A SYSTEMATIC LITERATURE REVIEW OF COVID-19 IMPACT TO SME'S ADOPTION OF E-COMMERCE

Jia Qi Cheong¹, Noor Faziedah Chun Lee @ Mohd Fadzlee², Kasim Hj Md Mansur³

Faculty of Business, Economics and Accountancy, Universiti Malaysia Sabah

Email: cheongqi@ums.edu.my¹, faziedahfadzlee@ums.edu.my², kmansur@ums.edu.my³

ABSTRACT

This paper presents a systematic review of existing literature analyzing the E-commerce SME. The objectives of this paper is to provide an insight through a systematic literature review of latest research evidence on e-commerce adoption among small to medium-sized enterprise (SMEs) with a focus in Malaysia. It is necessary to address our concern because of this adoption in order help SME digital solutions. This paper could be very helpful for researchers, investors, policy-makers and whoever interested in the impact to SME's adoption of e-commerce in Malaysia development.

Keyword: Literature, Covid-19, SME, E-Commerce, Adoption, Malaysia

1.0 INTRODUCTION

SMEs are the backbone of the economy, constituting 98.5% of businesses in Malaysia (The edge markets.c, 2020a). There are roughly 910,000 SMEs in Malaysia across different industries. SMEs provided 5.7 million occupations which constituted 70 per cent of Malaysia's labor force in 2019 (Muthukrishna, 2020). On average 88% of Malaysian SMEs had embarked on digital economy platforms including e-commerce, mobile-commerce and social-commerce stages (Mahalingan, 2020).

However during the MCO period, 83% of large and listed companies and 84% of SMEs had issues with virtual connectivity and this had impacted their interaction with their dealers and consumers which they attributed to the problems of infrastructure (Digital News Asia, 2020; Rashid, 2020). SMEs also reported limited access during MCO had resulted in postponement of business operations. However e-Commerce also provided new opportunities in the form of retail or transactions without physical cash and a revisit of the business model need of labour with adoption of digital solution (Bots, 2020).

In response to a 50% fall in income due to the COVID-19 pandemic, businesses had to look for new alternatives and it was found in the e-Commerce (The Star, 2020b). The pandemic has made digital connection a necessity for SMEs and it is irrefutable that e-Commerce has transformed many things for businesses. The pandemic has speed up the adoption of e-commerce with the enforcement of social distancing, lockdowns and other measures (Kang, 2020). However, digital adoption in business is a comprehensive matter comprising of online awareness, traffic, e-commerce, digital operations (goods and services),

digital procedure and adoption of advanced technology (Yusuf, 2020). Regardless, the movement control order (MCO) has exposed that some companies in Malaysia was inadequately prepared to adapt to a digital-enabled work environment (Digital News Asia, 2020).

Businesses shift their focus to e-commerce as a way to mitigate economic damage (The Star, 2020a). COVID-19 has also led consumers to increase the probability of online shopping and contactless payment (Kang, 2020). Adapting to e-commerce will aid Micro and Small and Medium-sized Enterprises (MSMEs) to decrease operation costs, develop agile organizational structure and be extra responsive to new opportunities, letting them to reach new consumers in their current market and expand beyond (Malay Mail, 2020; Yusuf, 2020). However, according to Shrestha (2020), E-commerce will not be a cost-effective undertaking for all SMEs. Even though it allows engagement to new customers online, it also exposes new competition. Consumer services software suit Zendesk recently reported a spike in digital users around 150% to 230% attributed to new adopters who were formerly dependent on bricks-and-mortar channels such as restaurants and grocery brands (SME Magazine, 2020b). The growing need for greater technology capabilities to link industries, consumers and source is fast-tracking the world into digitalization (Digital News Asia, 2020). SMEs leveraging digital technology for a broader reach and aid them in improving yield and saving expenses (Yusuf, 2020).

Development of e-commerce is expected to continue as e-commerce is essentially supporting market growth. The Malaysian market is comparatively small with residents of 33 million and e-Commerce has allowed Malaysian business to do cross border businesses. The Southeast Asian e-Commerce market is estimated to worth at least US\$102 billion by 2025 whereby SME digitization, upskilling and willingness will be even further essential to make sure entrepreneurs and SMEs have an competitive advantage. Furthermore, as the obstacles of e-commerce adoption are much lesser today as related to many years ago, accepting technology will aid businesses to stay competitive (Kang, 2020).

