on the factors that influence and affect more to their work performances.

Scanty quantitative study on farmer's performances only focuses on their personality traits such as for paddy farmers in Malaysia (Jihan, 2019 and Sarita 2016) and Gambia (2017) for paddy farmers in Demba. Recently, the quantitative study on Malaysian extension agents' performances in cocoa sector also has been done. The study was focus on individual visible factors only namely Transfer of Technology (TOT) and Human Resource Development (HRD) (Nur Syahira, 2020, Pakri, 2019, 2020, Nur Nazatulshima, 2020, Olagunju (2019) and Motolani (2017).

All of these studies were continuously study to expand the knowledge on Malaysian farmers performances based on Hassan, S. (2011) findings in his previously study.

Hassan, S. (2011) in his qualitative study found that paddy farmers in Northwest Selangor Maju developed seven personality traits namely information seekers, willingness to take risk, capable of producing high capital, able to solve problems, extensive network information, dare to make decision and highly discipline were more useful in predicting paddy farmers performances. Hassan, S and Syarafina (2015) then expend Hassan, S (2011) study recommendation into quantitative study for systematic paddy farmers in MADA, Kedah Malaysia.

However, cocoa industry have a long process of a global supply chain involving various parties starting from farm to the processing which are farmers, buyers, transport companies, processors, chocolatiers and distributors. The production at the farm level is often a delicate and most important process because the crop itself is susceptible to various condition and practices. Mota, M.M. et al. (2019), found in their study that improvement and optimizing the logistic of cocoa supply chain in Cote d'Ivoire will increase the productivity, profitability of the cocoa sector and also the farmers standard of living. Gulc, A. (2017) mentioned that there were less study on logistic service quality has been done compared to study on logistic performance effect on chilled and non-chilled food. Positive significant relationship existed between knowledge, attitude and practice towards adoption of improved varieties of pearl millet among farmers in North-Eastern Nigeria (Mohammed, 2019).

Issues in the PMCF work performance

Based on all of these studies finding, there is a need to combine all of these factors in one study framework which include PMCF individual factors such as Personality Traits,

knowledge and practice together with other external factors (visible) namely logistics which are the sub variables are location, infrastructure and transportation. This also supported by Fatimah (2015) suggestion for future study to study more on institutional supports as a compliment of education extension circle which are R&D, extension and services, The future study should focus on improvement in supply chains, logistics, innovations, product development, marketing, promotion and SME development as the variable (Arshad, F.M. & Ibragimov, A., 2015).

Therefore, the main objective of this article is to report all the process and procedures taken to validate and improve all the variables and sub variables constructs in the proposed research framework before the real study data collection In order to contribute to the body of research in agriculture extension area.

Literature review

Work Performance

Job performance has been conceptualized as performance of specific dimensions (Hasibuan, N. et al., 2010); where the result is achieved by a person which is responsible to carry out (Hussain, H. et al., 2017) the organization desired outcome in any activity that carry out based on his skills, knowledge and experiences (Hasibuan, N. et al., 2011). Work performance among smallholders in agriculture extension is to produce the valued result such as i) the farm productivity and ii) smallholders adoption behaviour (Mwangi et al., 2015) iii) participation behaviour (Ainul et al., 2017) and iv) good agriculture practice (Neda, 2009). In other words, Work performances means adoption behavior, participation behavior and productivity improvement.

By adapting Demba (2017) concept of farmers work performance, the concept of

work performance of this study is defined as PMCF perception on how well they use their own resources, time, energy and their commitment towards their own cocoa farm.

Personality Traits

Personality traits can give a better understanding of individual differences in the adoption decision Hea, P. and Veronesi, M. (2017). Personality traits are very distinct talent or characteristic that are habitual driver behaviors (N. Khown & H. Song., 2011). This study also adapt personality traits defined by Demba (2017) which are how farmers see themselves in terms of their discipline, Ability to take risk, Networking, Problem solving, Investment, Information seeker, Decision making into their commitment towards their cocoa farm.

Discipline

Zhang, L. et. al., (2018) found that farmers self-discipline is more effective rather than government regulation in order to increase the agricultural production. Zhang, L. et. al., (2018) also defined that farmers self-discipline is farmers willingness to follow or support the regulations or procedures produced by government. Marbun, I. M. & Purba, C. B. (2021) stated that Hasibuan, M. P. (2013) defined the work discipline is when an individual is alert and aware of his responsibility as an employee of an organization regulations, standards and policies either it is written or not. This study will referred to Demba (2019) for discipline operational definition which is discipline is defined as an ability to pursue what one think is right given any obstacles on the path.

Ability to take risk

Farmers are involves in wide and large risk management strategies due to there are wide range in agricultural production including production, market, financial and institutional risk (Meraner, M. et. al., 2017). Farmers willingness to take risk is depends on his behavior and his personal characteristic

in decision making either to take the risk individually by off farm or on farm activities. The operational definition for PMCF ability to take risk is their willingness to handle circumstance or problem on their farm and how they will react to the problem as defined by Jihan (2019).

Networking

The good relation between smallholders and extension agent is very important to be maintained because this is part of the way how social capital reacts in order to achieve better and good productivity (Mwangi, M. et. al., 2015). Norlizah et al., (2017) found that good relationship with extension agent can change cocoa smallholders in Hilir Perak attitude to increase knowledge for their cocoa farm management and production. This study defined the PMCF networking is how far the PMCF willing to connect with others in order to sharing knowledge on anything that related to cocoa farm as defined by Jihan, 2019.

Problem solving

Shah, J. A. et. al. (2013) stated that a problem solver is a person who aids, dependable and have a 'tract record' good in problems solving. Problem solver characteristics are they need to have knowledge and experience not only work-related matters but also the community and always been source of others referrals. In addition, they have to be willing with the others regardless of the time and day and are willing and want to try even higher risk. This study will use the operational definition as defined by Demba (2017) which is the PMCF ability to use knowledge, facts and data in providing the solution.

Investment

Yigezu, Y. A. et. al. (2018) mentioned that low and slow adoption among smallholders depend on their willingness to invest. This study will define PMCF willingness to dominant investment as their willingness to use

its own capital for the farm activities as stated by Jihan (2019).

Information seeker

Information seeker is when a person realizes the need to reduce the gap of understanding by searching the information more than a source in order to fill the gap. The information will be used to complete a task neither to satisfy a curiosity. Referred to Savolainen (2012) by Balabanis, G. (2019), there are many types of information seekers namely intrinsic interest value, attainment value, utility value and relative cost value. In PMCF scenario, these four (4) types of information seekers types are relevant. However, the operational definition that will be used in this study is a PMCF that has an effort to accumulate important data related to their farming business. (Jihan, 2019)

Decision making

Set of needs, preferences and values that individual has or seeks (Jihan, 2019)

Knowledge

Norlizah et al., (2017) found that adequate knowledge can change cocoa smallholders in Hilir Perak attitude to increase their cocoa farm production. The more theoretical knowledge farmers acquire about cocoa farming, the more efficient they became in their cocoa farm management (Roshidah et. al., 2017). These statements also supported by Zainuddin, N. S. (2019) which are farmers' attitude and knowledge were related and significantly influence the intention to adopt new paddy variety. PMCF knowledge on mature cocoa technologies, current scenario on cocoa industry, principles, techniques, education to increase their work performance at their cocoa farm

Practice

The more **practical** farmers acquire about cocoa farming, the more efficient they became in their cocoa farm management (Roshidah et. al., 2017). This study defines practice as Mohammed (2019) which is

PMCY ability to adapt the mature cocoa technology in their cocoa farm.

Logistic

Norlizah et al., (2017) found that conducive condition also can change cocoa smallholders in Hilir Perak attitude to increase their cocoa farm production.

Location

Adequate logistic support do play a role to make sure the develop community in order to disseminate the technologies to the farmers (Asayehegn, K. et. al., 2012) which is supported by Mwangi, M. et. al. (2015). Mwangi, M. et. al., (2015) stated that access to extension services has also been found to be a key aspect in technology adoption.

Infrastructure

Asayehegn, K. et. al. (2012) stated that infrastructure constraint was found as one of the factor that affects the effectiveness of development agent job performances that will also affect the farmers work performances.

Transportation

Poor transportation network mentioned as one of the factor the affect job performance of extension agent (Nnadi et.al., 2012).

Methods

Study design

This study applied quantitative research method to determine the relationship between independent and dependent variables.

The setting

The original setting to conduct the pilot study was face to face and carried out by a research team consisting of student supervisors, students and extension agents from the respective agency from one location to another location. However, the Movement Control Order (MCO) and

restriction on cross zone travel has been issued due to the second wave of Covid-19 pandemic. Therefore, both Expert panel and the respective agency agreed to do data collection for pilot study data by i) face to face individually in green zone area and by ii) phone call to farmers that are in yellow and red zone iii) phone call to the chosen farmers who were in the different zone. All the data collection carried out by the respective agency's extension agents based on the respondent's convenience and current MCO situation. In order to reduce the misconduct of data collection, a working committee has been established consist of researcher and respective agency's team from each level by each zone to monitor and assist the data pilot study implementation. A *Whatsapp* group also has been created for a discussion and immediate respond for any inquiry.

The Research Instrument

Structured questionnaires have been adopted and developed to know the recent status of work performances among PMCF based on Iceberg Model integrated with the Theory of Plan Behaviour (TPB) and Theory of Acceptance Model (TAM). Some modifications from the existing questionnaire have been done to suit the study requirement. The process of questionnaire adopted, and development was divided into four phases of development, validation, pilot test and reliability test phases. The questionnaires consisted of structured open and closed-ended questions and interval level questions (more than two choices of answers). The questionnaire forms have been divided into four (4) sections of A. Profile of respondents, B. Profile of the cocoa farm, C. Independent variables – Personality Traits (Discipline, Ability to take the risk, Networking, Problem-solving, Investment, Information seeker, Decision making), Attitude, Practice and Knowledge. D. Dependent Variables – Work Performance. Each IV's and DV have 12-23 items with the total number items were 177.

The first draft of instrument was face to face validity by the Expert panel in terms of content and structure of questionnaires. At the same time, the nomination of technologies content expertise application was submitted to the respective agency for their validation.

The instrument then emailed to the respective agency's expertise for the content validity within 2 weeks together with the cover letter explaining the study background, the definition of each IV's and DV, and the need of the expertise's feedbacks. After the validation, there were 32 items modification and 65 additional new items suggested based on the respective agency's technologies. Therefore, the total number of items was 242. However, the structured of the items were still maintained adapting the previous study items.

After some modification based on the expertise recommendation, the instrument then were submitted face to face to the advisory of questionnaire development for the instrument structure in terms of choice of language and wording, sentences structured, overlapping, and simple understanding. The amendments instrument was given to six different background agriculture extension agents to answer the instrument from different region via email and face to face. Any unclear items were improved to make it clearer and easier to understand. As a result, majority the trial sessions took within 25-40 minutes including the unclear items.

The Approaches

As the pilot study schedule were during the MCO due to Covid-19 pandemic 2nd wave, the researchers together with the respective agency's took a serious and depth discussion to strategize the pilot study data collection in terms of i) respondents selection ii) the procedures iii) the approaches iv) the data collection working committee v) the enumerators vi) the

instruments vii) the interview session viii) the data entry process ix) the time frame. This is because the pilot study result will provide the information either the instrument can be used for the actual data collection. Besides that, the researchers also have to make sure all the process follow the MCO's Standard Operational Procedure (SOP).

The respondents

The minimum number of sample size were depends on the types of research itself which is influenced by many factors. Memon, M. A. *et al* (2020) referred to Roscoe's (1975) guidelines mentioned that the minimum sample size for behavioural study were 30. Syahira, N. *et. al* (2016) stated that Hertzdog (2007) referred to Nunnally & Bernstein, (1994) that the minimum number of pilot study respondent were 30.

For this pilot study, the expert panel and the researchers agreed the total number of 105 PMCF were selected to answer the instrument which were 35 PMCF from Peninsular Malaysia, 35 PMCF from Sarawak and 35 PMCF from Sabah. Number of respondents were decided for each region which means the percentage of respondent from each zone were 1.7% for Sabah population, 3.6% respondents from each Zone in Sarawak population and 4.9% respondents from each zone based Peninsular population. Number of respondents for each zone by region is shown in Table 1.

Table 1: Number of respondents for each zone by region is shown in Table 1.

SABAH (1.7% from Sabah population)		SARAWAK (3.6% from Sabah population)		PENINSULAR (4.9% from Sabah population)	
Northern Zone	5	Southern Zone	24	Southern Zone	7

Western Zone	15	Inland Zone	6	Eastern Zone	7
Inland Zone	11	Middle Zone	3	Northern Zone	20
Eastern Zone	4	Northern Zone	2	-	-
TOTAL	35	TOTAL	35	TOTAL	35

However, the selection of PMCF was chosen by the working committee each zonebased on non-restricted area from MCO, non-flood disaster area, resources and also the respondents availability to participate the interview session.

The procedures

1) Pre-interview Stage

Before the pilot study implementation, the researches first create a in *Working Committee Whatsapp Group* that consist of the research team chairman, the researcher and the extension agents from multiple level of the respective agency. The objective of the established of *Working Committee Whatsapp Group* was briefed shortly. The representatives from the agency then add more extension agents that have a potential to be an enumerator of the pilot study.

The researcher then gather the i) information on total of PMCF in each region
ii) name list of enumerator from each zone for each region from the respective agency. From that, the numbers of 35 respondents were decided for each region which was calculated based on the percentage of respondent from each zone as shown in Table 1.

The researcher then took an initiative to create a simple template that can be a reference to guide the enumerator on the pilot study background, term use in the questionnaire, the main function on each working committee. The template and revised questionnaire was emailed and post in *Working Committee Whatsapp Group* to

all Supervisors for each region and zone before the briefing session.

The instrument, guide template and work schedule were email to each zone supervisors to disseminate among them before the briefing as a reference. The briefing was held via Google Meet platform that consist of the research team chairman, the researcher and the Data Collection Working Committee which were the Director, the supervisors and all the enumerators joined the briefing session. During the briefing, the explanation on aim of the study, topics, each variables definition and each item was explained thoroughly to avoid different understanding among individuals. Each unclear item or sentence structure was explained. During the briefing, some of the word and structure was changed based on the enumerator suggestion and agreed by all. The researcher amend the word on the spot

As overall, the briefing went smoothly because the briefing participants were familiar with the productive cocoa technology apart of the selection of word and the sentence structured were commonly used. The briefing session took 4 hours. The milestone of pilot study data collection were disseminate to the supervisors in order to make sure the scheduled work plan is on track.

2) During the Interview Stage

As agreed during briefing session, any update info or inquiry on current situation during interview will be updated to the researcher by phone call or *Whatsapp* for immediate respond. The pilot study retrieval occurs simultaneously in all areas. The interview was conducted by the enumerators from the agency because the researcher was not allowed to travel due to MCO restriction.

There were multiple challenge facing during the interview stage such i) flood at the four (4) respondents area which are Johor, Malacca and Kelantan ii) unavailable of one (1) respondent during the interview session arrangement in Betong, Sarawak iii) MCO restriction in Bintulu, Sarawak involved two (2) respondents.

The details information by percentage either the data were collect via face to face or telephone is shown in Table 2:

Table 2: Number and percentage of respondents for each approaches by region is shown in Table 2.

Region	Number and percentage of respondents	
	Face to Face	Telephone
Sabah	35 (100%)	0 (0%)
Sarawak	32 (91%)	3 (9%)
Peninsular	29 (83%)	6 (17%)

The real time data collection for the pilot study can be done by two (2) methods either by i) manual form ii) Google form. For this data pilot study, the manual form were used by 91% in Sabah, 100% in Sarawak and 94% in Peninsular while the Google form were used only 9% in Sabah, 0% in Sarawak and 6% in Peninsular as shown in Table 3.

Table 3: Number and percentage of respondents for each data collection instrument is shown in Table 3.

Region	Number and percentage of respondents	
	Manual Form	Google Form
Sabah	32 (91%)	3 (9%)
Sarawak	35 (100%)	0 (0%)
Peninsular	33 (94%)	2 (6%)

There were also some inquiries from one (1) in Sarawak respondents during the interview

session. The inquiries then were referred to the researcher by the enumerator via Whatsapp Group platform. The researcher then explained to the enumerator via phone call and Whatsapp Group in order to make all the respondents get the same information.

3) Post Interview Stage

At this stage, all the data collected via manual form were key in into Google form for security purpose and also due to time constraint. This is because to avoid the manual form went missing if the form send via airway services as there was many missing or stranded item were reported during Covid-19 first phase of MCO.

The data collected then were extract from the Google form into excel. The cleaning data were started by identify the missing information and confusing data entry. Majority the missing and confusing data were at Section B which is Farm Profile such as the total number of cocoa clones in the farm, the total number of cocoa trees in the farm and the farm distance from the respondent house. However, all the missing and confused data can be clear by the enumerators either based on their secondary data or they have to refer the respondent back.

After the cleaning session, the data then were coded and theme based on the study objectives.

Finding, Analysis and Discussion

The pilot study interview session gave the opportunity to the researcher to improve the strategy, the enumerators' interviews guideline notebook, term of reference of the respondent (PMCF) criteria, recheck the name list provided by the agencies to make sure it is suit with the PMCF criteria and also the instrument before the real data collection.

There were three major finding from the pilot study interview which are i) data collection protocol ii) number of item iii) sentences structured

For the data collection protocol, researcher found that there will be some changes for the identified respondent due to sudden announce of Covid-19 MCO restriction order in several areas. However, the total number of respondent for each zone will be retained. The researcher also assumes that the used of Google form and telephone will be use more during the real data collection. Besides that, the researcher also found that there were some wrong suitable respondent for this pilot study which means there're misunderstanding for the terms of PMCF. The researcher then asked the supervisor to identify three (3) new pilot study respondents in Ranau to do the interview. The researcher then removes all 105 pilot study respondent name list as the real data collection respondent candidate.

The second and third finding was for the improvement on the instrument itself. Based on feedback from the enumerators, majority respondents confused to answer the Question number 13, 14, 15 and 16 at Section D which are 13) *Jambatan utama dikawasan saya memudahkan urusan penghantaran biji koko dan input pertanian*, 14) *Kebun saya selalu dilanda banjir*, 15) *Parit utama di kebun saya tidak diselenggara dengan baik* and 16) *Parit ladang di kebun saya tidak diselenggara dengan baik*. The feedback were from respondents in Betong, Sarawak and Kinabatangan, Sabah. These four (4) questions basically will be answered either 'yes' or 'no'. So that, the researchers decided to improve the explanation in the enumerators' interviews guideline notebook as a reference by giving more explanations and examples of the next question that need to be asked by implement who, why, what and how types of questions.

The researcher also gather the duration of one interview session for one respondent from each zone in order to reschedule the milestone of real data collection Gantt Chart. Besides that, the researcher also gathers the feedback from each zone for which question that took time to answer by the respondent. The sentences structure of that question will be studied and revised if needed.

The data for all parameters were analyzed using IBM SPSS version 25.0 to run the Frequency Analysis, Reliability Test and Factor Analysis. From this steps, there were only two (2) items need to be delete. The researcher then improves the final set of instrument before it can be disseminate for the real data collection.

Conclusion

This pilot study was carried out to validate the process and also the instruments that will be apply n use in the real data collection. However, there we some limitation during the pilot study implementation which were i) the interview has to be done via telephone rather than face to face that. However, luckily for this study the enumerators were from the respective agencies that are very familiar with the PMCF's scenario and can communicate well to make the interview session became much easier and comfortable. Therefore, the validity of the data collected can be trusted because the data collected has been verified by the zone and region supervisor if there are confusing data. Even though the data collection was implementing all over Malaysia during MCO restriction 2.0, the communication went well among the researchers and the working committee which are from the respective agency by fully use the *Whatsapp* technology. The milestone to finish the data collection also can be considered on time even though it was 3 days behind the target date due to the need of interview three (3) new

respondents from Ranau, Sabah by fully use of Google form application. As a conclusion, the pilot study collection data was successfully implemented even though we were facing the big challenge due to Covid-19 pandemic because i) the instrument has been validate n improved to be used in the real data collection ii) support and great teamwork from the working committee that really play their roles as an extension agent to help the data collection process iii) the fully use of Information Technology applications namely Whatsaap and Google Form.

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OFD platform factors, customer experience, attitude and behavioral intention towards OFD service in southern of Thailand

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Abstract

Online Food Delivery Service is a platform that helps to fulfill and facilitate customers who are busy, inactive, don't want to leave the house, or those who want fast and convenient food without having to drive from their house. Furthermore, due to the crisis of the coronavirus or covid-19, people are increasingly ordering food online because the situation of covid-19 of the third wave are very serious and fast-spreading from people to people especially in family members and colleagues. Many customers are working from home but some people still need to work at their workplace. This has caused a lot of restaurants to start selling online rather than open restaurants which don't allow the customers to eat at the restaurants. All the restaurants do follow the rules of the government that protect against the spreading more of covid-19. OFD services have become popular services for people in Bangkok as it is convenient and comfortable, not Bangkok people but also many provinces are very popular. In addition, Foodpanda, GrabFood, Line Man, Gojek, Robinhood, and so on have become popular platforms for people to order food from and many applications started to open for many provinces in Thailand so the competition is very high. And then for applications; Foodpanda and Grabfood in the south of Thailand are other options for local customers and also popular for customers in Yala, Pattani, and Narathiwat. Foodpanda and Grabfood are the main key runner in these three provinces with a lot of customers using the application to order food online. However, these 3 provinces still have a lot of people infected with covid-19. Therefore, a lot of customers turn to order food from the applications for convenience and protection to meet other people. For Grabfood and Foodpanda, it's highly competitive in the three provinces. Thus, there will be a disadvantage for some cases for the customers that the research has experience use Grabfood and Foodpanda and also interview customers who have experience using these two applications. In case of the food are not quite fresh due to the restaurants are really highly competitive, the restaurants want to cook food very fast to serve to the customers so the restaurant stock the raw material too long and cook food and prepare food before customers' order. In another disadvantage of ordering food online is pricing because the restaurants need to charge 30% of the real price that the restaurants need to pay for the application. But for delivery fees are not high, it depends on the restaurants and applications. For an updated delivery fee, Grabfood charge only one baht but Foodpanda charge from 1 Baht to 9 Baht which is not really high. However, the price totally is still high if compare to the physical restaurant but overall, it depends on the perspective of each person. Lastly, after the researcher collected the questionnaires, the result was found that some customers said it's not worthwhile to pay for OFD service but some customers said it's worthwhile for them.

Keywords

Online Food Delivery Service, Convenient, covid-19, Hedonic motivation, Prior purchase experience, Time-saving Orientation, Price- saving Orientation, service quality

Introduction

Technology has been a significant contributor to the revolutionization of the foodservice and changes in customer tastes, as their technological advancement has led them to do what they can online to get prepared meals at their house. Convenience is the top priority for customers, as orders are as quick as a few taps on mobile devices. Technological dependence, convenience, and reduced time to supply food supports are strong reasons for customers to use online food ordering and supply hubs (Das, 2018). Through internet and technology growth, food retailers are gradually introducing online platforms, so that customers can purchase online foodstuffs (Nguyen et al., 2019). Technology also helped shift the customer choice because its dependence on technology has led to everything online, including the supply of cooked meals (See-Kwong et al., 2017). Residents from around the country are switching to online orders and more options to buy with less expense and effort. In addition, the contestants recognize not only the purchasing process but also its ease with food choices that can be ordered via online service (Kitthandeachaorn, 2016). Another advantage of using their smartphones for entering Online Food Delivery Services may have prompted consumers to switch from conventional offline food transactions to

OFD services as consumers can now take a broad range of food options with just one button (Chai & Yat, 2019). When they have no expectations of where and what to eat, the time taken to produce the food is also a good reason for customers' meals (See-Kwong, et al., 2017). Consumers order food for delivery to appreciate the convenience of dinner in their home or workplace and to take advantage of their time (Sakulrattana, 2015).

Literature review

Online Food Delivery Service is an integrated self-service platform where customers can monitor their ordering rates and limit the number of personal interactions they are experiencing. Research has shown that 50.8% of persons order food services. After all, customers don't want to prepare because customers can send customers food right into their home or office in less than a few hours (Kimes, 2011). Business owners claim that, given that it is consistent with your business model, it allows the business to stay competitive in the market (The NPD Group, 2016).

From 2016 to 2017, the food market grew at maturity of 2-4%. Though from 2016 to 2017, the food supply market grows by 11-15% at Compound Annual Growth Rate (CAGR). The reason for this increase is the shifts in consumer behavior, which greatly

appreciate time and comfort (Thansettakij, 2016). In the next five years, it is approximated that the commodity market

for food supply will mature. In the coming five years, the market is projected to grow at a rate of 3.5% (Kitthandeachaorn, 2016).

Methods

Sample size: Unknown population standard deviation

The customer attitude effect on online food delivery service for this study is formed within the context of Cochran's sample size formula (Zikmund et al., 2013) function as mentioned below:

$$n = \frac{z_{c.l}^2 pq}{E^2}$$

Where n = sample size

$z_{c.l}^2$ = square of the confidence level in standard error

p = estimated proportion of successes
 $q = 1 - p$, estimated proportion of failure
 $e2E^2$ = the margin of error, at a confidence interval of 95%, so the allowable deviation is 0.05

P and q are unknown, so $p=0.5$ and $q=0.5$

And estimated 95% confidence, so $Z_{c.l} = 1.96$

$E = 5\%$ or 0.05

Sampling calculation

$$(1.96)^2(0.5)(0.5)$$

$$n = \frac{(0.05)^2}{\frac{9.604}{0.0025}}$$

Sample size = $384.16 = 385$ users

The number of population is 500,000-1,000,000 equal to 384 sample size (Krejcie & Morgan, 1970). Amusing the number of all provinces is 1,170,124. Therefore, the sample size is 384 users.

The 385 respondents (Zikmund et al., 2013) and 384 (Krejcie & Morgan, 1970) are mutually supportive. This study, therefore, includes 385 participants as the sample size.

Users of OFD services: Unknown population

The target group is local people in Yala, Pattani, and Narathiwat, aged 19 years old and above because the average age is 19 years old (Electronic Transactions Development Agency, 2021). OFD service was just famous when FoodPanda was established in Yala. Then GrabFood is started to open in Yala province. Customers are interested in both applications, especially for FoodPanda application. Moreover, it will be easier for the researcher to collect data for the research. The questionnaires will collect from users who have experience using these

2 applications at least one-time purchasing OFD services.

Probability Sampling Methods

For the distribution of the questionnaire in Southern Thailand, a convenient method for sampling was selected. Convenience sampling is a non-probability sampling technique in which the selected samples are made accessible to the researchers from the population. Researchers select these samples only because it is easy to recruit, and the researcher does not intend to choose a sample that represents the whole population. In research, a sample representing the population should surely be tested. However, in certain research, people are too large for the actual population to be examined and considered. It is because of its speed, cost efficiency, and ease of sample availabilities that researchers trust sampling convenience, which is the most common non-probability sampling process (QuestionPro, n.d.)

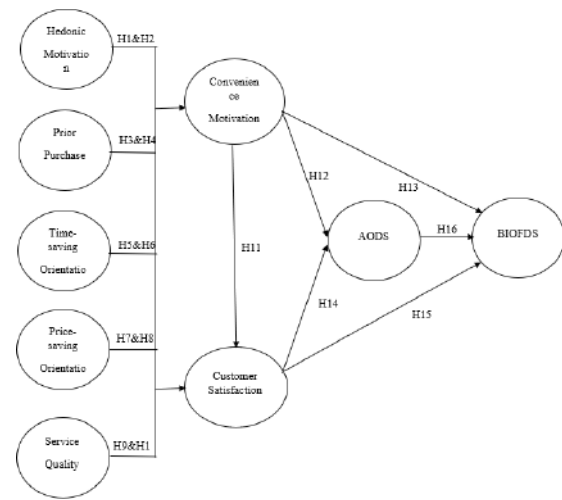


Figure 1. Conceptual framework for this study (Anderson and Srinivasan, 2003; Zulkarnain, 2015)

Note: *Attitude towards online food delivery services (AODS)

**Behavioral intention toward online food delivery services (BIOFDS)

Analysis/Discussion

Results from quantitative data were analyzed by using the Statistical Package for the Social Sciences (SPSS) program. Statistical methods used included Partial Least Squares Path Modeling (PLS-PM) which is a quantitative technique for modeling multivariate complex relationships among dependent variable and independent variable (structural equation models). This method has been widely popular among

many researchers over the last couple of years (Esposito Vinzi et al. 2007). The Structural Equation Models provide a variety of quantitative methodologies enabling the forecast utilizing several indicators of the causal theory of relations that connect latent, abstract approaches (Xlstat, n.d.).

The reason why the researcher chooses PLS is that PLS is standard practice in information system research, strategy management, (Hair et al., 2012a), marketing, and so on (Marcoulides and Saunders, 2006). PLS is frequently used in information system research. Researchers throughout fields admire its capability to model all variables and compounds and make it an accuracy range, specific for study on emerging technologies and information systems (Henseler, 2016).

PLS path modeling is also the main statistical method for determinant studies (Albers, 2010). It not only has encountered a variety of critical exams and has been the topic of intense science discussions (Hair et al. 2012a, b), but it has also lately. Scholars discussed both the philosophical foundations and strengths as well as weaknesses (Rönkkö and Evermann, 2013; Aguirre-Urreta and Marakas, 2013; Rigdon et al., 2014).

Table 1: Proportion of Variance Explained

Latent Factors	X Variance	Statistics			
		Cumulative X Variance	Y Variance	Cumulative Y Variance (R-square)	Adjusted R-square
1	.090	.090	.024	.024	.021
2	.047	.138	.024	.047	.041
3	.054	.191	.020	.067	.058
4	.054	.245	.013	.080	.068
5	.036	.282	.015	.095	.081

Conclusion

Table 1 is the proportion of variance explained, the system will generate different latent factors with 5 factors. The first factor says the X variance is 0.090 or 9 percent of the variance is explained by the independent variable and 0.024 is 2.4 percent of the variance is explained by the dependent variable. The second factor says the X variance is 0.047 or 4.7 percent of the variance is explained by the independent variable and 0.024 is 2.4 percent of the variance is explained by the dependent variable. The third factor says the X variance is 0.054 or 5.4 percent of the variance is explained by the independent variable and 0.020 is 2 percent of the variance is explained by the dependent variable. The fourth factor says the X variance is 0.054 or 5.4 percent of the variance is explained by the independent variable and 0.013 is 1.3 percent of the variance is explained by the dependent variable. And the last factor says the X variance is 0.036 or 3.6 percent of the variance is explained by the independent

variable and 0.015 is 1.5 percent of the variance is explained by the dependent variable. As all the factors the variance explained is very less so it considers that all factors are having less variance explained by X value independent and dependent variables.

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Visitors' Demotivation in Attending Food and Beverage Exhibition During Covid-19 Pandemic Era: Case Study of Exhibition Venues in Songkhla

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Abstract

Due to the current Coronavirus Disease 2019 (Covid-19) situation with a wide range of industries such as the MICE industry, the food and beverage exhibitions have been negatively affected. Studying visitors' demotivation in attending food and beverage exhibitions during the pandemic era is expected to be a significant benefit to organizers and venues. However, the demotivation factors in attending are diverse. For this reason, the purpose of this study was to identify the demotivation factors of the visitors towards the food and beverage exhibitions during the Covid-19 pandemic. The case studies focused on the MICE venue in Songkhla Province, Thailand. This quantitative research used a sample selected from the population living in Songkhla Province, Thailand who have been to food and beverage exhibitions with about 400 visitors. The visitors' demotivation factors are determined by seven dominant groups: perceived exhibition information, location and logistics, product, experience, travel, connection, and defensive measures. These seven factors must be examined before holding an exhibition during Covid-19. The criteria for determining demotivation factors include gender, age, status, education level, and career. The results revealed that there were three demotivation factors that affected the visitors to attend food and beverage exhibitions during the pandemic. The first factor is the defensive measure to be taken while holding exhibitions during Covid-19 related to all visitors must confirming vaccination before attend exhibitions. Second factor is the location and logistics related to public transport for access to the venue. The last factor is perceived exhibition information related to advertising and public relations of food and beverage exhibitions through

billboards and online media. Therefore, by understanding the demotivation factors of the visitors, the data may play a significant role in influencing the organizer's decision-making when planning future food and beverage exhibitions.

Keywords

Food and beverages exhibition, demotivation, visitors, Songkhla

Introduction

Food and beverage industry are all companies involved in processing raw food materials, packaging, and distributing them. This includes fresh, prepared foods as well as packaged foods, and alcoholic and nonalcoholic beverages. The food and agriculture industry has an important role to support the growth of the MICE industry. Trade fairs will focus on value adding between the producers, the buyers, and the consumers in the platform of business to customer or B to C. This type of fairs can be organized at the national level in such a big exhibition center which can add a great deal for more value to the trade. Similar events of smaller scale can also be organized in different provinces around the country to enable more development and growth of the MICE industry in other areas outside Bangkok and its surrounding, especially in MICE cities such as Pattaya, Chiang Mai, Phuket, and KhonKaen. However, there should be more MICE international trade fairs and exhibitions that emphasize on fostering business partners and network, allowing them to develop the Business to Business or B to B value adding to their trade in the future. This type of event is beneficial to the development of the MICE industry since the B to B requires a much higher budget than the B to C type of event but at the same time is a lot more attractive to a greater number of foreign visitors. These MICE visitors often have high purchasing power and are quality travelers whom we should attach great importance [1].

Visitor's behaviors depend on individual interests to have different preferences, [2]

Demography is the study of various areas of human behavior. Having different individual factors such as gender, age, education leads to interest in different behaviors and consumption. This is consistent with [3] who said demography is the study of demographics in different areas, including age, sex, family size, family status, income, occupation, education, in which demographic data influences target market determination and can easily be measured. The Covid-19 situation is critical and has continued to affect all over the world. Both in the economic and social sectors, all industries are directly and indirectly affected. The MICE industry is one industry that is directly affected. Since the organization of meetings, seminars, exhibitions, and that festival, it is an activity where a large group of people meet. Create a relationship between each other. [4] from the impact of the Covid-19 outbreak that caused BITEC Bang Na to shut down services for over 90 days, affecting the number of jobs and the center's income to be reduced. Making it expected that this year will be the first year in 20 years since the service opened, the revenue of BITEC will be negative from the previous year. It also sees that BITEC's income after this may only grow one digit and cannot return to growth, compared to the previous 10-20% growth [4].

In 2020, Thailand organized THAIFEX – ANUGA ASIA 2020 "The Hybrid Edition" to meet the expectations of visitors to the exhibition who want to visit food and beverage. During the situation with the coronavirus epidemic. It combines virtual trade show (VTS) and Virtual – Online Business Matching (V-OBM). As a result, both

domestic and international visitors (online format) are interested and satisfied with the purchase and consumption of products at the event. The event recorded 54,396 visitors, generating 7,918 million turnovers, including offline and online turnover[5].

As mentioned above, it is important to study the visitor's behavior and perceived of food and beverage exhibition during Covid-19. To identify the demotivation factors of the visitors towards the food and beverage exhibition. In order to better understand the behavior of the visitors and avoid those factors in organizing the exhibition.

Purpose of the study

To identify the demotivation factors of the Visitors towards the food and beverage exhibitions.

The benefit of this study

The results of this study can benefit both the organizers and exhibitors. First, the organizers and exhibitors can know the feedback of visitors about the exhibition if wants to organize the food and beverage exhibition in this situation. Second, know the visitors' demotivation factors in attending the exhibition to keep it for analysis of trends in attending the next exhibition. Thus, the study showed demotivation factors for further use in future studies.

Literature review

The exhibition is a marketing activity that can attract a large number of companies and exhibitors, affecting the economy as well as increasing the number of visitors to the country where trade shows are held. In Thailand, food and beverage exhibition are taking an interest in food and beverage

tourists[6]. But with the current situation with the Covid-19 outbreak, As a result, visitors are concerned about attending food and beverage exhibition[7].

This research is based on theoretical related to the demotivation that affected the visitors' behavior found on motivation[8,9]. Reasons of important to invest effort in researching about the demotivation of the festival visitors. The first reason is enhanced the design of the festival for avoiding the unsatisfactoriness of the visitors. The second reason is satisfaction and unsatisfactoriness, since the visitors are satisfied when the event meets their expectations meanwhile when the event not meets their expectations also the visitors are unsatisfactoriness and thus the unsatisfactoriness will have effect as a demotivation for future visits of the same festival. The third reason is understanding the visitor's decision-making process, which leads to enhanced the marketing activities into effective ones. Therefore, the researchers searched the relevant theories for use as information for surveys the level of visitors demotivation in attending food and beverage exhibition during the pandemic era.

Methods

This study used quantitative method to gain a comprehensive understanding of visitor motivation in attending food and beverage exhibition during pandemic era. Therefore, the research instrument in this research was a questionnaire. To study information about people who live in Songkhla Province have been to attended an exhibition on food and beverage. Which referenced the sample from who has been ever visited the

summer bitter sweet exhibition held in Hat Yai district, Songkhla Province, in 2020, a total of 32,500 visitors. Which was randomly passed the population size calculation method to obtain the desired sample and reference which could have been constructed using the Krejcie and Morgan formula[10]. The method of calculating the researchers must know the population size and proportion of characteristics of interest in the population and determine the degree of error and confidence level, as if the population used in the research amounted to 32,500 visitors, accepting the degree of error in the sampling. 5% at the confidence level of 95% and the proportion of interest in the population is 0.5% the size of the desired sample is approximately to 380 visitors. To be certain that the determined sample size would be reached, the study decided to distribute 400 questionnaires but due to the problem about time of research that making it unable to collect all the data as the plan. Therefore, we just only have 385 data can be analysis.

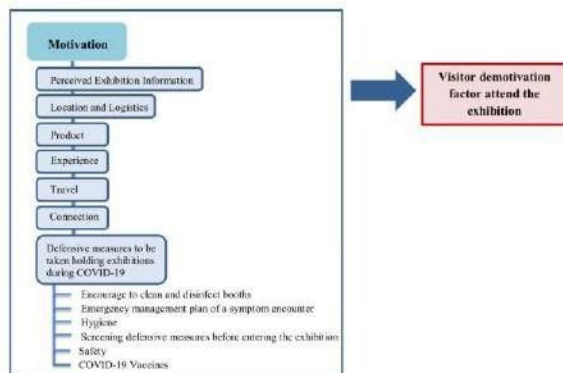


Figure 1: Conceptual framework

Analysis/Discussion

Data coding

The researchers collected and validated the data to be analyzed and processed by SPSS program from the following codes:

Topic	Code
Gender	C001
Female	1
Male	2
Other	3
Age	C002
20-24 years	1
25-30 years	2
31-35 years	3
36-40 years	4
41-45 years	5
45 years and over	6
Status	C003
Single	1
Married	2
Divorced	3
Education level	C004
Tertiary Education, Higher Education	1
Bachelor's degree	2
Post graduate	3
Career	C005
Student	1
Government official	2
State enterprise employee	3
Office worker	4
Self-employed	5
Other	6
Motivation level	
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5
Perceived Exhibition Information	
Advertising and public relations of food and beverage exhibitions through billboards and online media.	Q101_1
Recognize about food and beverage exhibitions from people who have attended the event before.	Q101_2

Know that information about the food and beverage exhibitions from well-known exhibitors.	Q101_3
Location and Logistics	
The food and beverage exhibition venue has a wide range of accessible public transport systems.	Q102_1
The venue is clean and has many facilities, whether it is a parking place, a bathroom.	Q102_2
The venue is large and spacious, able to accommodate a large number of exhibitors.	Q102_3
The venue's reputation.	Q102_4
The venue's beautiful design.	Q102_5
Product	
New product launches at the food and beverage exhibition.	Q103_1
A wide variety of products to choose.	Q103_2
Products and beverages at the food and beverage exhibition are quality products that have passed the standard certification.	Q103_3
Cheap products and promotion discounts at the food and beverage exhibition.	Q103_4
Experience	
Food and beverage exhibitions can create an interesting experience for the visitors to visit the exhibition.	Q104_1
Food and beverage exhibitions can create a complete customer experience because they can use the products directly.	Q104_2
Gain experience and knowledge from experts directly.	Q104_3
Travel	
The exhibition can make you feel relaxed from anxious and exhaustion.	Q105_1
The exhibition is like as a kind of	Q105_2

interesting tourism one thing	
Connection	
Build connections between exhibitors and visitors.	Q106_1
Exhibitors or organizations are better known to target customers.	Q106_2
There was a relationship between people who had similar preferences.	Q106_3
Easier to expand business channels when in the exhibition.	Q106_4
Defensive measure to be taken holding exhibitions during Covid-19	
Check the temperature of visitors and exhibitors before entering the exhibition venue.	Q201_1
Registration system before entering and exiting the premises using the government-designated application.	Q201_2
Visitors wear hygienic masks before entering and at all times while in the exhibition.	Q201_3
A risk assessment questionnaire for Covid-19 and consent to disclosure when necessary.	Q201_4
Install a CCTV camera in a venue inside the hall to closely monitor the movement of visitors to ensure social distances and congestion control at all points.	Q201_5
Staff are available to monitor visitors' movements and observe suspicious symptoms such as coughing, sneezing, and runny nose.	Q201_6
Separate room for visitors who are likely to be infected with Covid-19. To observe symptoms and wait for medical help.	Q201_7
Distribute hygienic masks, hand sanitizers, tissues and litter boxes with lids to exhibitors.	Q201_8
There are hand sanitizers around the exhibition area for visitors and exhibitors.	Q201_9
Have guidelines on how to	Q201_10

practice while at the exhibition.	
The booths are cleaned and disinfected regularly until the exhibition finished.	Q201_11
Disposable containers are used and the self-test is avoided to minimize exposure.	Q201_12
All exhibitors must be confirmed vaccinated prior to attending in the exhibition.	Q201_13
All staff in venue must be confirmed vaccinated.	Q201_14
All visitors must be confirmed vaccinated	Q201_15

Table 1: Coding Table

The frequency and percentage of data

The researchers has collected data of summary from SPSS programs prepare the frequency and percentage of data as follows:

N=385		
	Frequency	Percentage
Gender		
Female	296	76.88
Male	83	21.56
Other	6	1.56
Age		
20-24 years	328	85.19
25-30 years	34	8.83
31-35 years	6	1.56
36-40 years	3	0.78
41-45 years	4	1.04
45 years and over	10	2.60
Status		
Single	366	95.06
Married	15	3.90
Divorced	4	1.04
Education level		
Tertiary Education, Higher Education	27	7.01
Bachelor's	299	77.66

degree		
Post graduate	4	1.04
Career		
Student	299	77.66
Government official	12	3.12
State enterprise employee	8	2.08
Office worker	27	7.01
Self-employed	27	7.01
Other	12	3.12
Total	385	100.00

Table 2: The frequency and percentage of data

From the above table, the researchers found that according to the 385 visitors if divided by gender criteria, the most respondents were female 296 people or equivalent 76.88%. Divided by age criteria, the most respondents were 20-24 years 328 people or equivalent 85.19%. Divided by status criteria, the most respondents were single 366 people or equivalent 95.06%. Divided by education level criteria, the most respondents were bachelor's degree 299 people or equivalent 77.66% and divided by career criteria, the most respondents were student 299 people or equivalent 77.66%.

Result

Based on an analysis of data from 385 visitors:

Factors			Visitors
Defensive measures during Covid-19			
code	Q201_15	All Visitors must be confirmed vaccinated.	Female/ Age 20-24 years/ Single/ Bachelor's degree/ Student
Location and Logistics			

code	Q102_1	Public transport access the venue.	Female/ Age 20-24years/ Single/ Bachelor's degree/ Student
Perceived Exhibition Information			
code	Q101_1	Advertising and public relations of food and beverage exhibitions through billboards and online media.	Female/ Age 20-24years/ Single/ Bachelor's degree/ Student

Table 3: Demotivation factors

The results revealed that there were three demotivation factors that affected the visitors to attend food and beverage exhibitions during Covid-19 pandemic era. The first factor is the defensive measure to be taken while holding exhibitions during Covid-19 related to all visitors must confirming vaccination before attend exhibitions. Second factor is the location and logistics related to public transport for access to the venue. The last factor is perceived exhibition information related to advertising and public relations of food and beverage exhibitions through billboards and online media.

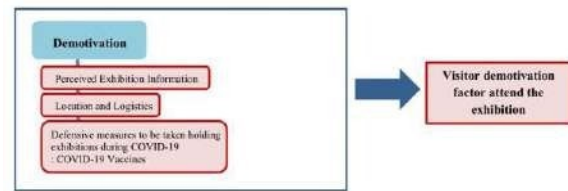


Figure 2: Research model

Result with literature support

Factor about defensive measures to be taken holding exhibitions during Covid-19: According to a survey of exhibition visitors, we found the samples disagreed are those who did not want vaccinations before attending the exhibition. Correspond to the protesters who oppose the measure of the "French Leader" argue against the fact that the president has no right to decide on my

behalf in matters of personal health. Compulsory vaccination, including creating restrictions on access to services or public places with a health certificate. It violates the basic rights of the people. [11]. This is inline with the opinions of our sample who disagreed with the Covid-19 vaccination before attending the exhibition. There were also survey results of a survey of Thai people on "Confidence in Thais against Covid-19 vaccination" the results concluded although vaccinations have announced as a national agenda, but from the survey found that people still do not trust the management of vaccines and do not think that the government will vaccinate them according to their targets[12].

Factor about location and logistics: According to a survey of exhibition visitors, we found that topic of public transport access the venue. The samples disagreed is female (single) and have age 20-24 then have education level is bachelor's degree

plus career is student. From the above survey results, we found that the sample group is female students. Also, the venue is close to the university. They will consider to congestion and air pollution. According to [13], traffic congestion, associated parking problems and pollution. In addition, to the fact that the venue is close to the sample, that is the university[13]. As a result, they may choose to go that exhibition by other means because to consider for safety is a priority, according to [14], passenger safety when an accident occurs is usually because of the following reasons: 1) The structure of the car is unhealthy, the roof collapses or rip damaged when the accident occurs, 2) The passenger car is unhealthy and stable from the car body 3) Seat belt, seat strength[14].

Factor about perceived exhibition information: According to a survey of exhibition visitors, we found that topic of advertising and public relations of food and beverage exhibitions through billboards and online media. The samples disagreed with 5 topics as follows is female (single) and have age 20-24. Then have education level is bachelor's degree plus career is student. We found that the sample group is female students. From the above survey results of visitors that being stimulated and perceived of the information of exhibition by advertising and public relations of food and beverage exhibitions through billboards or online media according to Mackenzie and Lutz [16], said that "advertisement be like as the motivation will respond favorably or badly depending on the advertisement at the right time at that moment". Also, that perceived exhibition information from well-known exhibitors have affect to decision of demotivation to attended the exhibition

according to showed that advertisement has a powerful impact on brand and that brand influences purchase intentions [15-17].

Conclusion

The current situation Covid-19 epidemic It is still in critical condition as the number of infections continues to rise[18] and survey results show that 188 countries of 193 countries have now been infected[19] plus their ability to cope each of the country are not the same. In many countries, people remain thoroughly unvaccinated.[20] Therefore, the likelihood of the exhibition is minimal or if there are the exhibition in countries with good handling and management, but those interested in attending in certain countries unable to travel the exhibition. Thailand is considered one of the countries that has been heavily transmission of the Covid-19 epidemic. Therefore, it was withdrawn from the list of countries that are safe from Covid-19 [21]. Many areas within Thailand are still locked down and people have not been thoroughly vaccinated. In addition, at present, Thailand still has the 10th highest number of new infections in the world and the 33th cumulative number of infections in the world[22]. As a result, Thailand currently does not have the opportunity for exhibition, but in the meantime, organizers should study the factors that motivate visitors to attend in the exhibition and demotivation factors in attending exhibition because the motivation of the visitors to visitors has changed depending on the situation. Also, should also be studied to cover all groups such as gender, age and occupation in order to understand the visitors in all target

groups. This will definitely benefit the food and beverage exhibition. Finally, our study highlights demotivation factors for visitors to attend the exhibition during the Covid-19 pandemic and important visitors motivation factors to attend the exhibition during the Covid-19 pandemic. To provide useful information to the organizers or venues within the Songkhla Province, Thailand. It may play a significant role in influencing organizer's decision-making, to use those factors in planning future food and beverage exhibition.