Today, what's tremendously vital for SMEs is to understand the role of technology as a strategic business enabler (NST Business, 2020). In Malaysia, Malaysia Digital Economy Corporation (MDEC) is predicting a 20 percent expansion in e-Commerce due to expansion of the digital economy this year in view of the Movement Control Order (MCO) to contain the spread of COVID-19 (Kang, 2020). MDEC reported a 40 per cent spike in fast-moving consumer good business thru the e-Commerce stage in the in the first three months of MCO (Yusuf, 2020). MDEC has also allocated RM35 million to spur the innovation in the digital industry and another RM25 million for the Global Online Workforce (GLOW) programme (Yusuf, 2020). An online hub is provided to provide information to businesses on how to address the technological challenge they are facing due to Covid-19. Rapid response to questions allow businesses to function at the very least in the MCO context and valuable capital injections from government and authorized foundations aid businesses in navigate the difficult landscape (Chang, 2020).

The objectives of this paper is to provide an insight through a systematic literature review of latest research evidence on e-commerce adoption among small to medium-sized enterprise (SMEs) with a focus in Malaysia. This paper also aims to address ambiguities, close gaps and understand contradictions in the existing literature to allow greater insight and propose future research directions about this relevant topic. This paper is organized as

follows. The next section positions work with regard to latest research as background of the study. Section 3 discuss and present the methodology. Finally, the last section concludes the paper with discussion on findings and limitations.

2.0 BACKGROUND OF THE STUDY

MDEC has embarked on numerous initiatives to aid small and medium enterprises (SMEs) to adopt digitization such as remote employment, e-Commerce and payment-related operations (MDEC, 2020). In last five months, new entrepreneurs and SMEs engaged by MDEC increased in excess of 200 per cent, as Malaysians progressively look towards digital solutions for their daily necessities and this trend is predicted to continue. As lockdown measures alleviated in Malaysia starting on June, one important shift is that demand and popularity of retail in e-Commerce still persist strongly (Chow, 2020). Numerous e-commerce websites have reported spike in consumers' traffic and are doing comparatively well in this pandemic (The edge markets, 2020b). The growth of e-commerce is expected to be attained through the energetic productivity of numerous ecosystem partners via continuing creativities and MDEC projected the potential contribution to gross domestic product (GDP) to ascend to as big as RM170 billion (US\$40 billion) (Kang, 2020; Yusuf , 2020).

MDEC also launched the Global Acceleration and Innovation Network (GAIN) programme to support creative tech start-ups and provide scale-ups to businesses with innovative inventions and large commercial paths, locally and abroad. A few of the corporation's making their mark in this programme includes DiGi Telecommunications, Masala On Wheels, Storehub, HelloWorld Robotics, EasyParcel, LWE, Naluri and Innovative (Subramaniam, 2020). The pandemic has changed the business environment essentially and SMEs must reconstruct the new basics for their businesses to arise stronger and extra robust (NST business, 2020). Adaptability and nimbleness will be vital factors for entrepreneurs in the post-pandemic period. In spite of the exceptional tussle the local economy faces, businesses need to weathered this storm and have been talented to pivot by adopt to the altering needs of the "new consumer" (Chow, 2020). With 'the new normal' totally altering the expectations of customers, both branding and attention to consumer response are essential to business sustainability. Through e-Commerce SMEs are also able to reinforce relations with present consumers, and establish more consumer loyalty with mutual support as they discover and leverage new partnerships (The edge markets, 2020d). This is particularly so for SMEs who can no longer afford to adhere to the same 'pre-COVID' guidelines. SMEs that choose to go in the online marketplace not only face the systematic cost of running a business online but also face new type of digital challenges, for example: online advertising and consumer attainment (attaining visibility online is very problematic and SMEs want to know how to make themselves stand out); upholding high ratings (ecommerce is a ratings driven business, instead of personal relationships that were significant in the traditional model); handling higher volume trade and inventory, which may require particular software; management revenues and connections, which is very vital in online business; trade with logistics corporations; and many more (Shrestha, 2020).

Security is one of the problems that SMEs are concern about as the consumer world is moving towards a more virtual, cashless, contactless environment (NST, 2020). Some businesses may postpone digitalization because of cybersecurity anxieties (Sulaiman, 2020).

SMEs will want to make certain that they have the correct safety answers in place to make certain their data and substructure are safe (Raz, 2020). Making a safe and secluded transaction is not only vital to the customer, but will also dictate the integrity of websites, as the information concerning consumer confidentiality is well protected, and how SMEs should react if any issues is encounter (NST, 2020). Moreover, setting up an e-Commerce site requires designing a safe and secure platform to react with consumers in addition businesses requires assistance on the essential procedural know-how in beginning and running an online business (The edge markets, 2020c). The government has announced many initiatives linking digital technologies and ICT requests to local business. Even if not all businesses are adopting e-Commerce, it is still beneficial in accelerating business for the Government and the public (NST, 2020).