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MICE Industry Demand Towards MICE Graduates Capacibility in Southern Thailand

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Abstract

Today, a career in the MICE industry is becoming more and more popular with people and there are students who are interested in this field and there are graduating students ready to work in the MICE industry, but some students do not have the understanding and preparation about the entrepreneurial qualifications. Need to work. The purpose of this research is to study the qualifications of new graduates who have studied in the MICE industry or in the service industry and meet the qualifications that entrepreneurs need to work. The sample groups in this research were students in the Southern Thailand. It will study the traits that entrepreneurs need to guide students who will leave and prepare for their work in the future. Researchers found that, creativity, capability, service skill, team player, fast learner, open mind, language skill, work independently, multitasking skill, communication skill, determination and ambition, have a good flair has the high demand from the MICE industry and other industry with agreed that the graduates shall be able to equip themselves with all the top selected 13 skills from this study.

Keywords

Entrepreneurs, qualifications, organizer, graduate qualifications.

Introduction

MICE industry in Thailand is at the pinnacle of today's MICE industry and investing for the future to maintain world leadership with expertise in knowledge management create a network and marketing MICE capacity development department of the office for promoting conventions and exhibitions. (Public Organization) or TCEB therefore aims to build young entrepreneurs who are enthusiastic to lead Thailand's MICE industry into a beautiful future. (TCEB,2018) However, people with real MICE knowledge and understanding are insufficient for the growth of Thailand's MICE industry. MICE Development Department realized a lack of personnel with knowledge and understanding of the MICE industry. This also included the lack of courses on international tertiary conferences and exhibitions that meet international standards. Therefore, the MICE Academy & Career Day 2018 project has been created to connect graduates to MICE career. Accelerate the development and production of "MICE graduates" to continue creating future MICE Leaders into Thailand's MICE industry. This is to disseminate knowledge about the MICE industry to students, teachers and educational personnel. Including promoting these personnel to be interested in and entering the MICE industry. The preparation was made through MICE Career Day activities and created and developed a network of MICE education in each sector (KVC MICE All Rights Reserved, 2018).

Literature review

This research compares the qualification required by MICE Entrepreneurs with the qualifications that MICE Graduates have. As in today's MICE Industry, There are competent personal and other qualifications that MICE graduates have. Operator needs TCEB is a leading government agency that plays a role in developing and linking the success of success of business events (TCEB,2018)

This research was a qualitative study using lower secondary education. Survey data questionnaire with MICE Entrepreneurs with MICE graduates for MICE Capability has been extending our academic networks across the country and around the world (TCEB,2018)

Purpose: To assess the MICE new graduates capability that satisfy the MICE industry demand.

Methods

This research is qualitative research which is research aimed the purpose of this research is to analyze the qualifications of the MICE industry workers that entrepreneurs need.

Let's compare it with the qualifications that MICE graduates have that the operator wants. The following data analysis tools were proposed.

The instrument used in this study was a comprehensive questionnaire.

Part 1: Qualifications entrepreneurs want from MICE graduates

Part 2: Property questionnaire that entrepreneurs want their young graduates in the MICE industry to assess themselves



Figure 1: RESEARCH CONCEPTUAL FRAMEWORK FOR THIS STUDY

(CHRISTENSEN,2010),(COLE, 2020),(DEMANDS,

2019),(DTC, 2019), ("HOW TO PRACTICE BRAIN SKILLS AT WORK", 2016),("INSPIRATIONAL IDEAS", 2021),(JINJUTHA, 2018),(LEE RYAN, 2017),("ORGANIZE", N.D.; PPTVHD36, 2021), (SAENGWICHIAN, 2021),("THE ORGANIZER

MUST BE QUALIFIED",2019),(VAYOWELLNESS, 2020), (WORKING WITH THE HEART", 2018),("7 SKILL OF GRADUATE", 2021).

Analysis/Discussion

Sampling Population

The sampling group of research population is the. This research requires that the population and sample group interview in depth from the people in company. Related to MICE industry, a total of 12 company.

Table1: Sampling population 12 companies

Position	No.
Change Corporation CO.,LTD.	C1
Charatip Satun Company Limited	C2
O.K.PLUSEVENT&ORGANIZER SONGKHLA-HATYAI PARTNERSHIP LIMITED	C3

HUAKATI Event Company Limited	C4
Phuyada Tour Co.,Ltd.	C5
Longoey Catering Hatyai	C6
BIG CREATIVE COMPANY LIMITED	C7
X-GEN Company Limited	C8
Conference Center, Medicine, PSU	C9
Songkhla Convention and Exhibition Bureau	C10
TRUE ICON Hall	C11
I AM Organizer	C12

Summary of Similarity of answer

From tables above which show the information that the interviewees have informed , and this part will show the same opinions that entrepreneurs deem appropriate that students should have this feature. From each information as follows :

•**Question 1** : Could you please share your thought to us about creativity of new graduates to work as an employee in organization?

C1 "If you are creative in your work to present to your colleagues, whether it is presenting something new"

C3 "Must be creative" "according to current trends"

C4 "Creativity needs and wants to

C6 "Catering is like fashion, like clothes, so keep up with the trend."

C7 "modern ideas to keep up with the world trend"

C9 "Nowadays, creativity is very necessary to work differently from other jobs"

C11 "create work in order to get new and interesting jobs that look modern"

C12 "Being creative, keeping up with new marriage trends"

• **Question 2** : Could you please tell me an idea about capability of new graduates to be able to work at full capacity and be ready to face any kind of situation at work?

C1 "organization should have a good knowledge of the work to work with efficient work and be ready to face any problems."

C2 "Working at full capacity is something everyone should have." "we have to fight and get through it."

C3 "The ability to work at full capacity and be ready to face any situation." "Intelligent and prepared to face any situation at all times."

C5 "Working hard is something everyone should have."

C6 "It's very important because that person will be ready for all kinds of problems."

C9 "work must be confronted with all situations, so there must be readiness and efficiency"

C12 "ready to face the problems, dealing well with the situation in front" "must have a background in resolving the situation in front of us and working it out effectively."

• **Question 3** : Would you mind sharing your ideas of new graduates able to solve

problems or unexpected situations effectively?

C1 "ready to learn and present solutions."

C2 "Solving immediate problems is something that is very common." "solve the problem"

C3 "Solving problems on a specific page quickly matters." "need to plan and figure it out." "have to think about it and be able to make decisions right away"

C4 "We have to solve the problem when we're hired. I have to work as discreetly as possible."

C5 "Problem solving is something that we encounter very often." "have to solve any problem"

C6 "we have to fix it all. Be alert all the time."

C9 "must have the cunning to solve all kinds of situations."

C12 "effective person to cope with unforeseen situations." "it is important to deal with specific problems."

• **Question 4** : Could you please share your thought about team player of new graduates to adapt to all working environments and work well with others?

C1 "we need to know how we have to approach people like this. will make it easier to find."

C2 "We must have a positive attitude towards living with others."

C3 "Adapting to working society Always listening to other people's opinions must be ready to adapt to others."

C6 "person must think positively"

C8 "It is very important. For example, if someone is already adapting themselves to others, it will make it easier to work."

C9 "the person who will come to work must adapt according to the environment to work with people in the organization."

C10 "I want someone who's alert and ready to learn."

C11 "New graduates are adapted to all genders. At any age"

C12 "have to work as a team. Getting along well with colleagues or those who work well is another thing that makes work smoothly, as well as demonstrating the ability to participate"

•**Question 5** : Could you please share your opinion about organizing skill that new graduates have ability to manage work in the organization or the activities of the MICE industry effectively?

C1 "Take responsibility for the tasks they are assigned to, and they have to learn every step of the way."

C2 "manage the time to work properly and reduce the problem of making mistakes."

C5 "manage the time to work properly and reduce the problem of making mistakes."

C9 "Must have prior management knowledge."

C10 "the work done must always be of good quality, relying on good management principles."

C11 "want someone who learns all the time. And learn experience from realwork."

•**Question 6** : Could you please provide your view about mindset of new graduates able to collaborate work with others and ready to listen to the advice of others?

C1 "Listening is important"

C2 "listen to advice from someone with more experience."

C3 "listen to the advice of others"

C5 "listen to advice from someone with more experience."

C6 "have to be open to listening to what is suggests"

C7 "It's something that we can work with others and applied it to work."

C9 "adapt to others, and to always be ready for others' advice."

C10 "we must always listen to other people's feedback in order to work with others."

C11 "ready to listen and open up about learning"

C12 "Good work is always worth listening to."

•**Question 7** : Could you please share your thinking about communication skill of new graduates have negotiation skills or have ability to communicate any information with others complete and understandable?

C2 "negotiating with customers is very important. Because we have to discuss the details of the information clearly. And be able to reconcile him to buy services from us."

C3 "The negotiating skills need to be clear in the information, speak confidently in the answers"

C5 "we have to discuss the details of the information clearly."

C6 "must be a sense to answer the question."

C7 "must be a lot to explain. Able to tell details clearly."

C8 "Negotiation is necessary"

C9 "Communication skills are a top priority."

•**Question 8** : Could you please share your thought that new graduates able to learn, work and use their experience to improve the work and want to learn new thing all the time?

C1 "Each experience will be taught better. If we're ready to learn something new all the time, we're going to have to"

C3 "Quick job learning Alertness is very necessary"

C4 "Important I need someone who's fast and smart."

C6 "must fight ready to deal with the situation."

C8 "can learn quickly" "It's got to be prudent along with that. If there are both of these, we think it will work out very quickly and well."

C9 "can learn on your own, it's a good thing."

C10 "need to be alert and ready for things."

C11 "working quickly, it must be coupled with careful resolution"

C12 "It's a good thing to take the wrong thing and improve it and get it done. Someone who can learn from work at any time."

•**Question 9** : Could you please tell me your ideas of new graduates able to work in a variety of fields?

C2 "can work in many different skills is a good thing"

C3 "Event work should have many skills."

C4 "a new graduate with a variety of abilities will allow you to get a more varied job"

C5 "can work in many different skills is a good thing"

C6 "It's very good because it's worth hiring and can make that person get extra money from multiple work."

C7 "it is important that multipart"

C8 "It is very necessary in this situation. The more people with diverse talents join the event, we will get quality work and can increase the profile of our company as well."

C10 "learning more skills and making ourselves good is a good thing."

C11 "who do a variety of jobs, it will be good to consider taking over."

•**Question 10** : Could you please share your opinion about new graduates have the ability to make decisions and solve the problems by themselves and to learn without waiting for others to teach them?

C1 "have a lot of experience, no matter what the situation is, we will analyze the decisions ourselves without waiting for others to tell or teach."

C2 "we will have to decide to solve the problem first. To prevent this problem from affecting the wider area become a big problem."

C3 "The ability to make decisions and solve problems on your own and learn without waiting for others to teach you are essential to the job."

C4 "some people's words don't think the same. It allows you to divide what kind of people are learning all the time."

C5 "have to decide on the problem to pass first. In order to prevent this problem from affecting the wider area become a big problem."

C6 "require a quick decision to solve the problem."

C9 "Making your own decisions is a good idea."

C10 "a lot of learning to make decisions, and learning on your own is something that every organization really likes."

C11 "can make their own decisions in some ways, it will be good for us, it reduces the time of work a lot."

C12 "it's important to be conscious when deciding on problems that come in with mindfulness."

•**Question 11** : What do you think about good quality of work should have an ambitions to get their work done?

C2 "Being ambitious to get the job done is a good thing."

C3 "must be ambition to work with in order to get the job done on time."

C4 "Having this determination and ambition is a good thing"

C5 "Ambition is a good thing."

C6 "Ambition and work commitment Get the job done and get good results."

C7 "A good corporate culture won't put pressure on you to work with fun. But the work has to be done."

C8 "needs is a commitment throughout."

C9 "It is a good thing to have ambition to work"

C11 "having a commitment to get the job done is good"

C12 "must be an ambition to work to make the job the needs of the organization."

•**Question 12** : What do you think about new graduates should have the skills to communicate in other languages with quality or not?

C1 "Language is important."

C2 "Language is the most important and it must be at a good level."

C3 "The international language is very important"

C4 "We've got people who are good at languages. We can take more inter-service jobs, which will give us a more reliable company profile."

C5 "Language is the most important and it must be at a good level."

C8 "Essential is the ability to communicate in more than 3 languages, which will give us the advantage of others."

C9 "The international language is the first priority, not necessarily English as well as Chinese or other languages."

C11 "Necessary and important, with today we will be able to do a variety of tasks already. Having a fresh graduate with the ability to speak more than 2 languages would be good for work."

C12 "Communicating in a universal language is a very necessary and good thing to help the organization gain trust in its work and keep the organization driven."

•Question 13 : How would you explain about new graduates should have professional service skills?

C1 "In the service, it is important"

C2 "the service is an important part."

C3 "Service skills are a must. Because good service will make customers satisfied."

C4 "There must be everyone, because it's very important for us to make a first impression. The service requires everyone."

C5 "the service is an important part."

C6 "Service is the basis for every job."

C7 "must be a lot of service mind."

C8 "service is a fundamental factor, service skills It will make yourself look outstanding as well."

C9 "Service is the first thing that needs to be performed"

C11 "Should have because it is the most important thing in the work."

C12 "Good service is very important in this work. Service to impress customers is very necessary"

Summary of Dissimilarity of answer

From tables above which show the information that the interviewees have informed , and this part will show the different opinions that entrepreneurs deem appropriate that students should have this feature. From each information as follows :

•Question 1 : Could you please share your thought to us about creativity of new graduates to work as an employee in organization?

C2 "needs to be creative in order to give our sales or our tour program a unique and different from others."

C5 "Interesting and unique in order to make it different from other tour companies."

•Question 2 : Could you please tell me an idea about capability of new graduates to be able to work at full capacity and be ready to face any kind of situation at work?

C4 "New graduates will enter the event industry with low response fees. This is a problem to face."

work."

C7 "it's a basic feature in any type of

C8 "try to learn and capture the experience."

C10 "on time, the work exceeds expectations, it is considered to be work-effective work."

C11 "people to be able to take risks with anything"

•**Question 3** : Would you mind sharing your ideas of new graduates able to solve problems or unexpected situations effectively?

C7 "creating a foundation that looks trustworthy"

C8 "It's like a special ability that when you're in a real situation, your brother will solve the problem for us."

C10 "must be active, it needs to be adapted well to the workplace environment"

C11 "having the skills will make him unique and makes us want to work with you."

•**Question 4** : Could you please share your thought about team player of new graduates to adapt to all working environments and work well with others?

C4 "Join the old members so that the work can be done well, like the people who see the problem as an opportunity to make a good work of our work."

•**Question 5** : Could you please share your opinion about organizing skill that new graduates have ability to manage work in

the organization or the activities of the MICE industry effectively?

C3 "management must prepare almost every aspect."

C4 "having talented and creative people"

C7 "work, experience happens after learning."

C8 "Want because new ideas of the current generation"

•**Question 6** : Could you please provide your view about mindset of new graduates able to collaborate work with others and ready to listen to the advice of others?

C4 "There's a different mindset to the team. If there are possible conceptual principles, Our organization is always ready to join you."

C8 "Need someone who is like a glass that isn't full of water Because we want to put the knowledge that we have to give to new graduates and get as much experience from our company as possible."

•**Question 7** : Could you please share your thinking about communication skill of new graduates have negotiation skills or have ability to communicate any information with others complete and understandable?

C1 "The main thing is: Learn people"

C4 "want to close the deal as best as possible and as soon as possible."

C10 "Communications look at the various image of the organization"

C11 "if we say good, it's like something that stands out in that person. I'm going to make you want to join me."

C12 "communication negotiation. To demonstrate the good flair."

•**Question 8** : Could you please share your thought that new graduates able to learn, work and use their experience to improve the work and want to learn new thing all the time?

C2 "have gained experience and used it to improve it so that in the future"

C5 "have gained experience and improved it so that in the future"

C7 "who learn work quickly are better than those who learn slowly."

•**Question 9** : Could you please tell me your ideas of new graduates able to work in a variety of fields?

C1 "have clear intentions and goals. It's important to learn fast."

C9 "Other skills, if any are good"

•**Question 10** : Could you please share your opinion about new graduates have the ability to make decisions and solve the problems by themselves and to learn without waiting for others to teach them?

C7 "Experience must be brought. Solving the problems found on the current"

C8 "not have to teach all the time, but to be able to learn better."

•**Question 11** : What do you think about good quality of work should have an ambitions to get their work done?

C1 "the ambition should be modest, but not all of them."

C10 "ambition must not be to squeeze others, It takes self-capacity."

•**Question 12** : What do you think about new graduates should have the skills to communicate in other languages with quality or not?

C6 "It's better to know if you don't know."

C7 "What comes with you is good, not a reason to get to work"

C10 "Modern children must have a 3rd language. Modern children need to look at it very importantly."

•**Question 13** : How would you explain about new graduates should have professional service skills?

C10 "the service must be right, we must be minded to serve the purpose of the customer"

Table2 : Symbol of the potential of new graduates with the company needs

Symbol		potential of new graduates with the company needs
A01	-	creativity is very necessary to work, must be creative according to current trends.
A02	-	working ability to work at full capacity and be ready to face any situation is something everyone should have.
A03	-	effective person to cope with unforeseen situations , must have

		the cunning to solve all kinds of situations.
A04	-	the person who will come to work must adapt according to the environment to work with people in the organization.
A05	-	Must have prior management knowledge , manage the time to work properly and reduce the problem of making mistakes.
A06	-	adapt to others, and to always be ready for others' advice.
A07	-	The negotiating skills need to be clear in the information, speak confidently in the answers.
A08	-	It's a good thing to take the wrong thing and improve it and get it done. Someone who can learn from work at any time.
A09	-	can work in many different skills is a good thing.
A10	-	can make their own decisions in some ways, it will be good for us, it reduces the time of work a lot.
A11	-	Ambition and work commitment Get the job done and get good results.
A12	-	Communicating in a universal language is a very necessary and good thing to help the organization gain trust in its work and keep the organization driven.

A13	-	Good service is very important in this work. Service to impress customers is very necessary.
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Conclusion

Researchers found that, creativity, capability, service skill, team player, fast learner, open mind, language skill, work independently, multitasking skill, communication skill, determination and ambition, have a good flair has the high demand from the MICE industry and other industry with agreed that the graduates shall be able to equip themselves with all the top selected 13 skills from this study.

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Post COVID-19 Marketing Strategies for MICE Venues in Songkhla

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Abstract

Since the Coronavirus Disease 2019 (Covid-19) has spread around the world, it affects the whole world similar to Songkhla, Thailand. Because Songkhla province is the center for border trade and transportation with Malaysia in the southern region, it is easily accessible and has potential for better border trade and transportation. The structure of the tourism business and the way the tourism operators work in the community have changed significantly as well. However, in the end, if the situation is resolved, many countries will accept tourists and activities. Therefore, it is important to explore how to make the customers have a better value and better experience in order to attract more tourists.

For the above reasons, the research team aimed to identify 4T marketing strategies of MICE venues for the post Covid-19 pandemic in Songkhla. The target population is seven representatives from four MICE venues certified by Thailand MICE Venue Standards (TMVS) in Songkhla. The results showed that all four MICE venues have planned their post Covid-19 marketing strategies in the same direction as the 4T marketing strategies which can be divided into seven strategies. Finally, it was concluded that all four MICE venues have identified identical post Covid-19 marketing strategies that remain based on Covid-19 prevention measures even after the situation improves.

Keywords

Coronavirus 2019 (Covid-19), Marketing Strategy, MICE travelers

Introduction

Since the Covid-19 virus spreads around the world, it affects the whole world (Schwab & Chairman, 2020). Similar to Thailand's tourism situation, the Covid-19 epidemic has resulted in a 38.01% drop in the number of foreign tourists to Thailand. When the tourists decline, it has been hit hard and continues to affect other sectors such as hotels, restaurants. Therefore, we have to look for a marketing strategy and have to think about what customers want and how to meet their needs by looking at what people will be interested in most after the end of Covid-19 (Manprasoet, 2020).

Especially Songkhla Thailand because Songkhla province is the center of border trade and transportation of the lower southern, which is connected to foreign countries. It is unique in that it is suitable for tourism or leisure (Rattanapan, Bunlueng & Phongchiewboon, 2017). With the availability and potential of the area, especially in the area of Hat Yai, There is an international convention center, Central Festival Hat Yai, hotels, and many other venues, also known as MICE venues (TCEB, 2020).

Due to the epidemic situation affecting MICE venues a lot. The structure of the tourism business and the way the tour operators work in the community have changed significantly as well (Sivakit, 2020). However, in the end, if the situation is resolved, many countries are accepting tourists and events will recover again. Therefore venues should develop marketing capabilities because when tourism opens. It is important how to make the customer a better value and better experience to attract more tourists (Chaowariyawong, 2021).

Literature review



Figure 1 : 4T Marketing Strategy (Thanakun, 2020).

Variables of marketing strategies towards MICE venues certified by TMVS

From the figure1 will demonstrate the marketing strategies after Covid-19 of MICE venues in Songkhla because nowadays we have encountered by a more developed and complex understanding of marketing and its processes, that no longer focuses on selling but also about Fair and Trust Marketing that comes with the marketing components of the 4T marketing strategy. This concept entails a rich set and mixture of marketing tools used by firms in order to pursue their marketing objectives in the target market. This concept is based on four broad levels of marketing decisions, namely: product, price, promotion, and place adjusted to 4T marketing strategy, which is detailed as below :

Variable1: The tangible and touchable solution of marketing strategy has a significant influence on the business travel destination

In an era solving problems for consumers is not enough. It must be solved tangible as well (Thailand Management Association, 2020).

In economics, a market's transparency is determined by how much is known about its products and service efficient it is can be

Previously, consumers were more concerned with getting the service as fast as possible, but when the Covid-19 crisis strikes, the

security factor has come back even stronger. Social distancing allowed people to wait in line for a limited number of supermarkets or restaurants, so the convenience and speed of this era were reduced to just "on time" and safety measures. It makes consumers today satisfied (Patthanakul, 2021).

In this case, for example, in the past, if we ordered something or ordered whatever food, we would like the courier to bring it to the front of the room or the door of the house, but when the epidemic crises, the need for convenience or comfort. It's starting to change as privacy and security are becoming more and more concerned (Katchwattana, 2020).

Variable 4: The truth of marketing strategy has a significant influence on the business travel destination

From traditional marketing communications that often exaggerate their properties, they may initially interest customers. People have to deal with fake news every day. This situation has contributed to today's consumer learning to verify information about products and services is correct or hype before making a purchase. To attract the attention of consumers today, customers need honesty in offering their products to customers without deceiving consumers and always sincerely want the truth to help and resolve problems for customers (Wongprasat, 2015; WRITER, 2021).

For example, prepare the moving system refer the patient to the hospital in the case of meeting patients at events/meetings (Department of Health, 2021). There should be enough masks to be provided for

customers who forget to wear masks (World Health Organization, 2020).

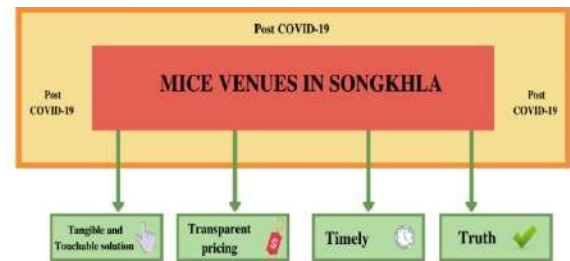


Figure 2 : Research Original model: Post COVID-19 Strategies For MICE Venues In Songkhla (Ferguson and Scholder Ellen, 2013 ; Wongprasat, 2015 ; Thanakun, 2020 ; Thailand Management Association, 2020 ; Kunpluem, 2020 ; MICE Capabilities, 2020 ; Katchwattana, 2020 ; World Health Organization, 2020 ; Patthanakul, 2021 ; WRITER, 2021 ; Department of Health, 2021 ; HAYES, 2021).

Methods

This research is qualitative research, the researcher was obtained through interviews with facts and opinions, as well as from relevant sources. Which collects qualitative data to make the received information reliable after the interview, the researchers will analyze and compare the results of the interview with the representative of MICE venues and the marketing strategies after Covid-19 in response to the nature of the operation and the readiness of the business. Primary data and content analysis apply for literature review from conceptual framework, theory, context and related research (Alter, 2020).

Analysis/Discussion

Interview transcription

Venues	No.
Faculty of Medicine, Prince of Songkla University	V1
Tonaoi Grand Hotel	V2
The 60th Anniversary of His Majesty the King's Accession to the Throne International Convention Center	V3
Central Festival Hatyai	V4

Table 1 : Interview Venue.

Position	No.
President at The Convention Center, Faculty of Medicine, Prince of Songkla University	P1
General Administration Officer at The Convention Center, Faculty of Medicine, Prince of Songkla University	P2
Resident Manager at Tonaoi Grand Hotel	P3
Senior Communication Executive at The 60th Anniversary of His Majesty the King's Accession to the Throne International Convention Center	P4
Services Coordinator at The 60th Anniversary of His Majesty the King's Accession to the Throne International Convention Center	P5

Services Coordinator at Hatyai Hall - Central Festival Hatyai	P6
Assistant marketing manager at Hatyai Hall - Central Festival Hatyai	P7

Table 2 : Interview Position.

Summary of Similarity of answers

This part will show the same opinions about post Covid-19 marketing strategies MICE venue in Songkhla from each information as follows:

Q1: After the Covid-19 situation, how does MICE venues have strategies that can ensure customer hygiene ?

Based on the information in the table, four MICE venues where with similar methods of making hygiene, separated by coding as follows:

V1

P1: "We take care of the air conditioner so that it does not spoil, but during the Covid-19 situation it becomes more frequent to allow the air to circulate better than usual."

P2: "We have to look in the room first, the table is clean or not. Look at the dust all the way to the floor in the bathroom, the registration desk has hand sanitizer and disinfection toilet spray every time if someone has finished using it, they must immediately wipe it clean with alcohol in both the bathroom and the door."

P3: "We're still spraying alcohol and disinfecting it. In the room section we have a balcony, each of which is a single air conditioner, not a combined air conditioner."

V3

P5: “Sprayed disinfectant in all areas or at special points to take care of cleaning from normal, such as walls made of carpets, carpet floors and air conditioning systems before opening and public relations to create awareness for customers who come to use the service.”

P6: "After the event, disinfectants are sprayed around the event. During the strict situation, we provide store employees with temperature reports every 4 hours to reach customers."

Q2: After the Covid-19 situation, how does MICE venues promoting social distancing?

V1

P2: “We still have to keep this rule for a while until it disappears at one point, possibly from 2 meters to 1 meter.”

P3: “We must use the state, we cannot break the rules, such as our meeting rooms are organized and spaced out, not sitting next to each other.”

P4: "Campaign to distancing at least 1 meter."

V4

P7:“In the distance section, there is a limit of 1 person to enter the shopping center, must have at least 5 square meters.”

Q3: After the Covid-19 situation, how does MICE venues determine prices of products or services?

Based on the information in the table, four MICE venues where have set the price of a product or service that is flexible and discounted to attract customers, separated by coding as follows:

V1

P1: "We are bureaucracy, one thing, it is not privately fast, it does anything to lower the price. We allow guests to pay the price of a room at a smaller site even if they use a larger room to facilitate our customers."

P2: "The future will be reduced due to the economy to motivate customers to use the service because of the economic conditions, which is reduced by 30 to 50 percent."

V2

P3: "It's probably the same as the first round on a budget. If we had this budget, how can we allocate it. We're not going to raise the price. Now we sell breakfast including rooms for 980 baht, but we previously sold them for at least 1,100 baht."

V3

P4: "The sale price for ICC areas and services does not adhere to cheaper sales price criteria elsewhere. The products or services offered for sale must meet the needs of the customer."

P5: "At first, promotions or supporting events may be held to make it easier for organizers to access goods and services."

V4

P6: "The government contacted us to demand a place where for the public sector we are ready to support a lot of jobs don't even charge space. However, in the private sector, it is part of the business, there is assistance as appropriate compared but the price is flexible and discounts are given accordingly using the job as a criterion such as how many days the event is held, what kind of event."

P7: "This price can be flexible for all customer needs. Each task that comes to us will have an unequal budget. We have a median price set for every customer group. Discounts are provided, flexibility."

Q4: After the Covid-19 situation, how does MICE venues provide a way for customers to verify that the price is appropriate for the product or service?

Based on the information in the table showing the two MICE venues where customers can check the suitability of the product or service by creating a price statement, separated by coding as follows:

V1

P1: "It is already our notice that we file for credibility, because the book bureaucracy will be announced at agencies and organizations."

P2: "We'll have documents and websites for my customer to look at in the area. Room layout, measures and room regulations are available for guests to watch to decide on the service."

V3

P4: "ICC will always inform users about what the price they pay and whether the quality is worth it. If the customer may reduce-add anything."

1. The ICC has been certified to three types of Thailand venues or TMVS.
2. The ICC has been certified to safety standards for MICE.
3. The ICC has been certified to the Sustainable Event Standard.
4. The ICC has been certified to quality management standards.
5. The ICC is the largest MICE venue in southern Thailand. Equipped with a full range of MICE facilities managed by N.C.C. a MICE professional with nearly 30 years of experience.
6. The ICC has been honored as the venue for many international and regional conferences and exhibitions."

P5:"The high price offered to the customer before the contract is agreed. The ICC will always inform customers what the price they pay and whether the quality is worth it."

Q5: After the Covid-19 situation, how does MICE venues operate to ensure on-time service while keeping products and services safe?

Based on the information in the table showing the three MICE venues where are preparing for cleaning in advance to save time and maintain customer safety, separated by coding as follows:

V1

P1:"In terms of service and personnel. The original housekeeper will be half an hour before work, may have to come as quickly as one hour to clean up before the attendees arrive."

P2:"We have increased the time to prepare for work about 30 minutes after Covid-19 this standard must be maintained for some time."

V2

P3:"Actually, the hotel has to be punctual no matter what side it works on because we can't be late."

V3

P4:"Service departments that require the preparation of premises and equipment must be complete and meet the requirements within the customer's specified and agreed period."

Q6: After the Covid-19 situation, what strategy does MICE venues have to make its products attractive but not overly advertised?

Based on the information in the table showing the three MICE venues where mention the identity of international standards in public relations that are not exaggerated to attract customers, separated by coding as follows:

V1

P2:"Actually, I'm going to put on the logo that we won for a customer. The room where we take pictures of the space is no exaggeration and no difference if the image is exaggerated."

V3

P4:"Product and service strategy of ICC focuses on delivering the true value of products and services, using their strengths as a selling point."

P5:"Currently, the ICC has been adapted to provide services as a field hospital, with various elements and standards. The ICC has developed various systems for air safety in the exhibition area and the air outwardly out of the community is clean and secure, making it safe for visitors."

V4

P6: "The 75 measures we think cover everything we take to follow, which is an important part of ensuring customers come to the service. This is the main strength and selling point for customers to believe that it is really safe."

P7: "The hall has 75 master plans to take care of Covid-19 situations. We have continuous standards of care to meet AMVS standards every year. This gives customers confidence in our use of the space."

Q7: After the Covid-19 situation, how does MICE venue have guidelines for dealing with and helping customers in emergency situations?

Based on the information in the table, three MICE venues where with similar methods of guidelines for dealing with and helping customers in emergency situations by coding as follows:

V1

P1: "Emergency situations on site we've made it clear that mask must be worn at all times. If not, we will provide it without additional charges and the situation in which participants are measured in temperature and then has a high body temperature. We'll give you a measurement after 10 to 15 minutes, re-scan it no more than 3 times. I'm not going to send it back at all. Instead, the guard block is to keep him away from people and then on call to the hospital."

P2: "If the customer has a temperature test and has problems not qualifying. We are ready for hospitals to support them."

V3

P4: "The service user forgets to bring a mask, ICC will provide a mask and ICC

provides first aid and hospital transportation quickly to ensure that customers are safe."

P5: "Who have forgotten to bring masks, ICC provides face masks at the entrance and exit and customers has an emergency, fainting or injury, ICC provides first aid and emergency vehicle services and is quickly delivered to the hospital."

V4

P6: "In case of forgetting the mask at every entrance, the surgical mask will be sold. For customers with over-temperatures, customers may be required to rest 5 to 10 minute and we have basic measures to take care of there is a car to take you to the hospital."

P7: "In case of extremely hot weather, the customer can measure the temperature at 37.5, we will have a place for customers to sit for 5 to 10 minutes to adjust their body temperature and then re-measure the temperature. We will coordinate with the hospital to take care of the first place and we will have first aid provided by our staff. In case the customer forgets to put the mask on it, we will have a point of sale."

Summary of Dissimilarity of answers

This part will show the different opinions about post Covid-19 marketing strategies MICE venue in Songkhla from each information as follows:

Q1: After the Covid-19 situation, how does MICE venues have strategies that can ensure customer hygiene?

Based on the information in the table showing the three MICE venues where with different methods of making hygiene, separated by coding as follows:

V2

P3: "The meeting room we were closed for sterilization every 15 days. All employees are required to inject. It is important that from now on, none of them are vaccinated at all, we will not take them as employees."

V3

P4: "Those who sell food products must wear gloves, wear face masks and face shields at all times, and provide plastic partitions between food vendors and customers. Serves individual meals and drinks instead of buffet service, while using one-time eco-friendly containers to reduce exposure."

V4

P6: "We have implemented 75."

Q2: After the Covid-19 situation, how does MICE venues promoting social distancing?

Based on the information in the table showing the two MICE venues where promote the use of symbols and public relations to maintain social distance, separated by coding as follows:

V3

P4: "We have signs displaying meaningful symbolic procedures, as well as a line of sound system that will remind you of cooperation in compliance with measures regularly throughout the show."

V4

P7: "We will have a central area, whether it is elevators or escalators, bathrooms, and spots or symbols will be made in order to space at least 2.5 meters everywhere. There will be a patrol and focus

on public relations for customers to be spaced out."

Q4: After the Covid-19 situation, how does MICE venues provide a way for customers to verify that the price is appropriate for the product or service?

Based on the information in the table showing the two MICE venues where allows customers to check whether the price is suitable for a product or service by checking from old customers and reviews on the website , separated by coding as follows:

V2

P3: "The sales staff will convince the customer or the person who took the job how to visualize it, or simply open the page and we will see the work that has passed. Opinions should also be reliable."

V4

P6: "Most of our customers are already existing customers, based on the original."

P7: "We should look at value for money rather than our ability to provide customers with flexibility."

Q5: After the Covid-19 situation, how does MICE venues operate to ensure on-time service while keeping products and services safe?

Based on the information in the table showing the two MICE venues where prioritizes scheduling, separated by coding as follows:

V3

P4: "Therefore, the ICC will always inform the customer of the schedule before receiving the service so that there is no confusion."

V4

P6:“We will have a communication of what measures we have taken. Customers will be prepared for 10 minutes.”

P7:“Facebook is another channel that allows customers to plan and prepare in advance.”

Q6: After the Covid-19 situation, what strategy does MICE venues have to make its products attractive but not overly advertised?

Based on the information in the table showing the two MICE venues where focuses on the technology used in the event, separated by coding as follows:

V1

P1:“Technology Matters Online meeting system we are confident. Whenever you walk to us at the same price, whether you're using zoom, webinar, because we're confident that the system we have is ready to support.”

V2

P3:“We advertised that we had images, sounds, colors and meetings. We're going to show you the events we've already held.”

Q7: After the Covid-19 situation, how does MICE venue have guidelines for dealing with and helping customers in emergency situations?

Based on the information in the table showing the two MICE venues where with different methods of guidelines for dealing with and helping customers in emergency situations by coding as follows:

V1

P2:“The problem of the payment system, if there is a problem, we may have to use the direct billing form instead. If the number of people, if informed, is 50, but the actual date is 60 people. We have food and snacks to spare.”

V2

P3:“Tonaai Grand Hotel has two buildings, both of which use different WIFI networks. When a building crashes, you can ask for another building. If the problem is on the banking app, the hotel has already agreed with the customer first. We quite know our customers, but if they're customers we don't know, we might want to find another way.”

Summary of the post Covid-19 marketing strategies MICE venue in Songkhla

According to interviews with seven questions that got an answer with similarity as follows, the numbers represent each interview question, respectively.

NUMBER	Post COVID-19 marketing strategies
1	Strategies that can ensure customer hygiene.
2	Promoting social distancing to assure customers that the venue is safe.
3	Flexible pricing of a product or service and lowering prices to attract customers.
4	Checking the suitability of products or services can be checked to build trust with customers.
5	Preparing to increase safety and remain punctual for customers.
6	Public relations to attract customers by showing transparency.
7	Having guidelines for dealing with and helping customers in emergency situations.

Table 3 : Summary of the post Covid-19 marketing strategies MICE venue in Songkhla.

The summary will tell the result of which MICE venues have the marketing strategy after Covid-19 or not and what they have. From those seven questions, the seven interviewees from four MICE venues provided interesting and helpful opinions for different research purposes. The results of each question can be summarized as follows:

Strategies that can ensure customer hygiene:

Four MICE venues share a similar opinion that they have similar strategies that can ensure customer hygiene which is to take more care of cleanliness, both about the air conditioner and equipment. Do not turn on the air conditioner in the dining room. Alcohol is placed everywhere. Disinfectant was sprayed. There was a temperature measurement and wearing a mask and finally there was a public relation. By the way, three MICE venues had a different idea which is to be closed for disinfection every 15 days, all employees must be injected with a vaccine. Persons selling food products must wear gloves. Wear a mask and face shield at all times and set up a plastic screen between food vendors and customers. Serve food and beverages individually instead of buffet service. Only use one eco-friendly container to reduce exposure and take 75 measures.

Promoting social distancing to assure customers that the venue is safe: Four MICE venues are focused on promoting social distancing due to the situation of Covid-19 that the place maintains a distance. This will make customers more confident that they are safe. Each location will be spaced mostly 1 to 2 meters apart. Finally, two MICE venues to be added in the section symbols and public relations to maintain social distance.

Flexible pricing of a product and service:

Interviews with the four MICE venues, seven interviewees agreed that price elasticity of goods and services is an important factor. Each MICE venue has flexible price adjustments. By adding promotions and reducing the price of the venue to be the most suitable in some government sectors, there is government support without charge for services or in the private sector for doing business, depending on the event, the nature of the event, how much the venue can benefit from, not to be disadvantaged by both parties. All of the interviewees agreed that after the Covid-19 situation, price flexibility should be adjusted to attract customers.

Price suitability checks: From interviews with all four MICE venues. There are two MICE venues with similar opinions: The clarification in the quotation is an examination to clarify the details of the price that is suitable for the event. There are two MICE venues that have different opinions to check the suitability of the price by using the website of the MICE venue to build trust which must show the opinions of the old customers who have used the service, including the atmosphere of the event that the MICE venue has already organized in order to build confidence for customers and to look at the value.

Preparation before the start of the event:

From the interviews, most of the four MICE venues have more opinions about the preparation before starting the job because the current situation may result in the delay in attending the event therefore, three out of four MICE venues consider that they should strictly prepare before the start of the work for more safety and to check for mistakes before the start of the work. However, another MICE

venue has a different opinion that he prioritizes cleaning after the event as there will be plenty of cleaning time to reduce the inhalation of cleaning chemicals.

Transparent advertising: Based on interviews with the three MICE venues, advertisements were made by mentioning the various international standards received, each of which had a variety of advertisements, such as through Facebook pages, through websites or through impressions of the child through referrals to which all venues have provided their opinions to the same and the advertisement should be factual in detail to build credibility of the MICE venue. Additionally, the venue's information must be up-to-date. However there is one MICE venue where there is a difference in advertising opinions regarding the technology available to customers, with the use of supported devices in various events that are of interest to the customer.

Having guidelines for dealing with and helping customers in emergency situations: Three MICE venues having guidelines for dealing with and helping customers in emergency situations such as the presence of a mask is available to customers who do not have it. Measures are in place to manage customers whose body temperature exceeds the set limit. Customer had an emergency fainting or injury, provided first aid and emergency vehicles and was quickly transported to the hospital. However, two MICE venues will be a countermeasure for payment problems. Products are prepared in case customers come more than ordered and have different WIFI networks. When any building internet is not working or is down, you can request another building.

Conclusion

This research aims to identify the marketing strategy of MICE venues after Covid-19 in Songkhla are the Faculty of Medicine, Prince of Songkla University, Tonaai Grand Hotel, The 60th Anniversary of His Majesty the King's Accession to the Throne International Convention Center, Central Festival Hatyai. The results showed that all four MICE venues have planned their post Covid-19 marketing strategies in the same direction as the 4T marketing strategies which can be divided into seven strategies that customers can be reliable. To begin with tangible and touchable solutions by maintaining cleanliness to ensure customers who pay attention to the cleanliness of all areas in the venue, from tables, chairs, air conditioners or equipment. In addition, there is social distancing according to the measures. Alcohol gel is clearly available for customers. There is also an injection of disinfectant. Secondly is the transparent pricing MICE venues offer flexible pricing according to the needs and factors of the customer, the prices can be verified for value and standards. Thirdly strategy is the timely, where MICE venues are aware of punctuality coupled with customer safety, as most of the customers after Covid-19 need to maintain their own hygiene procedures, MICE venues must have prepared in advance to increase customer safety. In addition, in order to increase the speed, there will be an announcement of the schedule of the event to customers before it's time to prepare the customers before they come to MICE venues. The last strategy is the truth, which shows sincerity as well as helping customers in all aspects. MICE venues are ready to support and assist customers in organizing various events to meet customer needs and help create confidence in the venue that is

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Stakeholder's Perspective towards Music Festival during Post-COVID-19

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Abstract

The Coronavirus (Covid-19) has caused a lot of problems in our life such as our health, economy, social life, etc. This experience has taught us to get used to technology and be creative about it from everyday face-to-face activities to virtual activities and organized music festivals to virtual concert. One example of the effects The Coronavirus is how the music industry handles the global pandemic. Due to the Covid-19 pandemic, the purpose of this research is to explore the stakeholders' opinion of music festivals post COVID-19 pandemic. Opinions were gathered using separate interviews with nine stakeholders in Songkhla Province focused in five areas: (1) venues, (2) promotions, (3) tickets, (4) technology and (5) safety. The results of the interviews were analyzed to develop a guide to the post COVID-19 music festivals to bring the music industry back to life. The results indicated that (1) the venues in Songkhla that were ready to organize music festivals during the Covid-19 pandemic are Hat Yai hall, ICC hall and Hat Yai Park. (2) Promotions of music festivals are through online media, as people today use social media including Facebook, Instagram, Twitter and TikTok. The early bird ticket worked well as a good promotion because it was able to predict the current situation and therefore the plan was able to execute smoothly. (3) The ticket format will change to online whether it will be scanning a QR code or an e-ticket. (4) Technology is needed to create a concert atmosphere using lighting, color, and sound effects to enhance the mood and tone of the music festivals. They used technology to help sell tickets or used electronic tickets to enhance security and convenience for the consumers. (5) Safety measures must still be taken to prevent the spread of the virus. The interviews concluded that the stakeholders in the music festivals also saw that the format and factors of the event remained the same besides that the safety measures must be increased during the covid-19 pandemic.

Keywords

Music festival, Music Industry, Stakeholders, Covid-19

Introduction

The COVID-19 outbreak has affected many things in not just health but it also infected the economy, social life, politics, and many more. A United Nation chief even said that COVID-19 is the worst global crisis since World War II. The COVID-19 doesn't just take life but it also takes almost everything we hold dear in everyday life such as shops closed, movie theaters closed, schools and universities became online (Leight, 2020)

Regarding the change of concerts and festivals, many musicians changed their method of physical contact with their fans using live streaming. It said that after watching a live video of an event, 67% of viewers are more likely to buy a ticket to a similar concert or event (Golum, 2017). And with livestreaming, people could still enjoy their favorite musician from home. Musicians could make this an opportunity to make their fans miss their performance live. During COVID-19 people needed to stay away from crowded places; it could make concerts and festivals go really big. Because people needed to stay away from crowded places during COVID-19, it could make concert and festival goers miss the feeling of going out and enjoying their favorite musician.

Purpose

To explore the stakeholder's opinion of music festivals during post-COVID-19

Literature review

A lot of music events got canceled such as Glastonbury Festival, Coachella, SXSW, Tomorrowland, Ultra Music Festival, etc. Not just big festival that got canceled but a lot of small events got canceled too. Some of

them got rescheduled but even though they rescheduled and still can do it next time, there's a lot of things they already pay to hold the events. Not just events that got canceled or postponed but some of the musicians who got their album to release at this time, hesitate to release it now because they are afraid that they didn't get the same responses. They end up reevaluating their plans. It may seem like an easy job to release an album. But it wasn't that easy, especially in the digital era. (Leight, 2020)

There is no certainty as to how the future of society as a whole will look, let alone individual sectors. With conflicting news stories concerning an exit strategy from lockdown, some suggest that the pandemic will last way beyond December 2020 and that we will not be 'back to normal' until a vaccine is produced, which realistically could take up to a year to develop (Eyal et al., 2020).

Location/Venue

The location and venue are critical to the success of your event. You can enlist a venue finding service to help you with this. A venue finding agency can help you to choose the right venue.

These operate independently but can also be part of the package offered by a conference organizing company. Most offer their services free of charge to you and take commission from the venue instead.

The agency will keep up to date information on all aspects of the venue including the quality and service offered, facilities, proximity to public transport. They will negotiate rates for room bookings, delegates, overnight accommodation and

then provisionally hold the accommodation. They can also arrange for you to visit the venues to undertake your own check. If you decide to confirm the booking, the agencies will raise the paperwork with the venue.

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Promotion

Promotion means a tool used for communicating information between an entity and a consumer, intended to provide consumers with knowledge of a brand, product, service or organization, which must generate consistent awareness. This is to create brand satisfaction and satisfaction through motivation to achieve a need or remind in a product with the expectation that communication will have an influence. (Love lock, 2010)

Ticketing

Digital tickets are becoming the norm in our everyday lives. From plane tickets to train tickets, consumers are familiar with purchasing and using tickets digitally.

So, it's perhaps unsurprising that many festival-goers feel digital festival tickets come with a host of benefits, agreeing that they are eco-friendly (86%), convenient (86%), secure (85%) and reliable (83%).

Interestingly, those under the age of 34 and those who book their tickets early are more likely to prefer digital tickets. (Slater, 2021)

Event Technology

Event technology is any digital tool that helps you plan and produce an event. Some examples are event management software, engagement tools, virtual platforms, streaming services, and mobile event apps.

Event Technology Matters in response to COVID-19, event technology is evolving faster than ever. This rapid evolution has proven greatly beneficial to the events industry. 90% of event professionals believe that technology can have a major positive impact on the success of their events.

Before advances in event technology, event planning was a very manual process. Event planners used to draft the attendee list contact by contact. Event promotions were limited to mediums like print or direct mail. And prior to virtual event technology, organizers were only able to plan live events. But advances in data analytics have allowed event planners to track and measure each component of their events. Similarly, the boom of event technology made it easier to bring in-person, hybrid, and virtual event ideas to life.

Today, event marketers have an array of technologies to choose from and add to their event tech stack.

Each piece of the event technology stack does its part to support the full event lifecycle as it transitions from one phase to the next. Building websites, increasing event registrations, and email promotion are all made possible thanks to event technology.

Event tech has also led to a better user experience. Through the use of platforms, event engagement, and networking tools, attendees can connect with each other at the click of a button. Event apps allow

attendees to easily navigate the event with features like chatbots that provide instant answers to their questions or maps to help them navigate massive convention centers. Live Streaming technology is another example that allows attendees to tune into sessions from all across the globe.

Safety

Perceived safety has been defined as the Ultimately, the music festival industry is principally defined by planning for and

implementing mitigation of risk. This includes having health and safety arrangements in place

to control risk; ensuring co-operation and co-ordination of all activities; providing people and,

in particular, staff with relevant information on any risks; ensuring competent staff undertake

all relevant roles with clear responsibilities; monitoring health and compliance issues; and

constantly reviewing all safety arrangements. As such, festival organizers are already

practically in a very good place to meet the challenges that COVID-19 bring to the festival sector.

Methods

The instrument used in this research was an interview form on music festival post-COVID19.

Variable 1: Location/Venue

Location is everything, and music festivals are no different when it comes to this crucial step. Accessibility is key, both for fans and production trucks. Having an open location that has several production routes to prevent overflowing traffic is a key factor in choosing a festival location. (Alya,2017)

Proposed interview questions:

Question 1: Which areas in Hat Yai, is expected to be held Music Festival?

Question 2: What place do you think has the facility ready to be arranged? Music festival

Question 3: What measures do you think the venues in Hat Yai should follow to ensure the safety of the attendees?

Variable 2 : Promotion

Music Festivals must be well promoted to be successful whether they feature local artists or world-famous musicians or they're focused around a hobby or common interest. Successful festivals can potentially make a lot of money for the organizers or sponsors involved, but only if you sell all your tickets and make sure it has been well promoted. (Gary Bradshaw,2017)

Question 1: What do you think about early bird tickets? Is it a good promotion?

Question 2: At present, what is the most effective way to promote music festival?

Variable 3 : Ticketing

Digital tickets are becoming the norm in our everyday lives. From plane tickets to train tickets, consumers are familiar with purchasing and using tickets digitally ("State of Play: UK Festivals", 2021)

Question 1: How do you think ticket sales and ticket formats will change?

Variable 4 : Event Technology

Event technology is the plethora of digital tools that help event planners execute projects from start to finish. Event planners typically use a variety of event technology types to get the job done. (Drake, 2020)

Question 1: What you think event technology will be an important part of the music festival after covid-19?

Question 2: What kind of technology in music festival that you most excited?

Variable 5 : Safety

The most important element to a festival is safety. Being the most vital aspect of the equation, it is imperative festivals need organization of security, EMTs, resource accessibility and open space - providing a safe and secure environment. Festival goers stress the importance of the abundance of food and water and how they need resources easy to find wherever you are in a festival. (KhanAlya,2017)

Question 1: After the Covid- 19. What measures must be strictly followed in organizing a music festival?

Question 2: What are the guidelines for organizing a music festival to be safe and not to spread the COVID-19 again?

Question 3: If you are a Music Festival organizer, which security do you take into account first?

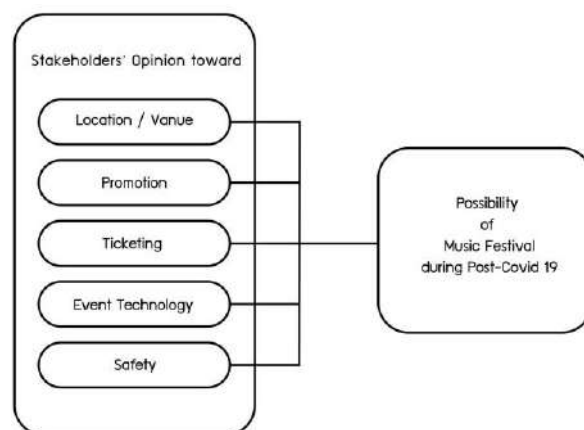


Figure 2.1: Conceptual Framework (Cedar, E., 2015)

Analysis/Discussion

Summary of Similarity of answers

From table above which show the information that the interviews have informed, and this part will show the same opinion that stakeholder' s perspective towards music festival during post -COVID19.

Position	No.
OK Plus Event & Organizer	A1
Intention Organizer	A2
Neehow Organizer	A3
I AM Organizer	A4
I Go Organizer	A5
Tam Organizer	A6

Chubcheeva Group Event& Production	A7
Tonix Organizer	A8
Arita Organizer	A9

From each information as follows:

Question 1:Which areas in Hat Yai are expected to be hold a Music Festival?

A1 : Niphat Uthit 1, Niphat Uthit 2 and Niphat Uthit 3 road because of the street art, makes it interesting. Hat Yai city is located on the street that is the center of the city, but during the COVID-19 period it may require Hat Yai

Hall Convention Center, may have to change the layout of the stage to be more different as a festival.

A2 : If you look at the lifestyle of people in Songkhla province, Samila Beach is also a charming element of the concert presentation. If it's in Hat Yai, there's quite no space but there have a park. If it's an atmospheric area and a indoor area, it's a Chiranakorn stadium.

A3 : There are many music festivals in Songkhla that can hold more than 500 people. Hat Yai Park Khao Khuha is a convenient place to access, this place can accommodate parking and public

prepare public transportation. And I think if at the malls it will not be like music festivals.

A4 : Central festival is interesting because it is a landmark in Hat Yai and this place is widely known. This area is easily accessible, easy access due to multiple entrances, easy exits and full range of facilities.

A5 : The area where the music festival will be held is the Samila beach, which is supposed to be large and open space and there are many conveniences.

A6 : Hat Yai park is convenient to access. The atmosphere is great with the desire to organize a natural music festival, which can do a lot in this area, as well as all the facilities

transportation a lots, otherwise we must to

to host the event.

A7 : Hat Yai Park because the area can accommodate more than 500 people. The second is that when we organize the event, it will not disturb the surrounding residents. Then we can do many things, whether in the stage, various activities in the same area and most importantly, the traffic is not stuck.

A8 : PSU Science Park. If you look at the music festival, it takes up quite a lot of space. There are parking spaces, event areas, and logistics management, where the area within the city is difficult to manage, or if you go to the beach, you have to look at the consequences.

A9 : In Hat Yai area, music festival venues are many. For example, Chiranakorn Stadium, The Pirates Water Park Hat Yai (Poongtai fest was postponed)

Question 2: Where do you think has the facility that is ready to be arranged?

A1 : Hat Yai Hall Convention Center is a safety measure for pandemics, safety care systems, functions and equipment.

A2 : If it's open air area, there is a possibility of traffic management. Parking and people-in-and-out control Maybe a Chiranakorn stadium. If it is closed area, it could be the ICC Hall Hat Yai convention center that is ready for the music festival.

A3 : Hai Yai park, because the first thing that we have to take into account is the convenience of getting to the venue. The second thing is that there must be enough supply electricity because these jobs use more power than usual. The third thing is that people who go must have a parking space that can accommodate it. The fourth is that adequate and ready facilities such as toilets must be sufficient to host the event, and the fifth is that there is a fence to block the boundaries of the event and there are gates in and out, dots and clear. But when it comes to attractiveness, it must be them. However, it is more tiring because the availability of various aspects is rare.

A4 : In this COVID-19 situation, I have an opinion that Central festival is still the placethat I think is most ready to host a music festival in this situation within Hat Yai district. There have the potential in every way to be able to host events instantly.

A5 : I think the venue that ready to organize a music festival, If it is an indoor event it would be an International Convention Center because it is ready for both parking and facilities, but if it is an outdoor event, it must be on the beach of Samila. Therefore, it is out of place or in a ready location.

A6 : If you get the space ready, there is an area around Makinta Market because it is an area in the middle of the city that is easy access. There have full facilities. but if it was an outdoor area, would choose the Samila Beach because of the good atmosphere and readiness it already has because in the present day, there are many agencies that can organize off-site events.

A7 : Hai Yai Park , seaside or Samila beach, depending on the theme of the event. we choose the beach because it can hold a lot of people and we can sell the location as well. Like going to our event, they have timeto walk on the beach and see the place. It has something attractive for tourists too.

A8 : I think a PSU Science Park is ready to organize a music festival . The size of the area

parking area is adequate and includes the event and does not affect the surrounding community.

A9 : I think that The Pirates Water Park is suitable for music festivals ,it is not far from Hat Yai city. This venue is filled with event spaces, parking lots, and access from other provinces, whether it's from Pattani, Yala, Narathiwat and neighboring provinces such as Phatthalung, Satun, Nakhon Si Thammarat, all easily accessible. It is convenient and I think that the venue does not adversely affect the pollution of the community as well.

Question 3: What measures do you think the venues in Hat Y ai should follow to ensure the safety of the attendees?

A1 : Distancing and wearing mask. This reduces the chances of contracting COVID-19

A2 : From now on, there must be COVID-19 prevention system in parallel, so there will be a matter of screening people who will participate in the music festival, they may have to be vaccinated in both needles. Temperature checks, which actually may not be as responsive as they should be because some types of infected people show no symptoms, there is no fever, like the world-class sporting events now that they allow vaccinated people to be the main group to visit the competition.

In the event has parking spaces and traffic management of entrance and exit routes are screening points. And importantly, Safety management standards that we normally rely on government officials, but actually working in a professional system is supposed to hire a security company which will have a skilled and effective security professional.

A3 : There are two things that we concern, one of which is security, since Songkhla is a red area. Checkpoints area are searched for baggage and weapons. But when COVID-19 pandemic comes in, there are new normal measures to monitor the temperature. Spread the alcohol gel holder to the spots where the contact is a lot. There is a Thai Chana sign for entry and exit points. If you don't wear mask, don't attend. These are conditions that have been in place since last year, distancing itself from the event will be calculated per area, and we will either make a table or bring a chair to determine where the boundaries of the space are available. If you can get in, 500 people can get in, the remaining 500 have to wait in line or change to other arenas that can still accommodate people. Officers are on hand to check the event and warn people who pull mask under their chin or don't wear mask all the time.

A4 : Nowadays, in the covid-19 situation, it is safe to hold a music festival. I think it is likely to wear mask from start to finish, as people

safety is the most important thing to be aware of today.

A5 : There has to be in the matter of safety in order to control illegal things or there may be quarrels. Secondly, we are still in the situation of the COVID-19 pandemic, although in the future it may be dimmed. There may still be control at this point and still require a new normal system. Which will have temperature measurements, wash your hands with alcohol gel and wear mask when attending the event.

A6 : If it's safe, it should be held in the indoor area with only one entrance. Some staff cooperates when we organize an event and everything's going smoothly.

A7 : The main thing is limited people attending the event area, how much capacity they can have, how much alcohol gel is distributed, Attendees must wear mask and temperature checkpoint at the entrance.

A8 : Safety can be divided into two parts: the safety of entering the place where we are hosting the event, whether it is wires or accidents. The organizers had to check the structures to be safe and ready to use. The second is a riot. The organizers will have to coordinate with the authorities to secure the event, and when it coming to the present day, health and disease need to be

A9 : Usually, the events in Hat Yai are already well-secured. Whether it's the cooperation of the police. However, those who attended the event have always cooperated. This can be seen from major events such as New Year's Eve and Songkran Festivals.

Question 4: How do you think ticket sales and ticket formats will change?

A1 : Digital will play a bigger role. QR code scanning is used for quick, easy access and reduces exposure.

A2 : Currently, it must be relied on online. In terms of distribution channels, it is recommended to use online. Concert tickets are usually sold by companies that accept bookings and promotions, such as Thai ticket major, which has a large distribution channel and an event schedule that can reach a greater number of interested people.

A3 : It hasn't changed since the COVID-19 because it's changed a long time ago, it's not like the old days, but nowadays, it's sold online. There's a credit card system, and you can choose a seat. But if you don't have, you can pay at 7-11 because there has a system with everything, and 7-11 is everywhere. The post-COVID ticket format is expected to be a form of wrist tag with a chip embedded in it that can check online for information on what time this person is in and out of real-time and can see where the stage is at the event.

the stage is full or too many people. For example, Mr. A is COVID-19, we can see person that close contact and where they walk

A4 : In the current situation, I think ticket sales will be online, and the entire website is in the form of electronic tickets, which is the most accessible channel for customers. Therefore, it must be adjusted according to the situation.

A5 : The ticket format may be in the form of online tickets instead in the future. It uses less paper and allows reservations to attend the music festival in an online format instead.

A6 : There should be an online ticket. Because it is convenient and easy. But offline systems are likely to exist, but may not be as many as online systems.

A7 : Switch to bookings through all types of online media and through convenience stores or participating stores for convenience that ease and suitable for the current situation.

A8 : It's easy to access and monitor or store card buyer information, it's easy to manage because it's an online program.

A9 : Nowadays, ticket sales and ticket formats are changing with the ages and eras, already bringing technology into the

Question 5: Do you think event technology will be an important part of the music festival after covid-19?

A1 : Other people or even people in Hat Yai district do not know about their own city history that much so I think multimedia in different ways will help tell stories more enjoyable and memorable, such as making screens on the floor and shooting graphics that make Hat Yai commercial districts more bustle and that can telling stories about life in a generation through projection of buildings or shooting image of Hat Yai city into the sky at the stage of the event, as well as aligning the image with wall art. I think that's another very challenging thing.

A2 : I think it's important because nowadays, we can use mixed media techniques, such as mapping that can creating concert atmosphere before accessing. If it's a modern concert, it's not just about performing music and productions on stage, but there will also be events on the front of the event. The mapping displays on the website is increasingly being used.

A3 : I think technology will be a part of a wide range of tasks. Current technology has evolved a lot. If we can combine it in concerts, it will make it interesting and create new experiences for exhibitors

traditional music festivals. So, It is necessary to bring technology events to help them after COVID-19.

A5 : Technology is also important because we must collect as few people as possible. Therefore, the method of preparing the event online, buying tickets it must be entirely online or even attending the event requires technology to help make it more secure.

A6 : It is important because in terms of lighting and sound are necessary in music festival. It may be added in the matter of the tools that we use to consider of security and may be more than before.

A7 : It is important because technology makes the event that we organize to look more dimensional and modern.

A8 : The hologram may be taken. Graphics are used more so that people can use them to reduce costs and help to keep social distance.

A9 : The post-Covid-19 music festival model should have to be increased in terms of safety. Limiting the number of people attending, as well as covering the number of people who have already been vaccinated and a measure from government agencies that have introduced control laws

Question 6: What kind of technology in music festival that you most excited?

A1 : We consider the overview. The part that I will be very excited is about the new effects that will make the event more enjoyable, but it will have to match with theme of the event, the better if the effect is engaged with the audience.

A2 : It is likely to be mapped and holograms, lighting and laser, since people who are interested in the concert will interested in this atmosphere. The main concept of the event, theme of Mood & Tone it's can be used together because when it comes to our province, there is a musical event. The missing is design, there may be some people who do it, but with the budget and labor, people may not be able to do it completely.

A3 : Most people are interesting the sound, lighting system, which now has a lot of modern devices, so you can use the program to adjust the soft intensity of the light to create a spectacular view. The LED screen turns the floor into an LED screen, creating motion or wow for you to make 4D mapping, make the backdrop to 3d, have glasses handed out at launch or highlights that we will play to create excitement. Some drones have been used.

A4 : I think it's probably a good light, color and sound. In addition, voice control alongside the image control and show effects are an important part of the sound

effects. In order to add excitement to the participants

A5 : It's probably a technology of light and sound to make the event more spectacular and surprise in the form of a show to people, so people who attend the event will be dazzled from time to time. The stage layout also has a most interesting effect, making the viewer excited.

A6 : It's a 3D technology. All sound effects may have online stuff involved by adding these technologies instead of being able to watch only in the event, maybe live for other people to see as well.

A7 : Must consider venues, attractive venues, stage and artists.

A8 : Mapping the 3D holograms will make the audience feel very excited when they attend the event.

A9 : Evolving Light and Sound, including stage design and theme that fit the era.

Question 7: After Covid-19 what measures must be strictly followed in organizing the music festival?

A1 : It's probably a matter of social distance and wear a mask. We'll create a little Gimmick by way of a concert with people who know the inside of the car like the Drive-In Concert. They can driving from this stage to another stage. Except for the Rock stage,

where spectators can get out of the car before entering the zone. They must wear a rubber loop on their waist so that they do not touch each other directly, but they will still rock and jump.

A2 : I think after the COVID-19 situation, music festivals will still need measures similar to when there was COVID-19, but they may not be as strict as they would have been spaced out. There are checkpoints, but there may not be a need to wear a mask at all times. If there is a social distance, including disinfection and cleaning enough.

A3 : Check-in system in the application Thai Chana. Take new normal distancing measures. Limiting the number of participants, measuring the temperature before attending the event. There is a point to administer the alcohol gel.

A4 : After the COVID-19 situation, I think there still needs to be wearing a mask standard as well as to make sure our music festivals are safe and I think it's still not certain if the COVID-19 is over.

A5 : There is an alcohol gel service point and body temperature measurement before entering the event. There may be automated thermometer technology and the ability to count people. The check-in system in the application Thai Chana at the entrance and exit to prevent the gathering of too many people at the event.

A6 : Still have to consider about the same measures that prevent the spread of infection again. But there may be more measures such as physical examination. May check whether the participants have been vaccinated yet. If not, they may not be able to attend the event. But may be more concise or cautious. There must be more cleanliness in the event.

A7 : There must be measures to supervise and control which must be added during the covid period. But if the covid-19 pandemic is gone, normal measures will be taken to prevent quarrels. It also allows participants to see and get closer to the artist.

A8 : Initially, it was about screening people before attending the event, but if possible, I think it must be a general hygiene, but it may have to be stricter. In terms of the number of people, it is not limited because every music festival would like to join us to enjoy the event, so everyone will be vaccinated in order to attend the event normally, but it is not negligent, it is still based on safety standards.

A9 : Registration via QR Code is required to register before attending the event. Check the temperature and check the vaccination documents.

Question 8: What are the guidelines for organizing a music festival to be safe and not to spread the coronavirus again?

A1 : This music festival is supposed to control the number of people attending the event. Having a section of attendance, including hygiene, to ensure that people are as safe and free from COVID-19 as possible.

A2 : Must be accepted in the matter.

1. Limiting the number of attendees because the higher the number of people attending, the greater the risk. It's hard to hold a big concert from now on.

2. Screening participants, such as getting vaccinated in addition to other measures such as hand washing, mass wearing.

A3 : Cleaning and disinfecting the place from set up the place so that it is sterile about the various Thai Chana check-in. There may be other diseases that may occur again, we must adjust them in time.

A4 : As part of the guidelines for providing music festivals safely and without transmitting coronavirus, my opinion is that I think it may be possible to watch music festivals online altogether to prevent integration. The crowding of people attending the event, and the online event, give people more access to the event as they can be viewed from all areas.

A5 : I will do everything I can to ensure safety, there may be online visitors checking the history of vaccinations, there may be limits to

whether visitors may have to pass the COVID-19 test and have been vaccinated.

A6 : The idea is to organize a music festival to be online, bringing technology to help. To reduce the mass gathering of people, but to visit the online format instead. It depends on when the COVID-19 will disappear.

A7 : The main thing is to put in place measures to control the audience or the participant who will see There is part of the organization even in the part of the province that must be taken care of, All agencies must come together to put measures in this area as well to stop the spread of infection. To have not or to occur as little as possible

A8 : Actually, if you don't want to spread the infection, you can't answer that. But if the venue improves somewhat, then we will have to wait and see what kind of event it can be. Must be followed up and viewed according to the announcement.

A9 : Check if the participants have already been vaccinated with a certificate. However, temperature checks may be required before attending the event. It is important to check the origin of the person attending the event.

Question 9: If you are a Music Festival organizer, which security do you take into account first?

A1 : The safety of human management system is very important in this situation, including the organizer, should be a priority in the safety of the participants, which is to manage the number of people attending the event, emergency exit channels and Planning for accidents.

A2 : Usually events, concerts. The first thing to take into account is

1. The safety of the buildings , such as booths, facades, stages, black drops and installation of sound lighting systems, is a priority for organizers. Safety is always a top priority.

2. People Management System, Number of people visiting emergency lanes and Number of people emergency entrances .If it happens, how many minutes it will take to evacuate the premises, it is something that should be prepared.

3. Basic security system, Pre-inspection of weapons is something that must be prepared in security measures. In addition, it will be a measure to screen for COVID-19.

A3 : Masses must always carry hand sanitizer and Thailand should get quality and self-sufficient vaccine for the people.

*Hardest thing is social distancing. It's can't be done because we can't control people and it takes a lot of power to control people, such as waiting to go to the toilet/waiting for a restaurant to enter, not unless set.

* It must be adjusted to online/hybrid, but it is still not popular in Songkhla province, mostly the government sector that will organize it, there is no clear key performance indicator.

A4 : I thought it would be in terms of property security. In addition, the equipment must be checked rigorously and must pass through the checkpoint at the screening point of the device.

A5 : First of all, it's about sickness if it's in modern times. But in normal circumstances, it's basic security, it's about the safety of buildings and having police officers. Soldiers will come to help about safety at the event so it will be less of problems at the event.

A6 : The first thing to focus is the place should be safe and ready. There was a convenient trip, and other components gradually followed.

A7 : One of the main safety concerns of visitors is must be no quarrels, no liquor sales and there must be coordination with government agencies, such as Police officers in the Department of Education joined to coordinate to see and order in the event.

A8 : In fact, it cannot be said which is the first priority. But with the current situation, we have to keep track and watch announcements all the time to see what kind of events can be organized

A9 : The safety all of participants, artists and teams, respectively.

Question 10: What do you think about early bird tickets? Is it a good promotion?

A1: It let us know what we have designed to meets the needs of our participants. If there is a small number, then it is not yet answered. It's an indicator of how interesting we think we are. How responsive are consumers

A2 : Early bird ticket sales are a culture of ticket sales today, it's can evaluate and analyze how much people are paying attention. If early birds are sold out less then we have to do more marketing channels, it's like researching, which is essential for the organizers.

A3 : It's great for the organizers because we'll know how many people attended the event, so early bird promotions must be really interesting, for example, if people book before they will get more privileges than normal people, the organizers can control the budget, space and predict the number of people coming to the event.

A4 : I think early bird tickets are a good thing, which is to sell them in advance. In addition, early bird tickets allow us to roughly check how many people will be able to attend the event. It will Make planning smoothly managed.

A5 : It's good to have early bird ticket because it's like rushing people to buy tickets, stimulating and attracting even more ticket buyers and checking how much the attendees value our work.

A6 : It's good to have more interest in your target audience, and it's one of the things that people pay attention to our work.

A7 : Early bird tickets are the tickets that we sell to those who are attending the event or are interested in being eager to visit the event ,I think it plays a part in stimulating the marketing.

A8 : It's a good thing because it's Can predict the number of interested people, for example, if tickets sold out first. We are able to expand or increase the number of people. It can also be considered place that can be used for events.

A9 : Early Bird tickets are market survey. In another very popular way, we can know the appeal of the concert, the sooner the tickets run out, the better the feedback of the event.

Question 11: At present, what is the most effective way to promote music festival?

A1 : - Thai Ticket Major is convenient for both demographic and money management systems. It can view information, and perform various tasks immediately.

- Social Media on instagram, Facebook, twitter, tiktok and Line (Thailand has the second most active population in the world)

- Print Ad at the shops such as Café, Bar or restaurants with signature and camping chains

A2 : The main channel of every business right now would be online. It's the mainstream of promotion. There are actually a variety of tools that can be promoted depending on the budget. The media publications such as cutout can be one option that easy for people to remember.

A3 : Studying consumer behavior is the best suited to using online media., using Facebook/ IG application to see who is the target audience to promote because ad costs are cheap and easily accessible. If in Songkhla ,I thinks Facebook is most popular in Songkhla but needs to sales strategy, or banners at 7-11 because they are spread all over the city.

A4 : I think social media promotion is probably the most effective, probably through content video, promoting short clips on the Facebook Twitter platform, and then promoting it through 7-11, with 7-11 promoting it and selling tickets through 7-11

A5 : I think it's important both offline and online. Offline, there are banners, posters

and flyers. Online is promoted through various applications.

A6 : When it comes to modern times, it's still be television media. Because it's the easiest to access and reach all groups, or it could be online media.

A7 : One is online media, two are television segments where people can use and receive news as quickly and as quickly as possible.

A8 : I probably focused on Tik-Tok, Facebook, Instagram because it's easy to access, check groups of people, and target markets easily.

A9 : I focus on Facebook fan page / Instagram including various social media because it's becoming popular and interesting nowadays.

Summary of the potential of organizing music festival post Covid-19 in Songkhla

Symbol		Potential of organizing music festival post Covid-19
	B01	Chiranakorn Stadium, The Pirates Water Park Hatyai, PSU Science Park, Niphat Uthit 1, Niphat Uthit 2 and Niphat Uthit 3 road, Khao Khuha Which should be a wide open space and interesting

		to arrange and also have many amenities.
A02		ICC Hall, Hat Yai convention, Hat Yai park center that is ready for the music festival
A03		Distancing and wearing mass This reduces the chances of contracting the virus
A04		The ticket format may be in the form of online tickets
A05		Technology is also important because we have to try to get people together or meet as little as possible
A06		The most people are agitated with light & sound mapping and holograms
A07		Social distancing and register via QR code before attending the event, check the temperature, check vaccination documents.
A08		The idea is to organize a music festival to be online, bringing technology to help and limiting the number of attendees because the higher the number of people attending
	B09	People Management System Number of people visiting emergency lanes Number of people and emergency entrances

A10		It's a good thing because one would expect the participants, we could expect
A11		1. Online media and 2. Television segments

The left side of the table shows all thematic codes which we created from the answers of the interviews. The blue codes represent the side of the answers which have the similarity while the red codes represent the side of the answers which have the dissimilarity that of organizing music festival post Covid-19 in Songkhla.

Both of the thematic codes which blue and red will be represented by the opinions of organizing music festival post Covid-19 in Songkhla. The right side of the table shows a summary of the interview about the potential of the organizer. However, when we mark each thematic codes, then we can analyze the result by looking at the last number in each code which means the number of each question. Finally, the summary will tell the result of which organizing music festival post Covid-19 and what is the weakness of the potential of organizing music festival post Covid-19 in Songkhla.

Conclusion

From the findings, the nine interviewees provided interesting and helpful opinions for

different research purposes. The results of each element can be summarized as follows:

Location/Venue

The area can accommodate large volumes of people, easy access to the event such as space, transportation and facilities. The places that interest and readiness to organizer is Hat Yai Park, Hat Yai Hall and ICC hall. Science Park, The Pirates Water Park Hat Yai, Khao Khuha, Niphat Uthit road.

Promotion

In 2021 most of promotions are use online media to promote. Advertising costs are affordable and can be quickly shared online in various apps. Includes early bird tickets distribution to control budgets.

Ticketing

The format of the ticket will change to online. Whether it's scanning a QR code or an e-ticket. This makes it easier to manage. Card buyer information can be checked or stored. It also reduces paper consumption and reduces exposure.

Event technology

Technology is needed to create a concert atmosphere using lighting, color, and sound effects to enhance the mood and tone of the music festivals. They used technology to help sell tickets or used electronic tickets to

enhance security and convenience for the consumers.

Safety

Safety measures must still be taken to prevent the spread of the virus. In addition, most interviewees admed that the music festival still do not neglect the inspection of weapons before attending the event, as well as the structures at the event to ensure the safety of everyone.

Recommendation and conclusion

Due to the covid-19 pandemic, which has affected the music festival and changed the format of the music festival. The researchers then interviewed stakeholders at a music festival in Songkhla province. Most interviewees agree that the theme of music festivals is increasingly turning online. Technology has been introduced in both the event as well as the format of tickets to the event, as an online format. The adoption of technology for the event will increase the safety of participants in terms of covid-19 situations and the safety of situations such as riots, weapons. And the adoption of this technology will also increase the appeal of the festival. The use of technology to help with tickets such as scanning QR codes will speed up attendance. The use of the participant tracking system at the event is also interesting, which has great advantages in managing if someone is infected at the

event. This allows us to keep track and manage in time. If you're going to hold a music festival after covid-19, you'll need to go online to create amazing events. These make it possible to attract people to music festivals.

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Resident Opinions on MICE Visitors' Arrival in Hatyai, Songkla during COVID-19 Pandemic

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Abstract

The southern is now considered quite affected by the COVID-19 epidemic. Songkhla is another MICE city, which is gaining the attention of investors in the MICE business that will bring a large influx of people but the spread of the coronavirus as a result residents concerned about of MICE visitors entering Hat Yai, Songkhla. This has caused many other impacts, both positive and negative. Therefore to explore the perspective of Hat Yai, Songkhla residents towards MICE visitors during COVID-19 pandemic. Use the research results in planning future events. The research is quantitative research was to survey data from the questionnaire on the subject matter resident opinions on MICE visitors arrival in Hatyai, Songkhla during COVID-19 pandemic to know the opinion level of residents on MICE visitors and find the trend of opinion level. Therefore the research instrument is survey questionnaire, this will be distributed to resident in the Hat Yai city municipalities in Hat Yai, Songkhla of 400 people respondents as the targeted sample size. As a result of the behavior of MICE visitors, it is evident that the behaviors that residents of Hat Yai, Songkhla are most disagreeable with, which was obtained by a survey of 400 residents and those results also reveal the disagreed factors such as attending exhibition, using train as transportations, duration of stay more than 7 days, stay at homestay and visit variety of attraction in Hat Yai, Songkhla. There are also behaviors that the residents of Hat Yai, Songkhla agree, such as attending meeting, using private car as transportations, duration of stay day trip, stay at hotel.

Keywords

COVID-19, Resident Opinions, Impact of COVID-19, MICE Industry

Introduction

Coronavirus is an animal virus have many species usually does not cause disease in people but when mutated into a species new pathogen in humans (This is often caused by unnatural manipulation by humans), while humans are not yet known and have no immunity, an outbreak of COVID-19 (COVID-19, abbreviated to Coronavirus disease 2019) is respiratory infections caused by the coronavirus. The official name of SARS-CoV-2 can cause fever, cough and possibly pneumonia. The first case was seen in December 2019 in Wuhan. The capital city of Hubei Province, Central China which is a big city and crowded. Therefore, the pandemic occurs quickly, and the maintenance is emergency. Too many people are seriously ill and dying. Until China had to shut down the city and shut down the country later China can now control until almost no new patients but naturally there will still be infected people. (Mahidol, 2020).

The survey of how young people around the world feel about COVID-19 also found that 87% of all surveyed feel they are doing everything they personally can to limit the spread of COVID-19. While 55% are feeling an increase in fear, they also have a 60% increase in empathy. When it comes to trusted news sources, 90% are relying on government organizations such as WHO versus 58% on national leaders, or 53% on local leaders. Meanwhile, 31% have taken up a new hobby and another 31% have reached out to someone they haven't spoken to in a while. In short, creativity and connectivity have never been higher among these demographics. One of the respondent's surveys said it best: COVID-19 is

a reset button for humanity. Fear and anxiety over the coronavirus crisis are consuming young people around the world (Oliver McAteer, 2020).

On February 11, 2020, the official name and virus name of COVID-19 (pronounced: COVID19 stands for Coronavirus Disease 2019) was designated by the World Health Organization (WHO) (Mahidol, 2020).

The first patient treated in Thailand on January 13, 2020, was a Chinese person who was infected by an outbreak in China and traveled to Thailand, after which there were many more patients from other countries. The first case of infected patients in Thailand was reported on January 31, 2020, the disease was caused by the Coronavirus, which naturally mutates into a new strain. From the fact that nature is abused by humans with the hypothesis that viruses may have a starting source: bats and mutates when passing through an intermediate animal become a new virus that causes disease in people. People get the infection and spread it from person to person. However, we must wait for further verification. Each of the new strains of the coronavirus that have occurred in the past is SARS (2002) and MERS (2014), both of which. (Mahidol, 2020).

The patients were all critically ill and had to be in the hospital. Therefore, not difficult to block the transmission of disease patients with transmissible COVID-19 are either those with little or no symptoms. In addition to those with severe symptoms, which are much less. Therefore, it is more difficult to control the outbreak closest to this one. It was an outbreak of a new influenza strain 2009 (Influenza A (H1N1) pdm09 virus) in 2009, which started in the United States and has

been pandemic all over the world. But people infected with COVID-19 can be transmitted for longer periods. The outbreak should be more spacious, and it is more difficult to control. Currently, COVID-19 has spread all over the world. (Mahidol, 2020).

Emergency Decree on Public Administration in the Situation of Emergency on March 26, 2020, to control the COVID-19 outbreak one important measure is the closure of places including tourist sites, a ban on unnecessary inter-provincial travel. Requesting cooperation places to encourage employees to work in residences (Work from home) the situation of the epidemic and such measures not only send impact on tourist's travel confidence, but impact giving the national economy a severe slowdown by the Development Council the nation's economy and society announced gross domestic product (GDP) in the first quarter of 2020, down -1.8%, the first contraction in eight years since the 2011 flood. (Mahidol, 2020).

The International Monetary Fund: The IMF estimates the global economy in 2020 will contract at 3 percent, the worst since the Great Depression in the 1930s, and is the first time both major economies countries and developing countries have entered a recession at the same time. The damage to the global economy in 2020 and 2021 is estimated at more than \$ 9 trillion, while the World Trade Organization: WTO estimates that global trade volumes will be lost by a third if prolonged situations lead to lack of liquidity for businesses and households. Severe until the problem of widespread debt default It may also be at risk of becoming a

collective financial crisis or a "triple economic shock" (BOT, 2020).

Hatyai, Songkhla is another district that has been watched as being well prepared for MICE visitors. Both in terms of transportation and a place that it can be supported is ICC Hatyai or called the 60th Anniversary of His Majesty the King's Accession to the Throne International Convention Center and in the past year 2020, Songkhla Province was selected as MICE City by the office of convention and exhibition promotion (Public Organization) has held a meeting of MICE City assessment committee. To certify the 2020 MICE City recognition Assessment by Songkhla Province it was the 7th MICE City in Thailand. Mr. Waranut Nuarod, Permanent secretary of Songkhla, said the economic development of the business could not be carried out. If the government does not support the private sector, having MICE City is a tool that will help both the private sector and the government to drive through the COVID-19 crisis. (HatYai Today, 2020).

Although it has had an economic impact before and later also had effects from the COVID-19 crisis it was found that the economic situation of the area had a hard problem. Both from the recession from agricultural products Industry and tourism decline respectively. Foresee the future is likely to continue to decline. causing the residents of Hat Yai, Songkhla to encounter problems many businesses shut down because of the COVID-19 virus (77kaoded, 2020).

Since Songkhla is a MICE City, it makes MICE visitors like a group of people who contribute to generating income for the people of the province. To stimulate the economy of the

province although MICE visitor's travel may lead to a growing epidemic. A result, residents of Songkhla have various opinions on MICE visitors, both positive and negative. (HatYai Today, 2020).

From the total number of residents 159,627 people, the researcher should use a random sampling of 384 people Krejcie and Morgan theoretical samples for the research. But with the limitation of study time Therefore, the researcher selected the data collection method by using the Convenience Sampling method as a replacement.

From the number of residents including Hat Yai City municipalities 159,627 people. In residents, the researcher should use a random sampling method based on the theory of Krejcie and Morgan are 384 people for the research. The researcher therefore chose to use the method to collect the data by random sampling according to Convenience Sampling.

For this reason, it leads to a research issue of resident opinions on MICE visitors arrival in Hat Yai, Songkhla during the COVID-19 pandemic.

Literature review

COVID-19 pandemic is a 'bad dream' reality for the planet. Global daily news dealing with the threat of such viral infection recalls from our memory scenes from movies with similar stressful scenarios. Longitudinal information was extracted from the case in Italy and from that in South Korea during COVID-19 pandemic, by analyzing online global data. Johns Hopkins e-monitoring platform periodically updated the latest information of confirmed cases and deaths globally

among other data. At the time of the first observation, 126,660 total cases were globally confirmed, 4,641 total deaths were registered and 68,305 were totally recovered. One month later, 1,783,941 total cases were confirmed, 109,312 total deaths were registered and 405,972 were totally recovered. Five months later, 20,306,856 total cases were reported, 741,723 total deaths were registered and 12,602,544 were totally recovered. (Emmanouil K. Symvoulakis George Sourvinos Demetrios A. Spandidos Christos Lionis, 2020).

Observing numbers and thinking that, beyond the arithmetic's, people suffer, a couple of points appear to be demanding in their content analysis. The case in Italy and the case in South Korea are extremely different in their geographical, environmental, social, cultural and racial characteristics, with 12,462 confirmed cases and 7,869 respectively, on 12th March 2020. On that date, Italy and South Korea were listed among COVID-19 most threatened countries. One month later, Italy recorded 152,271 confirmed cases and South Korea 10,512 cases. At five months Italy registered 251,237 confirmed cases and South Korea 14,714 cases. Epidemic burden was different for the two countries and the gap evolved by further opening. During our first e-data observation, by extracting the rates of total deaths per total confirmed cases at a specific time period, we noted that Italy reported a case fatality ratio (CFR) of 6.6% (827/12,462) and South Korea presented a CFR of 0.8% (66/7,869). Global total rate was calculated at 3.6%. One month later, Italy

reported a CFR of 12.8% (19,468/152,271) and South Korea a rate of 2.0% (214/10,512). Global total rate was calculated at 6.1%. Five months later, Italy reported a CFR of 14.0% (35,215/251,237) and South Korea presented a CFR of 2.0% (305/14,714). Global total rate was calculated at 3.6%. All figures from Italy and South Korea diverge in a consistent manner from total global rates. Of course, these are non-adjusted per age, sex or other feature rates and attention is brought to readers to avoid misunderstandings, especially when data from different countries or regions are compared. At the time of publication absolute numbers will definitely differ. However, CFRs in the two countries are likely to evolve without surprising changes. (Emmanouil K. Symvoulakis George Sourvinos Demetrios A. Spandidos Christos Lionis, 2020).

As evidence becomes more palpable, some explanations were given on the poor situation, reporting that the control of infectious wave was totally lost early on, and that population is aged and thus vulnerable, since deaths are more common among elderly or frail. On the contrary, extensive diagnostic testing performed in South Korea was a really protective measure. With great respect to the Italian people, we are extremely cautious not to deal with other explanations of this phenomenon observed across the two countries. Noxious or protective systemic factors can occur and play a synergistic role towards a more positive or negative scenario. We cannot exclude other causes that are related to administration model and local health system parameters by creating a different

reaction to emergency, citizens' compliance, public health surveillance tactics and readiness, health system adaptation, articulation of services from primary care to intensive care flow handling, level of health sector readiness to absorb an exponential 'pressure' and, finally, system capacity to 'resist' in terms of time and effort endurance. A safe conclusion is that both scenarios, 'bad' or 'good', are simultaneously likely to occur at moment 'zero' and arithmetical or geometrical death rate figures are related to the scenario that prevails. It appears that 'epi-epidemic' parameters can strongly influence population health during COVID-19 pandemic, and the good or bad scenario seems to endure in terms of CFRs over time. (Emmanouil K. Symvoulakis George Sourvinos Demetrios A. Spandidos Christos Lionis, 2020).

Methods

This research is a survey research for the purpose of studying the relationship between behaviors and activities of MICE visitors arrival in Hat Yai, Songkhla during COVID-19 pandemic to draw data from the survey to determine the trends in residents opinion on the behaviors and activities of MICE visitors.

Quantitative: The quantitative research was to survey data from filling in the questionnaire on the subject matter resident opinions on MICE visitors arrival in Hat Yai, Songkhla during COVID-19 pandemic to know the opinion level of residents on MICE visitors and find the trend of opinion level.

Applied Research: This research has applied results of the questionnaire that were analyzed to determine the trend of residents

opinion level in Hat Yai, Songkhla on MICE visitors to be used as a reference for anyone who wants to do MICE activities in Hat Yai, Songkhla during COVID-19 pandemic.

Inductive Research: The COVID-19 outbreak has had a wide range of effects, both positive and negative but there are still many MICE visitors who have behavior that must come to carry out activities in Hat Yai, Songkhla during COVID-19 pandemic and causing the impact on the residents of the area in Hat Yai, Songkhla. To know the level of residents opinion therefore a questionnaire on the subject matter resident opinions on MICE visitors arrival in Hat Yai, Songkhla during COVID-19 pandemic to know the opinion level of residents on MICE visitors and find the trend of opinion level.

Conceptual Framework

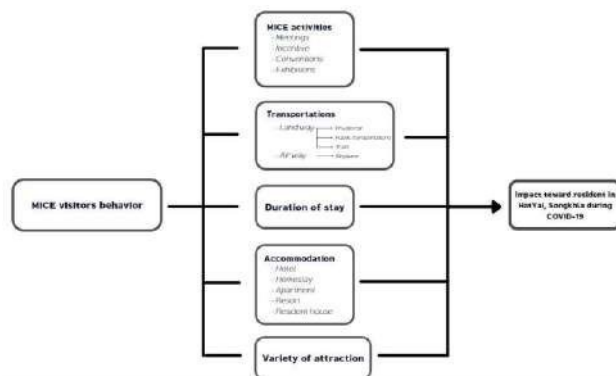


Figure 1 Research Model (Suthira Pankaew, 2015); (Chawannuch Uthayan, 2009); (Giztix, 2019).

As above the conceptual framework, the independent variables are:

- a) MICE activities: MICE (Meeting, Incentive, Convention and Exhibition) mean MICE is part of the tourism industry. Which is well managed and complete professionally. Both in terms

of venue, service, meeting organization, food and beverages etc. Related to 4 types of activities, also known as MICE business activities. as follows: (Suthira Pankaew, 2015).

- b) Transportations: classified as a fundamental factor that contributes to widespread travel. And it can be regarded as one of the businesses that facilitate travellers to travel from one place to another, both by land and air, which can facilitate both domestic and international travel. Including (1) Land way transport such as private car, public transportation and train. (2) Airplane. (Giztix, 2019).
- c) Duration of stay: the length of residence of travellers who visit to meetings, conferences, seminars, incentives travel and exhibitions will depend on the duration of the event. By the residents of the traveller there are many forms. Whether it's a day trip, arriving home in 24 hours without a camp or is more than 7 days. all residence of the visitors will depend on the event attended. Where visitors often have a reason or type of purpose for their visit. (Chawannuch Uthayan, 2009).

- d) Accommodation: A resting place for travelers to attend the event. By accommodation or overnight must be safe. The accommodation location is reasonable. There are facilities within the property. Room cleanliness and staff service. Which most of the participants stay in the exhibition area such as hotel, homestay, apartment, resort, resident house. (Punyarith Thongklin, 2018).

e) Variety of attraction: mean attraction and entertainment for those visiting to attend the event. With a variety of tourist attractions, The integrity of tourism resources, The beauty of the scenery, interesting features of the attractions. Especially in the commercial district and leading department stores, both products produced by Thai craftsmanship to luxury brand-name products from abroad. As well as local products and others Many more at a reasonable price. Including department stores, Kim Yong Temple market, etc. (Prasit Rattanaphan, 2015).

Analysis/Discussion

The researcher has collected data of summary from SPSS program prepare the frequency and percentage of the data as follows:

N = 400

	Frequency	Percentage
Gender		
	Male	191 47.8%
	Female	209 52.3%
Age		
	20-30 years	159 39.8%
	31-40 years	104 26.0%
	41-50 years	87 21.8%
	51-60 years	34 8.5%
	61 years and over	16 4.0%
Occupation		
	Student	109 27.3%
	Government officials	68 17.0%
	State enterprises	47 11.8%
	Private institution	78 19.5%
Occupation		
	Company employee	77 19.3%
	Other	21 5.3%
Total	400	100.00

Table 1 The frequency and percentage of data

Based on an analysis of data from 400 resident, the factor that residents least agree summarized as follows:

Code	Describing	The most influential survey participants
MICE activities		
Q001_4	Attending the exhibition	Male / 20-30 years / Student
Transportations		
Q002_3	Access by Train	Female / 20-30 years / Student
Duration of stay		
Q003_4	More than 7 days	Male / 20-30 years / Student
Mode of stay		
Q004_2	Homestay	Male / 20-30 years / Student
Variety of attractions		
Q005_1	Traveling to variety of attractions	Female / 31-40 years / Other

Table 2 The factor that residents least agree

The topic of MICE activities: the Most residents disagreed with MICE visitors arrival in Hat Yai, Songkhla for attending the exhibition. The group with the most influential survey participant was male / 20 - 30 years / student.

The topic of transportations: the Most residents disagreed with MICE visitors access by Train. The group with the most influential survey participant was female / 20 - 30 years / student.

The topic of duration of stay: the Most residents disagreed with MICE visitors staying period of more than 7 days. The group with the most influential survey participant was male / 20 - 30 years / student.

The topic of mode of stay: Most residents disagreed with MICE visitors stay in Homestay. The group with the most influential survey participant was male / 20 - 30 years / student.

The topic of variety of attraction: Most residents disagreed with MICE visitors traveling to variety of attractions. The group with the most influential survey participant was female / 31 - 40 years old / other.

Also in this survey, some residents of Hat Yai Songkhla agreed with MICE visitors coming to Hat Yai Songkhla for some activities, which

may be a result of their desire to welcome MICE visitors. or are ready to prevent the spread of COVID-19 as follows:

Code	Describing	The most influential survey participants in topic agree
MICE activities		
Q001_1	Attending the meeting	Female / 31-40 years / State enterprises
Transportations		
Q002_1	Access by private car	Female / 20-30 years / Company employee
Duration of stay		
Q003_1	Day trip	Male / 20-30 years / Government officials
Mode of stay		
Q004_1	Hotel	Male / 20-30 years / Company employee

Table 2 The factor that residents agree

The topic of MICE activities: The most residents agree with MICE visitors arrival in Hat Yai, Songkhla for attending the Meeting. The group with the most influential survey participant was Female / 31 - 40 years old / State enterprises.

The topic of transportations: The most residents agree with MICE visitors arrival in Hat Yai, Songkhla for Private car. The group with the most influential survey participant was Female / 20 - 30 years old / Company employee.

The topic of duration of stay: The most residents agree with MICE visitors staying period of One day trip. The group with the most influential survey participant was Female / 20 - 30 years old / Government officials.

The topic of mode of stay: The most residents agree with MICE visitors stay in hotel. The group with the most influential survey participant was Female / 20 - 30 years old / Company employee.

Conclusion

The researchers found that there are factors that resident least agree upon of 1) The topic of MICE activities is MICE visitors arrival in Hatyai, Songkhla for attending the exhibition. 2) The topic of transportations is MICE visitors access by Train. 3) The topic of duration of stay is MICE visitors staying period of more than 7 days. 4) The topic of variety of attraction is MICE visitors traveling to variety of attractions. This will lead to further study and assess for further improvement and The researcher found that there are 4 behaviors of MICE visitors, which are factors that the residents in the area agree. Those factors are 1) The topic of MICE activities is MICE visitors arrival in Hat Yai, Songkhla for attending the Meeting. 2) The topic of transportations is MICE visitors access Hat Yai by Private car. 3) The topic of duration of stay is MICE visitors staying period of one day trip. 4) The topic of mode of stay is MICE visitors stay in hotel.

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Guidelines for Sustainable Event Development: A Case Study of Songkhla MICE Industry

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Abstract

Due to the fact that organizing events today causes economic, social and environmental impacts especially the use of resources. This research aims to identify the appropriate features for sustainable event management. We will use questions that indicate the 12 SDGs relevant to event organizing in Songkhla. The researchers conduct the interview among the event organizers in Songkhla: Talk of the Town Organizer, OK Plus Event & Organizer, We Wedding & Event Planner, Intention Organizer, I AM Organizer, Tonix Organizer, Neehow Organizer, ARITA Organizer, AJ Event Organizer Limited Partnership and the research results were analyzed using qualitative methodology, The comparative matrix and coding is applied. From the results of the interview, it is found that the organizers in Songkhla have a sustainable arrangement according to 11 SDGs is increasing their income, generate income for employees, hygiene knowledge, professional skills, genders have equal ability, water resources, work equally, adoption of new innovations, waste, global warming, deal emergencies, materials that do not harm the environment but there are SDG 17 that cannot be achieved is companies and suppliers should work together. Therefore, it is important to strengthen and encourage organizers in Songkhla to realize the importance of sustainable collaboration between companies and partnerships to ensure that Songkhla province has a sustainable organizing event in accordance with the 12 SDGs of future events.

Keywords

Event, Sustainable Event, Songkhla, MICE industry

Introduction

Sustainable events in Thailand are planned, administered and implemented in accordance with the sustainability concept to reduce negative environmental impacts and create long-term benefits for the community. Conference, seminar, exhibition and high-participation activities affect air, land, water and resources. If planning before the event with sustainability in mind, the organizer will be able to reduce the disadvantage that will occur. Songkhla Province has set a guideline for the sustainable management of MICE industry in Songkhla. By requiring identifying and developing a better style of event as a guideline for further MICE events in Songkhla [1].

Literature review

Private events, sporting events, public events, fairs and festivals are all part of the special events industry [3]. Sustainable development is a development model that focuses on sustainability goals without causing any negative impact or causing the least negative impact on society and the environment [5], by using nationally recognized Sustainable Development Goals (SDGs), also known as Global Goals, Member States of the United Nations as a model for the creation of long-term events. Sustainable event management is a set of tools, processes, and procedures that organizers and handlers utilize to make an event more environmentally friendly. To ensure the event's long-term viability, the organizers must carefully assess the event's goals. [7]. Case studies in organizing

sustainable events in Songkhla such as OTOP City to Songkhla Event promoting products in the community and Hat Yai Healthy Life 2019 [8].