To ease the digital investment cost faced by SMEs, the government had introduced several measures such as cash handouts and wages subsidies (The Star, 2020a). The Government had also expand the stimulate package in view of prolonged income loss for affected industries (The Star, 2020b). MDEC has rolled out the Micro and Small and Medium-sized Enterprises (MSMEs) e-Commerce campaign, an initiative under the National Economic Recovery Plan (PENJANA) (Malay Mail, 2020). The agency said that the government has allocated RM70 million under PENJANA to launch the campaign to facilitate local businesses in establishing their digital presence and gradually increase their productivity (Malay Mail, 2020). MDEC's SME Digital Quickwins is another programme that arranges the necessary support that meets SMEs needs. Overall these measures and the Covid-19 context had created a huge momentum known as #DigitalVsCovid Movement (Bots, 2020). The other initiatives rolled out by government includes SME Digitisation Initiative which allows qualifying SMEs a 50 percent matching grants of up to RM5,000 to obtain Accounting/ERP systems, Point of Sales systems, Payroll and others (Chang, 2020).

The Prime Minister specifically mentioned two initiatives which are the Micros & SMEs E-Commerce Campaign, and the "Shop Malaysia Online" initiative. These programmes are to help SMEs in their digital journey (Yusuf, 2020). Under the E-Commerce Campaign, MDEC is co-funding a program to involve eligible micro-, small- and medium-sized enterprises onto ecommerce to change the direction of business digitization (Kang, 2020). The government has entrusted MDEC to spearhead the onboarding of micro-entrepreneurs and SMEs to contribute in e-commerce with a RM140 million matching grant (Yusuf, 2020). The Shop Malaysia Online campaign is planned to inspire e-commerce demand through digital coupons that are co-funded by the Government and numerous e-commerce platforms (Kang, 2020; Malay Mail, 2020). The campaign comprises 10 e-commerce partners, containing Boost, Foodpanda, Grab, Lazada, Maybank, Shopee and Touch 'n Go eWallet, and more (Malay Mail, 2020). Over 145,000 Micro and small and Medium-Sized Enterprises (MSMEs) are predicted to benefit from the e-commerce onboarding training, seller subsidy and sales support (Malay Mail, 2020). MDEC is also comprised in the management of the SME Business Digitalization Grant that was declared in Budget 2020 earlier this year (Kang, 2020). Another initiative known as the SME e-Fair was also launched to help SMEs which allows them to consult with numerous IT vendors providers with their IT needs (Business Today Editorial, 2020).

Many SMEs was affected from the MCO due to interruption in supply-chain; postponements in business orders, missing physical presence necessary to generate sales, difficulty in adapting to non-cash transactions, in addition to needs for a high volume workforce which also comes with high cost in Covid-19 related expenses (Subramaniam, 2020). SMEs have been hit mainly by cash flow problems and absence of strong financials

(Manokaran, 2020). SMEs have to rationalize, rearrange or close down their businesses primarily because of inadequate cash flow (Manokaran, 2020). Industry leaders of MDEC e-Dagang Expo (eDX) programme advised SMEs to look at chances in the export marketplace as an opportunity to aid them tap new demand to reconstruct their commerce (Lee, 2020). SMEs contributed 17% of national export with abundant of opportunity to further improve the export contribution. It is vital for SMEs to start preparation to go on board by preparing an export marketing strategy (Lee, 2020). Digital and new technologies adoptions are crucial in addressing the challenges due to the pandemic (Manokaran, 2020).

3.0 LITERATURE REVIEW

The outbreak of COVID-19 in Malaysia had lead the authorities to issue a MCO to contain the spread of the pandemic. Now Malaysia has entered the third phase of MCO since it was implemented in March 2020. During the MCO period, the non-essential businesses and services were ordered to shut down. The pandemic and MCO had an overwhelming effects on the Malaysian economy due to the concern of the coronavirus and the enforcement of MCO which had excessively impacted self-employed, small businesses and vulnerable groups such as lower-income individuals and workers. According to the World Bank, Malaysia's gross domestic product (GDP) is expected to contract by 7.4 per cent to -3.1 per cent this year due to COVID-19.

The movement control order had a profound impact on the economic welfare of society, especially for self-employed and SMEs. According to Hong Kong finance chief, Paul Chan, the Coronavirus' economic impact is worse than the SARS outbreak and he warned the unemployment rate would continue to surge soon. Also, many small and medium-sized enterprises in many industries are at risk of closure due to lack of necessary funds to sustain business operations. To level the burden, staffs are forced to take unpaid leave or a pay cut, or even worst retrenchment. When there is no business activity, the cost of keeping employees is not economically viable. Most business operators must lay off employees, slash spending and halt expansion plans as there is no revenue during the MCO period to stay afloat.

It was reported in The Malaysian Reserve, "Small businesses start to cut salaries to survive COVID-19" (21, April 2020), as the economic impact of the coronavirus pandemic begins to bite their bottom line, employers began to cut salaries. Also, based on the latest Department of Statistics data, 53.4% of the owner-account workers or self-employed are no longer working and 46.6% employed faced a reduction of income in which 35.5% of those still working said they had lost 90% of their income. According to a survey by the Federation of Malaysian Manufacturers (FMM, 2020), out of 419 companies as respondents, more than 50% revealed that their revenue had dropped by more than 50%. The MCO had continued to be extended in the following months and the conditions do not improve, it will be led to the inability of businesses especially SMEs to sustain their operations which was stated at three months.

Given the inability of businesses to sustain their operations with their existing workforce, some of the likely cost-cutting measures that employers had reported would undertake in the next three to six months in order to preserve employment include freezing

headcount (67% of respondents), instituting unpaid leave (59%), removal of some non-contractual allowances and benefits (59%), forced annual leave (59%), reduction on work days per week (39%), reduction in some benefits agreed in the collective agreement for unionised companies (34%) and reduction in working hours per day (29%) (FMM Survey, 2020).

However, Malaysian Employers Federation, ED Datuk Shamsuddin Bardan said if the MCO were to extend into to the fourth phase, many companies would have to cut salaries further, as the enforcement of MCO has shuttered many businesses for more than 30 days. He also stated that the Government should offers a proper lifeline through the wage subsidy programme, but the aid could only help not more than three months or less. When the time comes, the Government needs to relook at the package and see if employers can be assisted further. The Government see SME digitalization initiative as the way forward, which will help the business owner to continue their businesses in view of the possible extension of MCO.

World Bank reported that Covid-19 is expected to have a large impact on Malaysia's GDP (Bernama, 2020b). The World Bank's senior economist in finance, competitiveness, and global innovation practice, Smita Kuriakose stated that due to COVID-19, the impact on Malaysia's economy was likely to be substantial. She said plenty of initiatives need to be launched to help the Small and Medium Enterprises (SMEs).

The Malaysian Government had respond fast to the impact of Covid-19 and allocated substantial resources to respond however recoveries are likely to take years. The Malaysian Government is fully aware of the devastation facing by those businesses and has made many efforts to try to help the small and medium business survived in this challenging period. Malaysia's Government has announced a variety of measures in collaboration with the central bank of Malaysia (Bank Negara Malaysia (BNM)), Government-linked companies (GLCs) and private corporations to mitigate the economic impacts of COVID-19. Malaysian's Prime Minister, Tan Sri Muhyiddin Yassin also announced the total allocation for the measures that was implemented amounts to RM260 billion.

In response to the crisis, three economic stimulus package was introduced under Tan Sri Muhyiddin Yassin administration which is the Economic Stimulus Package 2020 (27 February 2020), Prihatin Rakyat Economic (PRE) Stimulus Package (27 March 2020) and additional PRE measures for SMEs (6 April 2020). Malaysian authorities came out with PRE measures for SMEs on 6 April 2020. There are stimulus packages for SMEs mainly comprising financing facilities, grants and wage subsidy programme to ease employers cash flow needs. In addition, Smita also stated that local SMEs notably still lag in utilizing the digital platform, and this needs to be addressed. SMEs need to fully adopt the advantage of technology to reduce the massive impact of COVID-19 pandemic (Bernama, 2020a).

A recent survey by CPA Australia on small businesses across the Asia Pacific found, that many of Malaysia's small businesses reported both reasonably stable finances and usage of digital technology in 2019, making them well-placed to manage through the COVID-19 crisis and to recover reasonably quickly. Also as reported in the same article called "Small businesses well-placed to recover from COVID-19" (New Straits Time, 10, April 2020), with 51.7 per cent, more than half of Malaysia's small businesses in 2019 generating more significant than 10 per cent of their sales online, they are fine to offset at least some

of their lost sales from traditional earnings and to respond to significant shifts in consumer behaviour to online sales that the Movement Control Order (MCO) is driving, which is likely to continue well after the MCO is lifted. Bringing technology growth and innovation, these small players are now finding new ways to survive, and this situation is expected to last for some period until the pandemic COVID-19 subsides.