Sustainable events are becoming more significant in today's meeting and conference business as meeting planners begin to take the initiative to arrange ecologically friendly events. It is also used as a criterion for evaluating meeting arrangements and venue selection. They also discovered that sustainable management approaches benefit both profits and the environment [2].

Methods

This research is qualitative studies using secondary data together with in-depth interviews. Conduct interviews with company organizer in Songkhla. Then analyze the data to study green event management and the level of awareness that will contribute towards sustainable development [9].

To achieve the objectives of this research, the target population is the company organizer in Songkhla. The nine selected

Company organizer are:

1. Talk of the Town Organizer
2. OK Plus Event & Organizer
3. Neehow Organizer
4. We Wedding & Event Planner
5. AJ Event Organizer Limited Partnership
6. Intention Organizer
7. Tonix Organizer
8. Arita Organizer Limited Partnership
9. I AM Organizer & Planner

CONCEPTUAL FRAMEWORK
THE SUSTAINABLE EVENT DEVELOPMENT



Figure 1: Research Conceptual Framework: SDGs for Event Development MICE Industry Songkhla [4], [6]

Analysis/Discussion

Sampling Population

The sampling group of research population is the. This research requires that the population and sample group interview in depth from the people in company. Related to company organizers, a total of 9 company.

Table 1: Sampling Population 9 companies

No.	Company organizer
C1	Talk of the Town Organizer
C2	OK Plus Event & Organizer
C3	We Wedding & Event Planner
C4	Intention Organizer
C5	I AM Organizer
C6	Tonix Organizer

C7	Neehow Organizer
C8	ARITA Organizer
C9	AJ Event Organizer Limited Partnership

Summary of Dissimilarity of answers

The interviewees have informed, and this part will show the different opinions that Sustainable Development Goals to support sustainable event management in Songkhla. from each information as follows:

- **Question 1:** What does your company do with community involvement?

The data in the table illustrates the company's differences in participation in benefiting communities as follows:

C4: "In principle to reduce costs."

C5: "We may not be able to benefit the community."

- **Question 2:** How does your company consider helping communities or the underprivileged through events?

The data in the table illustrates the differences in the company's each event that has helped community groups or disadvantaged people as follows:

C4: "We're going to have to run it, and we're not going to help the

underprivileged or the community. It's relatively small, and most of them aren't focused on donating things, but rather on helping other parts."

C9: *"The company has never had the opportunity to participate or provide opportunities for the underprivileged. But if there is an opportunity, it is willing to give them a chance to go."*

- **Question 3:** What does your company do with promoting health and well-being for stakeholder?

According to the table, the company's departmental activities are related to promoting health and well-being for stakeholders in different ways as follows:

C1: *"If all the processes of the event have not been done yet, as he says, profit is the best interest of business at a cost, he rarely brings it in. If it's not necessary."*

C7: *"Sometimes it's loud, it disturbs the surrounding area."*

C9: *"Sound or the power spinning, there's a smoke pollution built in it, and it has the same sound and smell. Sometimes you don't want to use it, but it's necessary because making an organizer doesn't have to be a mistake."*

- **Question 5:** How does your company perceived with gender equality?

The data in the table illustrates the differences in the promotion and emphasis on gender equality of the company as follows:

C1: *"Ignoring it, it's normal for you to be a homosexual for the rest of your life. You have chosen and I have no right to interfere. I have no right to tell him not to."*

C4: *"Maybe not promoting, but we don't use the word "promotion" use the word opportunity."*

- **Question 6:** Could you tell us about whenever you organizing any event, your company have any concern about amount of water use protocol?

The data in the table illustrates the different steps or procedures for reducing water consumption by each company:

C1: *"There is no way to use water because I have a lot of responsibility. 1. it costs too 2. it's a few baht."*

C4: *"We are usually thrifty people from time to time. We think everything is cost. Use it as needed and really"*

appropriate, not just with water, but in every part."

C7: *"If it's nothing, we won't be saving to be frank. And when you're done using it, you have to throw it all away, but this water is not drinking water, it's the water from the fire truck here. Cannot be reused."*

C8: *"Usually in the bathroom, I still can't figure out what it will be like. For example, if we go to the Songkran festival, we go to get the job, how does it save water? What if it's saving water? I don't have a policy on water; this one is hard to control."*

C9: *"But I have to admit that I didn't focus on the use of water in flower arrangements because oasis flower arrangements require a lot of water. And as for the rest of the bottled water, they try to dump them in the grass or trees."*

- **Question 8:** Could you explain to us about innovative ideas, infrastructure and enhancing the event industry whenever you organizing any event?

According to the table, each event of the company is conceptually implemented. Infrastructure and innovations apply to events and

ideas to promote different industries as follows:

C4: *"The store is hiring answers that may not be answerable in terms of infrastructure."*

- **Question 9:** How did you considering about impact towards the environment whenever you organizing any event?

The data in the table shows that companies have different environmental impacts considered and taken into account each time:

C1: *"garbage separation, but there is no garbage sorting because in the end the garbage truck is put together."*

C5: *"The environmental impact on weddings is already present because we use flowers."*

C8: *"Such as OTOP, is that it will have an impact on air pollution travel."*

C9: *"As for the light and noise pollution at events, sometimes it has to happen."*

- **Question 10:** How does your company deal with the materials for production and waste segregation? The information in the table illustrates the selection of materials for production and the management of

different waste sorting of the company as follows:

C1: *"Garbage separation is rarely done, as I said, quite a waste of time. If it's environmental, I'm the one who thinks about it a little bit. Less environmental consciousness"*

C4: *"we've got vinyl decorations from which it's going to be a scene. The use of wood is structural, and then everything is dismantled and destroyed."*

C5: *"if any event is on a high budget, it will be an oasis and a fresh flower. but if you assume that there is no work after the event on that day, it will be all left."*

C7: *"Formality Assuming it's a formal luxury event. If we're going to choose a material that loves the world, Wouldn't it be appropriate? We don't take Reuse into account or what kind of thing it must be, it's more of a character of the job than we choose what we're going to need. Maybe it's a very formal job, why would he take it? He can get banana leaves or something to decorate them with luxury, but because of what kind of work they have to be, they're going to have to be. A job that conveys Thainess. It must be the character of the event."*

C9: *"The waste problems of each organizer are mostly vinyl."*

- **Question 11:** How does your company organize events to tackle global warming?

The data in the table shows the sameness of companies that have managed to help solve problems and tackle global warming as follows:

C1: *"I didn't think about helping to tackle global warming, like people coming to the event, we arranged a parking spot, but we didn't think he had to travel together because it didn't, but in the end the way of thinking is that the profit and loss is not in the environment."*

C7: *"No, there's no problem with customers saying you're going to have to be sustainable, but at the event it's not because it must meet the needs of customers."*

C9: *"But there are also consumables that can't be recycled, such as vinyl."*

- **Question 13:** How the company deal with the material selection that concern environment?

The data in the table illustrates the management of the company's choice of environmentally conscious materials as follows:

C1: *"In order to choose a container made of natural products, think from customers rather than not taking into account the environment, which may increase the cost of not ordering."*

C4: *"Material matters are one of the key things that affect the budget of the work, depending on the hired person whether he is ready to support here. If his hires have a policy on these things, there's no problem, so we can operate here quite highly."*

C9: *"Sometimes when issuing piles to work outdoors, it is instead convenient because we may waste time finding restaurants that use containers that have little impact on the environment."*

- **Question 14:** How does your company and suppliers collaborating to make the event sustainable?

The data in the table demonstrates the collaboration of each company and supplier to make the work sustainable as follows:

C1: *"Talking to suppliers in sustainable events, they don't understand, we don't have any process that makes it sustainable nowadays."*

C3: *"we can talk about it as a development in other jobs."*

C7: *"such as a lighting company, and they have different character of each company and skills. Don't use anyone else This structure is finished; we can apply it to other structures. Some frames, instead of wood, we use steel. We'll be able to use this structure again."*

C8: *"Before starting work, money problems are mostly problems with preventing problems and working together, it's clear that we work like normally when working in the industry, and then they work together more clearly."*

C9: *"Sustainability is more attentive to partners and in terms of loyalty to their partners or suppliers themselves. The word honesty here can be honest, psychologically, there is something to be said, to talk about and then to work together to eliminate the problem of conflict, it will make it difficult to work, it is happy and sustainable."*

Table 2: Summary of Sustainable Organizing Potential of Organizer Company in Songkhla

Symbol		Sustainable Organizing Potential of Organizer Company in Songkhla
A01	.	Support the community in <u>increasing their income.</u> In

		term of products of the people in the community have become more known, resulting in more income.
A02	.	People in the community have <u>more careers</u> and income from company employment.
A03	.	Most people gain more <u>hygiene knowledge</u> from events.
A04	.	Employees have increased <u>professional skills</u> for other jobs in the future.
A05	.	Gender differences are seen as normal. All genders have <u>equal ability</u> to work.
A06	.	Cultivated most people to care about the limited <u>water resources</u> .
A07	.	All employees have different roles and duties. but able to show the potential to <u>work equally</u>
A08	.	The event industry is boosted by the <u>adoption of new</u> innovations. _____
A09	.	The community and environment are <u>least</u> affected by <u>pollution</u> from the event.
A10	.	<u>Garbage (waste)</u> left over from the event was sorted before

		being discarded. and are recycled to be used again.
A11	.	Each event takes into account <u>global warming</u> . Use the least wasted material and does not cause air pollution.
A12	.	The company can <u>deal</u> with <u>emergencies</u> that may arise during the event.
A13	.	Each event is organized using <u>materials that do not harm the environment</u> . Can be reused and the least impact on the environment.
.	B14	<u>Companies and suppliers should work together</u> in organizing sustainable events. To enable development in the event industry.

The sustainable events of organizers in Songkhla display two types of information. Blue codes represent a side of the answer that is similar in terms of sustainability. While the red code represents an unsustainable aspect of the answer, the right side of the table shows the potential for sustainable events of organizers in Songkhla. However When we make specific identifiers of SDGs, we can analyze the results based on the final numbers in each code. Finally, we will summarize whether organizers in Songkhla have a sustainable event.

Matching result with SDGs

As the result from the identification of the features that event organizers highlighted on their concerns towards sustainable event monument are increasing their income, generate income for employees, hygiene knowledge, professional skills, genders have equal ability, water resources, work equally, adoption of new innovations, waste, global warming, deal emergencies, materials that do not harm the environment, companies and suppliers should work together table below is matching findings with SDGs.

Table 3: Matching sustainable event monument with SDGs

Sustainable organizing	SDGs
Increasing their income	SDG 2: Zero hunger
Generate income for employees	
Hygiene knowledge	SDG 3: Good health and well-being
Professional skills	SDG 4: Quality education
Genders have equal ability	SDG 5: Gender equality
Water resources	SDG 6: Clean water and sanitation
Work equally	SDG 8: Decent work and economic growth
Adoption of new	SDG 9: Industry,

innovations	innovation, and infrastructure
Garbage(waste)	SDG 11: Sustainable cities and communities
Global warming	SDG12: Responsible consumption and production
Deal emergencies	SDG 13: Climate action
Materials that do not harm the environment	SDG 15: Life on land
Companies and suppliers should work together	SDG 17: Partnerships for the goals

From those 14 questions, the 9 companies provided interesting and helpful opinions for different research purposes. The results of each question can be summarized as follows:

SDG 2 Zero Hunger: Most companies have a focus on helping communities. Whether it is to help in terms of employment to enhance career skills and generate income for the people in the community and have helped in bringing the product and products of people in the community to use in organizing the event. Every company also attaches importance to helping the underprivileged.

SDG 3 Good health and well-being: Based on interviews with interviewees, 8 companies share similar opinions regarding

the importance of promoting health and well-being for its stakeholders. of the participants Due to the current situation with the spread of the COVID-19 virus and there was awareness among the attendees by creating a public relations material about COVID-19 and one company expressed a different opinion an important part of doing business If irrelevant matters will not be imported.

SDG 4 Quality education: From the interviews, every company recognizes the importance of helping to develop professional skills. All companies have the same opinion. Every company has a skill development of its employees. Whether it's training or enhancing skills Additional expenses are promoted to enhance knowledge skills of employees. And there are opportunities to work in many positions to increase skills in each area.

SDG 5 Gender equality: Most of the company interviews recognize the importance of gender equality. Not every company defines gender at work and provides opportunities for all genders without distinction between gender, gender, or gender identity. Everyone is equal in humanity and there will be no exploitation. The function of the work will be selected according to gender and customer needs

SDG 6 Clean water and sanitation: From the water use interviews, most companies have taken into account the use of water. But still do not realize the importance of water use will focus mainly on expenses because each job requires a large amount of water. Those waters will not be reused.

mostly disposable but there are also some companies that consider the importance of using water by reusing that water to create new benefits, such as using water left over from work to water the plants. or reduce the use of water in the office and create awareness among employees by attaching water-saving signs or turning off the water if it is not being used.

SDG 8 Decent work and economic growth: From the interviews, every company attaches importance to the equality of all employees. Whether it is age, gender, education or other aspects. All companies will provide equality to their employees and measure the abilities of each employee only based on the job description. There will be no special privileges to any one person. As for salaries, they will look at the abilities of each employee.

SDG 9 Industry, innovation, and infrastructure: The nine companies interviewed share similar views on how innovations and technologies are being used. Come help decorate the event. are looking for new innovations to be applied in organizing events and used to manage safety during the COVID-19 outbreak Including the presence of virtual events, transactions and registration of the event using QR code.

SDG 11 Sustainable cities and communities: Interviews with nine organizers found that eight companies looked at the environmental impact of hosting events. Most of them choose biodegradable resources and materials. Or choose materials that can be recycled. Reduce the use of wasted materials including waste

management and taking care of the impact or pollution. That may occur to the environment and community.

SDG 12 Responsible consumption and production: According to interviews with nine organizer companies, there were similar opinions regarding the choice of reusable materials. Local materials are selected. In addition, biodegradable materials are selected. and reducing the use of plastic including a waste separation and waste management after the event especially infectious waste.

SDG 13 Climate action Take urgent action to combat climate change and its impacts: Most of the interviews with the organizers found that to reduce global warming in many areas. The company will reduce the use of plastic bags in the event. and emphasizes the use of materials that can be recycled including the transportation management of the organizers and participants.

SDG 15 Life on land: The nine companies interviewed found seven companies with similar opinions that care about the choice of environmentally friendly materials. Choose materials that can be recycled. and reducing the use of plastic materials.

SDG 17 Partnerships for the goals: The interviewees for the nine companies found that five companies had different opinions. It usually doesn't take into account discussions or collaborations with suppliers to organize joint events for sustainability. This largely depends on the supplier's work skills, loyalty, budget and knowledge.

Conclusion

This research aims to identify the appropriate features for sustainable event management. The researchers conduct the interview among the event organizers in Songkhla and analyses the findings by the qualitative methodology. The comparative matrix and coding is applied. As the result, there are 12 sustainable development goals indexes significant in organizing events in Songkhla. From the results of the interview, it is found that the organizers in Songkhla have a sustainable arrangement according to 11 SDGs is increasing their income, generate income for employees, hygiene knowledge, professional skills, genders have equalability, water resources, work equally, adoption of new innovations, waste, global warming, deal emergencies, materials that do not harm the environment but there are SDG 17 that cannot be achieved is companies and suppliers should work together. Therefore, it is important to strengthen and encourage organizers in Songkhla to realize the importance of sustainable collaboration between companies and partnerships for organizers. In Songkhla, the event was held sustainably and met the SDGs related to the event's 12 Goals in the future.

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Assessing the Key Factors in Organizing the Virtual Incentive Travel

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Abstract

In December 2019, Wuhan, China marked the beginning of the Coronavirus Disease 2019 (Covid-19) outbreak which is currently a widespread epidemic around the world. Because of the Covid-19 outbreak, economic stagnation has also negatively impacted the MICE industry. Every business therefore finds a way to maintain their businesses to survive. One of the approaches that many businesses use is trying to create employee incentives by organizing virtual incentive travel instead of incentive travel. Therefore, it is important to assess the key factors that enable organizations to implement virtual incentive travel in Songkhla Province in southern Thailand.

This study utilized a quantitative questionnaire using google forms. By surveying the level of agreement on the factors that cause organizations to apply virtual incentive travel for employees in various businesses. The research randomly selected various company employees that have virtual incentive travel in Songkhla. The total operation of this survey is 1300 company employees in Songkhla. Although according to Kejcic and Morgan's theory the sample size should be 297, the total sample size of the population obtained was 119 (1970).

As the researchers assessed the key factors in organizing the virtual incentive travel in Songkhla by using the linear regression as the analysis technique for this study, the results indicated that psychological needs, behavioral needs, and business tourism experiences have significantly positive influence towards the virtual incentive travel as a new implementation of modern technology.

Keywords

incentive travel, virtual incentive travel, Coronavirus Disease 2019 (Covid-19)

Introduction

Present, the tourism industry has become a vital industry in the world economy. And is also an economic driving force that plays a prominent role. It is also a catalyst for economic growth leading to employment, job creation, income distribution, and investment. Therefore, the Thai tourism industry has to adapt to the changing world trend. Including a development plan by the market demand to maintain and develop the country's tourism capabilities. Award tourism is a tourism industry that generates a lot of income into the country each year. The global overview of the growth of the countries in the world of group travel, conferences, and incentive travel over five years (2016-2020) shows trends in future business travel in meeting and tourism as an award that has an important impact on the economy of the country as well as the world (Chawbanpho, 2017). After the Covid-19 epidemic situation, conventional employees Incentive Travel is not possible. The industry has replaced it with a virtual incentive travel model, creating experiences based on participants' behavioral trends. In order to achieve the greatest satisfaction because this is an important tool to motivate employees to effectively achieve the goals of the organization. For this reason, it makes the researcher interested in finding the answers. Since Songkhla Province can hold a virtual conference, then researchers will further investigate whether Songkhla could possibly organize virtual incentive travel and how it will attract the business travelers by survey of MICE stakeholder (Hoorn & DMC, 2020).

Purpose

To assess the possibility factors in organizing the virtual incentives travel in Songkhla Province.

The benefit of this study

Key factors in organizing the virtual incentive travel could contribute to three groups such as the MICE industry, entrepreneurs, attendees by creating new knowledge in providing virtual incentive travel to many groups. Applying this new knowledge will enable operators to expand their consumer base and reach consumers. Moreover, this part of knowledge is added to many operators who have been involved in new types of tourism such as entrepreneurs in the technology industry, the internet network business, Phone business, the computer business, will be a new entrepreneur who will be an important factor in virtual incentive travel. The consumers will have more access to tourism. It will reduce the travel restrictions from the current situation. That is not conducive to cross-country travel and social distancing. Finally, it will drive the MICE industry to grow more and it opens up new experiences to consumers who involved in the industry.

Literature review

There are 3 factors that can cause virtual incentive treatment to be administered as follows:

Psychological Needs

Psychological needs it is a need that arises after a physical need has been met. Psychological needs are sometimes referred to as Acquired Needs because they arise from knowledge and learning experiences. Various responses are for satisfaction. This need does not arise from physical needs, but relying on brain mechanisms that have been accumulated from experiences,

environments, cultures, which each individual may be the same or different. Because each person's needs are different. Depending on learning and experience. Psychological needs are complex needs. And there are many differences between individuals (Rakchanok, 2011).

Behavioral Intention

In a world where society is constantly changing. Technology keeps advancing to a truly digital society. People around the world are increasingly communicating online (Kemp, 2018) through various social media platforms such as Facebook, Twitter, Instagram, Line, WhatsApp, with approximately 4.4 billion internet users worldwide. Approximately 3.4 billion people with the aforementioned social media accounts (Think about Wealth, 2019) all of these communication platforms provide convenience, cost-effectiveness, convenience, and the ability to communicate with people far away. No need to travel to meet face to face to be able to communicate. and also communicate anywhere, anytime. This has resulted in social and cultural changes to the online world.

As the world is entering a completely digital age. Digital is normal and universal and accepted by everyone including Thailand that is planning to adapt policies and action plans to a fully digital era with a social change lifestyle. Digital technology is used everywhere, such as online communication with various applications, online transactions, and self-driving cars. And the most popular use right now is video conferencing (VIDEO Conference), and Prid said the technology is now very important. Because it affects the use in the lifestyle of people of all ages and affects the current business. This shows that

people's behavior towards the use of technology today is very high. This can help result in organizing virtual incentive travel, with a survey on technology usage behavior of each generation. To reinforce this idea as follows (Think about Wealth, 2019):

a. Technology used:

- ⅔ Baby boomers generation using the Internet, and more than half have broadband at home.
- 26% of Baby boomers generation using the Internet feel confident when using electronic devices when online.
- 28% of Baby boomers generation with disabilities and disabilities have relatively few uses of technology. Either it is the Internet or the smartphone.
- 1 in 4 Baby boomers are playing video games online.
- 27% of Millennials follow the least news, compared to 46% of Gen X and 61% of Baby boomers. Gen Xers often search for news from websites or applications. In contrast to Millennials who are exposed to information via social channels, Baby boomers are mostly on television.
- 57% of Gen Z generations use messaging applications at least half the time they spend on their phones.
- Over 97% of Millennials use the internet regularly.
- 28% of Millennials use their smartphones alone to browse the internet without using their home internet.

- 18% of Gen Xers are mainly online via smartphones. Which is more than the Baby boomers generation.

b. Time spent online:

- Gen Xers spend 21 hours a week on smartphones, and Millennials spend over 19 hours.
- More than 25% of Baby boomers spend more than 20 hours online per week.
- Gen Xers spend 21 hours a week on their smartphones, 9 hours a week on a desktop computer, and 4 hours on a tablet. Which is more than the Millennials generation
- Over 60% of Gen Xers use a smartphone daily and 67% use a laptop or desktop computer every day, while 58% of Millennials use a laptop or desktop computer. Almost every day
- 76% of Baby boomers who own a smartphone use the internet at least several times a day.
- Over 45% of Gen Z use their phones most of the time, 61.8% of Gen Z and Millennials say they choose to leave their wallet at home instead of forgetting their phone.
- 44% of Gen Z people are online multiple times a day. But overall, 90% of Gen Z people are constantly online exponentially a day.
- $\frac{3}{4}$ Baby boomers generation use the internet online every day, and 1 in 10 are constantly online every day.
- More than 40% of Baby boomers receive news in the morning. And will be online from 5 am to around noon.

- Less than 10% of each generation is open to news stories during the night. Between midnight and five a.m. (Think about Wealth, 2019).

From the article mentioned above it shows that technology currently plays a role in every generation, resulting in every generation. Have behavior and interest in using technology Therefore, from the technology usage behavior of every generation able to use technology to organize virtual incentive travel.

Business Tourism Experience

The tourist experience is derived from the visitor's journey to places of interest and desire to experience the atmosphere, culture, and art of the area they travel to (Phromburom, 2015). It has four aspects of Learning experience. Aesthetics experience, Entertainment experience and the experience of escaping from the old experience but also in the current situation in which the incentive travel industry has changed. Which has to change the style of tourism, causing an impact on the experience that tourists will have. Therefore, the experience of the tourist as a reward is one of the factors that contribute to the organization of virtual incentive travel (Boonsak, 2018).

Methods

This study is a quantitative study. This allows the researcher to formulate research guidelines to achieve the objectives. The population of the researcher is employee/ staff consisting of 119 people. In the question design section of the online platform survey, it will be used as a google form for respondents to answer 2 parts. The

first part will ask about personal factors of the respondents. Answer the questionnaire such as gender, age, etc. The second part will ask about the factors that make the most virtual incentive travel in Songkhla. by giving answers from a score of 5 the level of agreement on the three factors, namely Behavioral Intention, Psychological Needs and Business tourism experience, which will be the most important factor in organizing virtual incentive travel in Songkhla Province. (Patsupattra, 2020) to allow researchers to infer what factors employees/staff there are at a level of agreement on all 3 factors. To make the most of virtual incentive travel in Songkhla by using linear regression to analyze the results of this study (Sirichaisin, 2014).

Conceptual Model

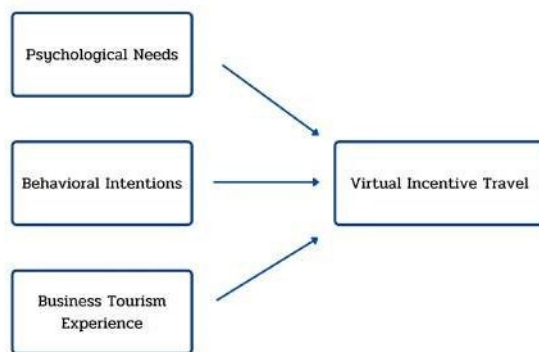


Figure 1: Research Conceptual Framework

Hypothesis

H1: Psychological Needs has positive influence towards virtual incentive travel

The needs that are human desires are all beings that coexist in society. Desirable needs arise from what individuals learn in response to culture or environment (Saengchai, 2018).

In the changing era to enter the Digital Society, technology helps to meet basic human needs such as mental needs, so Psychological Needs is another factor that results in virtual incentive travel (World Economic Forum, 2019).

H2: Behavioral Intentions has positive influence towards virtual incentive travel

This idea stems from humans being generally rational. and systematically use information that is useful to themselves to achieve their decisions. where human beings will first consider how their actions affect Then decide whether or not to practice the behavior. Therefore, the determinants of whether human behaviors are the result of intentions to perform them. Behavioral Intentions are also considered rational action theory. that acts as a factor in the user's intent to adopt the technology. To create virtual incentive travel (Phuthong, 2017)

H3: Business Tourism Experience has positive influence towards virtual incentive travel

A tourism experience is a leisure that is a pleasant recreational experience of a tourist or individual traveler or group of people that allows the traveler to take a break from their vacation. Recognized by the society that is routine in the normal working day and also to increase the potential for tourists or individual travelers or groups of people to be satisfied with the quality of life and well-being of tourists. Therefore, Business Tourism Experience is another factor that can cause virtual incentive travel (Charoensuk, 2020).

Analysis/Discussion

Data Coding

Number	Original	Coding
1	Gender	Q001_1
1.1	Male	1
1.2	Female	2
2	Age	Q002_2
2.1	Age 21-25	1
2.2	Age 26-30	2
2.3	Age 31-35	3
2.4	Age 36-40	4
2.5	Age 41-45	5
2.6	Age 46 upwards	6
3	Type of your workplace	Q003_3
3.1	Hotel	1
3.2	Restaurant	2
3.3	Logistics	3
3.4	Private company	4
4	Q1) Please rate your agreement towards Technological acceptance factors	Q004_4
4.1	Q1.1 I believe technology and innovation are effective for living in daily life	Q004_4_1
4.2	Q1.2 I believe technology and innovation save time to travel	Q004_4_2
4.3	Q1.3 I believe technology and innovation can organize virtual incentive travel	Q004_4_3
5	Q2) Please rate your agreement towards Psychological Needs factors	Q005_5

5.1	Q2.1 I have a very positive attitude towards virtual incentive travel	Q005_5_1
5.2	Q2.2 virtual incentive travel motivates my career development. (Virtual Incentive Travel	Q005_5_2
5.3	Q2.3 I'm interested in virtual incentive travel	Q005_5_3
6	Q3) Please rate your agreement towards Behavioral Intention factors	Q006_6
6.1	Q3.1 My behavior of using technology and innovation is likely to increase	Q006_6_1
6.2	Q3.2 I am always enthusiastic about learning new technology and innovation	Q006_6_2
6.3	Q3.3 I have expertise in technology and innovation	Q006_6_3
7	Q4) Please rate your agreement towards Business Tour Experience factors	Q007_7
7.1	Q4.1 I'm expecting a new experience with virtual incentive travel	Q007_7_1
7.2	Q4.2 I feel that the virtual travel experience is no different from the previous travel	Q007_7_2
7.3	Q4.3 Virtual incentive travel will fascinate me with online travel	Q007_7_3

8	Level of Agreement	Q008_8
8.1	Strong disagree	1
8.2	Disagree	2
8.3	Agree neutral	3
8.4	Agree	4
8.5	Strong agree	5

Table 1: Coding Table

The frequency and percentage of data

Frequency		Percentage
Gender		
Male	64	53.78
Female	55	46.22
Age		
21 – 25 years	54	45.38
26 – 30 years	17	14.29
31 – 35 years	14	11.76
36 – 40 years	11	9.24
41 – 45 years	12	10.08
46 upwards	11	9.24
Establishment		
Hotel	24	20.17
Restaurant	19	15.97
Logistics	21	17.65
Private company	55	46.22
Total	119	100.00

Table 2: The frequency and percentage of data

Regression

Multiple regression analysis to consider that when performing an enter multiple regression analysis by inserting 3 dependent variables, how much percentage of the variance of the dependent variable can be explained? And which variables have a significant impact on the dependent variable? The detailed analysis is shown in the following table.

Model Summary ^a									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.885 ^a	.473	.459	.873	.473	34.380	3	115	.000

a. Predictors: (Constant), Q007_7, Q006_6, Q005_5
b. Dependent Variable: Q004_4

Table 3: Model Summary

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	46.749	3	15.583	34.380	.000 ^b
Residual	52.125	115	.453		
Total	98.874	118			

a. Dependent Variable: Q004_4
b. Predictors: (Constant), Q007_7, Q006_6, Q005_5

Table 4: ANOVA

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.184	.304		3.898	.000
	Q005_5	.058	.034	.172	1.691	.093
	Q006_6	.185	.029	.530	6.297	.000
	Q007_7	.040	.051	.070	.772	.442

a. Dependent Variable: Q004_4

Table 5: Coefficients

Histogram

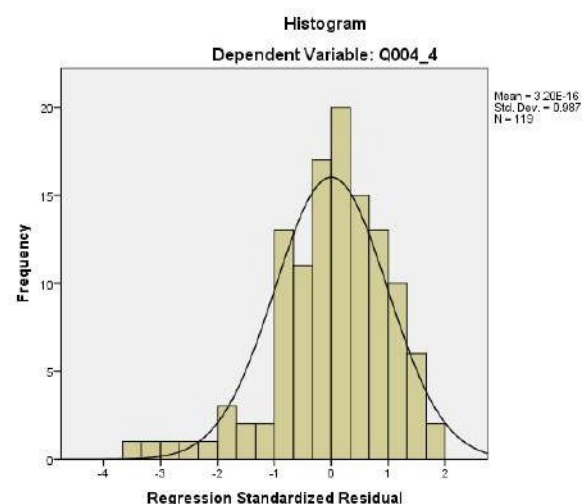


Figure 2: Histogram

Plot of Regression Standardized Residual

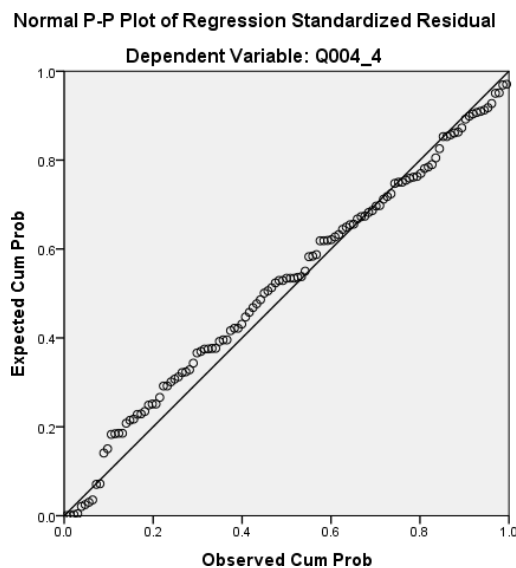


Figure 3: Plot of Regression Standardized Residual

From Table 1, It was found that the factors affecting the arrangement of virtual incentive travel were statistically significant at the 0.05 level, sorted by importance as follows: Behavioral Intentions (Q006_6) , Psychological Needs (Q005_5) and Business Tourism Experience (Q007_7).

The results of the analysis had a multiple correlation coefficient (Multiple R) of .688, a decision coefficient (R square) of 0.473, an adjusted decision coefficient (Adjusted R Square) of 0.459, and a standard error (Standard Error) is equal to 0.673.

It showed that the factors affecting the arrangement of virtual incentive travel, Behavioral Intentions (Q006_6), Psychological Needs (Q005_5) and Business Tourism Experience (Q007_7) were able to predict the level of agreement of the factors of virtual incentive travel at 47.3% and When

considering each variable, it was found that Behavioral Intentions (Q006_6), Psychological Needs (Q005_5) and Business Tourism Experience (Q007_7) were the variables that significantly influenced the change in the dependent variable. statistically at the 0.05 level.

Conclusion

As the researchers assessed the key factors in organizing the virtual incentive travel in Songkhla by using the linear regression as the analysis technique for this study, the result indicated that psychological needs, behavioral needs, business tourism experiences have significantly positive influence towards the virtual incentive travel as a new technology.

Furthermore, based on an analysis of data from 119 employees, the agreement level was the highest ranked first. can be summarized as virtual incentive travel Employees agree with the question 'I believe technology and innovation save time to travel'. Employees most agree with this factor are Male / 21- 25 years / Private company. Psychological Needs Employees agree with the question 'I have a very positive attitude towards virtual incentive travel'. Most employees agree with this factor is Male / 21- 25 years / Private company. Behavioral Intention Employees most agree with the question 'I have expertise in technology and innovation'. Employees who agree with this factor are Male / 21- 25 years / Private company. Business Tourism Experience

Employees agree with the question 'Virtual incentive travel will fascinate me with online travel'. Employees who agree with this factor

are Male and Female / 21- 25 years / Private company.

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Financial Resilience in Brunei: An Exploratory Study on Emergency Savings, Insurance Uptake and Financial Literacy

Pg Md Hasnol Alwee Pg Hj Md Salleh and Nur Arinah Anati Haji Ismail

Abstract

In a global sense, the COVID-19 pandemic highlighted the financial fragility of individuals in coping with sudden changes to their financial circumstance; instances of lockdowns highlighted the need for financial resilience as individuals would have to utilize their emergency savings and where applicable, their respective insurance policy or policies. Although Brunei is relatively managing the COVID-19 situation, the need for financial resilience is paramount. This study equates the context of financial resilience to having both emergency savings and at least one insurance policy (other than motor vehicle). Using multi- nominal logistic regression on about 300 individual respondents, the findings pinpoint towards the importance of income and having a long-term saving motive towards becoming financial resilient. Financial literacy also plays an important role in distinguishing those likely to have both an emergency saving and insurance policy. Aside from the regression, the qualitative aspect of the study also highlights self- control/temptation and being consistently in net deficit, as key challenges which individuals face when saving for emergencies. The policy implications of this study highlight the need for a multi-prong approach to build up financial resilience which requires looking at financial capability as a whole, not only in terms of being financially literate, but also ensuring financial inclusion towards having the appropriate insurance policy as well as managing behavioural challenges, such as temptation and financial self-control.

1. INTRODUCTION

The COVID-19 pandemic brought about not only health and macro-economic uncertainty around the globe but also highlighted the financial fragility of households and individuals, as lockdowns and economic uncertainty became the norm during the pandemic. For instance, over the period 2020-2021, the World Bank projects that the global economy likely shrank by 4.3 percent in 2020 (World Bank, 2021).

When such shocks to the economy exists, and individual's finances are affected, emergency savings are commonly associated as the means to mitigate such sudden shocks to income. Even prior to the pandemic, there had been a significant increase in awareness among consumers on the sufficiency of their savings; household savings is vital as it affects a family's level of living, emergency reserves, and the ability to meet financial goals (Anong and Devaney, 2010). Unanticipated redundancy and income instability, alongside rising consumer and mortgage debt burden of American households over the past decade, necessitated the need to revisit the topic of emergency fund sufficiency (Bhargava and Lown, 2006). Aside from emergency funds, undertaking the relevant insurance policy on a valued asset also helps to manage sudden financial shocks, as it acts as a cost-effective buffer or a contingency approach, should an unexpected event take place such as a fire on one's home or death of the breadwinner in a single-parent household.

Given the fragility of individual personal finances during the pandemic, numerous governments have relaxed rules on withdrawing funds from retirement plans which provides its own implications not only in the short run but also in the long-term. In the United States, the Coronavirus Aid, Relief, and Economic Security Act allowed, under certain conditions, individuals to withdraw up to \$100,000 from their retirement accounts (IRS, 2021). Given the challenge of retirement planning, this approach does conjure its own benefits and disadvantages, which brings the notion of emergency planning all the more important for future events and in countries such as Brunei. The country has been in a fortunate circumstance in managing

the pandemic but the exact issue of financial fragility or financial resilience of individuals are relatively unknown due to the under-researched nature of emergency planning in Brunei.

In that context, this paper aims at assessing the financial resilience for a sample of respondents in Brunei and the role of financial literacy vis-à-vis financial resilience. Further, an understanding of the challenges of having emergency savings and acquiring insurance policies in Brunei are also sought. To facilitate this objective, existing literature is detailed in Section 2, followed by the research design and a summary profile in Section 3 and 4 respectively. Towards the end, key findings and implications are discussed.

2. LITERATURE REVIEW

2.1 *Emergency Savings*

Emergency funds play an important role in ensuring cash intended for daily expenditures and known events, do not get diverted when unexpected events, such as a car breakdown or an unexpected loss of employment, occurs. In practice, it is common to hear the use of rules of thumbs in creating emergency funds, be it the rule of 3 to 6 months of household *expenses* or, of household *income* (Altfest 2007; Hallman and Rosenbloom 2003). Despite the popularized ‘rules of thumb’, Altfest (2007) states there are no hard and fast rules, and the actual size of the emergency fund depends on various factors, including:

- Degree of risk faced: a single-income earner working in a turbulent, private sector faces more risk than two income earners working under a government agency.
- Amount of debt outstanding: having a sizeable outstanding debt and other liabilities may require a larger emergency fund when emergency events occur, such as when one is suddenly laid off, as liabilities will still need to be paid off.
- Availability of other assets: for instance, if one’s stocks or investment deposits are difficult or very costly to liquidate, a larger size of emergency fund may be required.

Other considerations include the type of contingency plans in place, such as ownership of insurance policies, taking into account the actual insurance deductibles as well as uncovered health and property exposures (Hallman and Rosenbloom 2003). Whatever the size, the classic advice is that the funds should be placed in highly liquid assets and conservatively invested, to avoid high exits costs and significant losses (Altfest 2007; Hallman and Rosenbloom 2003).

In terms of research, the past few decades have witnessed numerous efforts towards understanding saving for emergency purposes or precautionary saving. One of the early studies highlighting precautionary saving was that of Katona (1975), who noted that representative sampled surveys carried out in 1960 and 1966 in the United States (US), found that the highest reason for saving was for emergencies, followed by retirement and for children’s needs. More recent studies also argue on the prevalence of the precautionary saving motive; Alessie, Lusardi and Aldershof (1997), in their study of panel data (1987-1989) in Holland, noted the precautionary saving motive being relatively prevalent and stable across the life cycle. The prevalent nature of precautionary savings led to the relative popularity of the buffer-stock model (Carroll 1997); the buffer-stock model involves setting a target wealth-to-permanent income ratio, and if wealth is lower than the ratio, households are more likely to save rather than dissave, and vice versa.

Where empirical studies are concerned, numerous studies have attempted to understand who is likely to possess emergency savings with several socio-demographic variables notably found to be statistically significant vis-à-vis savings for emergencies; these variables include age, income, education, marital status and home ownership. For instance, Huston and Chang (1997) found a positive correlation between income

and meeting the guidelines of emergency saving, that is when individuals have higher disposable income, households are likely able to allocate the surplus towards emergency savings; similar findings on the relationship between income and emergency funds are noted in de Bassa Scheresberg (2013). Not surprisingly, Muradoglu and Taskin (1996) indicated that working age groups have a high tendency to save more as compared to the young and elderly age subgroup. Within the context of earnings, Chang, Hanna and Fan (1997) reveals a household that foresees a decrease in income will be more prepared in having adequate emergency funds as compared to households or individuals that are not expecting an income decline. It was suggested that the relationship between income and emergency savings are influenced by the readiness of liquidity (Huston and Chang, 1997). However in contrast, Bhargava and Lown (2006) found that income was negatively related to the likelihood of meeting any of the emergency fund guidelines in their study; here, they contended that higher income households may feel more financially secure and consequently perceived a lower need for emergency savings. In another context, Despard, Friedline and Martin-West (2020) stated that the 'income' variable plays a moderating role towards having an emergency fund, suggesting that different types of challenges may exist in building emergency savings amongst differing income groupings.

In other studies, age and education played significant roles, whereby the likelihood of having emergency savings was higher for college graduates or respondents with higher educational attainment than individuals who possess a high school education. In general, this indicates that respondents who are older and those with higher educational attainment are likely to attain or be positively linked with emergency holdings (Bi and Montalto 2004; Bhargava and Lown 2006; Huston and Chang 1997; de Bassa Scheresberg 2013; Babiarz and Robb 2013; West and Mottola 2016). With regards to marital status, there are some mixed results; on one hand, Bhargava and Lown (2006) stated in their study, married couples are least likely to meet the guidelines of emergency savings. They state this may be due to having the security of employment, or potential employment, of both spouses. On the other hand, de Bassa Scheresberg (2013) noted being single decreases the likelihood of one having emergency savings or holdings. In terms of gender, women were found to be less likely to possess emergency savings compared to men (Babiarz and Robb 2013; de Bassa Scheresberg 2013).

With respect to home ownership, homeowners have a higher probability of having emergency funds, considering such assets as a proxy of wealth (de Bassa Scheresberg, 2013). In this context, owning a home also portrays the financial well-being of a household and it is an indication that those who own a house are relatively financially well off as compared to households that do not own a house yet. As observed by Chang and Huston (1995), there is a positive relationship between home equity and sufficient emergency reserves in a household. Meanwhile, West and Mottola (2016) highlighted renters were 93 percent more likely to lack emergency savings equal to three months of expenses, when compared to homeowners. Further, Le Blanc, Porpigalia, Teppa, Zhu and Ziegelmeyer (2016) also found evidence that saving for emergencies is negatively correlated and significant with saving for home purchase.

2.2 Financial Literacy

2.2.1 Financial Knowledge

In recent decades, the impetus on financial knowledge, behaviour and attitude has led to the growth of financial literacy as a significant field, both in practice and research. The Organisation for Economic Co-operation and Development (OECD) defines financial literacy as "a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing." (OECD INFE: 2011, p.3).

Given the importance of financial literacy in decision-making and financial well-being, numerous studies have showed the impact of financial knowledge, or lack of, in differing aspects of personal finance. For instance, within the realm of debt and financial fragility, individuals who are less financially literate tend

to pay higher fees and experience high cost of borrowing (Lusardi and Tufano, 2009) and likely to engage in negative credit card behaviours such as incurring late fee and over-the-limit fees (Mottola, 2013).

In terms of savings and financial literacy, Hilgert, Hogarth and Beverly (2003) showed there is a positive relationship between financial knowledge and financial saving in which individuals who have low financial knowledge are more likely to have inadequate savings. Where saving for financial emergencies are concerned, numerous studies have examined the association between financial knowledge and emergency savings; Babiarz and Robb (2013) analyzed data from 2009 National Financial Capability Studies (NFCS) to examine the relationship between objectives of financial knowledge and having an emergency fund, and found emergency fund holdings are related and have significant effect with financial literacy. Individuals who reported having savings for rainy day expenses answered all the questions correctly. For example, the most difficult question was bond prices, which was answered correctly by 36 percent of respondents who reported having emergency savings and 24 percent of those who lack a safety-net. Furthermore, only 13 percent of the respondents who lack a safety net were able to answer all of the financial literacy quiz questions correctly. Meanwhile, the corresponding percentage of respondents having adequate savings to cover three-month expenses is 27 percent (Babiarz and Robb, 2013). Hasler, Lusardi and Oggero (2018) also noted on the importance of emergency savings vis-à-vis financial literacy. In their study, those financially literate were more likely to state they can cover a \$400 emergency expense with cash/savings, or attain \$2,000 in 30 days, to cover emergencies. Similar findings on financial literacy and emergency savings is found in Lusardi and Mitchell (2017).

Chhatwani and Mishra (2021) also undertook similar studies during the Covid-19 outbreak and found that financially literate individuals were less likely to state difficulty to come up with \$2,000 to cover emergencies; in their study, the association of financial literacy onto financial fragility was found to be significantly moderated by financial confidence and wealth. During the pandemic period, Lusardi, Hasler and Yakoboski (2020) also noted that as per the 2020 P-Fin Index, almost one third of women were considered financially fragile compared to only 23 percent of men. Respondents with lower educational attainment and income levels were also deemed financially fragile.

The 2020 P-Fin Index data highlighted by Lusardi, Hasler and Yakoboski (2020) also shows financial resilience as significantly associated with financial literacy; nearly 80 percent of respondents who answered over three-quarters of the P-Fin questions correctly, that is those relatively financially literate state they could manage financial emergencies. Further, those with increased financial literacy are linked to lower likelihood of feeling constrained by debt. In other aspects of financial emergencies, financial literacy is associated with financial products that can mitigate sudden needs, such as that of Koh, Mitchell and Fong (2019) who found those financially literate in their study, are more likely to hold life, long-term care and health insurance, compared to those less literate.

2.2.2 Financial Attitudes and Behaviour

Aside from financial knowledge, incorporating sound financial behaviour and attitude is also key towards attainment of financial well-being, given the challenges of following through on one's action. For instance, Rabinovich and Webley's (2007) assessed the variation of those who planned to save and achieved relative success, versus those who planned but failed to save; their study highlighted the importance of expenditure control techniques, used by those who planned and experienced relative success in their savings. Successful savers tend to utilize techniques that were psychologically easier and required minimal daily effort, such as automatically transferring a portion of income to another bank account or changing savings to a different currency. Meanwhile, those who were not successful were likely to control their expenditures by using 'minor shopping-related techniques', which included returning purchased goods, avoiding shopping, and

keeping limited cash on oneself, which the authors argue, though such techniques were seemingly simpler, would require daily effort and psychological will-power.

One of the frameworks within their study is the Behavioral Life-Cycle (BLC) hypothesis put forward by Shefrin and Thaler (1988), where among others, the BLC notes pre-commitment devices¹ will require less willpower effort, leading planning one's savings to be more effective. Additionally, by placing the amount in a different savings account or currency, it also links with the mental accounting aspect noted in the BLC, where not only does having different accounts (or currencies) make spending physically complicated, but it also creates a psychological view of money, especially if one distinguishes 'wealth' accounts from 'income' accounts, with the former being less tempting than the latter (Rabinovich and Webley 2007; Shefrin and Thaler 1988).

Other studies such as Fisher and Montalto (2010) in their study of the impact of saving horizons and motives, in relation to saving behaviours, found that there is a significant relationship between longer saving horizons and saving behaviours. In other words, the farther the distance one's saving horizon is, the greater the likelihood of savings on a regular basis. Unsurprisingly, their analysis also indicated that having a retirement motive significantly increases the chances of saving regularly. The importance of saving horizons vis-à-vis savings behaviour is also found in Rabinovich and Webley's (2007). Where emergency savings are concerned, Fisher and Montalto (2010) also found that saving for emergencies significantly increased the likelihood of saving regularly. This relationship is also notable in Bhargava and Lown (2006), whereby households with a longer planning horizon were noted as more likely to meet the guidelines for emergency savings. Not surprisingly, savers were more likely to meet the guidelines for emergencies compared to those who overspend and do not save. Similarly, Bi and Montalto (2004) highlighted households without a saving motive are less likely to possess emergency holdings.

2.3 Financial Resilience and Insurance

McKnight (2019) highlights there are numerous approaches used to assess financial resilience; these include:

- Subjective assessments of the ability to cope with financial shocks: This involves asking respondents whether they believe they could cope with an unexpected large sudden expenses, and how they would cope.
- Measures taking a proxy of financial distress or difficulty: This includes financial debt to income ratios, credit to income ratios, financial assets to debt ratios, debt overburden and over indebtedness measures.
- Value of savings and liquid financial assets to be utilized during emergencies: Common measures include measuring savings and liquid financial assets in terms of ratios of monthly income. For instance, Lusardi, Hasler and Yakoboski (2020) measured whether a respondent is financially fragile, via the following question: *How confident are you that you could come up with \$2,000 if an unexpected need arose within the next month?* [Possible response includes: I am certain I could come up with the full \$2,000; I could probably come up with \$2,000; I could probably not come up with \$2,000; I am certain I could not come up with \$2,000; Don't know.]

The latter measure of financial resilience is a popular measure in financial literacy as it could encompass the use of ratios of monthly income, using varying months as proxies of differing depth of financial resilience. However, in this paper, the measure of financial resilience goes beyond the existence of emergency savings. The proxy of financial resilience in this paper takes into account the existence of an

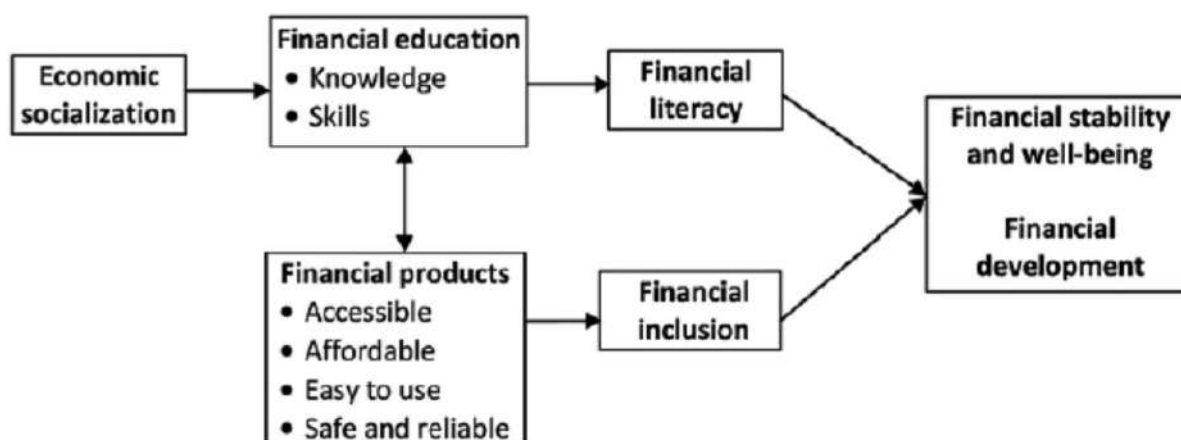
¹ Pre-commitment devices pertain to techniques that restrict future choices, such as automatic transfer of funds to another bank account.

insurance policy (other than the compulsory motor vehicle insurance policy) combined with the emergency saving motive.

Undertaking the relevant insurance policy on a valued asset acts as a cost-effective buffer, should an unexpected event take place such as a fire or burglary. For instance, an individual's home represents a substantial form of asset, notably as it is commonly perceived that over time, the value of property generally tends to rise. Therefore, it is worthwhile to purchase property coverage to protect both real property and personal property. In other context, life insurance may well provide a buffer should the breadwinner pass away, notably when dependents are relatively young and unable to support themselves. Mahdzan and Victorian (2013) noted that when it comes to life insurance, variables such as education, single marital status and income are positively associated with the demand for life insurance. Near similar findings are found in Lin, Hsiao and Yeh (2017) where those with relatively higher level of education and women are found to likely acquire life insurance. However, in contrast to Mahdzan (2013), here those aged 30-49 and married are linked to the demand for life insurance. Further, Lin, Hsiao and Yeh (2017) notes that those financially literate are more likely to acquire life insurance.

An intriguing perspective on the role of financial products vis-à-vis financial resilience can be viewed from Sherraden's Model of Financial Capability illustrated by Despard, Friedline and Martin-West (2020) as shown below.

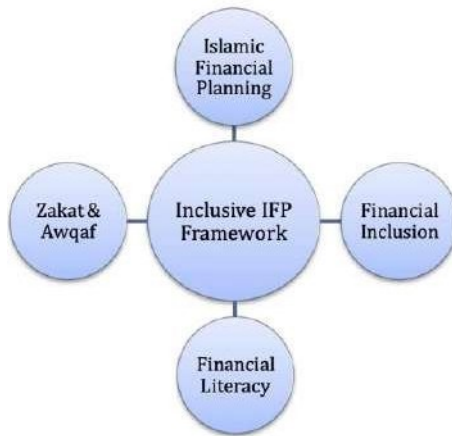
Figure 1: Sherraden's (2015) Model of Financial Capability



(Source: Despard, Friedline, Martin-West, 2020)

As the above diagram indicates, financial capability cannot be achieved if either financial literacy or financial inclusion is absent. In the context of financial resilience, if a person has knowledge on the financial product such as insurance but is financially excluded from accessing or using it, the person is effectively incapable of benefitting from insurance. Similarly, if the individual has the opportunity to access the insurance policy but is not knowledge-able on insurance, he/she may acquire an insurance policy that does not provide the required coverage or is mis-informed on key aspects of the policy. Therefore, the impetus is to consider both financial literacy and financial inclusion to ensure financial well-being. In an Islamic financial setting, an instance is the Inclusive Islamic Financial Planning framework highlighted in Ahmed and Salleh (2016) illustrated below, where both financial inclusion and financial literacy are embedded within the framework.

Figure 2: Concepts within in Inclusive Islamic Financial Planning Framework.



3. RESEARCH DESIGN

The study is based on a cross-sectional design employing online surveys during the COVID-19 pandemic from June to August 2020. Due to the pandemic, online self-administered surveys was undertaken to about 300 respondents using convenient sampling to collect the data; respondents were offered the forms in both English and Malay language.

Pearson's chi-square tests and where applicable, multinomial logistic regressions are used to ascertain significant relationships between groupings and selected variables to ascertain:

- Are there differences between groupings in terms of their saving motives and insurance uptake?
- Which grouping is deemed more financially literate?
- Who is more likely to possess relatively higher levels of financial resilience?

Given the use of multinomial logistic regression, issues of multicollinearity and outliers, among others, were assessed leading to a total of 295 valid responses (98 percent). Use of Pearson's chi-square test and multinomial logistic regression is pertinent considering categorical variables were involved (Pallant, 2010).

Financial resilience was gauged by taking into account whether respondents has an emergency savings and/or an insurance policy aside from any compulsory motor vehicle insurance policy. Emergency savings was gauged from the following question, '*What are your most important reasons for saving? Please state the reasons you are currently saving for, not what you intend to save in the future*'. Meanwhile, availability of at least one insurance policy (outside of motor vehicle) was ascertained using the following question, '*Besides car insurance, what other types of insurance do you own?*'.

Following their responses, respondents were categorized as follows:

- Low Financial Resilience: Respondents who possess neither emergency savings nor at least one insurance policy (aside from motor vehicle insurance/*takaful*).
- Medium Financial Resilience: Respondents who possess either emergency savings or an insurance policy (aside from motor vehicle insurance/*takaful*).
- High Financial Resilience: Respondents who possess both emergency savings and an insurance policy (aside from motor vehicle insurance/*takaful*).

Table 1 below summarizes the three groupings:

Table 1: Percentage of Respondents by Financial Resilience

Levels of Financial Resilience	Valid Respondents
Low	44 (14.9%)
Medium	138 (46.8%)
High	113 (38.3%)
Total	295 (100.0%)

With regards to financial literacy, three questions were posed:

Question 1 (Emergency Fund Rule of Thumb)-

As a general rule, how many months of one's monthly expenses do financial planners recommend to set aside as an emergency fund? [1 to 3 months/3 to 6 months**/6 to 12 months/12 to 15 months/Do not know]

Question 2 (Inflation)-

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, would your ability to buy something with the money in this account be (Inflation: a general increase in price of goods and services) [More than today/Less than today**/Exactly the same/Do not know]

Question 3 (Mortgage)-

A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.

Question 1 would assess respondent's knowledge as it is an established rule-of-thumb where emergency savings is concerned. Question 2 is adopted from financial literacy studies gauging inflation knowledge, while Question 3 pertains to knowledge on debt or mortgages, which plays a prevalent role in how much funds are left available for savings (including emergency savings), after taking monthly expenses, debt and other obligations are concerned. Respondents were also posed questions to better understand the challenges they face in having emergency savings and their perceptions on insurance:

- What are the main challenges when you previously saved for emergencies?
- Which of the following describes your belief/thoughts on insurance? (You may choose more than one):
 - I would purchase other insurance (aside from motor vehicle) if I had more funds
 - I would purchase other insurance (aside from motor vehicle) if they are *Shari'ah*-compliant
 - Aside from motor vehicle insurance, other forms of insurance are not worth buying
 - At present, I have not thought much on insurance

In terms of the qualitative data from the perceived challenges of emergency savings and insurance uptake, the responses were coded in two cycles; the first coding utilized Initial Coding followed by Pattern Coding in the second cycle.

4. SUMMARY PROFILE OF RESPONDENTS

Out of 295 respondents, the majority (over 88 percent) are Malay respondents. In terms of similarities, across all groupings of financial resilience, there are no distinct differences between age, gender and employment as per the chi-square results. As a whole, in these three social demographic variables, there are around 15 percent of respondents who have low financial resilience, around 40-50 percent possess medium financial resilience, and the remaining 40 percent of respondents has high financial resilience.

With regards to differences, the chi-square results in Table 2(c) and depicted in Figure 1 below indicate that amongst those with high financial resilience, around 60 percent of respondents earn more than BND3,000. Conversely, of those with low financial resilience, the largest proportion of respondents in this subcategory (21.7 percent) are those earning less than BND1,000. In short, the chi-square results appear to indicate that income being associated with measures of financial resilience.

Figure 1: Level of Financial Resilience by Income

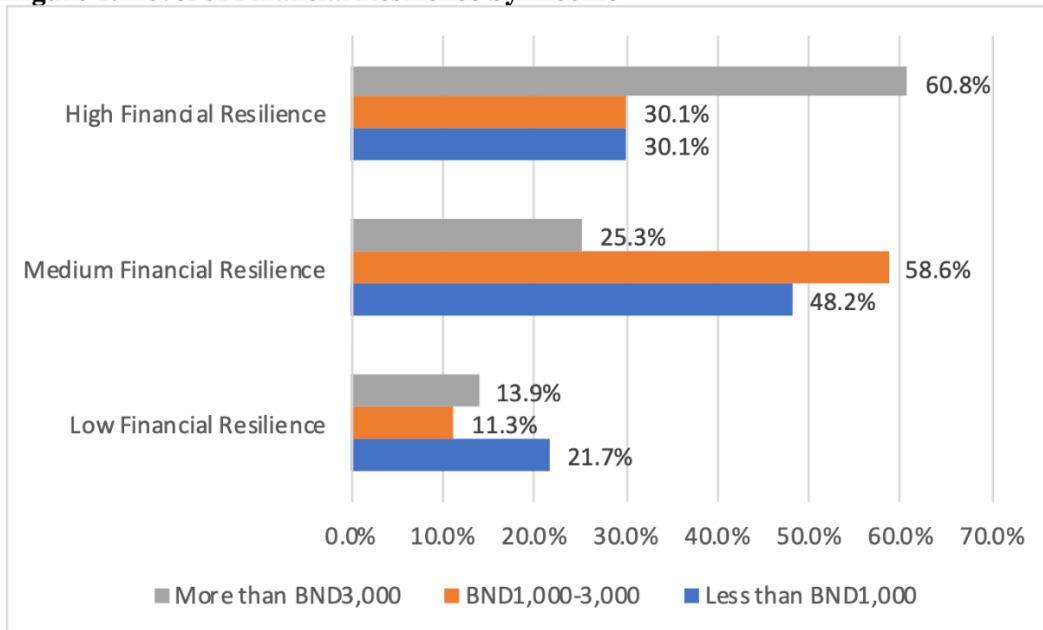


Table 2: Summary Profile of Respondents

Category		Low Financial Resilience	Medium Financial Resilience	High Financial Resilience	Total	Chi-Square Results
Total		44 (14.9%)	138 (46.8%)	113 (38.3%)	295 (100.0%)	N/A
(a) Gender	Male	25 (18.8%)	55 (41.4%)	53 (39.8%)	133 (100.0%)	χ^2 : 4.122 df = 2 $p = .130$
	Female	19 (11.7%)	83 (51.2%)	60 (37.0%)	162 (100.0%)	
(b) Age	20-29	14 (12.3%)	65 (57.0%)	35 (30.7%)	114 (100.0%)	χ^2 : 9.351 df = 6 $p = .155$
	30-39	11 (16.2%)	31 (45.6%)	26 (38.2%)	68 (100.0%)	
	40-49	10 (15.9%)	23 (36.5%)	30 (47.6%)	63 (100.0%)	
	50 and above	9 (18.0%)	19 (38.0%)	22 (44.0%)	50 (100.0%)	
(c) Income	Less than BND1,000	18 (21.7%)	40 (48.2%)	25 (30.1%)	83 (100.0%)	χ^2 : 29.804 df = 4 $p < .001^{***}$
	BND1,000-3,000	15 (11.3%)	78 (58.6%)	40 (30.1%)	133 (100.0%)	
	More than BND3,000	11 (13.9%)	20 (25.3%)	48 (60.8%)	79 (100.0%)	
(d) Employment	Public sector	27 (16.9%)	73 (45.6%)	60 (37.5%)	160 (100.0%)	χ^2 : 1.181 df = 4 $p = .886$
	Private sector /Self-Employed	12 (12.8%)	46 (48.9%)	36 (38.3%)	94 (100.0%)	
	Others	5 (12.2%)	19 (46.3%)	17 (41.5%)	41 (100.0%)	
(e) Education	Up to O-Level	10 (18.5%)	32 (59.3%)	12 (22.2%)	54 (100.0%)	χ^2 : 8.577 df = 4 $p = .072^*$
	A-Level/Diploma/HND	13 (13.0%)	47 (47.0%)	40 (40.0%)	100 (100.0%)	

	University	20 (14.6%)	56 (40.9%)	61 (44.5%)	137 (100.0%)	
(f) Marital Status	Single/Divorced	16 (13.0%)	69 (56.1%)	38 (30.9%)	123 (100.0%)	χ^2 : 7.454 df = 2 <i>p</i> = .024**
	Married	28 (16.3%)	69 (40.1%)	75 (43.6%)	172 (100.0%)	
(g) Home ownership	Homeowner	17 (13.9%)	45 (36.9%)	60 (49.2%)	122 (100.0%)	χ^2 : 10.911 df = 2 <i>p</i> = .004**
	Non-Homeowner	27 (15.6%)	93 (53.8%)	53 (30.6%)	173 (100.0%)	
(h) Race	Malay	43 (16.4%)	122 (46.6%)	97 (37.0%)	262 (100.0%)	χ^2 : 9.704 df = 6 <i>p</i> = .119
	Chinese	0 (0.0%)	11 (64.7%)	6 (35.3%)	17 (100.0%)	
	Others	1 (6.0%)	5 (31.0%)	10 (63.0%)	16 (100.0%)	

Note: **p* < .10, ***p* < .05, ****p* < .001

Another significant variable is education, the chi-square results in Table 2(e) and depicted in Figure 2 below indicate that amongst those with high financial resilience, around 45 percent of respondents have a university degree, followed by 40 percent having either an A-level, Diploma or HND qualification. Conversely, of those with low financial resilience, the largest proportion of respondents in this subcategory (18.5 percent) possess up to O-Level qualification. Here, the chi-square results appear to indicate that education may play a role vis-à-vis financial resilience.

Figure 2: Level of Financial Resilience by Education Level

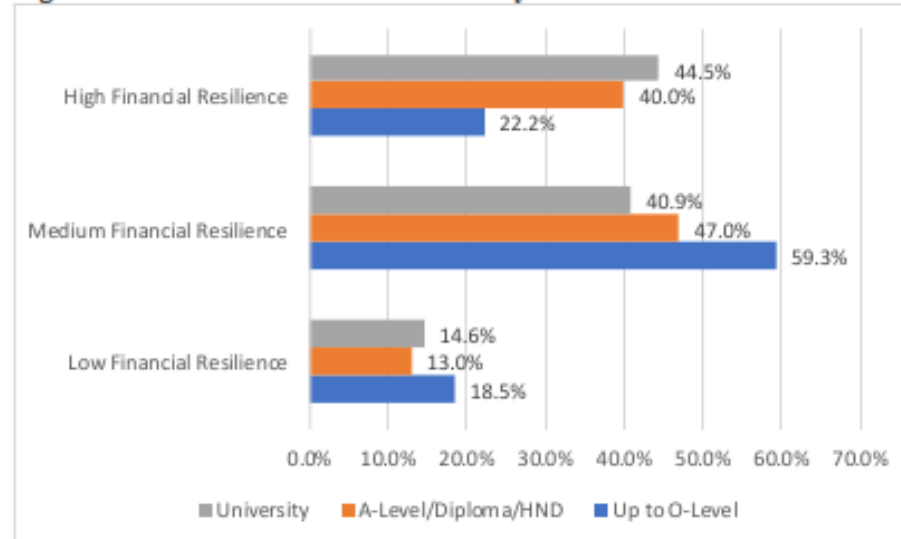


Table 10(f-g) also shows the significant chi-square results for marital status and home ownership. Figure 3 shows that there are more married respondents with high financial resilience, with 43 percent married versus 30.9 percent either single or divorced. Further, Figure 4 indicates owning a home links to high financial resilience, with about half of homeowners possessing high financial resilience compared to 30 percent of non-homeowners.

Figure 3: Level of Financial Resilience by Marital Status

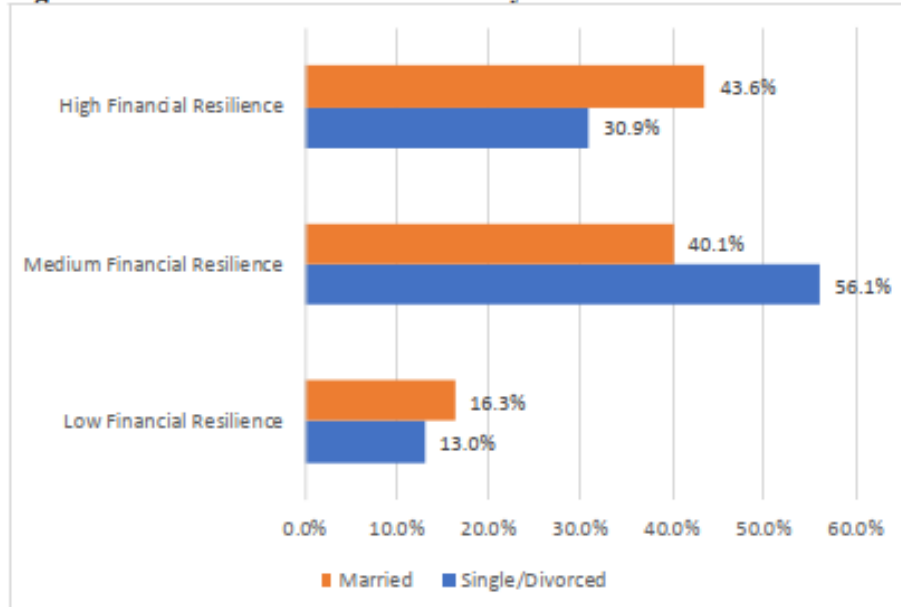
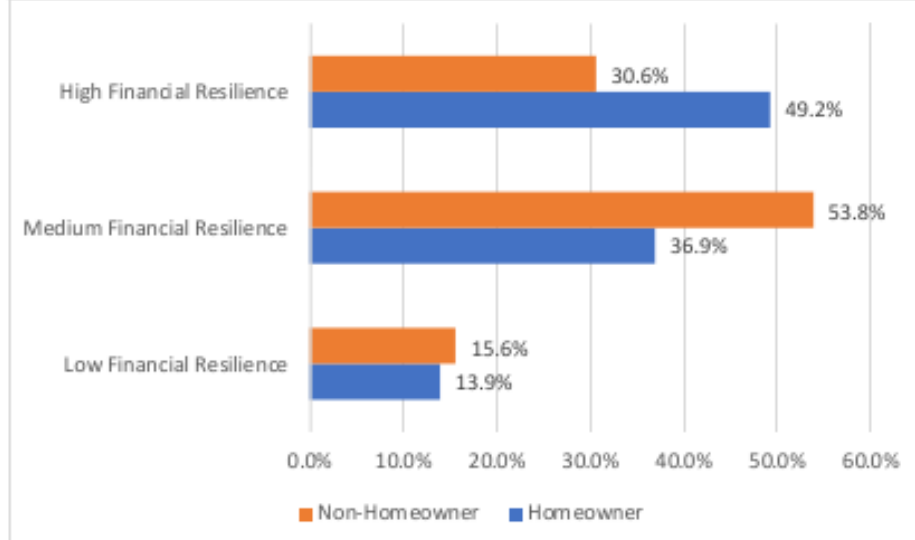


Figure 4: Level of Financial Resilience by Home Ownership



5. KEY FINDINGS

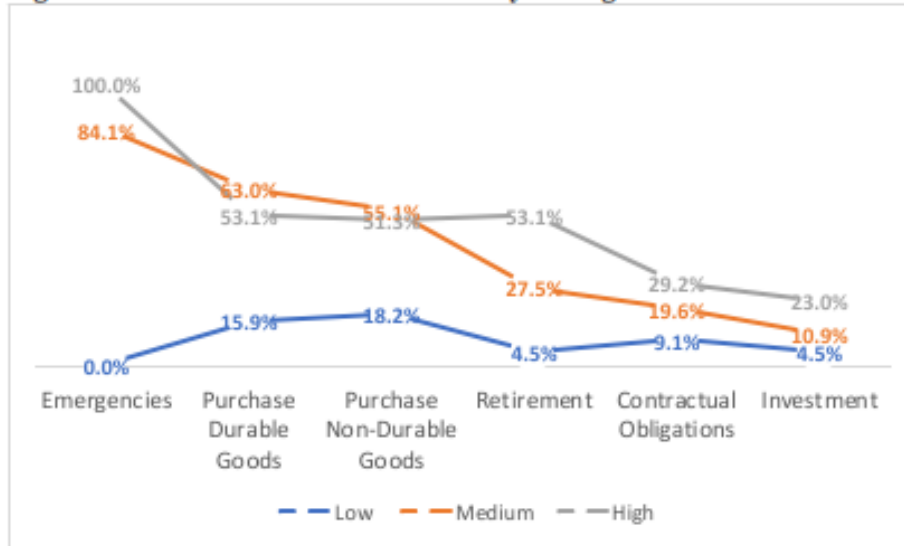
5.1 Saving Motives

Table 3 shows the chi-square results of the three groupings of financial resilience, in relation to eight saving motives while Figure 5 depicts those that are statistically significant only. Here, it is clear that respondents with low financial resilience do not indicate a high saving motive, compared to those with high and medium financial resilience. The bottom line of Figure 5 indicates that the highest proportion that those with low financial resilience save for, is towards purchasing non-durable goods (18.2 percent) and followed by purchasing durable goods (15.9 percent); the remaining saving motives are below 10 percent indicating that only one or two out of ten respondents with low resilience are saving for retirement, investment, contractual obligations, purchasing durable goods and/or non-durable goods.

As for those with medium financial resilience, the top three saving motives are saving for emergencies (84.1 percent), purchasing durable goods (63 percent) and non-durable goods (55.1 percent). Less than third are saving for retirement, and around 11 percent are saving for investment or profit-generating activities.

In terms of high financial resilience, not surprisingly all respondents in this category have emergency savings. The other relatively high proportions (over 50 percent) are saving to purchase durable goods, non-durable goods and saving for retirement. The remaining saving motives are saving for contractual obligations and investment set at 29.2 percent and 23 percent respectively.

Figure 5: Level of Financial Resilience by Saving Motives



5.2 Ownership of Insurance Policy

Table 4 shows the chi-square results of financial resilience, in relation to ownership of insurance policies while Figure 6 depicts those that are statistically significant only. The diagram highlights the dominance of those with high financial resilience towards owning insurance policies, whereby in all statistically significant categories, the respondents were markedly higher than those with medium financial resilience. The two highest type of insurance policy owned by those with high financial resilience are life insurance (41.6 percent) and home insurance (31 percent).

Figure 6: Level of Financial Resilience by Ownership of Insurance Policy

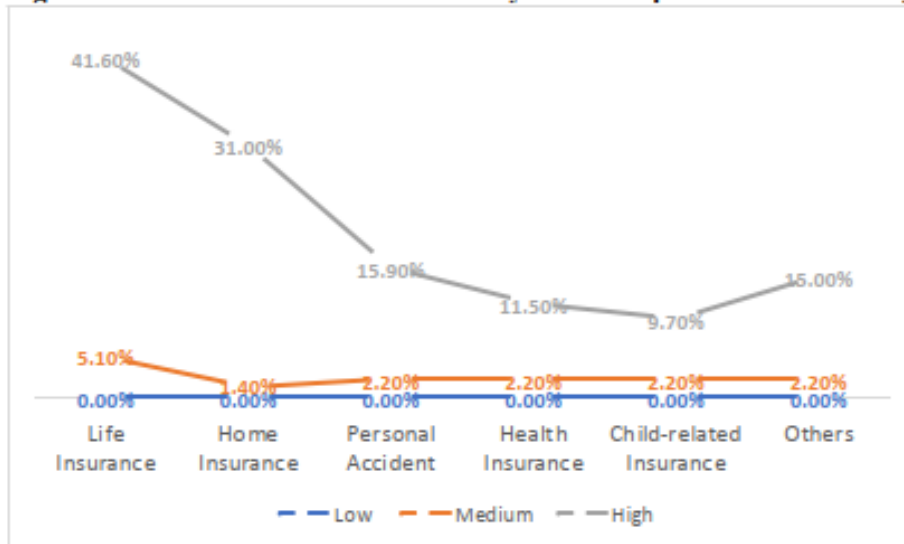


Table 3: Level of Financial Resilience by Saving Motives

Level of Financial Resilience	Saving Motives							
	Emergencies	Purchase Durable Goods	Purchase Non-Durable Goods	Daily Expenses	Retirement	Contractual Obligations	Investment	Others
Low	0 (0.0%)	7 (15.9%)	8 (18.2%)	10 (22.7%)	2 (4.5%)	4 (9.1%)	2 (4.5%)	1 (2.3%)
Medium	116 (84.1%)	87 (63.0%)	76 (55.1%)	55 (39.9%)	38 (27.5%)	27 (19.6%)	15 (10.9%)	6 (4.3%)
High	113 (100.0%)	60 (53.1%)	58 (51.3%)	45 (38.9%)	60 (53.1%)	33 (29.2%)	26 (23.0%)	8 (7.1%)
Total	229 (77.6%)	154 (52.2%)	142 (48.1%)	109 (36.9%)	100 (33.9%)	64 (21.7%)	43 (14.6%)	15 (5.1%)
Chi-Square	χ^2 : 188.520 df = 2 $p < .001^{***}$	χ^2 : 29.764 df = 2 $p < .001^{***}$	χ^2 : 18.934 df = 2 $p < .001^{***}$	χ^2 : 4.512 df = 2 $p = .107$	χ^2 : 38.000 df = 2 $p < .001^{***}$	χ^2 : 8.233 df = 2 $p = .016^{**}$	χ^2 : 11.531 df = 2 $p = .003^{**}$	χ^2 : 1.808 df = 2 $p = .418$

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Table 4: Level of Financial Resilience by Ownership of Insurance Policy

Level of Financial Resilience	Type of Insurance Policy Owned						
	Life Insurance	Home Insurance	Personal Accident	Health Insurance	Child-related Insurance	Student Insurance	Others
Low	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Medium	7 (5.1%)	2 (1.4%)	3 (2.2%)	3 (2.2%)	3 (2.2%)	3 (2.2%)	3 (2.2%)
High	47 (41.6%)	35 (31.0%)	18 (15.9%)	13 (11.5%)	11 (9.7%)	7 (6.2%)	17 (15.0%)
Total	54 (18.3%)	37 (12.5%)	21 (7.1%)	16 (5.4%)	14 (4.7%)	10 (3.4%)	20 (6.8%)
Chi-Square	χ^2 : 66.997 df = 2 $p < .001^{***}$	χ^2 : 56.786 df = 2 $p < .001^{***}$	Fisher Exact Test: $p < .001^{***}$	Fisher Exact Test: $p = .002^{**}$	Fisher Exact Test: $p = .007^{**}$	χ^2 : 4.881 df = 2 $p = .101$	Fisher Exact Test: $p < .001^{***}$

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

5.3 Lending in Times of Needs

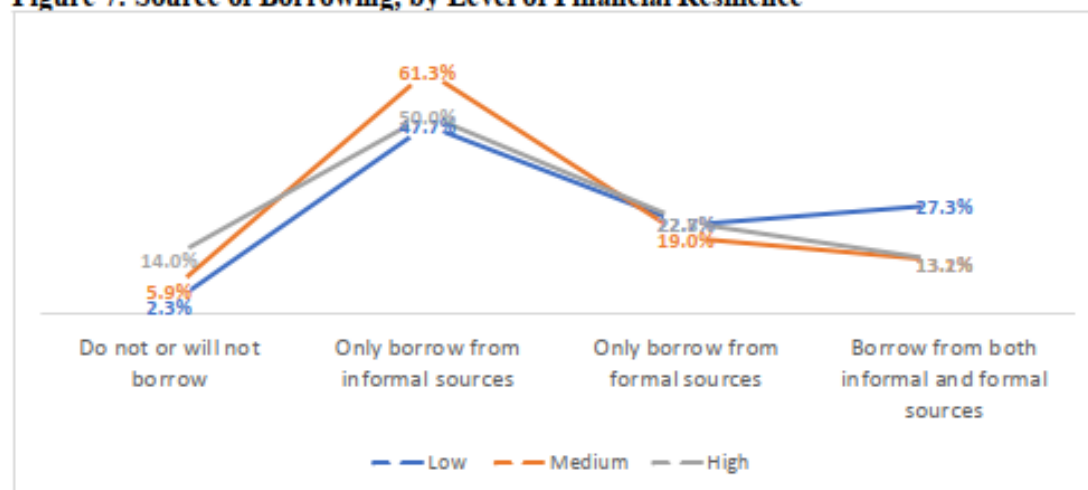
Table 5 and Figure 7 shows the differences of three groupings of financial resilience, should they need to borrow from informal sources (such as family, relatives, friends or informal moneylenders) or formal sources (banks or pawnshops). Three main findings are worth noting: Firstly, respondents from all three levels of financial resilience highly prefer borrowing from informal sources only as a last resort; about half from low and high financial resilience groups, and about two-third possessing medium financial resilience noting as such. Secondly, about 30 percent of those with low financial resilience prefer borrowing from both formal and informal sources. This number is halved when it comes to those with high and medium financial resilience. Finally, there is a marginally higher number of respondents from the high resilience group (14 percent) who state they either do not or will not borrow, if financial emergencies occur, compared to the low and medium grouping (2.3 and 5.9 percent respectively).

Table 5: Percentage of Respondents Resorting to Informal and/or Formal Sources of Lending

Level of Financial Resilience	Question: In times of desperation, who do you borrow money from?				
	Do not or will not borrow	Only borrow from informal sources	Only borrow from formal sources	Borrow from both informal and formal sources	Total
Low	1 (2.3%)	21 (47.7%)	10 (22.7%)	12 (27.3%)	44 (100.0%)
Medium	8 (5.9%)	84 (61.3%)	26 (19.0%)	18 (13.1%)	137 (100.0%)
High	16 (14.0%)	57 (50.0%)	26 (22.8%)	15 (13.2%)	114 (100.0%)
Total	25 (8.8%)	162 (54.9%)	62 (21.0%)	45 (15.3%)	295 (100.0%)
Chi-Square	Fisher Exact Test: $p = .036^{**}$				

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Figure 7: Source of Borrowing, by Level of Financial Resilience



5.4 Financial Literacy

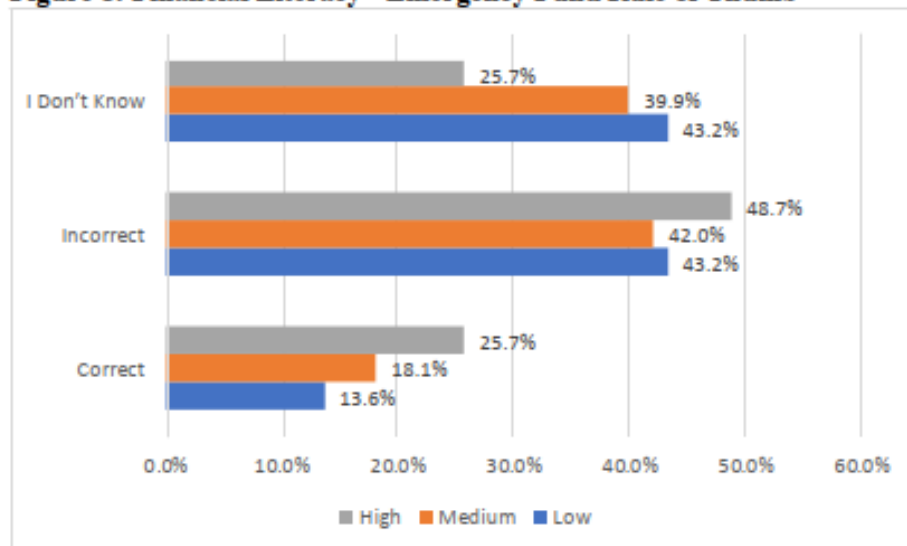
When asked on the rule of thumb related to saving for emergencies, Table 6 and Figure 8 depicts that the majority (around 45 percent) provide the incorrect response while only around 20 percent provided the correct response. In terms of providing the correct response, the high resilience group is marginally higher at 25.7 percent and the low resilience group provides the lowest correct response at 13.6 percent. Interestingly, they also provide the highest response rate of stating their uncertainty of the correct answer at 43.2 percent while around 25 percent within the high resilience group stated the same.

Table 6: Financial Literacy – Emergency Fund Rule of Thumb

Level of Financial Resilience	Question: As a general rule, how many months of one's monthly expenses do financial planners recommend to set aside as an emergency fund? (1-3 months, 3-6 months**, 6-12 months, 12-15 months, I don't know)			
	Correct	Incorrect	I Don't Know	Total
Low	6 (13.6%)	19 (43.2%)	19 (43.2%)	44 (100.0%)
Medium	25 (18.1%)	58 (42.0%)	55 (39.9%)	138 (100.0%)
High	29 (25.7%)	55 (48.7%)	29 (25.7%)	113 (100.0%)
Total	60 (20.3%)	132 (44.7%)	103 (34.9%)	295 (100.0%)
Chi-Square	χ^2 : 8.119, df = 4, p = .087*			

Note: * p < .10, ** p < .05, *** p < .001

Figure 8: Financial Literacy - Emergency Fund Rule of Thumb



Two main observations are worth noting when respondents are inquired on the inflation question shown in Table 7 and Figure 9. Firstly, there are slightly more respondents who attained the right answer (40 percent overall) compared to the question on rule of thumb. Secondly, similar to the earlier question, among those with the correct response, a higher proportion in the high resilience group (49.6 percent) obtained the correct answer than those with low resilience (31.8 percent). Further, about half (52.3) of the low financial resilience respondents stated they do not know, compared to 23 percent of those in the high resilience group. A similar pattern is found in the Mortgage responses, shown in Table 8 and Figure 10, signifying the prevalent relationship of financial literacy amongst those with high financial resilience.

Table 7: Financial Literacy – Inflation

Level of Financial Resilience	Question: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, would your ability to buy something with the money in this account be (More than today, Less than today, Exactly the same, I don't know)			
	True	False	I Don't Know	Total
Low	14 31.8%	7 15.9%	23 52.3%	44 100.0%
Medium	48 34.8%	34 24.6%	56 40.6%	138 100.0%
High	56 49.6%	31 27.4%	26 23.0%	113 100.0%
Total	118 40.0%	72 24.4%	105 35.6%	295 100.0%
Chi-Square	χ^2 : 15.416, df = 4, p = .004**			

Note: * p < .10, ** p < .05, *** p < .001

Figure 9: Financial Literacy – Inflation

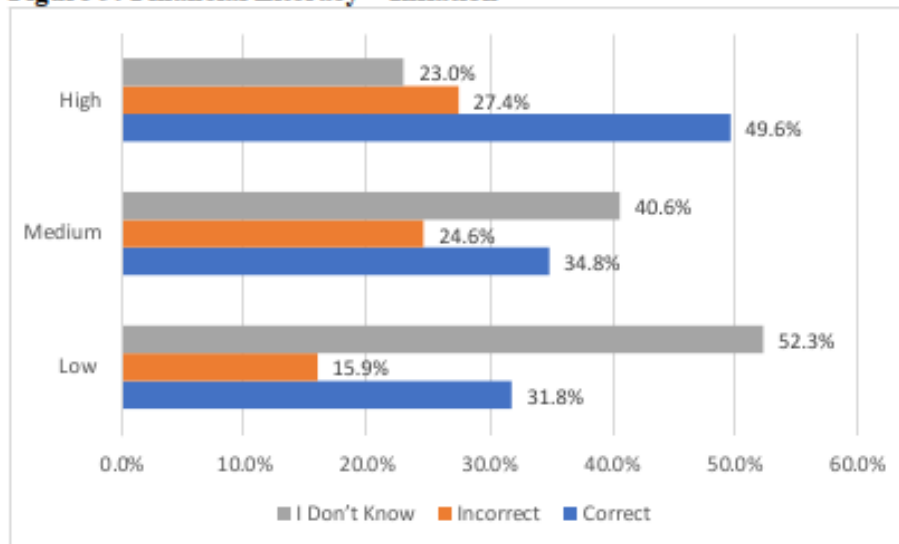
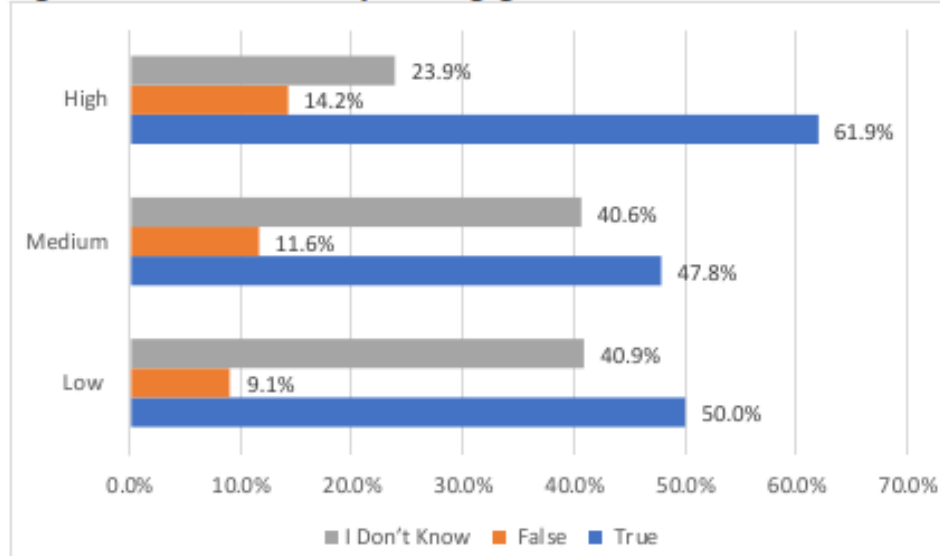


Table 8: Financial Literacy – Mortgage

Level of Financial Resilience	Question: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage but the total interest over the life of the loan will be less.			
	True	False	I Don't Know	Total
Low	22 (50.0%)	4 (9.1%)	18 (40.9%)	44 (100.0%)
Medium	66 (47.8%)	16 (11.6%)	56 (40.6%)	138 (100.0%)
High	70 (61.9%)	16 (14.2%)	27 (23.9%)	113 (100.0%)
Total	158 (53.6%)	36 (12.2%)	101 (34.2%)	295 (100.0%)
Chi-Square	χ^2 : 8.905, df = 4, $p = .063^*$			

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

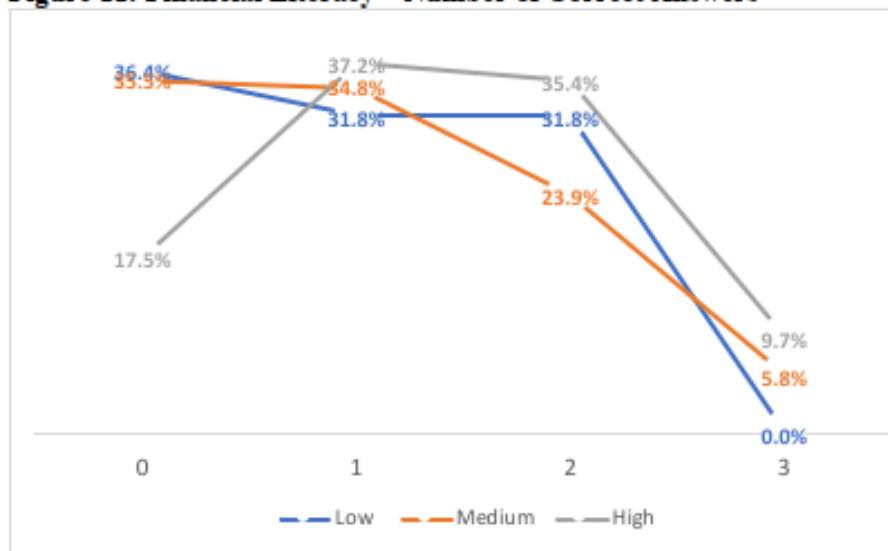
Figure 10: Financial Literacy – Mortgage

This dominant nature of those with high financial resilience, in terms of its association with financial literacy is further depicted when comparing amongst the total number of correct responses as well as those with low financial literacy (respondents attaining 0 or 1 correct answer) versus high financial literacy (respondents obtaining 2 or 3 correct answers). On the latter, when respondents were grouped into low versus high financial literacy, Table 10 and Figure 12 shows only a third of respondents were considered to have high financial literacy with a higher proportion of those with high financial resilience (45.1 percent) having high financial literacy compared to the medium and low financial resilience grouping (at 29.7 and 31.8 percent respectively). Even when total number of correct responses were assessed against financial literacy (Table 9), those with high financial resilience were in an enviable position; they scored higher than the other groupings in terms of answering at least one, two and all three questions correctly as depicted in Figure 11.

Table 9: Financial Literacy - Number of Correct Answers

Level of Financial Resilience	Number of Correct Answer				
	0	1	2	3	Total
Low	16 36.4%	14 31.8%	14 31.8%	0 0.0%	44 100.0%
Medium	49 35.5%	48 34.8%	33 23.9%	8 5.8%	138 100.0%
High	20 17.5%	42 37.2%	40 35.4%	11 9.7%	113 100.0%
Total	85 28.8%	104 35.3%	87 29.5%	19 6.4%	295 100.0%
Chi-Square	Fisher Exact Test: $p < .005^{**}$				

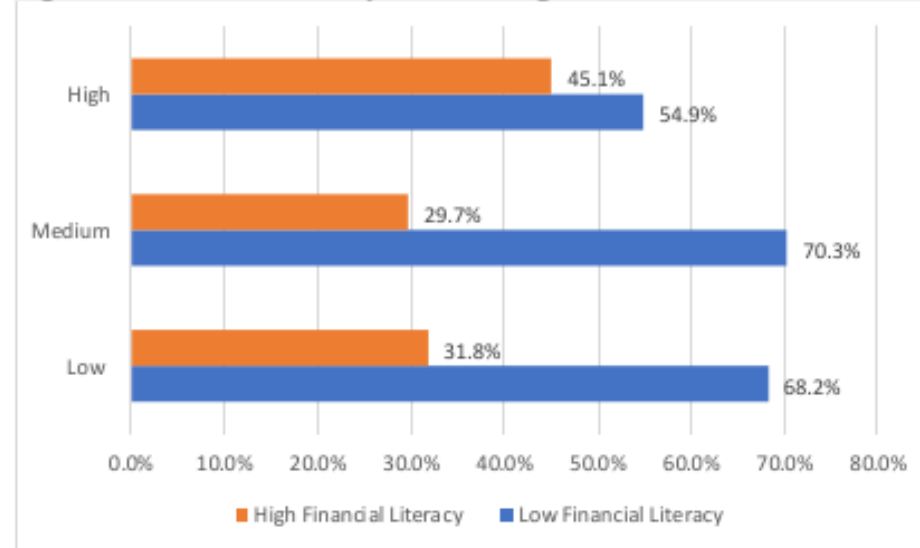
Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Figure 11: Financial Literacy – Number of Correct Answers**Table 10: Financial Literacy – Low vs High Levels**

Level of Financial Resilience	Level of Financial Literacy		
	Low	High	Total
Low	30 (68.2%)	14 (31.8%)	44 (100.0%)
Medium	97 (70.3%)	41 (29.7%)	138 (100.0%)
High	62 (54.9%)	51 (45.1%)	113 (100.0%)
Total	189 (64.1%)	106 (35.9%)	295 (100.0%)
Chi-Square	$\chi^2: 6.799, df = 2, p = .034^{**}$		

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Figure 12: Financial Literacy – Low vs High Levels



5.5 Who Is More Resilience?

Comparing Medium vs. Low Financial Resilience:

Table 11 shows that when comparing between respondents with medium and low financial resilience, there are five statistically significance variables. Male respondents are 2.3 times more likely to have neither emergency savings nor an insurance (other than motor vehicle insurance), rather than having either emergency saving or an insurance policy. Households earning BND1,000 or less are also found to be statistically significant; comparing the relatively low-income earners to those earning more than BND3,000, the low earners are 7.7 times likely to have neither emergency savings nor insurance as a buffer, and not having either a saving or insurance. Another variable found significant relates to those aged 50 and above, where these relatively older respondents (compared to those aged 20-29) are 6.3 times² more likely to have neither an emergency saving nor insurance policy, rather than having at least one of them.

In addition, education is also another variable of interest when comparing those with low against medium financial resilience. Here, interestingly those with higher level of educational attainment, that is university graduates (when compared to those with up to O-level education) are 5.0 times³ more likely to have neither an emergency saving nor insurance (and fall under the low resilience group), rather than having either an emergency saving or insurance. The other significant variable pertains to the proxy of those possessing a long-term saving motive (retirement and/or investment motive), with those having no long-term saving motive being 4.5 times likely to fall under the low resilience group, than the medium resilience group.

Comparing Medium vs. High Financial Resilience:

Table 11 also shows that when comparing between those with medium and high financial resilience, there are four variables of interest. Firstly, similar to the earlier comparison, those with no long-term saving motive (retirement and/or investment motive) would fall into the lower resilience group, that is medium group. Here, those with no long-term saving motive are 3.2 times likely to fall under the medium resilience

² Computed by inverting the odds ratio (1 divided by 0.159). Note that the upper and lower 95.0% confidence interval for this ratio lies between 1.271 and 31.25.

³ Computed by inverting the odds ratio (1 divided by 0.201). Note that the upper and lower 95.0% confidence interval for this ratio lies between 1.391 and 17.86.

group than the high resilience group. In other words, those with no long-term saving motive are 3.2 times more likely to have either an emergency saving or insurance policy, rather than having both. Those with relatively lower education attainment (up to O-level) were also found to be significant, compared to those with university education; in this context, those with up to O-level education were 5.3 times likely to fall under the medium financial resilience grouping, than the high financial resilience.

The table also shows that those earning more than BND3,000, compared to those earning BND1,000-3,000 are 2.4 times more likely to have both an emergency saving and insurance policy, relative to having only either one. Another interesting variable is financial literacy whereby those financially literate are 2.2 times likely to fall under the high resilience group, that is having both insurance and an emergency saving.

5.6 Emergency Savings - Challenges

Respondents were asked an open-ended question on the challenges they face in saving for emergencies. Table 12 shows the top 10 challenges, broken down by financial resilience grouping. One of the main challenges pertain to being consistently in net deficit where respondents noted on the difficulty of saving for emergencies at the onset, or during the act of saving. For instance, prior to starting to save for emergencies, some respondents stated having “[n]ot enough money left for spending after paying bills so [they] could not save for the month” or that their “[m]onthly expenses [was] more than [their] salary”.

When they have saved some funds for emergencies, the challenges include having “ran out of pocket money” as they needed to “withdrew for needs” or that they faced “overspending”, which led to the withdrawal of emergency savings. For others, even if they had to withdraw, they do want to re-deposit the funds however state that they face “...challenges in saving back the amount withdrew”.

Aside from being consistently in deficit, another challenge pertains to temptation or self-control. This challenge pertains to having set emergency savings but is tempted to use the savings for non-emergency purposes. Therefore, these respondents state the challenge here is that:

“Savings are used for impulse buying such as branded bags and clothes”

“The temptation to spend on other things such as eating out”

“Money all in one account, connected to bank card, too easy to start spending”

In some cases, it might lead to a loss of financial discipline. As one respondent highlighted: [He/she faces a] “[a]ll-or-nothing mentality; splurging once I fail to stick to the monthly budget”. On the other spectrum, it is also interesting to note that though temptation is a challenge, some respondents noted the use of commitment device or other techniques to manage the challenge, as stated below:

“To not impulse buy [sic] during saving for emergency is important. Making the right decision where the money is supposed to be channeled.”