To contain the spread of Covid-19, Malaysia's authorities have implemented three-phases of Movement Control Order to curb the outbreak of COVID-19. There are many restrictions in the MCO period which affected every one of Malaysian, including the small and medium businesses or self-employed citizen. There are many studies have found that population health is positively related to the economic growth and welfare (Bhargava and et al., 2001; Robalino et al., 2002a; Robalino et al., 2002b; WHO Commission on Macroeconomics and Health, 2001; Haacker, 2004).

In economic sense according to McKibbinand and Fernando (2020), the infectious disease outbreak influences the economy through various channels. An example would be the SARS outbreak in 2003 that happened mainly in Hong Kong and China but it was estimated to cost US\$ 20 billion dollars affecting China, Hong Kong, Singapore and Vietnam resulting in loss of 3 million employment opportunities in these countries and 0.6% of Asia overall GDP (McKercher and Chon, 2004). This is a lesser incident compare to Covid-19 which has gripped the whole world. Previous disease outbreaks provide valued information on how to strategize and get prepared in view of the implications from COVID-19. Lee and McKibbin (2003) found that SARS epidemic in 2003 has significant effects on the economies through the massive reductions in consumption of goods and services, an increase in the business operating costs, and the re-evaluation of country risks reflected in the risk premiums. The same situation will affect Malaysia with the outbreak of COVID-19, especially after enforcement of the movement control order for Malaysian that started on 18 March 2020. No one was allowed to travel during the period; all the religious events and gatherings were cancelled to break the chain of Covid-19. Also, the non-essential businesses and services were shut down during the period. During this period business needs to cover all the cost as before the outbreak but this also resulted in almost zero revenue or sales since the enforcement of movement control; business shutdown, no gathering and social distancing.

In another view on the short-term impact of Covid-19 can be assessed by comparing to similar diseases that have no vaccination available such as HIV/AIDS. Haacker (2004) found that the HIV/AIDS virus affected households through the efficiency of labour and changed labour supply decision. Businesses suffered from increased business costs and foregone investment in staff training while governments had to increased public expenditure on health care and support of disabled and children orphaned by AIDS.

The contribution of SMEs towards national economies is significant, especially in the context of the rapid growth that is currently being witnessed in developing countries around the globe (Poorangiand and Khin 2013). The adoption of Information Technology (IT) is extremely important to the development of an economic system (Nasco et al. 2008, Kendall et al. 2006). The increased use of technology has brought about numerous changes in the business world. However, according to Nasco et al. (2008) only a small number of researchers focusing upon technology adoption are working on the adoption itself, or applying electronic commerce (e-commerce) in small and medium enterprises. SMEs regard

technology as difficult to implement due to their limited resources (Street and Meinster, 2004), which necessitates the study of whether or not the adoption of IT in large organizations are analogous with the ones adopted by SMEs.

According to Scull et al. (1999) the internet is increasingly recognized for the vast array of information, services, meeting places, and communities-of-interest that it offers. Some companies believe that e-business creates new options for their customers, instigates fast new product delivery and services, as well as lowering costs. Moreover, some other companies also adopt e-commerce in order to increase sales, reduce costs, provide better customer service, gather market information, improve productivity, as well as discover and retain new customers.

As SMEs are important for the economy of the country, it is vital to persuade e-commerce adoption in SMEs as the source of competitive advantages. The adoption of e-commerce technologies is influenced by a number of factors. As stated by Karakaya and Shea (2008), companies use e-commerce for a variety of reasons. In terms of business enterprise the most significant of these factors is profit. Other factors, according to Kurnai (2006), include government initiatives, economic conditions, technology infrastructure, geographical conditions, socio-cultural conditions, public awareness and external influences.

According to Ramayah and Koay (2002), Small and medium-sized enterprises (SMEs) is playing a significant role in the country's economic development, particularly in the manufacturing sectors. Malaysian businesses, SMEs have been relatively slow in web adoption. The Economist Intelligence Unit (2006) reported that although SMEs in Malaysia can apply for soft loan through SMIDEC(Small and Medium Industries Development Corporation) to use information and communications technology (ICT) to improve competitiveness, efficiency and productivity, but only about 20percent of Malaysia's manufacturers have an online presence and use information technology (IT) extensively in their daily operations. This reflects a poor rate of IT adoption among the estimated 600,000 local SMEs. According to Soh et al. (1997), if SMEs in Malaysia implement the internet in their company, potential commercial functions can be performed, which include: marketing themselves both locally and globally, gathering business information and consumer's feedback, providing customer support and conducting electronic transactions. On the other hand, if internet implementation is successful, it will have severe repercussions on small businesses with their limited resources (Chong et al., 2001).