“[The challenge is] Impulse buying, but then once I practice setting standing instruction (auto deduction to another saving account every month), [sic] no more challenges.”

“Giving it the 1st priority to save first than spending.”

Table 11: Logit regression results towards determining financial resilience

	B	Std. Error	Sig.	Odds Ratio	95% Confidence Interval for Exp(B)	
					Lower Bound	Upper Bound
Medium vs. Low Financial Resilience						
Constant	-1.148	.883	.194			
Gender	.851	.399	.033**	2.343	1.072	5.121
Age (Base group: 50 years and above)						
20-29 years	-1.839	.816	.024**	.159	.032	.787
30-39 years	-.866	.677	.201	.421	.112	1.586
40-49 years	-.578	.650	.374	.561	.157	2.005
Income (Base group: > BND3,000)						
< BND1,000	2.044	.798	.010**	7.719	1.615	36.905
BND1,000-3,000	.087	.587	.882	1.091	.346	3.443
Employment (Base group: Public sector]						
Others (Housewife/Retired)	-1.071	.752	.154	.343	.079	1.496
Private sector	-.252	.514	.623	.777	.284	2.127
Education (Base group: University-Level)						
Up to O-Level	-1.606	.651	.014**	.201	.056	.719
A-Level to HND	-.695	.477	.146	.499	.196	1.272
Marital Status	-.711	.589	.227	.491	.155	1.558
Home Ownership	.167	.538	.756	1.182	.412	3.394
Financial Literacy	-.411	.430	.338	.663	.286	1.538
Considered Insurance	-.010	.412	.981	.990	.441	2.221
Possess Long-Term Saving Motive	1.511	.573	.008**	4.531	1.473	13.936
Medium vs. High Financial Resilience						
Constant	1.968	.614	.001**			
Gender	.432	.310	.163	1.540	.839	2.826
Age (Base group: 50 years and above)						
20-29 years	-1.001	.633	.113	.367	.106	1.269
30-39 years	-.241	.530	.650	.786	.278	2.222
40-49 years	-.068	.496	.891	.934	.353	2.472
Income (Base group: > BND3,000)						
< BND1,000	.113	.589	.848	1.119	.353	3.552
BND1,000-3,000	-.866	.404	.032**	.421	.191	.928
Employment (Base group: Public sector]						
Others (Housewife/Retired)	.873	.565	.122	2.395	.791	7.250
Private sector	.547	.373	.143	1.727	.831	3.592
Education (Base group: University-Level)						
Up to O-Level	-1.674	.524	.001**	.187	.067	.523

A-Level to HND	-.292	.343	.394	.747	.381	1.462
Marital Status	-.518	.443	.242	.596	.250	1.419
Home Ownership	-.729	.421	.083	.482	.211	1.101
Financial Literacy	-.776	.321	.016**	.460	.245	.864
Considered Insurance	.518	.323	.109	1.678	.891	3.161
Possess Long-Term Saving Motive	-1.164	.306	<.001***	.312	.171	.569

Note: $R^2=.32$ (Cox & Snell), .37 Nagelkerke). Model $\chi^2(30)=133.813, p < .001$,

* $p < .10$, ** $p < .05$, *** $p < .001$

Table 12: Main challenges faced by respondents in saving for emergencies?

No.	Categorization by Financial Resilience					
	Low (n=28)		Medium (n=86)		High (n=86)	
1.	Consistently in net deficit	28.6%	Temptation/Self-control	25.3%	Temptation/Self-control	29.9%
2.	Temptation/Self-control	21.4%	Consistently in net deficit	24.1%	Consistently in net deficit	27.6%
3.	Needed extra money for unstated expense	17.9%	Needed extra money for unstated expense	17.2%	Needed extra money for unstated expense	9.2%
4.	Paying off debt	7.1%	Insufficient emergency savings	9.2%	Inconsistent/Amount saved always varies	5.7%
5.	No or limited experience/knowledge	7.1%	Paying off bills/obligations	5.7%	Insufficient emergency savings	4.6%
6.	Insufficient emergency savings	3.6%	No or limited experience/knowledge	4.6%	Paying off bills/obligations	4.6%
7.	Inconsistent/Amount saved always varies	3.6%	Inconsistent/Amount saved always varies	4.6%	Lent to others	4.6%
8.	Paying off bills/obligations	3.6%	Lent to others	2.3%	Paying off debt	3.4%
9.	No money/Unemployed	3.6%	Too much money in emergencies/low returns/inflation concerns	2.3%	Too much money in emergencies/low returns/inflation concerns	3.4%
10.	Never had emergency funds before	3.6%	Never had emergency funds before	2.3%	No money/Unemployed	2.3%

5.7 Insurance - Challenges and Potential Uptake

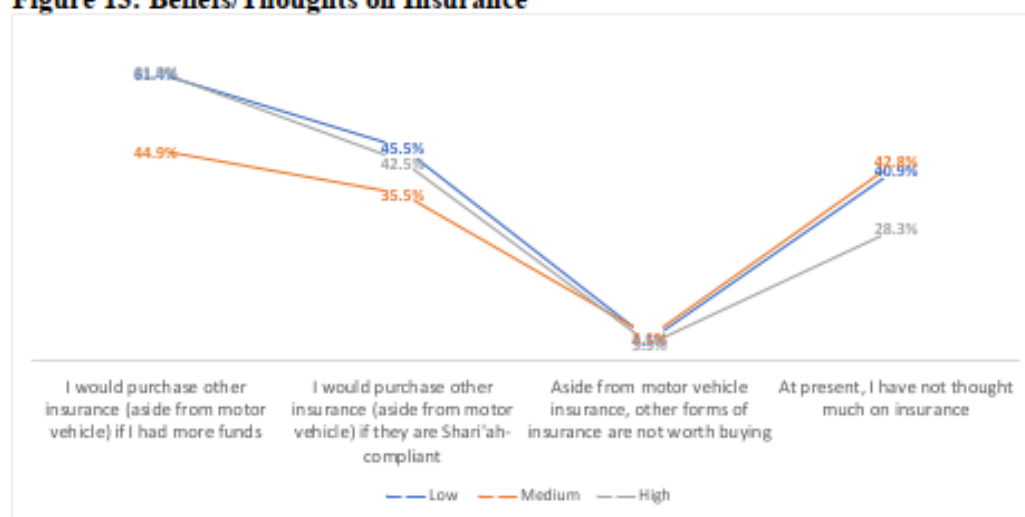
To better understand the challenges that respondents have on insurance, four statements were posed to respondents gauging their thoughts on insurance. Table 13 and Figure 13 depicts these observations with three notable aspects. Firstly, income or cash constraints appear to be a factor in taking up insurance as about 50 percent of respondents state they would purchase more insurance policies if they had more funds. Here, interestingly, there is a higher proportion of low financial resilience and high financial resilience grouping who would do so (at 61.4 and 61.9 percent respectively), compared to the medium financial resilience group (44.9 percent). When inquired on which insurance policies they would purchase if they had the opportunity, Table 14 and Figure 14 shows that as a whole, the top two main policies of interest are life insurance and home insurance.

Aside from cash constraints, another factor that may enhance their insurance uptake is *Shari'ah* compliancy; overall, nearly 40 percent of respondents state they would acquire other insurance policies if it adhered to *Shari'ah*. Another aspect of interest are the 36.9 percent of respondents who state they have not provided much thought on insurance.

Table 13: Beliefs / Thoughts on Insurance

Level of Financial Resilience	Which of the following describes your belief/thoughts on insurance? (You may choose more than once)			
	I would purchase other insurance (aside from motor vehicle) if I had more funds	I would purchase other insurance (aside from motor vehicle) if they are <i>Shari'ah</i> -compliant	Aside from motor vehicle insurance, other forms of insurance are not worth buying	At present, I have not thought much on insurance
Low	27 (61.4%)	20 (45.5%)	2 (4.5%)	18 (40.9%)
Medium	62 (44.9%)	49 (35.5%)	7 (5.1%)	59 (42.8%)
High	70 (61.9%)	48 (42.5%)	4 (3.5%)	32 (28.3%)
Total	159 (53.9%)	117 (39.7%)	13 (4.4%)	109 (36.9%)
Chi-Square	χ^2 : 8.402, df = 2, $p = .015^{**}$	χ^2 : 1.987 df = 2, $p = .382$	χ^2 : .349 df = 2, $p = .928$	χ^2 : 5.905, df = 2, $p = .052^*$

Note: * $p < .10$, ** $p < .05$, *** $p < .001$

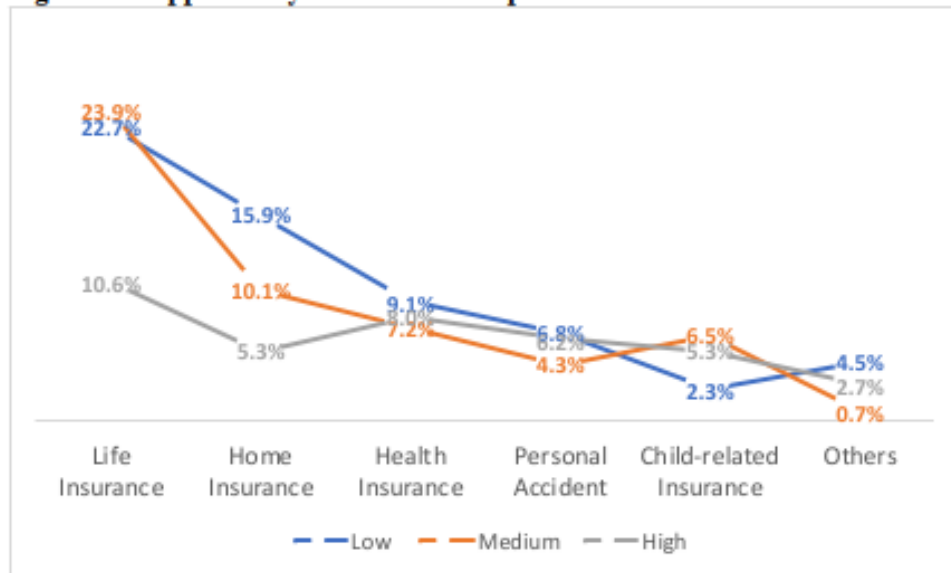
Figure 13: Beliefs/Thoughts on Insurance**Table 14: Opportunity for Insurance Uptake**

Level of Financial Resilience	Question: If you have the opportunity, are there any insurance you would purchase?					
	Life Insurance	Home Insurance	Health Insurance	Personal Accident	Child-related Insurance	Others
Low	10 (22.7%)	7 (15.9%)	4 (9.1%)	3 (6.8%)	1 (2.3%)	2 (4.5%)
Medium	33 (23.9%)	14 (10.1%)	10 (7.2%)	6 (4.3%)	9 (6.5%)	1 (0.7%)
High	12 (10.6%)	6 (5.3%)	9 (8.0%)	7 (6.2%)	6 (5.3%)	3 (2.7%)
Total	55 (18.6%)	27 (9.2%)	23 (7.8%)	16 (5.4%)	16 (5.4%)	6 (2.0%)
Chi-Square	χ^2 : 7.807 df = 2	Fisher Exact Test:	χ^2 : .165 df = 2	χ^2 : .609 df = 2	χ^2 : 1.179 df = 2	χ^2 : 2.799 df = 2

	$p = .020^*$	$p = .092^{***}$	$p = .956$	$p = .782$	$p = .608$	$p = .215$
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Note: * $p < .10$, ** $p < .05$, *** $p < .001$

Figure 14: Opportunity for Insurance Uptake



6. DISCUSSION

The findings related to the relationship between financial resilience, socio-demographic variables and financial literacy pinpoint three key implications for policymakers that warrants attention.

6.1 Financial Knowledge

An area of potential concern for Brunei, or least for the sample in this study is the low level of financial knowledge. Figure 12 (Section 5.4) shows that only one-third of respondents were deemed to have high financial knowledge; this raises concerns on the 60-70 percent of respondents who may be undertaking poor financial behaviour, vis-à-vis emergency savings. For instance, when respondents were asked on the rule of thumb related to saving for emergencies shown in Table 6 (Section 5.4), only 2 out of 10 respondents attained the right answer. This highlights that a significant 80 percent may not be saving enough leading to challenges during times of need, or saving too much and consequently raises questions of having too much liquidity and inflationary concerns on their excess cash, as liquid cash should ideally be kept in savings account or short-term investments such as fixed deposits.

The strong relationship between financial literacy and financial resilience underlines the importance of inculcating financial knowledge to effectively enhance emergency savings. In short, those with high financial literacy appears to possess high financial resilience, in terms of having emergency savings and at least one insurance policy, other than motor vehicle. As the multinomial regression results in Table 11 highlights, when comparing those with medium versus high financial literacy, those financially literate are 2.2 times likely to fall under the high resilience group. This relationship is illustrated in Figure 11 in Section

5.4; those with high financial resilience outperform the other groupings in all four aspects. Only 17.5 percent of the high resilience group obtain no correct answer while they represent a relatively higher proportion in terms of obtaining at least one, two and all three correct answers.

Aside from the quantitative findings, the qualitative findings shown vis-à-vis the challenges of emergency savings (such as being consistently in net deficit) also may link to financial literacy. As Section 5.6 shows, when respondents noted on the ‘lack of income to cover monthly expenses’, ‘overspending’ or having to ‘withdrew for needs’, on one hand this could indicate the issue of having low-income to the extent that low income is the main reason for this challenge. However, Table 15 below shows only 17 percent of those consistently in net deficit earns less than BND1,000; the highest proportion (56.6 percent) being consistently in net deficit earns between BND1,000 and 3,000, which begs the question of poor money management skills, be it due to the role of debt or excessive spending on their monthly activities. Future research may want to consider the intersection between debt, spending and other forms of cashflow such as donations to ascertain the depth and nature of being consistently being in net deficit.

Table 15: Consistently in Net Deficit, by Income Level

Consistently in Net Deficit?	Income Level			
	Less than BND1,000	BND1,000-3,000	More than BND3,000	Total
Yes	9 (17.0%)	30 (56.6%)	14 (26.4%)	53 (100.0%)
No	74 (30.6%)	103 (42.6%)	65 (26.9%)	242 (100.0%)
Total	83 (28.1%)	133 (45.1%)	79 (26.8%)	295 (100.0%)
Chi-Square	$\chi^2: 4.762,$ $df = 2,$ $p = .093^*$			

*p<.10, **p<.05, ***p<.001

6.2 Financial Attitude and Behaviour

Given that financial literacy is defined as “a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing.” (OECD INFE: 2011, p.3), the attainment of knowledge noted in Section 6.1 above is only part of the solution. The importance of attitude and behaviour cannot be underestimated given that individuals may understand and attain certain skills, but lack the attitude or behaviour to follow through. For instance, the findings in Section 5.6 states that one of the challenges of savings for emergencies is the role of temptation or self-control in managing the funds and not spending it un-necessarily or spending it for wants.

Despite the challenge of temptation/self-control, interestingly there were also respondents who were able to demonstrate the use of pre-commitment device in line with the Behavioral Life-Cycle (BLC) hypothesis put forward by Shefrin and Thaler (1988):

“[The challenge is] Impulse buying, but then once I practice setting standing instruction (auto deduction to another saving account every month), [sic] no more challenges.”

In this aspect, the respondent utilises automatic bank transfers which is psychologically easier and does not require much willpower or effort from the respondent, leading to the lower likelihood of being tempted to use the emergency funds.

Another related finding is the role of long-term saving motives described in Section 5.5. Comparing between the medium and low financial resilience grouping, those who do not possess a long-term saving motive are 4.5 times likely to fall under the low resilience group than the medium resilience group. Meanwhile, between the medium and high financial resilience grouping, those with no long-term saving motive are 3.2 times likely to fall under the medium resilience group than the high resilience group. When these findings are linked to Rabinovich and Webley (2007) and Fisher and Montalto (2010) who state the role of a long-term saving motive/horizon towards inculcating a saving behaviour, it is reasonable to consider that Bruneian respondents in this study may benefit from having a retirement or long-term investment saving motive, in so far that it leads them to save on a regular basis such as for emergencies.

The use of commitment devices, encouraging the thoughtful process of having long-term saving horizons and other such approaches are instrumental to facilitate effective savings behaviour. Any financial literacy session should incorporate such behavioural techniques beyond providing financial knowledge. Future research may also consider understanding the role of long-term saving motives into changing one's behaviour. For example, does having a long-term saving horizon create a deeper realization on the importance of saving for short-term goals such as emergencies (given that long-term goals are affected if emergency funds are inadequate)? Or does long-term saving motives leads to better money management skills such as utilizing budgets or money management tools to achieve the long-term goals?

6.3 Financial Exclusion

Aside from the emphasis towards the benefits of financial literacy to enhance financial resilience, the importance of financial inclusion should also be considered. Following Sherraden's Model of Financial Capability illustrated by Despard, Friedline and Martin-West (2020), the authors highlighted that financial stability, well-being and development is attained from a combination of financial literacy and financial inclusion.

In this study, instances of financial exclusion can be understood from respondents who underlined the challenges of insurance (Section 5.7). In Section 5.7, Table 13 and Figure 13 showed that nearly 40 percent of respondents stated they would acquire other insurance policies if they adhered to *Shari'ah*. For Islamic Financial Institutions (IFIs), this may indicate the potential customers that may utilise their *takaful* policies if similar insurance policies or the variable under consideration were offered by IFIs. Future studies may well attempt to analyse the features of such policies or context that would attract would-be customers of *Takaful* Operators to apply for the relevant *takaful* policies, should they become available. In some aspects, this may well fall under self-exclusion as the respondents decided to avoid the insurance policies, due to the *Shari'ah* consideration.

Another aspect related to self-exclusion are the 36.9 percent of respondents who state they have not provided much thought on insurance. This can be considered as another form of self-exclusion, as these potential customers may have self-excluded themselves due to the lack of knowledge or awareness on insurance/*takaful*, vis-à-vis fulfilling their financial needs or circumstances. In this aspect, IFIs may benefit from marketing or awareness campaigns designed to enhance the financial literacy of these segment of the respondents, in order to facilitate them to consider the role of insurance/*takaful* policies to buffer emergencies or unexpected events, and build up their financial resilience.

Another angle of using insurance/*takaful* vis-à-vis financial inclusion pertains to low-income households. For instance, the multinominal regression results in Section 5.5 showed that when comparing the relatively low-income earners (those earning less than BND1,000) to those earning more than BND3,000, the lower earners are 7.7 times likely to have neither emergency savings nor insurance as a buffer, than those having either one. Due to the challenge of low income especially for those more vulnerable such as those applying

for welfare, the relevant welfare agencies may want to consider subsidizing *takaful* policies for the relevant low-income households such as using *zakat* funds and the like, in order to strengthen their financial resilience. This may be undertaken for a temporary, short-term period to avoid the over-reliance on welfare institution; such an initiative would help mitigate self-exclusion issues given the lack of familiarity they may have with insurance/*takaful* products. This is similar in line with the consideration by Ahmed and Salleh (2016) where they contended that once “the customer becomes increasingly familiar with the product, it may encourage them to continue using the product at the end of the three-year period, using their own funds, wholly or partially. (p. 180)”.

7. CONCLUSION

The issue of financial resilience is a complex process of understanding the financial products and services that may assist households to be aware of their financial fragility, and the understanding that resilience requires enhancing both financial literacy and financial inclusion. More specifically, as the research indicates, emphasis on financial knowledge should be considered vis-à-vis the behavioural challenges where emergencies savings is concerned, and issues of *Shari'ah* alternatives and self-exclusion, where insurance/*takaful* policies are concerned. This suggests a multi-prong approach to strengthen the financial resilience of individuals, towards ensuring that any financial shocks to one's earnings can be mitigated.

The findings of this study comes with the caveat of non-random sampling and the potential sampling bias owing to the use of online surveys during the pandemic period. Future research may extend this to a random sampling approach to provide a generalized finding of the Bruneian population.

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COVID-19 Exposure: A Risk-Averse Firms' Response

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Abstract

Without a doubt, Covid-19 is a disruptive event that may no one consider before it becomes a global pandemic. This study examines the firm risk preference, which is represented as management characteristics towards Covid-19 exposure in Indonesia. We argue that age and gender diversity as management characteristics have conservative and risk-averse behavior towards Covid-19 exposure. OLS regression is used to analyze 407 firm-year observations of all companies listed on the Indonesian Stock Exchange in 2019. The result shows a positive relationship between female management and Covid-19 exposure while age proportion is not showing significant result. The additional analysis document that the board of directors mainly drove the result. Lastly, these results are robust due to various endogeneity tests. This study further examines Covid-19 exposure in the industries and enriches the related literature.

Keywords

Covid-19, Covid-19 exposure, Covid-19 disclosure, Firm risk preference, Management characteristic.

Introduction

In November 2019, covid-19 outbreak began in Wuhan, China and rapidly escalated into global pandemic that not only resulting health condition issue, but also global recession. Indonesia is an appropriate setting for Covid-19 awareness study due to several rationales. First, Indonesia government is one of government who has skepticism on the Covid-19 seriousness which it more or less, taken as example from business management. This skepticism was reflected by Indonesia's ex-Health Ministry controversial statement (Ghaliya, 2020), including disrespect toward one of Harvard University study report which mentioned that the Southeast Asian country must already have unreported coronavirus cases in February 2020. Secondly, there is significant gap between the first case of Covid-19 in Wuhan and the first case of Indonesia (WHO, 2020). There is approximately six months during that time, that become a sufficient time frame for Indonesian business to aware this global risk and integrate it within their annual report. Last but not least, diversity is a one of major concern for Indonesia (Sakai & Isbah, 2014; Tarahita & Rakhmat, 2018), although Indonesia is one of the most diverse culture countries (Suherdjoko, 2017). This inequality issue mostly aggravated during Covid-19 as several limitations that must be implemented (News Desk, 2020). Thus, this paper wants to examine whether the firm risk preference, which is represented as management characteristics are associated with firm's alternative selection regarding covid-19 issue on 2019.

Specifically, this paper examines the association between board's age, female boards, and covid-19 exposure. Age boards and female boards are two major management characteristics that influence the firm risk preference (Bamber et al., 2010) on their corporate reporting decision, including covid-19 exposure. Previous literature has been discussing several topics with voluntary disclosure, for instance Eng & Mak (2003) examines the association between ownership structure and voluntary disclosure in the management discussion and analysis section of annual report. Cho et al. (2020) testing information externalities of supply chain and voluntary disclosure. Tsang et al. (2019) examines foreign institution ownership with voluntary disclosure around the world. While, Bamber et al. (2010) test the association between the style of top management and voluntary financial disclosure. This study is an extension of research on management characteristics and voluntary disclosure. We extend prior research by examining age and gender diversity with voluntary disclosure of global pandemic covid-19.

Management characteristics reflected the firm risk preference by the decision taken and thereby the decision to disclose global risk of covid-19 and realign their strategies. Boards age is assessed by dividing total number of boards age with total number of boards to know the board age average. While, the proportion of female in the boards were taken from the total number of female boards divided by the total number of boards. In addition, Covid-19 exposure is measured by the keywords found in the annual report. We expect both management characteristics are positively associated with covid-19 exposure because both characteristics reflected conservatism that leads to risk-averse behavior (Bamber et al., 2010). In this study, we also examine which boards have the power in shaping firm risk preference since Indonesia adhere two-tier board system.

We use 407 firm-year observations of all listed firms on the Indonesian Stock Exchange in 2019 as our research sample. We limit our study period in 2019, as it is transition year between pre- and during Covid-19 pandemic. We regress management characteristics and covid-19 exposure after controlling for boards financial background, independent commissioner, board size, auditor, firm size, performance, and leverage. The result shows positive relationship only between female management and covid-19 exposure. We also conduct several endogeneity tests, including Heckman two-stage regression and Coarsened Exact Matching (CEM) regression. Our extended analysis shows that the board of directors mainly drove the result.

This study contributes to the literature in the following ways. First, this study provides additional literature on covid-19 topics, especially in Indonesia, as the amount is still scarce. Second, it also provides additional literature on management risk preference as prior studies is dominated with the CEO & CFO risk preferences only. Third, we provide additional consideration for shareholders when selecting their agent to operate their business based on its risk preference. Last, this study provides an insight that in uncertain economic condition, a risk-averse management may more favored than risk-taker management as they tend to prepare for the worst time.

The remainder of this paper is organized as follows. Literature Review contain reviews of relevant literature and develops our hypotheses. Methods detail sample selection and research design employed by this study. We report our results in analysis/discussion, and conclusion provide summary of the paper and recommendation for future research.

Literature review

Based on the upper echelon theory, top management's characteristic will be portrayed into corporate action (Hambrick & Mason, 1984). Countless studies have been conducted to explore this theory practices on several perspectives. Mostly from upper echelon study, they correlating it with firm's risk preference. For instance, Agnihotri & Bhattacharya (2021), He et al. (2019), Liu et al. (2021) focus on top management's narcissism traits where it could lead to several corporate actions that associated with high risk. Another strand of studies that using upper echelon theory is focusing on top management's entrepreneurial characteristic (Barrett et al., 2021; Wang et al., 2021; Zhang et al., 2021a). Although the dependent variable of their studies is varied, but all of them is correlated with implementation of higher risk strategy compared to firms with less entrepreneurial characteristic. Other studies using previous life-experience as the one who shaping top management's current risk preference (Hao et al., 2021; Harymawan et al., 2021; Zhang et al., 2021b).

Among all top management's characteristic that may influence the corporate risk preference, one that interesting to keep discussed is the biological traits which lead different risk preference. One of top management's biological traits that mostly researched in context of their risk preference is their gender (Khlif & Achek, 2017). Haynes (2017) shows that during past 25 years, studies that focus on gender in working environment and its implication keeps evolving of all times, as female participation in corporation showing positive trends. Nevertheless, from early studies (Baldry, 1987; Johnson & Powell, 1994; Powell & Ansic, 1997) to recent studies (El-Khatib & Joy, 2021;

Saggar et al., 2021; Shropshire et al., 2021), most of them document that woman have more risk-averse traits compared to men. Although Shropshire et al. (2021) argue that risk-averse of female corporate leaders is contextual rather than will be automatically proven on any context, but female directors already perceived as one who tend to prioritize the risk minimization during their decision-making process (Adams et al., 2011; Wood & Eagly, 2009). We argue this commonly held stereotypes could induce the risk-averse behavior of female directors as external factor, if it is not already shaped by their psychological or internal factor themselves (Levin et al., 1988).

Like female in boardroom, the proportion of board's age also shares similar perception of having risk-averse behavior. Some recent studies documented that proportion of aged directors is closely related with low-risk decision. For instance, McGuinness (2021) founds that older board firms possessing fewer growth options and raising less capital at IPO in Chinese firms due to their lack of audacity in taking more risk-taking strategy. Other studies also show older executives invest more in working capital, take longer to convert inventories to cash, pay suppliers sooner (Adhikari et al., 2021) and able to provide better monitoring function toward CEO's fraud (Xu et al., 2018). Those activities are few of many forms of risk-averse behavior that may implemented by aged directors.

During crisis times such as Covid-19 pandemic, risk-averse management are more favorable than the risk-taker one. This phenomenon can be happened due to low-risk policies that management used to implement are fully effective during these hard times (Bruckmüller & Branscombe, 2010; Cook & Glass, 2014). After all, risk-averse CEO show better performance handling crisis and economic downturn compared to other CEOs (Benmelech & Frydman, 2015). These advantages make boards with risk-averse behavior will be more influential on strategic decisions in a facing crisis (Shropshire et al., 2021), including highlighting some of Covid-19's detrimental effect possibilities on their annual report.

Based on these arguments, we posit that a risk-averse management will aware of the possibilities of global spreading and disclose covid-19 exposure on their projection plan in annual report.

H1: Female proportion of board has positive relationship with covid-19 exposure disclosure

H2: Age proportion of board has positive relationship with covid-19 exposure disclosure

Methods

Sample selection procedure and data source

Our sample selection procedure is reported in Table 1 (panel A). We obtain the data of covid-19 exposure from the text mining database: TMAILC, financial accounting data from Osiris database, while for executive profile data were gathered manually from annual report of all listed companies in Indonesian Stock Exchange except for firms in SIC 6. To be able to perform our analysis, we require firms to have data available for all variables used. Our final sample consist of 407 firm-year observations in 2019 when covid-19 in other countries rapidly escalated as a global pandemic, but there is no legal announcement about covid-19 cases in Indonesia. Therefore, this case made the Indonesian setting more interesting to explore.

Table 1 (panel B) reports the industry breakdown of the firm-year observations in the sample using the single-digit SIC codes. Amongst the eight remaining industries, construction (SIC 2) is most broadly disclosing covid19 exposure, totaling 107 firm-year observations, followed by transportation, communication, and utilities (SIC 4) of 77 firm-year observations.

Table 1: Sample selection and industry breakdown

Panel A. Sample selection for firm-year observations						Firm-years
Number of firm-years with available information						706
Less:						
Financial industry firms (SIC 6)						165
FINBOARD						72
AGEBOARD						18
FEMBOARD						31
BIG4						11
MTB						2
Final amount of observations						407
Panel B. Industry breakdown		Not Disclosed		Disclosed		Total
Industry (SIC)	Industry description	Firm-years	Percentage	Firm-years	Percentage	
0	Agriculture, forestry and fishing	4	26.67	11	73.33	15
1	Mining	17	26.98	46	73.02	63
2	Construction	29	27.10	78	72.90	107
3	Manufacturing	17	27.87	44	72.13	61
4	Transportation, communications and utilities	16	20.78	61	77.5	77
5	Wholesale and retail	7	19.44	29	80.56	36
7	Services	9	24.32	28	75.68	37
8	Health, legal, educational, and consulting	5	45.45	6	54.55	11
Total		104	25.55	303	74.45	407

Note(s): This table reports the sample selection for the year 2019 and industry breakdown of the sample firms. Panel A reports the sample selection of firm-year observations for the regression analyses in this study. Panel B reports the industry breakdown of firm-year observations which disclosed covid exposure terms in their firm and those who not. The industry classification is based on single-digit SIC code. Firms with code 6 (Financials) are excluded from the sample.

Independent and dependent variables

Our main explanatory variable is the management characteristics that will affect their risk preference. Previous research mainly used CEO or CFO characteristics (Abernethy et al., 2019; Benmelech &

Frydman, 2015; Francis et al., 2015; Yeoh & Hooy, 2020), while here we try to use all

managements in the boards. The managerial characteristics that we use are the total number of boards age divided by the total number of boards (AGEBOARD) (Abernethy et al., 2019; Yeoh & Hooy, 2020) and the total number of female boards divided by the total number of boards (FEMBOARD) (Shin et al., 2020). In estimating covid-19 exposure in the annual report, we develop several keywords by following Hassan et al. (2020). These keywords are Covid, Covid-19, Corona Virus, 2019-nCoV, and Sars-Cov-2.

Control variables

Following Bamber et al. (2010), Cho et al. (2020), Eng & Mak (2003), Tsang et al. (2019), Tuo et al. (2020), we include several control variables. Specifically, FINBOARD is calculated as the total number of boards with financial background divided by the total number of boards, BIG4 is audited by big4 audit firm, INDCOM is the total number of independent commissioners, BSIZE is captured by the total number of commissioners plus directors, FSIZE is measured as the natural log of total assets, MTB is calculated as market capital divided by total assets minus total liabilities and debts, and LEV is measured as total liabilities and debts divided by total assets. We also use the industry fixed effect to minimize the effect of industry peers.

Research design

To test our hypothesis, we use ordinary least square regression analysis with the following regression model:

$$COVID_{i,t} = \beta_0 + \beta_1 AGEBOARD_{i,t} + \beta_2 FEMBOARD_{i,t} + \beta_3 - 9 CONTROLS_{i,t} + \beta_{10} INDUSTRY_{i,t} + \epsilon \dots (1)$$

Analysis/Discussion

Descriptive statistics

We provide our summary of data characteristics in Table 2. Our initial analysis shows that on average, Indonesian annual report mentions covid-19 keywords about 22 times, the boards age were 49 years old, and number of female boards were 7%. Only 33% of all firms were audited by Big4 auditor. On average, firms have at least 1 independent commissioner and 8 persons in the boards. For the financial variables, on average firms have total natural logarithm asset of 28.474, while the market to book value ranges from -7.258 to 10.069 and the leverage 0.002 to 973.406.

Table 2: Descriptive statistics

Variable	Mean	Median	Minimum	Maximum
COVID	23.015	18.000	0.000	127.000
AGEBOARD	54.467	54.778	28.429	70.875
FEMBOARD	7.743	0.000	0.000	60.000
FINBOARD	0.585	0.600	0.000	1.000
BIG4	0.332	0.000	0.000	1.000
INDCOM	1.607	1.000	1.000	5.000
BSIZE	8.017	7.000	3.000	24.000

FSIZE	28.474	28.395	22.442	33.495
MTB	0.246	0.115	-7.258	10.069
LEV	3.112	0.471	0.002	973.406

Note(s): This table reports the summary of data used in this study. The total observations for the sample are 407 firm-year observations. This test was done after winsorizing the data for 1 and 99%* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Pearson correlations

We provide the Pearson correlation test result in Table 3. We find a significant positive relationship between COVID and both management characteristics FEMBOARD (coef. = 0.119, $p = 0.016$). On the other hand, the age proportion is not showing statistically significant result (coef. = 0.055, $p = 0.266$). We also document other significant positive relationships, for instance, COVID and BIG4, AGEBOARD with FINBOARD, BIG4, INDCOM, BSIZE, and FSIZE, and FEMBOARD with FINBOARD. Overall, this univariate test results support our hypothesis that risk-averse management tends to disclose covid-19 exposure on their annual report. But to be sure, we still need to examine the relationship using multivariate analysis.

Table 3: Pearson correlations

Variable	(1)	(2)	(3)	(4)	(5)
(1) COVID	1.000				
(2) AGEBOARD	0.055 (0.266)	1.000			
(3) FEMBOARD	0.119** (0.016)	-0.114** (0.021)	1.000		
(4) FINBOARD	-0.047 (0.345)	-0.103** (0.037)	0.050 (0.317)	1.000	
(5) BIG4	0.088* (0.076)	0.091* (0.065)	0.067 (0.180)	0.013 (0.787)	1.000
(6) INDCOM	0.045 (0.365)	0.237*** (0.000)	-0.036 (0.465)	0.032 (0.523)	0.149*** (0.003)
(7) BSIZE	0.049 (0.321)	0.229*** (0.000)	-0.016 (0.745)	-0.008 (0.864)	0.290*** (0.000)
(8) FSIZE	0.061 (0.220)	0.277*** (0.000)	-0.074 (0.137)	0.017 (0.737)	0.299*** (0.000)
(9) MTB	0.003 (0.955)	-0.140*** (0.005)	-0.038 (0.447)	0.023 (0.640)	-0.040 (0.417)
(10) LEV	0.069 (0.164)	0.071 (0.150)	-0.072 (0.144)	-0.019 (0.707)	-0.023 (0.648)
Variable	(6)	(7)	(8)	(9)	(10)

(6)	INDCOM	1.000				
(7)	BSIZE	0.651*** (0.000)	1.000			
(8)	FSIZE	0.525*** (0.000)	0.613*** (0.000)	1.000		
(9)	MTB	-0.033 (0.501)	-0.050 (0.315)	-0.078 (0.117)	1.000	
(10)	LEV	0.053 (0.289)	-0.006 (0.898)	0.026 (0.599)	-0.037 (0.452)	1.000

Note(s): This table reports the pearson correlation test result on 407 firm-year observations. This test was done after winsorizing the data for 1 and 99%. p-values in parentheses *p < 0.1, **p < 0.05, ***p < 0.01

Main analysis

Table 4 present the regression result of our research model. The result show that management characteristics, FEMBOARD (coef. = 0.283, t = 2.38) have significant positive relationship with covid-19 exposure disclosure. As for AGEBOARD, they did not show any significant positive relationship with COVID (coef. = 0.123, t = 0.62). The disclosure of covid-19 exposure in the annual report increased with the present of female boards in the time when covid-19 is not legally announced infected Indonesia. These results are consistent with (Shin et al., 2020) that female boards imply risk aversion and conservatism. This conservative behavior leads to the disclosure of covid-19 exposure in the annual report because the boards are aware of the risk that might influences the business during the pandemic and will align their strategies to meet their needs although the government overoptimistic that covid-19 will not infected Indonesia in near time. Even after testing both characteristics into one research model, the association is still consistent with positive and significant results for FEMBOARD (coef. = 0.292, t = 2.45). However, all control variables remain insignificant. Here, we can conclude that the presence of female in the board (Francis et al., 2015) lead to more low risk preference and associated with covid-19 exposure disclosure.

We posit several arguments regarding insignificant result of AGEBOARD and COVID. Firstly, although Covid-19 exposure perceived as risk-averse behavior, not mentioning any Covid-19 issue in firm's annual report, at some extent, can be also indicate a risk-averse. In spirit of (Yeung et al., 2015) where older employee tend to avoid conflict, we argue it may be too risky for management to disclose the possibility of Covid-19 detrimental effect, when it is actually not happened yet. Aged board may need to reaffirm the possibility to minimize the possibility of conflict arises before disseminate the information to public. Secondly, some experts argue that Covid-19 can classified as "Black Swan" (Murphy et al., 2020), a phenomenon that reflects the unpredicted event that has a significant impact. Thus, Covid-19 detrimental effect may be considered as an overclaim by aged executives as by their experience, health crisis does not automatically relate with business crisis.

Table 4: Main regression result

Variable	(1) COVID	(2) COVID	(3) COVID	(4) COVID
AGEBOARD		0.123 (0.62)		0.186 (0.94)
FEMBOARD			0.283** (2.38)	0.292** (2.45)
FINBOARD	-6.966 (-1.25)	-6.620 (-1.20)	-7.755 (-1.42)	-7.254 (-1.34)
BIG4	3.538 (1.28)	3.525 (1.28)	3.041 (1.11)	3.007 (1.10)
INDCOM	0.815 (0.41)	0.712 (0.36)	0.832 (0.42)	0.675 (0.34)
BSIZE	-0.013 (-0.02)	-0.016 (-0.03)	-0.034 (-0.06)	-0.039 (-0.07)
FSIZE	0.639 (0.72)	0.552 (0.62)	0.862 (1.02)	0.736 (0.87)
MTB	-0.161 (-0.05)	0.014 (0.00)	0.133 (0.04)	0.408 (0.12)
LEV	4.893 (1.58)	4.772 (1.54)	5.367* (1.77)	5.198* (1.71)
Industry FE	Yes	Yes	Yes	Yes
CONSTANT	9.475 (0.37)	5.259 (0.19)	1.672 (0.07)	-4.956 (-0.19)
Adjusted R2	0.014	0.012	0.031	0.030
N	407	407	407	407

Note(s): This table reports the result of OLS regression for hypothesis testing of this study. This test was done after winsorizing the data for 1 and 99%. t statistics in parentheses *p < 0.1, **p < 0.05, ***p < 0.01

Robustness Tests

Similar with other studies in business and management context, this study cannot be separated from endogeneity issue (Reeb et al., 2012). Issue that became main concern of business and management study since several years ago is raised due to business and management variables is not completely randomly chosen. To minimize this issue within our study result, we employ Coarsened Exact Matching (CEM) regression and Heckman Two-Stage regression.

Coarsened Exact Matching regression

One of the endogeneity perspective is that the observation sample used is not completely apple-to-apple. It may will provide bias in result if the observation does not reflect each other observation's characteristics. One of common approaches used in business and management

studies is matching method, including Coarsened Exact Matching (CEM) regression (Blackwell et al., 2009). In this study, we divide the sample into two groups, treatment and control group, based on its median value on each our interested variable (AGEBOARD and FEMBOARD). Each observation on these groups will be matched each other based on all control variables that we employed with three strata basis. Our CEM regression result is provided in table 5 below.

We document a consistent result between our CEM and baseline regression for FEMBOARD (coef. = 0.254, t = 2.10) when median of FEMBOARD used treatment variable. Surprisingly, we document significant relationship between AGEBOARD with COVID when the treatment variable is median of AGEBOARD (coef. = 0.202, t = 1.01). This result provides insight that in context of analyzing proportion of AGEBOARD, it is crucial to employ matching method.

Table 5: Coarsened exact matching

Variable	(1) COVID	(2) COVID
AGEBOARD	0.202 (1.01)	0.268** (2.21)
FEMBOARD	0.254** (2.10)	0.197 (0.93)
FINBOARD	-7.372 (-1.33)	-7.320 (-1.32)
BIG4	2.667 (0.98)	2.604 (0.95)
INDCOM	-0.288 (-0.14)	-0.752 (-0.36)
BSIZE	-0.216 (-0.38)	-0.123 (-0.22)
FSIZE	0.945 (1.08)	0.888 (1.01)
MTB	-1.490 (-0.72)	-1.532 (-0.50)
LEV	3.975 (1.20)	6.522* (1.81)
Industry FE	Yes	Yes
CONSTANT	-10.432 (-0.39)	-9.853 (-0.36)
Adjusted R2	0.025	0.031
N	393	386

Note(s): This table reports the results of CEM regression test. The first column using AGEBOARD as a treatment variable amounted to 393 firm-year observations, while 386 firm-year observations in the second column using FEMBOARD. The CEM test is based on all control variables used in the model and using three strata as basis. The decreased amount of observations due to several

requirements in CEM for observations in order to classified matched by CEM. This test was done after winsorizing the data for 1 and 99%. t statistics in parentheses *p < 0.1, **p < 0.05, ***p < 0.01

Heckman two-stage regression

Our results may suffer from unobservable variables or self-selection bias. Unobserved variables are variables that are not included in the equation model but may have association with the dependent variable. While, firms are free to choose boards without considering their age, and not regulated to have female in the boards. Therefore, we employ (Heckman, 1979) two stage regression analysis. We employ two instrumental variables originally derived from the average number of independent variables. The result in panel A column 1 shows positive significant result between AVEAGE and DAGEBOARD. While the second stage in column 2 show insignificant result between AGEBOARD and COVID (coef. = 0.002, t = 1.00). Further in panel B, column 1 show positive and significant result between AVEFEM and DFEMBOARD. While the second stage in column 2 show positive and significant result between FEMEBOARD and COVID (coef. = 0.003, t = 2.27) with statistically significant result in MILLS and COVID. These results confirms that our main model did not experience endogeneity problems.

Table 6: Heckman two-stage

Panel A Variable	First-stage DAGEBOARD	Second-stage COVID
AVEAGE	0.640* (1.89)	
AGEBOARD		0.002 (1.00)
FEMBOARD		0.003** (2.40)
MILLS		-0.560 (-0.89)
FINBOARD	-0.704** (-2.36)	0.173 (0.62)
BIG4	0.162 (1.12)	-0.024 (-0.39)
INDCOM	0.045 (0.38)	-0.010 (-0.39)
BSIZE	0.010 (0.32)	-0.003 (-0.51)
FSIZE	0.108** (2.15)	-0.031 (-0.69)
MTB	-0.322* (-1.84)	0.132 (0.82)
LEV	0.034 (0.19)	0.041 (1.22)

Industry FE	Yes	Yes
CONSTANT	-37.547** (-2.03)	1.215 (0.82)
Pseudo R2	0.068	
Adjusted R2		0.031
N	407	407
Panel B	First-stage	Second-stage
Variable	DFEMBOARD	COVID
AVEFEM	0.130 (0.69)	
FEMBOARD		0.003** (2.27)
AGEBOARD		0.002 (1.04)
MILLS		-2.677** (-1.97)
FINBOARD	0.457 (1.53)	-0.936** (-2.15)
BIG4	0.194 (1.31)	-0.325* (-1.84)
INDCOM	0.101 (0.88)	-0.182* (-1.88)
BSIZE	-0.022 (-0.76)	0.040* (1.90)
FSIZE	0.015 (0.29)	-0.022 (-1.27)
MTB	-0.180 (-1.35)	0.363* (1.86)
LEV	-0.182 (-0.94)	0.414** (2.21)
Industry FE	Yes	Yes
CONSTANT	-2.121 (-1.03)	4.508* (1.95)
Pseudo R2	0.035	
Adjusted R2		0.035
N	407	407

Note(s): This table reports the Heckman two-stage regression analysis for the model equations in this study. This test employs AVEAGE in panel A and AVEFEM in Panel B as instrumental variables that argued only to relate to AGEBOARD and FEMBOARD and not related to its covid disclosure. MILLS is inverse mills ratio, where it represents as joined relationship power of both

instrumental variables. This test was done after winsorizing the data for 1 and 99%. t statistics in parentheses *p < 0.1, **p < 0.05, ***p < 0.01

Additional analysis

Indonesia adopts two tier board system that comprises of BOC and BOD. We use specific variable AGE and FEMALE based on their position in the boards, whether they sit on the commissioner or director chairs. Our regression analysis divide into two categories where the regression based on the boards position, and then we put all variables into a single regression. Our results in table 7 show positive and significant results only between FEMBOD (coef. = 0.351, t = 3.51) with covid-19 exposure. Consistent result is shown in the third column where both of independent variables are combined into single model (coef. = 0.367, t = 3.65). These results indicate in the director position, presence of female boards helps the firms in shaping their risk preference into more risk averse especially in preparing strategies during uncertain conditions.

Table 7: Additional regression result

Variable	(1) COVID	(2) COVID	(3) COVID
AGEBOC	0.144 (0.95)		0.110 (0.68)
FEMBOC	0.000 (0.00)		-0.053 (-0.67)
FINBOC	-3.649 (-0.88)		-5.083 (-1.27)
AGEBOD		0.118 (0.63)	0.063 (0.32)
FEMBOD		0.351*** (3.51)	0.367*** (3.65)
FINBOD		-1.288 (-0.33)	-1.110 (-0.29)
BIG4	3.449 (1.24)	3.153 (1.16)	3.226 (1.18)
INDCOM	0.710 (0.36)	0.335 (0.17)	0.341 (0.17)
BSIZE	-0.028 (-0.05)	-0.135 (-0.24)	-0.199 (-0.36)
FSIZE	0.456 (0.50)	1.080 (1.31)	1.015 (1.20)
MTB	0.088 (0.03)	0.489 (0.15)	0.746 (0.23)
LEV	4.846 (1.57)	5.438* (1.80)	5.278* (1.76)
Industry FE	Yes	Yes	Yes

CONSTANT	4.735 (0.18)	-13.567 (-0.53)	-10.746 (-0.41)
Adjusted R2	0.009	0.051	0.051
N	407	407	407

Note(s): This table reports the result of OLS regression for additional analysis of this study. Column 1 and 2 specifically examining (BOC) and (BOD) respectively, while column 3 is combining both position into one research model. This test was done after winsorizing the data for 1 and 99%. t statistics in parentheses *p < 0.1, **p < 0.05, ***p < 0.01

Conclusion

Our study examined the firm risk preference towards covid-19 exposure disclosure, represented by management characteristics. We use non-financial listed companies in the year 2019 as transition year between pre- and during Covid-19 pandemic. The results of this study confirm that female boards tend to shape the firm risk preference into risk averse and disclose covid-19 exposure even before it infected Indonesia. Our results are robust as we employ several endogeneity tests to minimize self-selection bias. Furthermore, we employ additional analysis test to enhance our understanding of firm risk preference with the disclosure of covid-19 exposure.

These findings contribute to the literature in several ways. First, this study provides additional literature on covid-19 topics, especially in Indonesia, as the amount is still scarce. Second, it also provides additional literature on management risk preference as prior studies is dominated with the CEO & CFO risk preferences only. Third, we provide additional consideration for shareholders when selecting their agent to operate their business based on its risk preference. Last, this study provides an insight that in uncertain economic condition, a risk-averse management may more favored than risk-taker management as they tend to prepare for the worst time.

This research only examines the year 2019 before covid-19 legally announce in Indonesia, thus future research may explore more by comparing the year before and after legal announcement of covid-19.

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The Improvement of Project Management Office by Using Integrated Performance Management System (Case: Improvement of Project Management Information System in Indonesia Gas Sub-Holding Company)

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Abstract

Indonesia Gas-Sub-Holding Company (Company) intend to provide more and more infrastructure not only in gas transmission and distribution pipeline but also beyond pipeline transportation mode such as CNG and LNG. In managing infrastructure projects, Company established Project Management Office ("PMO") as project executor, which still facing difficulties caused by inaccuracy data in management report, and project report timeliness even though several systems/applications have developed and deployed as PMO project management information system. Qualitative approach through primary and secondary data analysis performed to find root cause and to design a solution. All the symptoms and issues of reporting process assembled in a Current Reality Tree (CRT) and found that PMO existing system not applying the principles of ideal performance management. Therefore, PMO needs to improve existing system, integrated with performance management system, with the expectation will give contribution in overall PMO improvement. Based on several literature reviews, Integrated Performance Management System (IPMS) selected as the framework to design improvement system in PMO, because IPMS is the most suitable performance management, that can be applied in operational level, and in other side, combined the performance variables in all aspect of organization from resources capabilities, internal process and organizational output aligned with Company vision and mission. From IPMS, performance variable can be determined and with the help of Analytic Hierarchy Process (AHP), Business Performance Index (BPI) weight factor can be calculated. To implement the performance management design, existing project information system will be improved guided by System Development Life Cycle (SDLC) framework. For the display of the performance management system, to enhance the engagement of the human side in the system, Gamification

concept chosen as the basis for display design. Points and Leaderboards of user and project will be displayed to motivate all parties to perform better. The expected final result of system design is Integrated Project Information System as single platform in PMO, using single input and single database, which enabling efficiency in resources utilization and give contribution in overall PMO improvement that measured by following Project Management Maturity Model (PM3). In the improved system, data can flow directly from project site to Management level and displayed in Project Management Dashboard. By Implementation of integrated performance management system, data accuracy, data completeness and timeliness will be assured because all parties involved in process keep improving their performance. In the end of the day, information provided by system will help informed decision process faster. Last but not least, the impact of the improvement of PMIS using IPMS based on the mapping of improvement in the PM3 matrix, demonstrate the contribution to the overall PMO Improvement in 4 (four) types of integration activities in Project Management Integration, from maximal in Level 3: Organizational Standards and Institutionalized Process into minimal Level 4: Managed Process.

Keywords

Dashboard, Gamification, Integrated Performance Management, PMO, Project Management Information System.

Introduction

Natural gas (gas) resource in Indonesia is very abundant, based on BP Statistical Review of World Energy 2020 | 69th edition, Indonesia has 50,5 TCM Reserves of Natural Gas (British Petroleum, 2020). However, gas utilization is very challenging due to geographic location and infrastructure gas access (Government of Indonesia, 2017). Government of Indonesia see those as the opportunity, and push gas utilization by setting rules and policy. One of the policy milestones is Establishment of the Oil and Gas Holding, with PT Pertamina as the leader, followed by organizational transformation by transforming PT PGN, Tbk to be Sub-Holding Gas Company (Company) which focus on downstream gas business. As the capacity of the Company increase by the support from Oil and Gas Holding, another government policy set up, such as stated in RPJMN, that in 2024, 4 million of household will be connected to city gas networks (Kementerian PPN/Bappenas, 2019), and power plant gasification, and Specific Gas Price for certain Industry.

In gas utilization, triangle of natural gas source, infrastructure and customers must be existed (Bata, 2019). To support government plans, Company shall provide more and more gas infrastructure to ensure that government plan achieved. Provision of infrastructures performed by carry out gas infrastructure project. To ensure the project execution managed in an appropriate and proper way, Pertamina as Holding, intend to monitor infrastructure project execution in each Sub-Holding. PGN must prepare Project Management Dashboard. Dashboard described in The Big Book of Dashboards: Visualizing Your Data Using Real-World

Business Scenarios: is visual display of data to monitor conditions and/or facilitate understanding (Wexler, Shaffer, & Cotgreave, 2017). A dashboard must be SMART, in that it contains the following underlying elements: Synergetic or visually effective; Monitor KPI, Accurate, Responsive, and Timely or must be real time and right time, which are essential for success. (Malik, 2005). Based on that reference, project data is very important and must be up to date with the actual condition, to support decision that needed in project execution to all project stakeholders.

Project Management Office ("PMO") as the executor of the project in Company, has a big challenge in managing project data and keep it up to date to support dashboard. As mentioned before, to support the government goals, PMO must deal with a large number of project data which consist of project attributes, reports, and documentation. This problem exacerbates by manual process dominating in data input, processing and reporting even though project information system has developed and deployed. Based on historical data, in 2020, 75% of monthly project management reports shall be corrected due to the inaccuracy data after compared with the accounting system. PMO also facing problematic issue in the upstream of the process: project construction report. Project construction report timeliness submission from the Contractor still far away from expected condition, in the last 3 (three) year, more than 50% of the report, submitted late in the system. Those business issues raise questions why the existing project information system not effective to assist PMO in managing project, how to design a proper system to improve existing project information system,

and how the system improvement can contribute in overall PMO's improvement.

Literature review

In A guide to the project management body of knowledge (PMBOK guide) Sixth Edition, to standardize the project-related governance, and to facilitate resources sharing, methodologies, tools and technique, need a special structure in organization called Project Management Office (PMO). PMO has wide range of responsibilities, from providing support function in project management, to the direct management of project, or multiple projects. (Project Management Institute, Inc., 2017). Robert Buttrick in Who does What – The Players, in Chapter 4 – Part Two: A Walk Through Project in Book Project Management Workout, give a framework for PMO to manage project organization structure in, as depicted in Figure 1.

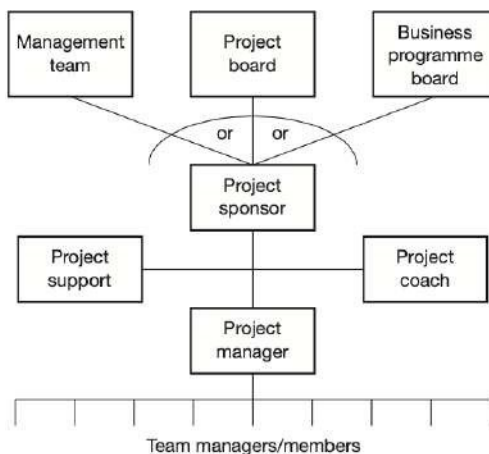


Figure 1: Typical Project Organization Structure

Source: Figure 4.1 A typical project organization structure. (Buttrick, 2009)

According to Project Management Institute, project information system or often referred as Project Management Information system (PMIS) can be described as software/online system is used by PMO in project execution as the center of project information (collected from internal project unit and external project unit), work authorization, project reporting, and project monitoring and control of project performance (Project Management Institute, Inc., 2017, p. 95).

As mentioned above, automated gathering and reporting on key performance indicators (KPI) can be part of PMIS. Several alternatives of performance management framework can be considered to be part of the PMIS. Some of renowned performance management frameworks and usually used in Indonesia are Balance Scorecard (BSC), Performance Based Management (PBM), and Integrated Performance Management System (IPMS). According to Wibisono (2006, as cited in Wirapraceka, 2016), Framework that is commonly used globally is Balanced Scorecard, and this become the standard for all performance management system developed thereafter, measures the organization's performance in four perspectives; financial, customer, internal process, and learning and growth, but lack in benchmarking capabilities and the learning and growth perspective can lead to confusion in its implementation, mainly due to the multi-interpretation in the implementation and measurement methods has not been explained. Lunger and Wibisono added that (2006, as cited in Wirapraceka, 2016) as an update of the Balanced Scorecard methodology that includes only two stakeholders; shareholders and customers, Performance projecting

satisfaction to all interlinked stakeholders, such as communities, activist, customers, employees, government and suppliers, however has weaknesses including the procedure of benchmarking that is not discussed explicitly, only provide few performance standard, not equipped with example or template for performance management system application step by step and the proposed model is very complicated because of the 5 interrelated perspectives (Lunger, 2006; Wibisono, 2006, as cited in Wirapraceka, 2016).

Fristyani (2016) stated that IPMS concept developed by Wibisono (2006) which is combines BSC's simplicity design with performance prism's attention to stakeholders can be considered as a refinement of both concept. Since it is a refinement of the previous two performance management concepts, the IPMS framework is very complete yet easy to understand.

Wibisono (2012), In How To Create World Class Company, stated that there are four basic principle in Integrated Performance Management System development that must be considered: partnership, empowerment, Integrated improvement performance, and Independent team four basic foundations has been well understood, there five rules as foundation in Performance Management System Design: easily understandable system; long-term orientation; time based; continuous improvement; and quantitative approach. For the design of performance management itself, IPMS methodology depicted in Figure 2.

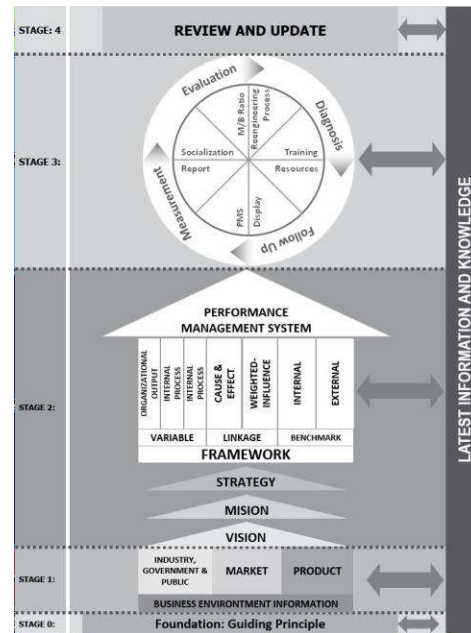


Figure 2: Performance Management Design Methodology

Source: Figure 2.1 How To Create WorldClass Company. (Wibisono, 2012)

Wibisono (2012) also explain that in order to get up-to-date performance level information promptly, a computer program/application is needed to accommodate complexity of the data and presenting in communicative display. Dashboard, can be used for that purpose. A performance dashboard is a practical tool that synthesizes the performance level of a process. In Europe, several organizations have developed the Tableau de Bord, i.e., a dashboard of key performance indicators, which synthesize the most relevant factors for success. (Franceschini, Galetto, & Maisano, 2019) and in the context of project environment, a project management dashboard is a visual display of a small number of critical metrics or key performance indicators such that stakeholders and all project personnel can

see the necessary information at a glance in order to make an informed decision. Raw data is converted into meaningful information. All of the information should be clearly visible on one computer screen.” (Kerzner, 2013).

A motivational framework is needed to engage the human and the system. Deterding et. al in Journal titled From Game Design Elements to Gamefulness: Defining “Gamification”, defined Gamification as: is the use of game design elements in non-game contexts (Deterding, Dixon, Khaled, & Nacke, 2011, p. 10). And why the element of game is interesting, Brian Burke 2014) explains that gamification engages people at an emotional level, which is far more powerful than typical transactional engagement strategies; Intrinsic rewards can sustain engagement, whereas extrinsic rewards have a less durable impact and may even serve to discourage players; People are motivated by maintaining a sense of autonomy, progressing toward mastery, and engaging with a purpose larger than themselves; Player-centric design starts with an understanding of the players’ goals and ambitions and strives for an experience that engages players at an emotional level to help them achieve a goal that is meaningful to them; Gamification breaks larger goals into smaller practical challenges, encouraging players as they progress through levels, and engages them emotionally to achieve their very best; If the player’s goals are aligned with the organization’s goals, then the organizational goals will be realized as a consequence of the player achieving his/her goals. For now, Gamification is very popular, application can be found in many marketplaces to

increase engagement from user by adding gaming design element like badges, level, and goals. According to Kapp et. al (2014), one of the reasons gamifications is becoming so popular is because it has been shown to engage employees.

For the development of the information system to enable improved PMIS can be implemented, using System Development Life Cycle as the approach of system thinking to solve the business problems. Refer to James A O’Brien and George Marakas (2007), one method of using the systems approach to develop information system solutions, and the one that is most prevalent in organization systems analysis and design, can be viewed as a multistep, iterative process called the systems development life cycle (SDLC). To make it simpler, building an information system is similar to building a house because there is process of gathering the needs or vision of the owner and then transformed into sketches or drawing by the developer at the first phase. And then, in second phase, those drawing shown to owner and the drawing will be refined and after several cycle of revision, presentation, revision and presentation, until the owner agrees that the drawing depicts the needs or vision. In the third phase, those drawing will be detailed more into technical drawing which contain the more specific information as basis for construction based on owner approval. Finally In this phase, the house will be built based on technical drawing with some of changes with decision made by owner. (Dennis, Wixom, & Roth, 2012).

All of improvement effort in the PMIS by using PIMS is expected will improve the PMO also. To find out if there is an improvement, Project

Management Maturity Model (PM3) selected as the basis of the references, because PM3 model provides best practice to help organization to: determine the maturity of project management processes in organization, plan the step in improving process, prioritize the action both short- and long-term improvement, understand the need for a PMO, and asses the appropriate level of PMO in organization, project management improvement tracking, and build excellence culture in project management (Crawford, 2015, p. xxii).

PMO is one of special interest in the PM3 Model, because serves as integrator of the project management efforts in the organization. PMO Maturity level assessed in the Project Integration Management, based on the common PMO's responsibilities and integration types expected from PMO which consist of project support, consulting and mentoring, processes and standards, training, project management, and project management software tools. (Crawford, 2015, pp. 23-24).

Table 1: PMO Maturity Level

Source: Summarized from Project Management Maturity Model 3rd Edition (Crawford, 2015)

PMO Integration types	Level 1: Initial Process	Level 2: Structured Process and Standards	Level 3: Organizational Standards and Institutionalized Process	Level 4: Managed Process	Level 5: Optimizing Process
Project Support	Assistance available on scheduling	Assistance on developing scope, issue & change control upon request	Closely monitor issue & change control system, involved in the highly visible projects Assistance in project resources and cost estimating	Responsible in resources database, assignment, levelling and projections. Produce executives dashboard management Reporting consolidator	Help desk available Involved in project closure Full cost tracking, and Earned value calculations Customer satisfaction survey conducted

PMO Integration types	Level 1: Initial Process	Level 2: Structured Process and Standards	Level 3: Organizational Standards and Institutionalized Process	Level 4: Managed Process	Level 5: Optimizing Process
Consulting & Mentoring	Not Available	Provide personnel consulting and mentoring on major project	Work closely on major projects, and assist small project upon request	PMO managing project recovery for troubled project Formal mentoring process	Coaches project managers in the managing of smaller projects within the organization Works closely with project managers and business clients
Processes and Standards	Each project manager manages his or her project in the manner he or she desires	Placed basic process and standard only on large an highly visible project	Provide template and samples for deliverables Closely work with project managers to ascertain best practise Project management methodology documented as references in project management process Regular check of the standard implementation	Operating process standardized Project documentation centralized and actively monitored Benchmarking to improvement	All project management methodologies, processes, templates, and samples are available on an Intranet site maintained by the PMO.
Training	No formalized training is available. Training Guidance for individuals training available upon request.	Basic project management concept training is made available to project managers	Project management essentials training is considered mandatory for project managers and is made available to some project team member	Advanced project management training is mandatory for all project managers tied into career planning as mandatory requirement before a project manager is assigned to manage a project	A full training program is available, usually leading to certification as a Project Management Professional (PMP®), or internal certifications
Project Management	Available to individuals upon request.	A database of all project managers in the organization is maintained	PMO provide generic resources listing Perform resources balancing manually	Performance reviews conducted Accurate resource repository for projections Project manager report to line organization and has dotted line responsibility to PMO Integrating project performance report into consolidated report	Project managers are well integrated into the client organization (although they may report to the PMO) and are considered parts of the client management teams. Resource leveling is done in an automated fashion at the organizational level

PMO Integration types	Level 1: Initial Process	Level 2: Structured Process and Standards	Level 3: Organizational Standards and Institutionalized Process	Level 4: Managed Process	Level 5: Optimizing Process
Project Management Software Tools	No tool commonality in the organization	An accepted project management scheduling tool serves as guideline; however, selection lies with the project managers.	The PMO provides guidance and coordinates the selection and implementation of project management software tools. Project managers in the organization are involved in tool selection	Responsible for deploying PM software tools. The PMO tracks, and records estimated and actual costs	Improvement based on project lesson learned in a regular basis. Provides earned value reporting, as a part of the executive dashboard. The resource repository integrated with the human resources system for the organization. Integrated with the corporate accounting system to aid budgeting and cost reporting. Integrated with procurement system for obtaining actual costs of goods and services

Analysis/Discussion

The expected final result of research is design of Integrated Project Information System as single platform in PMO, using single input and single database, which enabling efficiency in resources utilization. Data can flow directly from project site to Management level and displayed in Project Management Dashboard. By Implementation of integrated performance management system, data accuracy, data completeness and timeliness will be assured because all parties involved in process keep improving their performance. In the end of the day, information provided by system will help informed decision process. These conditions will be assessed in the PM3 to find out the improvement of PMO based on that framework.

Methods

This research using qualitative approach and the methodology of the research is depicted in Figure 3.

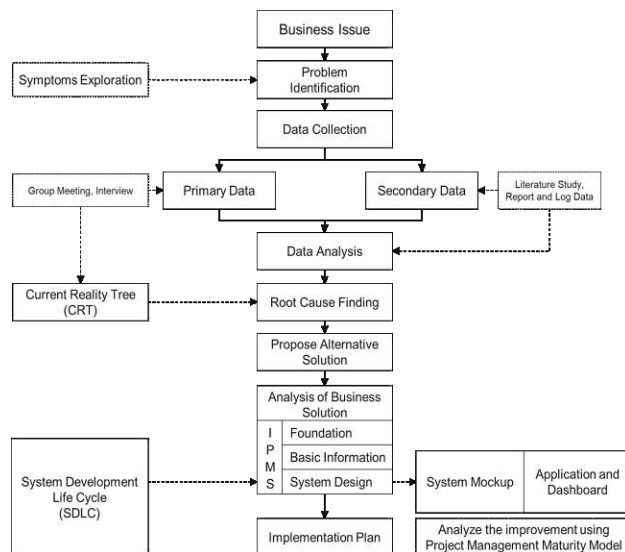


Figure 3: Research Methodology

Based on the several group meetings and interviews, business issue and symptoms are gathered and arranged by following CRT methodology and find that the root cause of problems in PMO is the absence of the appropriate performance management system on the reporting process because in existing condition, only 2 of the 4 basic principle and 5 rules comply with existing system: empowerment because existing system involving all the parties and independent because of the organization structure of PMO supported to happen.

Based on the literature review, IPMS chosen as the most applicable framework in designing performance management system to improve existing project information system. From 5 stage of the design methodology (Figure 2), this research only 3 early stages. The results of the design phase are the strategy implementation, which is derived from vision and mission of the

company, and formulating using TOWS Matrix arranged by researcher and validated by SMEs of PMO (Project Managers, Advisors, and Vice President level). The strategy of PMO based on the Focus Group Discussion are:

1. Develop and upgrade inhouse system, integrated with performance management system, and management dashboard collaborate with ICT Division.
2. PMO system database integration, conformed with company ICT Policy to enabling data communications among system.

As a result of design phase, performance variables and Business Performance Index (BPI) calculation performed in collaboration with PMO's Project Managers in Focus Group Discussion using Analytic Hierarchy Process (AHP) method. Performance variables focus on reporting process, to ensure data accuracy, data completeness and timeliness and as the basis for Gamification points performance for PMO personnel, Contractor Personnel and Project.

Table 2: Performance Points Formulation for Contractor Personnel

Variables	Formulation	Frequency	Target	Points/Scoring	Weight Factor
Timeliness	% Of Report Submission time conform to SLA (accumulative)	Realtime – Per PIC	90%	< 90% = 0 – > 90% = 1	27.3%
Correctness	% Of Approved Report	Realtime – Per PIC	90%	< 90% = 0 – > 90% = 1	47.9%
Completeness	% Of Type and	Realtime	100%	≥ 90% = 1	18.7%

Variables	Formulation	Frequency	Target	Points/Scoring	Weight Factor
	Planned Report				
Number of Report	Number of reports handled.	Realtime – Per PIC		As the weighted factor in Leaderboards (6.1%)	

Table 3: Performance Points Formulation for PMO Personnel

Variables	Formulation	Frequency	Target	Points/Scoring	Weight Factor
Timeliness	% Of Report Review time conform to SLA (accumulative)	Realtime – Per PIC	90%	< 90% = 0 > 90% = 1	33.2%
Correctness	% of Site Co Approval for Report Review	Realtime – Per PIC	90%	≥ 90% = 1 < 90% = 0	52.8%
Number of Report	Number of reports handled.	Realtime – Per PIC		As the weighted factor in Leaderboards (14%)	

Table 4: Performance Points Formulation for Project

Variables	Formulation	Frequency	Points/Scoring	Weight Factor (WF)
Project Schedule Performance	% Of Physical Progress Deviation from Baseline	Monthly	≥ - 5% = -0% WF -15% ≥ % > 5% = -50% WF ≥ - 15% = -100% WF	24.7%
Project Budget Realization Performance	% Of Payment Deviation from Baseline	Monthly	≥ - 5% = -0% WF -15% ≥ % > 5% = -50% WF ≥ - 15% = -100% WF	18.6%
Project Financial Realization Performance	% Of Payment and Deviation from Actual Progress	Monthly	≥ - 5% = -0% WF -15% ≥ % > 5% = -50% WF ≥ - 15% = -100% WF	13.1%

	Number of reviews conform to	- Per PIC	< 90% = 0	
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Variables	Formulation	Frequency	Points/Scoring	Weight Factor (WF)
Report Timeliness	% Of Report Review time conform to SLA	Monthly	< 90% = 0 -100% WF	13.8%
			≥ 90% = 1 -0%WF	
Report Correctness	% Of Approved Report	Monthly	< 90% = 0 -100% WF	21.7%
			≥ 90% = 1 -0%WF	
Report Completeness	% Of Type and Number of reviews conform to Planned Report	Monthly	< 90% = 0 -100% WF	8.1%
			≥ 90% = 1 -0%WF	

For the implementation of the information system, will be developed by following SDLC. As part of the design, dashboard mockup prepared, and example of the mockup depicted below:



Figure 5: Example of Dashboards Mockup

To verify the improvement of the Information System can contribute to overall PMO improvement, matrix assessment from Table 1 will be used. Not all aspect of the PMO Integration type in Table 1 will directly impacted by the improvement of system information. Before proceeding to PMO assessment, existing and improved system must be compared as the basis of PMO assessment improvement as follow:

Table 5: Comparison of Existing and Improved Project Information System

Description	Existing Project Information System	Improved Project Information System
Standardization of report form	Partial	All templates, and samples are available on an Information System
Project Team Performance Measurement	N/A	Yes, using points and leader board and integrated in Consolidating Report
Integration with Enterprise Application	N/A	Yes, with accounting and payment application
Benchmarking capabilities	N/A	Yes, capable to perform benchmarking among project
Resources Listing	N/A	Yes, Resource workload module available and can be used as basis for manual resources balancing
Development	Based on input form project manager	Based on input in ticketing module
Project Management Dashboard	Manual, provide earn value calculation	Real time dashboard, provide cost tracking and earn value reporting

Based on the Table above, the contribution of the Improvement of Project Information System mapped to PMO Maturity Level Matrix in Table as follow:

Table 6: Mapping PMIS Improvement to PMO Maturity Level.

PMO Integration types	Level 1: Initial Process	Level 2: Structured Process and Standards	Level 3: Organizational Standards and Institutionalized Process	Level 4: Managed Process	Level 5: Optimizing Process
Project Support → Contribution on Improvement					
Existing System				N/A	N/A
Improved System				Produce executives dashboard management Reporting consolidator integrated with performance management.	Full cost tracking, and Automated Earned value calculations
Consulting & Mentoring → No contribution on this aspect					
Existing System	N/A	N/A	N/A	N/A	N/A
Improved System	N/A	N/A	N/A	N/A	N/A
Processes and Standards → Contribution on Improvement					
Existing System	N/A	N/A	Provide template and samples for deliverables	N/A	N/A

PMO Integration types	Level 1: Initial Process	Level 2: Structured Process and Standards	Level 3: Organizational Standards and Institutionalized Process	Level 4: Managed Process	Level 5: Optimizing Process
Improved System				Capable to perform benchmarking among project	All templates, and samples are available on an Information System
Training → No contribution on this aspect					
Existing System	N/A	N/A	N/A	N/A	N/A
Improved System	N/A	N/A	N/A	N/A	N/A
Project Management → Contribution on Improvement					
Existing System			N/A		
Improved System			Resource workload module available and can be used as basis for manual resources balancing		
Project Management Software Tools →					
Existing System			Based on input form project manager		
Improved System					Tools are improved based on project lesson learned in a regular basis And integrated with accounting and payment application.

Conclusion

Ineffective existing project information system caused by many factors, which need to be analyzed because what appear in the surface are symptoms. After conducting the research, it's found that the root cause of the ineffective existing system is the absence of the appropriate performance management system.

To design a proper system to improve existing system, performed by following IPMS framework and implementing 4 principle and 5 rules as the foundation of the concept PMIS. For the system development itself, to ensure

the development will be logically ordered and structured, development follows System Development Life Cycle. And for the human factor, Gamification element applied to improve the user engagement. It can be inferred that, to design a proper system, utilization of the multiple frameworks that relate to the root causes is needed to ensure that every aspect can be resolved. This process, same with the finding of root causes, need involvement from the stakeholder and must be following guidance from management.

The impact of the improvement of PMIS using IPMS based on the mapping of improvement in the PM3 matrix, demonstrate the contribution to the overall PMO Improvement in 4 (four) types of integration activities in Project Management Integration, from maximal in Level 3: Organizational Standards and Institutionalized Process into minimal Level 4: Managed Process.

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Entrepreneurial Fear of Failure in Incubated and non-Incubated Startups during Crises

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Abstract

COVID-19 pandemic can be seen as a part of crises and extreme events that may affect entrepreneurial activities. To some extent, fear and anxiety may reduce entrepreneurship, but this remains unclear as opportunity driven entrepreneurs may benefit from high uncertainty during crises. For this reason, we use entrepreneurial fear of failure (e.g. financial security, threat to social esteem, ability to execute business ideas) to capture the essence of entrepreneurship during this pandemic. The objective of the present study is to examine entrepreneurial fear of failure during COVID-19 in a particular phase in entrepreneurship journey: start-ups. They are designed to pursue business growth and innovation, but they may need some assistance such as from business incubators since most start-ups tend to fail especially during the crises. The present study used a qualitative approach. We used phone interviews of ten interviewees from incubated start-ups and ten interviewees from non-incubated start-ups in West Sumatra, Indonesia. The present study focuses on how they perceived and experienced fear of failure during the pandemic. More specifically, we want to investigate whether there are similarities and differences between these two groups in dealing with fear of failure. The data were analysed by using thematic analysis which was assisted by NVIVO 12. There are some important findings, for example, our incubated interviewees were seemingly motivated by fear, while non-incubated tended to respond to fear as repression. Interestingly, in terms of the dimensions of entrepreneurial fear of failure, there were no significant differences between both groups. It is important for stakeholders including policymakers to consider fear of failure as psychological aspect that has an effect on start-ups as business incubators perhaps have neglected this issue. For example, business incubators may need to balance between short term and long term objectives from the perspective of a startup company. Overall, while the findings of this paper are not designed to be generalisable, this paper contributes to the literature with empirical results that sees the fear of failure capturing the essence of entrepreneurial behaviour during crises/pandemics in the context of business start-ups, and they may need support system and particular approaches in dealing with difficult moments even if some of them have already been assisted by business incubators.

Keywords

Entrepreneurial fear of failure, Startups, Business incubators, Incubated startups, Non-incubated startups

Introduction

While COVID-19 pandemic arguably has changed entrepreneurial behavior in many ways, startups may have been dealing with greater challenges. They have intentionally entered the business world to establish high-growth businesses, but they are also prone to failure. The people behind them are relatively technology savvy, open to changes, but they may also have limited market knowledge and commercialisation strategies (Picken, 2017). Startups are in the cross-road between expectation to grow and high uncertain period that can lead to business failure. Pandemic crises may have exacerbated the situation which will be regarded as a moment of truth for startups whether they see fear of failure as a new norm that can motivate or constant threat that inhibit business growth.

Entrepreneurial fear of failure can capture the essence of entrepreneurial journey (Cacciotti et al., 2020). This includes negative effects that may be interpreted differently by entrepreneurs or startups. Morgan and Sisak (2018) identify that entrepreneurs who are seeking business opportunities and encourage business innovation (opportunity based entrepreneurs) may see fear of failure as motivating. In contrast, those who are reluctant to innovate or have short term perspective may see fear of failure as demotivating and inhibiting. Some question emerged such as how startups perceive and experience fear of failure during pandemic crises? And what are their responses as a result of the fear?

What could be done to benefit from fear of failure?

We argue that business incubator for startups can significantly assist them to survive difficulties during crises. This is because business incubators are designed to strengthen all aspects in business startups. More specifically, incubation can reduce business failure because it will enhance their capabilities to innovate and get seed funding or investment that ensures their continuity (Bøllingtoft and Ulhøi, 2005). On the other hand, these incubated startups can be frustrating since their business strategies cannot be implemented and their position as incubate may have burdened them to perform much better compared to those who are not. Therefore, our research question is as follows:

RQ1: Are there any difference and similarities between non-incubated and incubated startups in this study in terms of the dimensions of entrepreneurial fear of failure and their behavioral responses (i.e. inhibition, motivation, repression)?

Literature reviews have indicated that startups that have particular characteristic will see fear of failure as motivating. In addition, some financial related fear of failure such as financial security and ability to fund the venture will be a dominant source of fear of failure. Additionally, fear of failure can come from various sources such as threat to social esteem and personal ability. Some dimensions of fear of failure are more relevant to particular context, for example threat to social esteem may be

more influential in a highly collectivist cultures.

The present study will contribute to current knowledge threefold. First, this study enhances our understanding about dominant sources of fear of failure and their consequences to startups during pandemic crises by using recent measurement from Cacciotti et al. (2020). Most of the literatures simply see fear of failure as a whole, not specifically analyze the sources of the fear. Second, the present study will compare both incubated startups and non-incubated startups in order to answer the question whether there are any similarities and differences between these two groups. Lastly, the present study may come up with new source(s) of fear of failure among these startups. In the end of discussion session, we will offer a few prepositions that can be used for future research in this research topic.

The context of this study is incubated and non-incubated startups in West Sumatra, Indonesia. This is a province in which most of the Minangkabau ethnic group lived. The Minangkabau has been regarded as a source of entrepreneurs in Indonesia. They are mainly supported by entrepreneurship cultures and networks. However, there is limited research regarding startups that are mainly based on technology, business innovation, and customer satisfaction. In a broader sense, the present study can hint on the readiness of this traditional source of entrepreneurship in having a new type of entrepreneurship.

Literature review

This section has two parts. Firstly, we examine the concept of entrepreneurial fear of failure including its dimensions. Secondly, we examine the roles of business incubators and how they can reduce the negative impacts of fear of failure.

Entrepreneurial fear of failure

Recent research by Cacciotti et al. (2020) defines entrepreneurial fear of failure as –a negative affective reaction based in cognitive appraisals of the potential for failure in the uncertain and ambiguous context of entrepreneurship|| (Cacciotti et al., 2020, p.1). For this reason, the concept of fear of failure can capture behavioral responses from entrepreneurship during crises. Furthermore, fear of failure may reduce entrepreneurship (Cacciotti et al., 2016), but entrepreneurs may also see fear of failure as a way to prepare themselves for anticipating business failure in the future (Chua and Bedford, 2016). This is the case especially in opportunity-based entrepreneurs (Morgan and Sisak, 2016).

Cacciotti et al. (2016) have found several dimensions of fear of failure from their qualitative study. Further, Cacciotti et al. (2020) have validated these sources of fear of failure:

1. Ability to fund the venture. This includes fear of not being able to move the company forward and being unable to finance the business.

2. Potential of the idea. This includes fear of not being able to have valuable business ideas that are appreciated by consumers, and being unable to have interesting products according to consumers.
3. Threat to social esteem. This includes fear of not being able to meet other people's expectation including those who are important to oneself.
4. Opportunity costs. This includes fear of not having time to experience important activities outside business including family time.
5. Personal ability. This includes fear of not being able to manage the business and employees effectively, and not being able to fulfill the role required in the business.
6. Financial security. This includes fear of running out money, savings, and investment in the business.

Cacciotti et al. (2016) have also identified behavioral responses of fear of failure as follows:

1. Motivation. This is a behavioral response that sees fear of failure

as an impetus to work harder in

order to get better results in the future.

2. Inhibition. This is a behavioral response signifying the decrease or cessation of opportunity pursuit behavior and the inclination for inaction over action
3. Repression. This involves actions

actions taken as if the fear does not exist.

Business incubator and startup

The main purpose of a business incubator is to strengthen business startups in order to solve problems that lead to business failures (Bøllingtoft and Uthøi, 2005). Furthermore, business incubators provide some basic services, for example, office renting, co-working spaces, training, and networking (Baraldi and Havenvid, 2016). Additionally, Lai and Lin (2015) and Games et al. (2020) found that tenants tended to seek business incubators that assist them in terms of business strategies and their implementation, such as business plan formulation, strategies, and organisational institutionalisation. This means that business incubators are expected to be involved in the level of business strategies as tenants may have difficulties in this regard as they may also perceive this is the most important part of their progress as new ventures. In a broader sense, startups as tenants may not have many privileges as they have not much time to reach their objectives, for example, to scale up their businesses. Additionally, they understandably do not

have abundant resources, particularly in

that are entirely not linked to the opportunity, idea, or venture and

human resources and financial resources availability (Bosch et al., 2013). Furthermore, as suggested by Picken (2017), in startups typically the commitment of time is limited. As a result, they need external assistance from particular business incubators to ensure that they can enter the next level of entrepreneurial innovation process.

Methods

The present study uses qualitative approach by interviewing 20 startups (10 incubated interviewees, 10 non incubated interviewees) in West Sumatra, Indonesia. Incubated interviewees are those who have graduated from a business incubator or are at least in the process of being graduated from Business Incubator Universitas Andalas in West Sumatra (see table 1 for interviewee's profile). All of them have been conducting their business for no more than five years and are aged below 40 yo. Some questions have been identified to answer the research question as follows:

1. Have you experienced fear of failure? Since when?
2. What is your biggest fear during this pandemic?
3. Could you elaborate further on how you respond or anticipate fear of failure?
4. How does incubator help you overcome the fear of failure? (for incubated interviewees)
5. What can you or those outside your startups do to reduce fear of failure?

Table 1: Interviewees' Personal Characteristics

No	Name	Age (yo)	Product	Business experience	Duration of incubation (yr)
1	Dedi	34	Fried onion	1 year	0.5
2	Nia	27	Muslimah fashion	0.5	0.5
3	Eko	30	Waste management	6 months	0.5
4	Riangga	26	Essential oils	2 years	1
5	Yenti	38	Herbs medicine	3 years	1
6	Teguh	24	e-commerce in agribusiness	2 years	2
7	Susanto	28	Coconut tree related products	3 years	1
8	Rahmawati	23	Coffee powder	2 years	0.5
9	Nanda	21	Traditional snacks	8 months	0.5
10	Nasir	26	Honey products	2 years	-
11	Hafiz	22	Black Garlic	2 years	-
12	Rifka	22	Make-up artist	6 months	-

13	Nina	21	Hat craft	8 months	-
14	Ahdi	22	Nuggets	8 months	-
15	Rizki	24	Exporting natural resources	2 years	-
16	Rinto	23	Oyster mushroom	2 years	-
17	Amini	22	Calligrapher	1 year	-
18	Yudelia	22	Face mask	5 months	-
19	Habib	22	Gift box	5 months	-
20	Al-Qadri	22	Fashion	3 years	-

In order to analyse the data, we use thematic analysis. We follow the steps of doing thematic analysis in fear of failure by Cacciotti et al. (2016). We analyze the data from interviewees, read the data as a whole, and classify them into two groups: incubated and non-incubated interviewees. After that, we put the data based on 6 dimensions of fear of failure and 3 behavioral responses, and do the comparisons between these two groups of interviewees. Nvivo software helps us in analyzing the data and visualising the results.

Analysis/Discussion

Sources of fear of failure

We use thematic analysis which is based on dimensions of fear of failure and behavioral responses (see Appendix A). Overall, we have found from both incubated and non-incubated

interviewees that they mostly have some common sources of fear of failure (see table 2 for similarities and differences between these two groups). These are ability to fund the venture, potential of the idea, and personal ability. This means that most of the interviewees expressed that their biggest fears are in terms of management capabilities during crises and business continuity especially funding issues. However, it seems that financial related issues have not been regarded as the biggest fear. Rather, they see potential of the idea and personal ability as more important. This is not in line with studies by Liu et al. (2021) and Jenkins and McKelvie's (2016) that emphasised the importance of financial aspects in fear of failure. This is partly because our interviewees generally have realized the consequences of being start-up owners for which they have made financial sacrifices to survive. Interestingly, one interviewee from incubated group (Yenti, female, 38 yo) mentioned one additional source of fear of failure: threat to social esteem. She said: -there is a pressure to be successful entrepreneurs sooner rather than later. Families and parent

questioned me: with better education, why should you become a trader? No need education for that||. She admits that this is partly because she comes from needy family, therefore immediate acquisition of income after graduating from university is expected.

Business incubator impact

Regarding the roles of business incubators in reducing negative effects of fear of failure, we found that most of

the incubated interviewees did not see significant effects of the business incubators especially in terms of personal ability and potential of the idea. This means that they were not too sure that they have interesting business ideas that will attract market demand and they were afraid of being not able to manage their business effectively during pandemic crises. Simultaneously, they perceived that business incubators help them in reducing fear from financial related issues. Again, this has confirmed that these have become the least threatening source of fear of failure for the incubated interviewees.

As one interviewee said (Nanda, male, 21 yo): -we were provided seed capital even though it is small amount of money. Our incubator also has a business matching program that helps us meet investors||. In brief, while they appreciate the support from their incubator, they focus on other sources of fear (potential of the idea and personal ability) that are perceived to be highly important to survive difficulties during and post pandemic. In short, we can safely say that for incubated interviewees, organising business effectively and having interesting products or business ideas according to consumers are more important than financial related issues. This is in line with Games et al. (2020) and Lai and Lin's (2015) suggestion that it is important for business incubators to focus on business strategies or maximizing business opportunities including formulating and exploring target market. This will increase the business confidence

and reduce negative effects of fear and anxiety.

Behavioral responses

In terms of behavioral responses, it seems that our groups of interviewees have interpreted consequences of fear of failure differently. For a majority of incubated interviewees (7 interviewees), they seemingly selected motivation as their response. For example, all of the interviewees who perceived opportunity costs and threat to social esteem as relevant dimensions of fear of failure for themselves, see these as completely motivating them to do better in which they focus on solutions rather than problems. As stated by Susanto (male, 28 yo, incubated interviewee): -I do not expect doing business to be easy. We need sacrifices. I am still learning. I am simply lucky that my wife supports me from the beginning||. As suggested by Cacciotti et al. (2016), motivation will lead to work harder, and this may benefit them to strategically manage their business organisations.

Interestingly, some interviewees (4 persons: 3 incubated and 1 non-incubated) indicated that they also select repression as their responses in particular in dealing with personal ability. It seems that they were afraid of not being able to manage their business effectively including their human resources during this pandemic, but they choose to ignore this issue. They were seemingly avoiding risk taking. As stated by Eko (30 yo): -personally, I want to have more aggressive marketing campaign during this pandemic. This is

our chance to shine. But, this is too risky according to my partners and employees. I cannot force my ideas, so this is OK like this||. By further elaborating this issue, we found that some interviewees (4 persons) indicated their fear that they cannot have reliable human resources that are capable of adapting new technologies required by new situation during and post pandemic crises. Eko said it best: —I am afraid that I lose my best employees. I am afraid we cannot adapt to new demands as a result of this pandemic. It is difficult to find new capable employees||. We think that this can become a new source of fear of failure as startups to some extent need stable organisation and they may have difficulties in adapting new technologies as well as retaining and recruiting capable human resources.

For non-incubated interviewees (see Appendix B), a majority of them (5 interviewees) indicated their preference for repression response. They clearly stated that they overall have no fear, but after further elaboration, we can conclude that they tended to procrastinate or doing something unrelated to the core of their problems. Habib (22 yo) said that while he knows that this pandemic has caused significant changes including consumer preferences and lifestyles, he think —it will not change our situation that much. We simply do what we can do as well as before. We also have limited budget||. It is worth noting that some of the non-incubated interviewees are students, therefore they may have been implementing -go with the flow|| approach in running their

businesses compared to their counterparts in incubated startups.

Based on our findings, we offer four prepositions as follows:

P1. Potential of the idea and personal ability have become important sources of fear of failure during crises as they represent market responses and effective management in doing business.

P2. Incubated startups are more likely to select motivation as their response to fear of failure, while non-incubator startups tend to choose repression. This is mainly because the latter is implementing -go with the flow|| approach.

P3. Business incubators have not been able to reduce overall fear of failure. They may offer some certainty in financial related issues, but in the present study, they seemingly failed to provide assistance in more important issues for the interviewees: fulfilling new market demands and managing business effectively during crises.

P4. Technological adaptation and human resource capabilities are additional sources of fear failure for startups during crises. The COVID-19 pandemic has caused significant changes especially in market and technological changes that require technological adaptation and human resources who are capable of doing so.

Table 2: Similarities and differences

	Incubated interviewees	Non-incubated interviewees
Similarities	Personal ability, potential of the idea, and ability to fund the venture have become the main sources of fear of failure	
Differences	A majority of the interviewees have selected motivation as their response to dimensions of fear of failure	A majority of the interviewees select repression
	The least dominant sources of fear of failure are financial security and ability to fund the venture	The least dominant sources of fear of failure are financial security and threat to social esteem

Conclusion

While a qualitative approach provides a great amount of data, it can have limited generalisability. The present study was not designed to have generalisable findings, but we can see some patterns from our thematic analysis that is based on the dimensions of entrepreneurial fear of

failure (Cacciotti et al., 2020) and their behavioral responses (Cacciotti et al., 2016). First, there is no difference between incubated and non-incubated interviewees regarding their sources fear of failure (ability to fund the venture, potential of the idea, and personalability). Second, financial-related fear of failure dimensions have not become dominant sources of fear of failure. Third, business incubators may have reduced fear of failure among incubated interviewees in terms of financial issues, but they were rather afraid of a new type of market demands (potential of the idea) and their capability to manage organisations (personal ability). Lastly, we have found a new source of entrepreneurial fear of failure among our start-up interviewees during this pandemic: technological adaptation and human resources capability.

In a broader sense, we can witness entrepreneurship challenges in the context of a source of entrepreneurship in Indonesia. Gradually shifting from cultural or traditional entrepreneurship to technology based entrepreneurship during crises is a hard task. Business incubator can bridge the gap by focusing on marketing aspects, technological adaptation, and effective business organisation. We can also see the importance of psychological aspects during early stages of business activities. Policymakers and business incubator managers typically may not take this into consideration as they pay more attention to financial or infrastructure related issues. This is a moment for policymakers to renew their assessments and evaluations

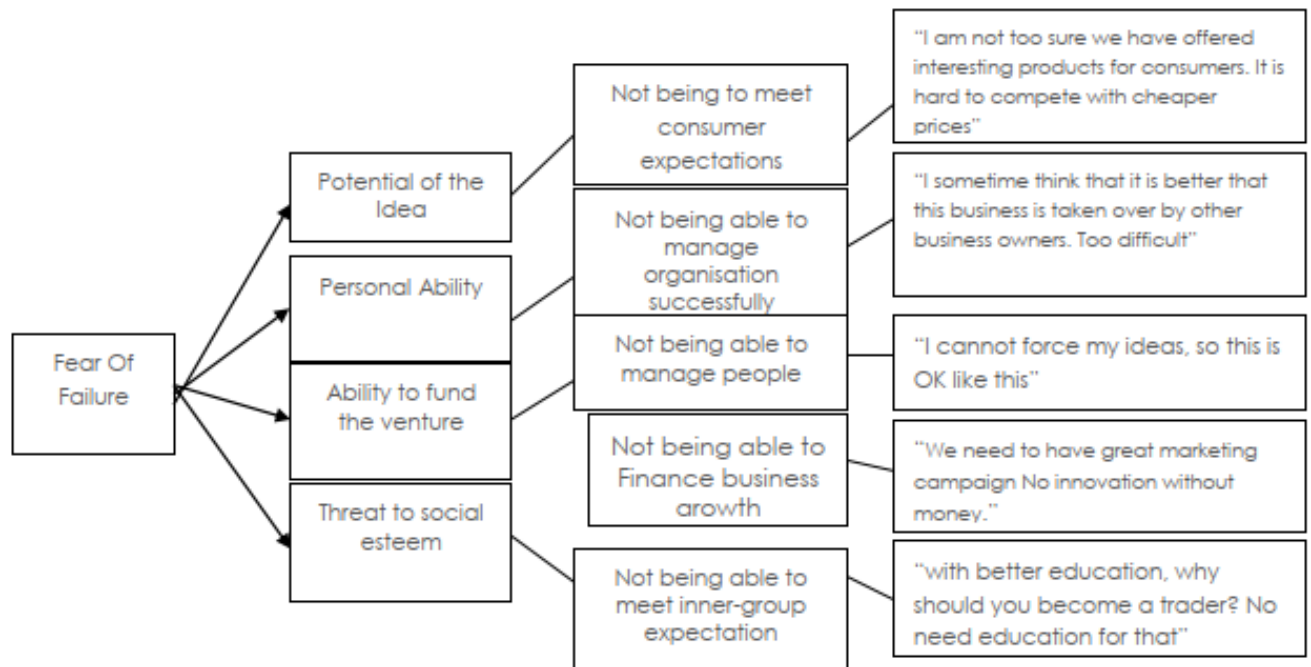
to startup either in incubation process or not. They should focus heavily on psychological aspects such as fear of failure that is strongly linked to commercialisation strategies including fulfilling new market demands that require new business approaches including technological adaptation. Future research can use our prepositions as basis for their studies and they may also use qualitative approach that examines the relationship between business incubator effectiveness and entrepreneurial fear of failure in startup phase and beyond.

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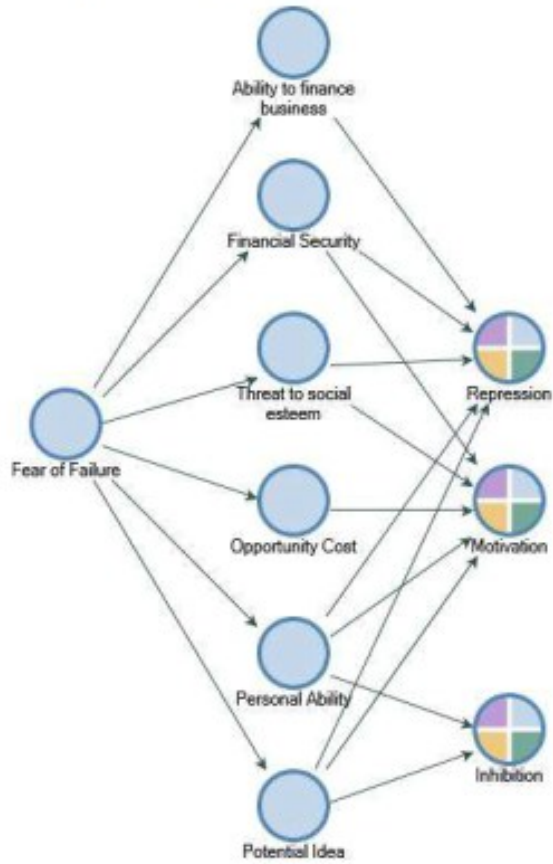
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Appendix A

Thematic analysis in this study (for incubated interviewees)



Appendix B Behavioral responses for non-incubated interviewees



The Impact of Macroprudential Policy Instrument Minimum Statutory Reserve, MIR, and Capital Buffer to Bank Credit Growth in Indonesia

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Abstract

The Indonesian economy experienced a deep contraction in 2020 due to the COVID-19 pandemic. The economic growth rate took a sharp dip at -5.32% in the first quarter based on data from BPS. One of the impacts is the decline in credit growth in the banking sector, which grew only 0.12% per August. The government is trying to control the rate of credit growth by introducing policies in the monetary sector, namely a change in the statutory reserve requirement (GWM) from 8% to 4% in order to maintain banking liquidity. The purpose of this study was to analyze the effect of the statutory reserve requirement, Macroprudential Intermediation Ratio (MIR), and capital buffer on the growth of commercial bank credit in Indonesia 2019-2020. The data used is monthly data from the Indonesian Banking Statistics on the website of the Financial Services Authority. The statistical method used in this study is the multiple linear regression method with E-Views SV.11 software to perform the three hypothesis tests. The results of the study partially show that the reserve requirement has a negative and insignificant effect on commercial bank credit growth. MIR and capital buffer have a significant effect, but MIR has a negative effect and capital buffer has a positive influence on commercial bank credit growth.