Moreover, the adoption of e-commerce within SMEs gives way to unique opportunities for businesses to engage international firms, which they are unable to do in the past. The adoption of e-commerce increases the productivity within SMEs via the reformation of work action and techniques, where it improves customer service and record keeping. The study conducted by Poon and Swatman (1997) showed that e-commerce could positively influence SMEs' productivity, which in turn enables them to compete against larger companies. Simultaneously, the adoption of e-commerce is a cost-effective tool for the SMEs to market and launch new products, improves client communications, as well as enhancing the collection of marketing knowledge and information (Hunaiti et al. 2009).

4.0 METHODOLOGY

According to Tranfield et al. (2003), the basic guidelines for handling systematic reviews of the literature in the fields of business and management are divided into 1) planning the review, 2) conducting the review and 3) reporting and disseminating the review. The methodology used for this paper consists of searched peer-reviewed and publicly available literature review on the subject of Malaysian SMEs in the Elsevier Science Direct, Emerald, SpringerLink, Scopus, and Google Scholar using the following keywords: SME, technology, adoption. The literature review search comprises from online and offline materials to articles journals and chapter in book. The review of journal and articles are restricted due to are extra simply reachable in key word-based database hunts even though these additional literature types may also comprise insightful findings.

5.0 LIMITATIONS

This paper has limitations that need to be acknowledged. The limitation is that as Covid-19 pandemic impact on business is unique on its own, many of the impact of Covid-19 on SMEs adoption of e-Commerce requires time before its full impact can be analyze and studied. Although business are quick to adapt to changes as it involve the matter of their survival and in this context it's e-Commerce however many failed businesses did not live to tell their tales and many of this businesses may have also adopted e-Commerce but failed for certain reasons. In addition, the paper is limited as it only covers the scope of SME's e-Commerce adoption in Malaysia where as other countries experience might be different such as Australia whom have a lower e-Commerce adoption rate while China and Taiwan are in the opposite end with their high level of digitization and e-Commerce adoption rate.

6.0 CONCLUSION

This paper has effectively developed a systematic review of the existing literature that is given for future research in the E-commerce SME. Businesses must to work together hand-in-hand with the Government to restart processes and kick-start financial actions through well-considered, conclusive and actual procedures. Government need also drive forward with the application and implementation of the digital tax as more and more businesses transfer to online strategy to cut fee and also because of Covid-19.

Public education curriculums also need to be revisit to offer high quality cognitive, socioemotional, and technical skills that will allow SMEs to navigate the digital marketplace. SMEs competitiveness in online business also is contingent on policy and delivery of government services, which want to be enhanced speedily with SMEs' welfares in mind. Competence of infrastructure will be significant. For instance, bottlenecks in border events can interfere with a just-in-time inventory business model intended to lesser cost. Therefore, for SMEs to make it online, the government wants to growth investment in allowing infrastructure. Similarly, direct financial aids will be wanted to support SMEs cover costs of going online. Allowing policy will also be vital (Agarwal, 2020).

With this paper it might aid to rise the opportunities of SME survival and result, have a positive outcome on numerous economies global.

ACKNOWLEDGEMENTS

Thank you for the Skim Geran Penyelidikan Khas Pasca Covid 19: The Impact of E-commerce on Small and Medium Sized Enterprises in Sabah (SDK0155-2020). These funds will help quite significantly with all of our many ongoing research projects.

REFERENCES

Abiad, A., Arao, M., Dagli, S., Ferrarini, B., Noy, I., Osewe, P., Pagaduan, J., Park, D. and Platitas, R. (2020). The Economic Impact of the COVID-19 Outbreak on Developing Asia. *ADB Briefs*.

Agarwal, S. (2020). *Only Adoption of Digital Technology can help SMEs thrive after Covid-19 Pandemic.* [online] The Economic Times. Available at: https://economictimes.indiatimes.com/small-biz/sme-sector/only-digital-adoption-can-help-smes-thrive/articleshow/75882179.cms?from=mdr [Accessed 28 Nov. 2020].

Anis, N. (2020). *Going Digital and more Incentives can Mitigate Covid-19 impact*. [online] The Star. Available at: https://www.thestar.com.my/news/focus/2020/03/22/going-digital-and-more-incentives-can-mitigate-covid-19-impact [Accessed 28 Nov. 2020].

Azam, M. and Quaddus, M. (2009). Adoption of B2b E-Commerce by the SMEs in Bangladesh: an Empirical Analysis. In: *In Proceedings of Asian Business Research Conference*.

Bernama (2020a). *Covid Accelerates SME's Digital Adoption*. [online] Free Malaysia Today. Available at: https://www.freemalaysiatoday.com/category/nation/2020/08/11/covid-accelerates-smes-digital-adoption/ [Accessed 28 Nov. 2020].

Bernama (2020b). *Helping Small Businesses Navigate through COVID-19 Recovery*. [online] Bernama. Available at: https://www.bernama.com/en/thoughts/news.php?id=1860516.

Bhargava, A., Jamison, D.T., Lau, L.J. and Murray, C.J.L. (2001). Modeling the Effects of Health on Economic Growth. *Journal of Health Economics*, 20(3), pp.423–440.

Business Today (2020). *Digital Transformation in Covid-19 Era*. [online] Business Today. Available at: https://www.businesstoday.com.my/2020/04/22/digital-transformation-incovid-19-era/ [Accessed 28 Nov. 2020].

Business Today (2020). *Lazada Commits to Aiding MSMEs to Prepare for Post Covid-19 Period* [online] Business Today. Available at: https://www.businesstoday.com.my/2020/07/14/lazada-commits-to-aiding-msmes-to-prepare-for-post-covid-19-period/ [Accessed 28 Nov. 2020].

Cheng, L. (2020). *Economic Hit from Covid-19 Worse than during Sars, Says Minister*. [online] South China Morning Post. Available at: https://www.scmp.com/news/hong-kong/hong-kong-economy/article/3076322/coronavirus-economic-impact-worse-during-sars.

Chong, S. and Pervan, G. (2007). Factors Influencing the Extent of Deployment of Electronic Commerce for Small-and Medium Sized Enterprises. *Journal of Electronic Commerce in Organizations*, 5(1), pp.1–29.

Di Gennaro, F., Pizzol, D., Marotta, C., Antunes, M., Racalbuto, V., Veronese, N. and Smith, L. (2020). Coronavirus Diseases (COVID-19) Current Status and Future Perspectives: a Narrative Review. *International Journal of Environmental Research and Public Health*, 17(8), p.2690.

Digital News Asia. (2020). *EY survey: Covid-19 Is a Game Changer for Digital Transformation*. [online] Digital News Asia. Available at: https://www.digitalnewsasia.com/business/ey-survey-covid-19-game-changer-digital-transformation [Accessed 28 Nov. 2020].

Editor, T. (2020). *COVID-19 Brings about Mass Digital Adoption*. [online] SME & Entrepreneurship Magazine. Available at: https://sme.asia/covid-19-brings-about-mass-digital-adoption/ [Accessed 28 Nov. 2020].

Editorial, B.T. (2020). *SME Association Urges Companies to Rebuild Foundations with technology, Post COVID-19*. [online] Business Today. Available at: https://www.businesstoday.com.my/2020/08/10/sme-association-urges-companies-to-rebuild-foundations-with-technology-post-covid-19/ [Accessed 28 Nov. 2020].

FMM Resource Center (2020). Small Businesses Start to Cut Salaries to Survive Covid-19. [online] FMM. Available at: https://www.fmm.org.my/FMM_In_The_News-@-Small_businesses_start_to_cut_salaries_to_survive_Covid-19.aspx [Accessed 28 Nov. 2020].

Haacker, M. (2004). *2. HIV/AIDS: The Impact on the Social Fabric and the Economy*. [online] International Monetary Fund. Available at: https://www.elibrary.imf.org/view/IMF071/14315-9781589063600/14315-9781589063600/ch02.xml?language=en [Accessed 28 Nov. 2020].

Jon, K., Lai, T., Hui, C., Dennis, N. and Meng, T. (2001). Electronic Commerce Adoption by SMEs in Singapore. . In: *Proceedings of the 34th Annual Hawaii International Conference on IEEE*.

Jordan (2020). *Accelerating E-Commerce Post COVID-19*. [online] SME & Entrepreneurship Magazine. Available at: https://sme.asia/accelerating-e-commerce-post-covid-19/ [Accessed 28 Nov. 2020].

Jordan (2020). *Malaysian Companies Already on the Way to Digitalization Pre-COVID*. [online] SME & Entrepreneurship Magazine. Available at: https://sme.asia/malaysian-companies-already-on-the-way-to-digitalisation-pre-covid/ [Accessed 28 Nov. 2020].