Keywords

Statutory Minimum Reserve, MIR, Capital Buffer, Bank Credit Growth

Introduction

The global financial crisis in 2008 was one of the causes of the birth of macroprudential policies in Indonesia. At that time there was an imbalance in the financial sector with the production sector due to the monopolistic practice of economic resources by corporations large and developed countries against poor countries. Capital for development is only owned by a group of large corporations and certain countries, while poor countries must how to borrow to get development funds with the obligation to carry out all developed country requirements. This condition, causes many people to lose economic resources due to the economic structure that legitimizes monopolistic practices. Unjust economic domination creates an acute poverty structure, which in turn ultimately reduces the purchasing power of the people.

The absence of purchasing power means the absence of a market that makes the financial sector grow disproportionately to the production sector. The production sector is not profitable which is large because the purchasing power of consumers does not exist. As the financial sector continues to grow while the production sector stagnates, occurs *finance bubble*. which at any time can explode and cause a crisis.

In Indonesia, the term macroprudential has been implicitly used since early 2000 in response to the 1997/1998 financial crisis, which was marked by the preparation of the Indonesian financial system stability framework and the establishment of the Financial System Stability Bureau (BSSK) at Bank Indonesia. (KSK 34 TAHUN 2019 Bank Indonesia, 2020) Based on this framework, Bank Indonesia seeks to maintain the stability of the Indonesian financial system through two approaches, namely microprudential and macroprudential (Wimanda et al., 2012) This shows that since the early 2000s, Bank Indonesia has attempted to examine macroprudential aspects in maintaining financial system stability. The role of Bank Indonesia in the macroprudential sector is stated in the Republic of Indonesia Law No. 21 of 2011 dated 22 November 2011 concerning the Financial Services Authority (OJK), in line with the shift of the function of bank regulation and supervision (microprudential) to the Financial Services Authority. Ultimately, the objective of this macroprudential policy is to minimize the

occurrence of systemic risk in the financial system.

In the implementation of macroprudential policies to maintain financial system stability through the banking sector in Indonesia with the instruments applied. The determination aimed at the credit growth of conventional commercial banks is expected to maintain the stability of the financial system as a whole. As happened in 2020, the presence of covid-19 in almost all countries resulted in quite pronounced economic turmoil due to a decline in the economic growth of up to -5.32% in the second quarter and still growing negative -3.49% in the third quarter. This indirectly has an impact on the stability of the Indonesian financial system, which shows increased vigilance. Based on data from the Assessment Results of the Financial System Stability Committee in the second quarter of 2020, financial system stability in the second quarter of 2020 is in normal condition, although vigilance is still being increased. Various indicators show that financial system stability remains good, although the still high spread of Corona Virus Disease 2019 (Covid-19) demands increased vigilance and prudence because it could affect the economic outlook and financial system stability. To that end, policy coordination within the Financial System Stability Committee (KSSK) will continue to be strengthened to promote economic recovery and maintain financial system stability. (Herlianto, 2020)

The banking credit sector is one of the sectors experiencing a contraction in the cycle financial system. Since the monetary crisis in 1998, 2020 has become a dark history of repeating negative growth in banking credit. In September 2020, nominal bank lending was Rp 5,529.4 trillion, growing negative 0.4% YoY. The decline in credit rates occurred in line with the slowdown in credit to corporate and individual debtors.

This drastic decline in credit rates was caused by a slowdown in credit to corporate and individual debtors. Credit disbursement to corporations recorded a growth of 0.7% YoY in August to a negative 0.7% YoY growth in September. Likewise, lending to individual debtors experienced a slowdown from 1% YoY to 0.7% YoY. Based on the type of credit, all loans, whether working capital loans, investment loans, and consumption loans, all experienced a slowdown. (OJK, 2020)

As a response to overcoming the pandemic, on March 16, 2020, Bank Indonesia issued a new rule regarding the determination of the Statutory Reserves balance that must be complied with by banks in order to maintain liquidity and bank defense that is experiencing economic growth shocks. The statutory reserve requirement, which was originally at 8%, was reduced to 4% in detail in the PADG No.22/2/PADG/2020 concerning the Fourth Amendment to the PADG Number 20/10/PADG/2018 concerning the Statutory Reserves in Rupiah and Foreign Exchange. for Conventional Commercial Banks (BUK), Sharia Commercial Banks (BUS), and Sharia Business Units (UUS).

Macroprudential policy as part of a policy tool capable of determining the direction of future financial system stability needs to be studied in depth how it affects the financial system during this pandemic. Thus, from the explanation of the problems that become the background of this research, the author takes the title *The Effect of Macroprudential Policy Instruments in Minimum Statutory Reserves (GWM), Macroprudential Intermediation Ratio (RIM), and Capital Buffers on Credit Growth for Commercial Banks in Indonesia.*

Literature Review

As the monetary authority in Indonesia, BI defines macroprudential policy as a policy aimed at maintaining the resilience of the financial sector as a whole so that it is able to overcome systemic risks due to the failure of financial institutions or markets that have the impact of causing a crisis that harms the economy (Bank Indonesia, 2012). In (Borio, 2003) it is stated that macroprudential policy has an intermediate goal and an ultimate goal. The main objective of macroprudential policy is to monitor and evaluate the financial system as a whole and the ultimate goal of macroprudential policy is to reduce crisis costs. (Tomuleasa, 2015) states that the role of macroprudential policy in mitigating systemic risk consists of three things, namely (i) preventing potential financial imbalances; (ii) strengthen the resilience of financial institutions due to economic shocks; and (iii) identify and address common

exposures, risk concentrations, linkages, and dependencies between financial institutions that have the potential to transmit risks to the financial system as a whole.

According to several relevant studies on macroprudential policy, (Lee et al., 2015) Examining the effectiveness of macroprudential policies in 10 developing Asian countries through empirical analysis on three aspects, namely leverage growth, and house price inflation. The results found that macroprudential policies can promote financial stability in Asia and are effective against various types of macroeconomic risks. For example, credit-related macroprudential policies hinder credit growth in India and can effectively dampen credit expansion.

In line with (Aziz, 2017) that uses the variable capital buffer and minimum statutory reserve for the period 2011 Q1-2016 Q4 from statistical data on Indonesian banking at the Financial Services Authority and the results are found that Macroprudential Instrumen Policy Minimum Statutory Reserve has an effect on bank credit due to the trend of slow credit growth in keeping with the falling GDP. Meanwhile, the capital buffer is able to influence the increase in credit growth of commercial banks. Thus, it can be analyzed that the conclusion is that the Statutory Reserves plus the LDR affects the rate of credit growth in line with economic conditions as reflected in the slowing down of GDP. However, capital buffer is able to have a significant positive effect on credit growth in the banking sector based on its business classification.

The results of this study are not in line with the findings from (Gómez et al., 2020) which is stated on the research working papers no. 634 IMF (International Monetary Fund) that examines the impact of macroprudential policies on credit growth in Colombia. The data used are bank data in Colombia in 2016-2019 using the panel data model. The results indicate that the reserve requirement and capital buffer have a negative effect on credit growth and this effect varies according to the specific

characteristics of the bank.

Methods

This study uses quantitative research methods, with a descriptive approach. The descriptive method is used to determine the value of variables independently, either one or more variables, without making comparisons or connecting one variable to another (Sugiyono, 2014). The data analysis technique used is panel data regression and processed by E-Views SV 11.

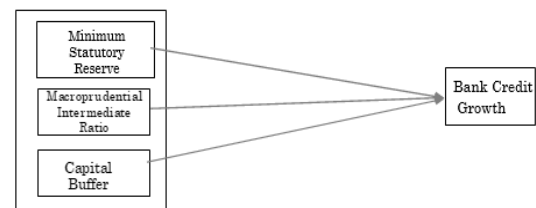
This study has three variables that become the object of research where credit growth is the dependent variable (Y). While the independent variables are the number of Statutory Reserves (X₁), Macroprudential Intermediation Ratio (X₂), and Capital Buffer Policy (X₃). The data used in this study is secondary data. Each variable uses monthly data with a time 2 years, from 2019 to 2020. The scope of this research is to examine the effect of the minimum statutory reserve requirement, macroprudential intermediation ratio, and capital buffer on bank credit growth. common in Indonesia. The commercial banks studied were classified as BUKU 1, BUKU 2, BUKU 3, and BUKU 4.

The data used comes from the Financial Services Authority/Otoritas Jasa Keuangan (OJK) in the Indonesian Banking Statistics (SPI) report which is published monthly and can be accessed through the website <https://www.ojk.go.id/default.aspx>

The analysis used in this study is an analytical technique multiple linear regression. Gujarati in (Abdullah, 2015) define regression analysis is an analysis related to the dependence of one variable (the dependent variable) on another variable (the independent variable) with the aim of estimating and or predicting the arithmetic mean (mean) or average (population) variable. not independent, in terms of known or fixed values. This study uses panel data regression analysis. Panel data is a data set containing individual sample data (households, companies, districts/cities and so on) over a certain period of time (Ekananda, 2014).

Panel data regression analysis begins with determining the best estimation model to be used. This can be done through a series of tests. Then this analysis will detect the symptoms of classical assumptions to find out the estimation model that has been selected can be the best estimator or not. Classical assumption test is done with conducted several tests, namely normality test, heteroscedasticity test, and multicollinearity test. The last step is to test the hypothesis. Hypothesis testing was carried out using the t test and F test. Then the last was the coefficient of determination analysis (R to find out how much the independent variable was able to explain the dependent variable

The following is the constellation of variables in this study :



Description :

- X1 = Minimum Statutory Reserve
- X2 = Macroprudential Intermediate Ratio
- X3 = Capital Buffer
- Y = Bank Credit Growth
- = Direction



Results and Discussion

The data analysis used in this study is panel data estimation. Panel data regression is a combination of cross section data and time series data. The following is the estimation equation model in this study:

$$CG_{it} = \alpha + \beta_1 GWM_{it} + \beta_2 MIR_{it} + \beta_3 CB_{it} + e_{it}$$

Keterangan :

CG = Credit Growth (Billion Rupiah)

GWM = Minimum Statutory Reserve

(Billion Rupiah)

MIR = Macroprudential Intermediate Ratio
(Percentage)

CB = Capital Buffer (Billion Rupiah)

e = error

Before performing panel data regression, the best model is selected to be used to estimate the panel data. The selection of the best model must go through several tests that are often used, namely the Chow test which is used to choose between the Common Effect Model or Fixed Effect Model and the Hausman test which is used to choose between the Fixed Effect Model or the Random Effect Model while the LM test is used to choose between Common Effect Model or Random Effect Model. The following are the results of the panel data regression selection that has been done:

Table 1. Chow Test Results

Probability	Test Indicator	Results	Description
0.000	Obs. F < alpha (0,05)	rejected	Fixed Effect Model selected

Source: Processed results of eviews SV 11

Based on Table 1., the results of the chow test in this study indicate that the probability value of F of 0.0000 is smaller than the significance of 0.05 so that H_0 is rejected and H_a is accepted. So in this study the FEM estimation model is better than the CEM model. After knowing that FEM is better than CEM, then the Hausman test is carried out.

Table 2. Hausman Test Results

χ^2 Probability	Test Indicator	Result	Description
0,0000	Obs. χ^2 < alpha (0,05)	rejected	Fixed Effect Model selected

Source: Processed results of eviews SV 11

Based on Table 2, the Hausman test results in this study indicate that the value of Prob. χ^2 is 0.0000 which is smaller than 0.05 so that H_0 is rejected and H_a is accepted. So in this study the better estimation model used is FEM than REM. Based on the results of the Chow test and Hausman test, the best method used in this study is FEM. So there is no need to do the Lagrange Multiplier test.

The next step, after selecting the best estimator model to get a regression that really has accuracy in estimation, requires a classical assumption test. Testing on classical assumptions aims to determine whether the regression model is feasible or not if it is used to make an assessment. A model is said to be feasible if it is BLUE (Best Linear Unbiased Estimator) that is, it fulfills the classical assumptions or avoids the problems of multicollinearity, autocorrelation, and heteroscedasticity. To get results that meet these characteristics, classical assumption tests are carried out which include normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. However, in panel data analysis, the autocorrelation test is not mandatory because the autocorrelation test only occurs in time series data.

After the data meets the criteria for the classic assumption test results, the data is processed to determine the multiple regression equation based on the fixed effect model so that it displays the following results:

Table 3. Regression Estimation Equation

Dependent Variable: CG (Credit Growth)		
Variable	Coefficient	Prob.
C	8.454695	0,0000
GWM	-0.058992	*0,0590
MIR	-3.329842	*0,0000
Capital Buffer	0.879493	*0,0000
R-squared	0.968182	
Adjusted R-squared	0.966036	

F-statistic	451.3530	
Prob(F-statistic)	0,0000	
Obs	96	

Source : *Processed by Eviews SV 11*

Based on the table. 1 result regression equation to model the growth of bank credit growth as follows:

$$\text{LogCG}_{it} = 8.454695 - 0.058992\text{GWM} - 3.329842\text{MIR} + 0.879493\text{CB} + e$$

The equation above shows that the effect of the reserve requirement commercial bank credit growth of -0.058% is not significant with sig. 5%. This means that every 1% increase in Statutory Reserves causes a decrease in credit growth of 0.058%. The effect of MIR on commercial bank credit growth is -3.32%. This means that every 1% increase in MIR will cause commercial bank credit growth of -3.32%. and significant with sig. 5%. The effect of Capital Buffer on commercial bank credit growth is 0.2717 and is significant. This means that every 1% increase in capital buffer at 5% significance ($\alpha = 0.05$) will cause an increase in commercial bank credit growth of 0.87%.

Based on Table 3., the estimation results of the reserve requirement variable have a probability value of 0.0590 with a coefficient of -0.058992. This value indicates that the reserve requirement variable has a negative effect on the credit growth of commercial banks. Based on the proposed hypothesis, H_0 refuses to accept H_a , which means that statistically, the Statutory Reserves have a negative effect on the credit growth of commercial banks.

Conceptually, the Minimum Statutory Reserves policy is a minimum mandatory fund that must be maintained in the form of a checking account balance at Bank Indonesia to maintain bank liquidity. The results of research conducted by (Matheus et al., 2016) state that the reserve requirement has a positive effect on credit growth but the effect is different from the theory of macroprudential policy

mechanisms on liquidity-based instruments. Statutory Reserves have no significant effect on credit growth for commercial banks based on the levels of BUKU 1, BUKU 2, BUKU 3, and BUKU 4. Likewise, the regression coefficient is negative. So it can be concluded that the increase in Statutory Reserves has a negative impact on increasing commercial bank credit growth. And vice versa. The reduction in Minimum Statutory Reserves has a positive impact on credit growth for commercial banks. This is in line with the results of Bank Indonesia's policy which loosened the reserve requirement for commercial banks to increase commercial bank credit during the Covid-19 pandemic, which slowly began to improve from month to month.

The estimation result of the macroprudential intermediation ratio variable has a probability value of 0.0000 with -3.329842. This value indicates that the macroprudential intermediation ratio variable has a negative effect on credit growth for commercial banks with sig. 5% ($\alpha = 0.05$). Based on the proposed hypothesis, reject H_0 and accept H_a , which means that statistically, the macroprudential intermediation ratio has a negative effect on credit growth for commercial banks.

The results of the research that have been carried out are similar to the research conducted by (Handayani, 2018) which found that the average MIR of the commercial banks studied had an unhealthy MIR because of the ability of liquidity to anticipate needs and the application of liquidity risk management was very weak. . This indicates that credit growth has decreased significantly.

The MIR policy implemented aims to encourage the banking intermediation function to the real sector in accordance with the capacity and targets of economic growth while maintaining the principle of prudence. However, based on the results of the regression on the MIR variable, there is a discrepancy with the expected positive growth of bank credit, but there is a decline. The Covid-19 pandemic that hit the Indonesian economy was one

of the factors that led Bank Indonesia to relax the MIR policy by 92% for banks, but it did not seem to have a significant impact on increasing banking credit growth due to the total deposits in Indonesia. The banking statistics report from OJK is also not accompanied by good credit growth.

The estimation results of the capital buffer variable have a probability value of 0.0000 with a coefficient of 0.879493. This value indicates that the investment variable has a positive effect on employment with sig. 5% ($\alpha = 0.05$). Based on the proposed hypothesis, reject H_0 and accept H_a , which means that statistically, capital buffers have a positive effect on commercial bank credit growth. A capital buffer is an additional deposit capital that must be deposited by a bank to Bank Indonesia as a buffer to prevent the emergence or increase in systemic risk arising from excessive credit growth and is useful as a form of anticipation in the event of a loss in credit growth. In general, Bank Indonesia will increase the nominal value of the Capital Buffer when the Indonesian economy is in a period of expansion, on the other hand, Bank Indonesia will reduce the amount of the Capital Buffer when the economy is in contraction. This policy, cannot be separated from the banking capital provisions issued by the Financial Services Authority, which are expected to strengthen the success of banking resilience.

Conclusion

Based on the results of the study, the following conclusions can be drawn: (1) The easing of the statutory reserve requirement policy by Bank Indonesia can encourage the commercial banking sector to increase credit growth during a pandemic situation. However, this cannot continue to be applied in the long term when Indonesia's economic conditions begin to improve. (2) The determination of MIR as an LFR improvement ratio (Loan to Funding Ratio) which officially took effect in July 2018 has not yet been fully felt optimal in increasing

credit growth because when the MIR policy was relaxed during the Pandemic, it was not in line with the government stimulus to issue securities. and the actions of banks to purchase securities. (3) The Capital Buffer as buffer capital for commercial banks shows that the determination of additional capital that must be maintained at Bank Indonesia can assist bank liquidity in channeling and increasing credit growth during the pandemic.

The results of this study are expected to be taken into consideration and input for the government, especially the central policymakers, namely Bank Indonesia to analyze the implementation of macroprudential policy instruments on how to implement them in Indonesia during the post-pandemic economic recovery. Commercial bank data collected in this study comes from the statistical reports of the banking financial services authority which are classified into 4 commercial banks BUKUs. Further research is expected to broaden the scope of banks to Islamic banks and provide complete data on credit growth conditions in all banking sectors in Indonesia.

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Small Firm Internationalization in Halal Food Industry of a Small Country: A Study of Brunei Darussalam

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Abstract

Internationalization is one of the strategies for entrepreneur to improve or increase its business performance. The aim of this paper is to explore the underlying processes and influential factors of internationalization by small-medium enterprises (SMEs) specifically in the Halal meat industry. This paper will use the concepts that derived from international business and entrepreneurship literatures. Three hypotheses were developed based on, the extent of process; factors influencing SMEs internationalization in SSC and finally the pathways that chosen by the entrepreneur as the relative use of networks and internal resources. Various scholars attempt to tackle the issues from different perspectives and found out that there were various pathways for internationalization. This study also attempts to find the connections and the applications of different theories for a small firm internationalization. It was expected that process of SMEs from SSC pursuing internationalization does not follow the stages of internationalization process but rather skipping the stages by going for expansion in early stage. When firms first begin exporting, literature

indicated that the international expansion are associated with higher performance. Thus, exports moderate the relationship with performance. In addition, network; financial resources and knowledge can be an effective factor to increase the SMEs capabilities to expand into international markets. This study will be using qualitative method approach via interviews. Cases on SMEs in Brunei Darussalam that has been involved in export of meat products will be use. NVivo will be use to organize the interview scripts into various themes.

Keywords

Small-Medium Enterprise (SME), Internationalizations, Halal meat industry, Brunei Darussalam, conceptual

Introduction

The internationalisation of firms has been an area of interest for international business research for decades. Traditionally, research papers on internationalisation of firms can be classified into two broad streams of research, which are the 'process' and 'economic' perspectives of internationalisation (Benito and Welch 1994, Liesch et al. 2002). According to Dunning (2000), apart from some differences, most of the process and economic theories complement each other and jointly contribute to our theoretical understanding of firm internationalisation.

Although these internationalisation process theories were developed over three decades ago, they still offer important ideas and concepts that can help us understand the nature of internationalisation as a process that is dynamic. Furthermore, according to Liesch et al. (2002), the development of these process theories and models are still at stages that are very early, and there are still a lot of gaps and areas that

are not well researched on how firms internationalise.

Therefore, as discussed in Chapter two, one of these under-researched areas is the internationalisation of halal industry SMEs from small countries. This topic is under-researched because most of the existing research works on internationalisation were done based on multinational enterprises from large countries (Larimo 2003), and also without any focus on halal industries. Yet, there is some evidence that suggests that firms that internationalise from smaller countries are often faced with specific challenges (Laanti, et al., 2009).

The main objective of this paper is to develop a conceptual framework for analysing how the internationalisation process of SMEs in halal industry of a small country differs from the existing traditional theories of internationalisation that were largely developed in multinational enterprise context of large countries. In addition, the factors influencing the internationalisation

process will be analysed. This is in line with the call by many researchers (e.g., Lovelock and Yip 1996; Clark et al. 1996; Westhead et al. 2001). to extend the internationalisation theories by studying sectors and industries that were not part of the focus of earlier studies.

The main aim is to contribute to research on the internationalisation of SMEs by developing a conceptual framework and new hypotheses on SME internationalisation in halal industry of smaller countries, and factors influencing the process. One of the rationales for this research is that understanding the internationalisation process of SMEs in halal industry of a small country may serve as a model of internationalisation to other SMEs from other small countries.

The findings of the study can provide a useful model of internationalisation for SMEs in halal industries and also policy makers in small sized countries. Often the relevance of firms for their home countries is much higher for

smaller countries than for larger countries, because if these firms face any major challenge, this has greater potential to affect the entire national economy (Benito et al. 2002).

Literature review

Traditional Theories of Internationalisation

Firm internationalisation theories started after the Second World War, mostly between the 1960s and the 1990s. This was because foreign direct investments (FDI) increased especially around 1950 to 1960 (Dunning, 2006). These theories that emerged can be broadly classified into economic theories and process theories (Benito and Welch 1994, Liesch et al. 2002).

In this context, a number of the early internationalisation theories, which often had economic background, termed FDI-theories, used to focus on the motivations and reasons for the existence of multinational enterprises, thereby leading to the emergence of theories such as theory product life cycle

(Vernon 1966); theory of internalisation (Buckley and Casson, 1991); transaction cost theory (Williamson 1979; Anderson and Gatignon 1986); and also, eclectic paradigm (Dunning, 1988). The focus of these theories is on rational actions and physical assets, but less emphasis on human behavior and environment (Benito and Welch, 1994; Dunning, 2006).

On the other hand, the theories on the process of internationalisation focus on the internationalisation related dynamic changes (Benito and Welch, 1994). Some key examples of this line of research include the models of internationalisation such as the Uppsala Model which was developed in the Nordic countries (Johanson and Vahlne, 1977; Johanson and Vahlne 1990) and the works of Luostarinen's (1994) in Finland but also innovation related theories and models (Bilkey and Tesar 1977; Czinkota 1982). These process of internationalisation models tend to focus on the gradual nature of the internationalisation process of firms. The notion of psychic distance, which relates to

not just to physical but also cultural distance (Johanson and Vahlne 2006), is an important concept in the internationalisation process models.

Criticism of traditional theories of internationalisation

Although the traditional theories of internationalisation are important, nevertheless, they have been criticized by a number of researchers, because they cannot provide explanation for the internationalisation process of all types of firms and industries in all environmental contexts. As such, some researchers tried extending these seminal theories, such as the network approach of Johansson and Mattson (1988), the alliance capital perspective as opposed to multinational enterprise dominance (Dunning, 1995), research works on born global firms (Knight and Cavusgil, the alliance capital perspective as opposed to multinational enterprise dominance (Dunning, 1995), research works on born global firms (Knight

and Cavusgil, 1996), and service firm internationalisation (Clark et al. 1996). Consequently, there are some researchers that argue that internationalisation tends to be context dependent, in ways that make it difficult to identify generic clear patterns (Turnbull, 1987).

It is possible to argue that the criticisms and challenges related to the processes of firm internationalisation could be related to the developments in globalisation (Forsgren, 2002), even though there may be other factors affecting the internationalisation processes. In general, internationalisation theories tend to be somewhat context specific even more than has been acknowledged in the past (Laanti et al., 2009). This is because specific factors related the home country and the host country, factors related to industry specific and characteristics of the firm tend to matter in firms' internationalisation process (Dunning, 2000). Consequently, the existing theories of internationalisation need to be extended by examining the industries that have largely not

been studied by previous research (Laanti et al., 2009). In this context, in the next section, we focus on halal food industry, which has not received much attention in the internationalisation literature.

Internationalisation of firms in halal food Industries

According to Riaz and Chaudry (2003: p.2), "halal foods are those that are free from any component that Muslims are prohibited from consuming" and their products often have to be certified by the government (Soltanian et al., 2016). The importance of halal food industries to the global economy has rapidly increased and many firms in the industry have increased their international activities significantly (Dube et al., 2016). However, although there is a growing interest in the internationalisation of firms in halal industries, yet, early theories of internationalisation were not developed specifically for firms in halal industries. Therefore, there are still many uncertainties regarding how well the traditional theories of internationalisation

apply to firms in halal industries (Andersen, 1997).

Researchers have identified **at least three characteristics of firms** in halal industries, that can affect internationalisation; two of which are unique to halal food industry, which are halal certification, halal logistics (Yang et al., 2016) and trade barriers that affect food industry in general (Fliess and Busquets, 2006). The first is **halal certification**, which according to Ismail and Kuivalainen (2015: p.425), is a product characteristic that refers to the "nature, origin, safety, wholesomeness, and processing of food designated mainly for Muslims worldwide". Therefore, halal food firms are required by governments to fulfil the food safety and religious requirements of getting halal certification from government bodies and certification agencies (Dube et al., 2016; Ismail and Kuivalainen, 2015). The halal food industries thus have very unique characteristics, such as reliance on networks with food safety agencies, halal certification agencies and other government bodies etc. (Dube et al., 2016) and heavy

institutionalization (Zulkafar et al., 2018) which implies that processing the halal certificate in the home country often takes a long time. This is because the halal food certification process is often a lengthy and highly institutionalised process that includes detailed examination of the processes of food production, from slaughtering to the ingredients used in the food, the processing and handling, all the way to transporting and distributing products, before they can certify that a certain food product meets halal standards (Latif et al., 2014). Some modes of internationalisation, for example, may apply differently to firms in halal food industries or may not be applicable at all. Also, many countries use halal food certification as trade barriers by requiring that companies obtain halal certification in the host country, which sometime comes with heavy registration fees.

The second is **halal logistics**. Halal logistics is not only concerned about moving food products from the purchasing point to consumption, but it also involves the entire

network of supply chain network, from the product's origin up to the final consumption i.e. from farm-to-fork (Talib and Zhengyi, 2013). This includes warehousing, transportation, handling of materials and procurement (Yang et al., 2016). Consequently Tieman (2013), the traditional methods of handling often do not provide adequate assurance of halal standards for Muslim consumer (Tieman, 2013). For Muslim countries, the concern of halal logistics is to avoid contacts with haram addressing contamination risk, and the perception of the Muslim consumer (Yang et al., 2016). The central concern of halal logistics is about being able to separate halal products from non-halal products, throughout the whole chain of logistics, so as to remove the risk of cross-contamination (Dube et al. 2016a), which may cause the internationalisation process of firms in halal food industry to be different.

The third relates to international **trade barriers**, where firms in the food industry have to meet strict trade barriers when exporting (Yang et

al., 2016). Tariff and non-tariff international trade barriers can damage firm internationalisation, especially because these barriers are mostly outside their direct control and challenging to overcome (Fliess and Busquets, 2006). For example, in 2013, one of the middle eastern countries regulated that the firms that produce poultry and meat have to pay \$50,000 as registration fee before they can export to that country (Yang et al., 2016). Although trade barriers are mostly not meant to target only small and medium sized enterprises (SMEs), nor do they affect only SMEs as both SMEs and large firms are affected, yet, SMEs tend to be more vulnerable (Fliess and Busquets, 2006) due to having more limited resources.

In summary, the above three factors discussed could serve as reasons for differences in the internationalisation process of firms in halal food industries relative to other industries that traditional theories of internationalisation have explained (Erramilli 1990; Javalgi et al. 2003). It is therefore argued that some of the traditional theories

of internationalisation may not adequately explain the process of internationalisation of firms in halal food industries.

Challenges of halal food SME internationalisation from small countries

Many of the traditional models of internationalisation, particularly the economic models, but also the strategic management theories, tend to focus on large multinational enterprises and their internationalisation in the world's largest economies, such as the United States (USA), Germany, Japan and the United Kingdom (UK) (Carr and Garcia 2003; Larimo 2003; Dick and Merrett 2007). Nevertheless, for firms that outside these large markets and for small and medium sized enterprises (SMEs), internationalisation can bring some distinct difficulties (Hubbard et al. 2002; Gabrielsson and Gabrielsson, 2004; Camra-Fierro, et al., 2012).

A number of researchers report that multinational enterprises that are from smaller countries tend to be more

internationalised in comparison to multinational enterprises that are from large countries (Hirsch 2005; Pedersen and Petersen 2004). This is because of the small domestic markets that push firms to internationalise (Larimo 1995; Pedersen and Petersen 2004). Nonetheless, despite that, most of the multinational enterprises in the world are still from the largest economies (Hirsch 2005). Also, multinational enterprises from large countries tend to be much larger than MNEs from small countries' multinational enterprises (Hirsch 2005). For example, because of market integration of markets in the European Union (EU), Brouthers and Wilkinson (2002) argue that the initial local advantages that SMEs had in the disintegrated European markets are diminishing, and the large multinational enterprises from large countries such as Japan and US can have a competitive advantage because of their relative efficiency and larger size. Thus, SMEs from small countries have greater handicap disadvantages due to their smaller size, as

SMEs are often resource constrained (Abubakar et al., 2019) and smaller domestic markets in terms of gaining from the greater efficiency that comes with the advantages of economies of scale (Hirsch 2006). Further, other researchers have reported the origin-effect liability, which means that in small countries, the small domestic markets don't encourage advantages related to economies of scale, which in certain cases are necessary precondition for being for international market entry (Bartlett and Ghoshal 1992; Larimo 1995; Lowell and Fraser 1999; Benito et al. 2002).

Consequently, it seems that because of small domestic market, in order to survive and grow, SMEs in halal food industries in small countries may need to internationalise, which often requires halal certification and halal logistics, both of which require investment (Yang et al., 2016; Dube, et al., 2016b). But for firms from small countries, the investment size is often considered to be a major problem (Larimo 1995; Carr and Garcia 2003) and this may affect SMEs even

more since they are often resource constrained (). Firms in small countries tend to lack resources in many areas, such as managerial and financial resources, because the smaller domestic resources (Hubbard et al. 2002; Gabrielsson and Gabrielsson 2004). As such, this may allow multinational enterprises that are large from and larger countries and to be able to dominate (Knight 1999) and bring considerable challenges to SMEs in small countries.

Although not specific to halal food SMEs in small countries, some strategies for overcoming some of the challenges and barriers have been suggested. For instance, firms from small countries may develop strategic alliances with other firms so as to be able to compete with some of the dominant multinational enterprises (Cho 1998), or niche strategies creation (Benito et al. 2002; Dick and Merrett 2007) In addition, some scholars have pointed out the important role that governments can play in supporting the internationalization of firms from small

countries, relative to their counterparts that are from large countries (Rugman and Hodgetts 2001; Hubbard et al. 2002; Benito et al. 2002,). Therefore, it is possible to argue that for SMEs in the halal food industry of small countries, governments and strategic alliances may play important roles in supporting their internationalisation. Past research seems to point towards that direction, such as in airline industries, where firm competitiveness has been influenced the policies and regulations of governments (Goodovitch 1997; Antoniou 2001).

In this context, in order to internationalise, SMEs in halal food industries of small countries may follow alternative processes. Traditional theories of internationalisation and models that are based on the internationalisation of firms in large countries do not give sufficient guidance on processes of internationalisation of SMEs in halal food industries of small countries.

In summary, although there are some few papers on internationalisation of halal food

firms (Khalid et al., 2018), there is hardly any study on the process of halal food SME internationalisation from small countries. The few past studies (Khalid et al., 2018) on halal food internationalisation have not focused specifically on processes of halal food internationalisation from small countries and are mostly not focused on SMEs.

Methods

Brunei Darussalam is abundant with its own natural resources. It is a small population country with 433,671 people in 2018 (World Population Review, 2018). However, over the last decade, its gross domestic product(GDP) per capita growth rate has been the lowest in South-East Asia (OECD, 2013). To diversify the economy of a small-size country (SSC) especially Brunei Darussalam, it is a prerequisite condition for private sector development (OECD, 2013) such as SMEs involving the international market. SMEs are generally seen as the engine for economic growth. Brunei Darussalam statistic shows that SMEs made up 97.5% of the total number

of enterprises in 2010 (Department of Economic Planning And Development, 2011). SMEs in Brunei normally involved in industries such as agriculture; vegetable and fruits productions, livestock and poultry, manufacturing of textile, wholesale, food processing and other services (Abdullah and Ismail, 2013).

In order to generate the newly born SMEs to be established and survive, the firm needs to look at several perspectives and factors that help them to grow (Wakkee et al., 2015). In Brunei Darussalam halal industry has the best opportunity that local SMEs are involved with. Both private and private sectors give full support and helping hand for SMEs to be involved in the international market. Halal products produced in Brunei Darussalam following the full halal guidelines which act as competitive advantages once enter the foreign market (Ministry of Energy and Industry, 2017). The Ministry of Industry and Primary Resources (MIPR) developed Halal Park and Hub for halal processing and

production (Abdullah and Ismail, 2013). According to Abdullah and Ismail (2013), Brunei Darussalam participated in BIMP-EAGA activities and was able to produce halal certification. BIMP-EAGA is seen as a food source by other Asian countries such as Korea and China, both countries experts in the food processing industry. Brunei should grab the opportunity to manufacture halal under its halal certification and act as a central hub for BIMP-EAGA activities (Abdullah and Ismail, 2013).

Estimation of Muslim population comprised of 1.8 billion people in 2017 (Huda, 2017) and expected to rise to 2.2 billion people by 2030 (Zailani et al., 2015). For a Muslim to consume food and drinks it must conform to Islamic dietary law (Zailani et al., 2015). The word 'halal' literally means permissible to consume by a Muslim. The growing demand for halal in the international market is an opportunity for SMEs to be participating in a competitive global halal market (Zakaria and Abdul-Talib cited in Zailani et al., 2015). By looking at the

present business environment particularly Brunei Darussalam which categorized as SSC, it is important to focus on resources and capabilities to cater to the global demand of halal once pursuing internationalization. Emerging SMEs grow rapidly in the halal industry (Zailani et al., 2015). However, the internationalization literature has traditionally focused on the activities of multinational firms and only relies on large firms as a platform of analysis (Coviello and McAuley, 1999 cited in O'Cass and Weerawardena, 2009). There are substantial inadequacies of the literature as researchers need to focus on in terms of managerial style, the scale of operations; independence and decision-making differ from larger firms (O'Cass and Weerawardena, 2009).

Research Strategy and design

An empirical investigation on a particular case that relates to a real situation as to where it creates boundaries between the research study phenomenon and the research context is not clearly defined

(Saunders *et al.*, 2009). The case study will help in answering the research questions in a rich context of understanding. According to Yin (2003), (cited in Saunders *et al.*, 2009) case study strategy can distinguish between single versus multiple case studies. This research study is focused on multiple case studies. Based on Yin (2003), multiple case study is more preferable due to producing a concrete justification in answering the research questions. Multiple case studies will study the research problem more particularly and in-depth rather than just focusing on generalizing factors (Stake, 2013 cited in Billore and Billore, 2020).

The case study makes the research methodologically flexible (Ruth and Annantte, 2015). The case study creates its special features that have distinct SMEs in a chosen industry which is the Halal food industry where identifying particular issues and investigating and finding the resemblance between cases selected. In constructing a holistic multiple-case study from a small to medium-sized companies in

investigating its empirical phenomenon in the real-life context (Yin, 2004). A semi-structured interview was adopted to investigate the issues under the research questions and propositions. This study particularly sought to understand the condition of the internationalization activities, performance, and the incremental process of internationalization.

A typical case study research will face limitations that are subjective to bias and generalizability (Yin, 2004). To improve and avoid the situation happening in a specific situation as it might be evolving and changing which is not seen immediately (Seethamraju and Marjanovic, 2009). A high-quality case study needs to have a continuous interaction between theoretical issues based on the data collected with the research objectives. Theoretical issues on SMEs internationalization pathways that had been chosen to uphold the two theories of internationalization, i.e Uppsala theory and born global theory.

Within the halal industry, this research focuses on SMEs that produce food and beverage that is, with a certificate that guarantees halal products checked by Brunei Darussalam's Ministry of Religious Affairs or *Majlis Ugama Islam Brunei (MUIB)*. Multiple- case study samples that are entrusted in this halal food product and beverage industry which are food stalls and premises and restaurants that are established intended for both the domestic market and international market. In the investigation of export of exporters aiming the age of internationalization activity persuasion and process.

In the phase of the interview, the initial stage of collecting data for the multiple-case study is put into categories of internationalization development process and speed. Related issues to SMEs internationalization in terms of productivity to be likely able to compete in international markets (Potter, 2017). But in this case, SMEs generally faced lower productivity which relates to international growth causing it to face the fundamentals

barriers. Investigating the further issues that are adopted by SMEs in the halal industry is increasingly important as to digitize technology inserted in their process makes a significant proportion such as websites or homepage makes a huge difference towards the speeds and pathways that are chosen by those SMEs.

To effectively answer the pre-defined research question and objectives, case studies are optimum research strategies in comparison to research strategies such as experiments, surveys, archival analysis and history according to Yin (cited in Masum and Fernandez, 2008). The multiple case studies mean using multiple sources of evidence from eighteen different types of SMEs that are involved in the halal food and beverage (F&B) industry and three government departments to fulfill the research objectives. A multiple case study is defined as 'a strategy for doing research which involves the comprehensive investigation of a particular contemporary phenomenon within its real-life context using multiple sources of

evidence and collected over a period of time, of one or more organizations' (Hartley cited in Marschan-Piekkari and Welch, 2004).

Data Collection

In collecting data for qualitative research need to implement such activities using the formal instrument and data collection procedures (Yin, 2011). For this research using the interview as their tool to collect data that has a fixed questionnaire with straightforward interview procedures (Yin, 2011). But according to Yin (2011), having such an interview falls into 2 types: structured interview and qualitative interviews. For structured interviews, there is a need for interaction between the interviewer and the participant. The participant for this research is the SMEs' manager. Three steps need to be adapted as in firstly, prepared a list of formal questionnaires to be responded by the participant, Secondly, trying to get a prompt response from the participant and thirdly, where interviewer having a consistent behavior and demeanor in interviewing the

participant in every sample (Yin,2011). This research will use both types of interviews. The reason if the study solely used a structured interview which will make the study be a survey rather than a qualitative study (Yin, 2011).

On the other hand, the qualitative interview has a dominant mode of interviewing in qualitative research (Yin, 2011). At first, the connection between participant and interviewer was not heavily scripted. And secondly, as a qualitative researcher will not adopt any consistent attitude for every interview (Yin, 2011). Thirdly, questions for the qualitative interview were used open-ended questions rather than close-ended questions (Yin, 2011). This makes the qualitative interview different from a structured interview which resides on the trends contextual condition on the subject (Yin, 2011).

Data collected primarily through semi-structured interviews. All interviews are voice recorded and transcribed, the level of data is collected by interviewing the manager of

SMEs in the halal food industry by following the information in theme. For the semi-structured interview, there are few fixed questions as it will be depending on the list of issues that need to focus on at the same time the freedom to get the flow of each semi-structured question being the answer in the manner of follow-up points being addressed by the interviewees. The questions from the semi-structured will be determined earlier which will be obliged to go through and act as a reminder of what topic needs to be covered (Thomas, 2011).

Data Analysis

Analyzing qualitative research was not following any regimen. In fact, qualitative data analysis follows the five-phase cycle (Yin, 2011) which are:

- Cycle 1: Compiling
- Cycle 2: Disassembling
- Cycle 3: Reassembling
- Cycle 4: Interpreting
- Cycle 5: Concluding

The complete cycle and its five-phase showing the sequence among the five phases. The two-way arrows imply that you can go back and forth between two phases. As a result, the entire phases suggest how analysis is likely to occur in a nonlinear fashion. Compiling analysis which sorting the field notes amassed from the data collection. The finished compilation might be considered a database. The second phase calls for breaking down a disassembling procedure. The disassembling procedure may be repeated many times as part of a trial-and-error process of testing code, according to the two-way arrow between these first two phases. Using substantive themes to reorganize the disassembled fragments into different groupings and sequences that might have been in the original notes. This third phase is the reassembling procedure. The recombination and arrangement may be facilitated by depicting the data graphically in the list and other tabular forms. The fourth phase involves using the reassembled material to create a new

narrative, with accompanying tables and graphics where relevant, that will become the key analytic portion of your draft manuscript as the fourth phase may be considered one of interpreting the reassemble data. The initial interpretations may lead to the desire to recompile the database in some fresh way. The fifth and final phase may be considered one of concluding. Drawing conclusions from the entire study should be related to the interpretation in the fourth phase and through it to all the other phases of the cycle (Yin, 2011), p.177-179.

On the other hand, the qualitative data will be analyzed using computer software designed to assist in analyzing qualitative data (Yin, 2011). In analyzing the qualitative data with a software called NVivo that is easy to undertake in-depth analysis from different qualitative research traditions (Biley, 2008). As the sample of qualitative data being collected as in the raw information on the internationalization process of SMEs which gathers the halal industry has chosen

their pathway towards foreign country expansion. By looking at the qualitative research procedure which was analyzed in word mode that neglected the measurement procedures (Smith et al., 2007 cited in Jerman et al., 2019).

Having briefly outlined the basic assumptions and qualitative orientations of symbolic interaction that need a transcription of a voice recorded interview in an organized manner. Typically, the raw data that collected were not immediately available for analysis but required to do organizing and processing before the stage of analysis. The recorded interview will be put in the computer-supported qualitative analysis software before the data can be analyzed. The multiple-case study used in this research study of SMEs internationalization in identifying their pathways and process. The research held discussions with the manager-owned small business that highlighted the activities and stage process of their business towards internationalization.

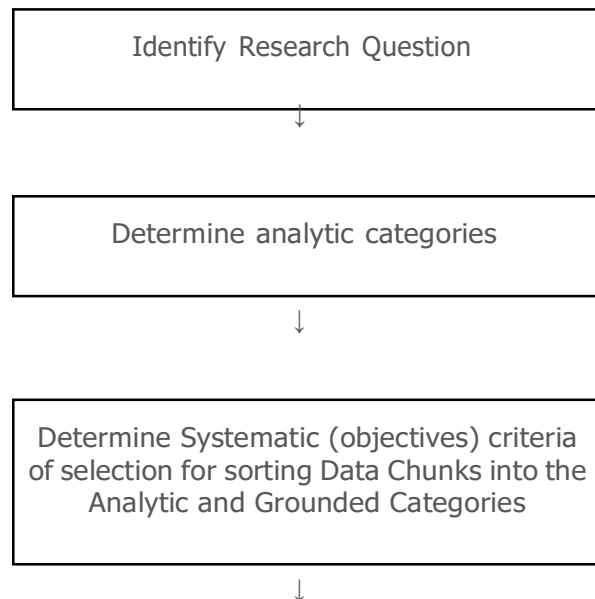
Eighteen owner-managers from the sample of small firms selected. The selected sample is based in a small-sized country which is Brunei Darussalam. The manager was each interviewed about their activities and chosen pathways involved during the process that matches the firm's mission and vision towards internationalization. The business engaged in the Halal industry which involved in producing food and beverage and other consumer products. The firm comes from a wide variety of spectrums to manufacture its own products that involved with high technology concerns all represented.

The structure of qualitative data is gathered in a structure imposed by the interviewer followed by the structured questions which have decided prior to the session in the sequence of open-ended questions to close-ended questions. Therefore, according to Patton (1987) (cited in O'Donnell and Cummins, 1999, p. 86), "... the basic trust of qualitative interviewing is to minimize the imposition of predetermined responses when gathering data". In fine-tune on the current

conceptual framework that had not been explained sufficiently that need to have further investigation.

The qualitative analysis once has the thematic into categorical patterns that are identified. The content analysis process rather has its own stages to avoid any misleading data that need to be explained to avoid the overall patterns becoming invalidated.

Below is the stage model of qualitative content analysis (Berg, 2004):



Begin Sorting the Data into the various Categories



- Review textual materials assorted into various categories seeking patterns.
- Remember, no apparent pattern is a pattern.



- Consider the patterns in light of relevant literature and/or theory
- Offer an explanation (analysis) for your findings.
- Relate your analysis to the extant literature of the subject.

Discussion

In international trade, government plays a critical role to promote local small-medium enterprises (SMEs) towards overseas markets. For example, Brunei Darussalam government assists SMEs by reducing import tax to source cheap resources from production countries in the region like Malaysia as an implication of government-to-government (G2G). In short, G2G refers to the electronic sharing of information system. In short, G2G refers to the

electronic sharing information system between the government of domestic and foreign countries for the purpose of improving communication, data access as well as sharing of information (Rouse, 2010). In general, international exhibition offer unlimited exposure to international contacts and opportunities for internationalization of SMEs. For example, Brunei Darussalam is determined to boost healthy economic ties with China at the Shanghai World Expo with large number of local businessmen led by Minister of Foreign Trade and Affairs (Yin, 2010). The network theory suggested that international networking is valuable substitution for market-related knowledge to increase the success rate of internationalization and pursuing their expansion at the early stage.

Subsidies by the government are meant to improve the current situation of high production cost and subsequently increase local production capacity to meet the market demand. To add on, the government food laboratories are yet to reach

international standards. This shows that state level factors are needed to aid the internationalization process to a certain extent that is yet measurable.

The Halal-food industry experience greater challenges than normal consumers' product as it may lead to health issues such as food poisoning. In other words, consumer protection is the main concern. Nevertheless, the suggested solution can be appointed experienced or qualifies personnel to satisfy all necessary requirements. As the SMEs gained experience in doing with closer regions, it is sensible to carry out market growth strategy into further regions as recommended by Uppsala model. Knowledge acquisition is the fact a gradual process as portrayed in process theory and it serves as the building-blocks for successful SMEs internationalization.

Furthermore, it is government that supports the framing of import and export procedures, standards and requirement. The local government ensures SMEs pricing is

competitive, however there is the additional legislation requirement that local government has to install infrastructure that monitors and prepare action plans in the event of disease outbreak such as covid-19 pandemic.

Again, it depends on exporting countries' policies, law and regulations. Some countries have significant number of Muslim populations namely the United State, United Kingdom, France and Germany. The purchasing power is high which reveals an attractive foreign market. However, for example, the EU requires poultry being stunned before slaughtered as a strict compilation for animal welfare. But it causes sensitive issues in Brunei Darussalam as a result of religion aspects. Therefore, this view and unfulfillment of the EU requirement resulted least a scope of SMEs towards the European market.

At the current stage, SMEs exports focus on neighboring countries correspondence to short distance as well as similar language

and culture. Two theory of internationalization which is Uppsala theory and Born global would be seen be embedded towards the process of SMEs internationalization in the Halal food industry.

Conclusion

The halal product is actually fast-growing international market. The lack of international exposure is increasingly become concerned subject topic and it is worthwhile to study in-depth and breath of the underlying factors and process of internationalization of SMEs which makes them successful attempts in growth. The research framework took advantage of open questions to generate insightful to uncover new information on internationalization process and factors influencing of SMEs entering foreign market.

In conclusion, research had seen that SMEs' growth is directly linked to the country's GDP and employment rate. The strong bonds between countries may leverage local businesses towards international if it is utilized.

Nonetheless, it is argued that SMEs must

equip with necessary preparation such as experience, market-related knowledge, production capabilities to serve larger market and entrepreneurial traits to pursue market expansion

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