Kang, M. and Ltd, P.M.P. (2020). *E-commerce a Bright Spot amid COVID Economic gloom: Malaysia Digital Economy Corporation*. [online] People Matters. Available at: https://www.peoplemattersglobal.com/article/leadership/e-commerce-a-bright-spot-amid-covid-economic-gloom-malaysian-digital-economy-corporation-26068.

Karakaya, F. and Shea, T. (2008). Underlying Motivations for Establishing E-Commerce Business and Their Relationship to E-Commerce Success. *Journal of Internet Commerce*, 7(2), pp.153–179.

Kartiwi, M. and MacGregor, R.C. (2007). Electronic Commerce Adoption Barriers in Small to Medium-Sized Enterprises (SMEs) in Developed and Developing Countries. *Journal of Electronic Commerce in Organizations*, 5(3), pp.35–51.

Kendall, K.E., Kendall, J.E. and Kah, M.M.O. (2006). Formulating Information and Communication Technology (ICT) Policy through discourse: How Internet Discussions Shape Policies on ICTs for Developing Countries. *Information Technology for Development*, 12(1), pp.25–43.

Knobler, S., Institute Of Medicine (U.S.). Forum on Microbial Threats, Institute Of Medicine (U.S.). Board on Global Health and Al, E. (2004). *Learning from SARS: Preparing for the next Disease Outbreak: Workshop Summary*. Washington, Dc: National Academies Press.

Kurnia, S. (2006). *The Adoption of eCommerce by Developing Countries: an Indonesian Study*. [online] Available at: https://webcache.googleusercontent.com/search?q=cache:GFExNuNMHqwJ:https://people.eng.unimelb.edu.au/sherahk/Papers/SISC_developing%2520countries_Final.doc+&cd=2&hl=en&ct=clnk&gl=my&client=firefox-b-d [Accessed 28 Nov. 2020].

Lee, J. (2020). *Technology Adoption Can Help SMEs Reach New Customers* [online] The Star. Available at: https://www.thestar.com.my/business/smebiz/2020/05/09/technology-adoption-can-help-smes-reach-new-customers.

Leong, B. (2020). *COVID-19's Impact on Malaysia's E-commerce Market*. [online] Janio. Available at: https://janio.asia/articles/ecommerce-online-shopping-malaysia-covid-19/.

Liew, S. (2020). *Malaysian Businesses Urged to Accelerate Digital Transformation*. [online] HRM Asia. Available at: https://hrmasia.com/malaysian-businesses-urged-to-accelerate-digital-transformation/ [Accessed 28 Nov. 2020].

Mahalingam, E. (2020). *New Business Landscape Expected post-MCO* [online] The Star. Available at: https://www.thestar.com.my/business/business-news/2020/04/11/new-business-landscape-expected-post-mco.

Malay Mail (2020). *MDEC Rolls out Micro and SME e-commerce Campaign*. [online] Malay Mail Online. Available at: https://www.malaymail.com/news/money/2020/06/30/mdec-rolls-out-micro-and-sme-e-commerce-campaign/1880271#.X8JmWr2ZTzQ.link.

McKibbin, W. and Fernando, R. (2020). The Global Macroeconomic Impacts of COVID-19: Seven Scenarios. *Asian Economic Papers*, pp.1–55.

MDEC (2020). *MDEC Embarks on Efforts to Help SMEs Adopt Digital Technology*. [online] MDEC. Available at: https://mdec.my/news/mdec-embarks-on-efforts-to-help-smes-adopt-digital-technology/ [Accessed 28 Nov. 2020].

MSME (2020). 5G and Industry 4.0 to Push Forward Technology Adoption and Digital Transformation. [online] Malaysia SME®. Available at: https://www.malaysiasme.com.my/5g-and-industry-4-0-to-push-forward-technology-adoption-and-digital-transformation/ [Accessed 28 Nov. 2020].

MSME (2020). ASEAN Small Businesses Count on Technology to Beat COVID-19. [online] Malaysia SME®. Available at: https://www.malaysiasme.com.my/asean-small-businesses-count-on-technology-to-beat-covid-19/ [Accessed 28 Nov. 2020].

Nasco, S.A., Toledo, E.G. and Mykytyn, P.P. (2008). Predicting electronic commerce adoption in Chilean SMEs. *Journal of Business Research*, 61(6), pp.697–705.

Ng, W. (2020). *My Say: E-commerce Exports the post-MCO Catalyst for SMEs.* [online] The Edge Markets. Available at: https://www.theedgemarkets.com/article/my-say-ecommerce-exports-postmco-catalyst-smes [Accessed 28 Nov. 2020].

NST Business (2020). *SME Association: SMEs Need to Realise Role of Technology as Strategic Business Enabler* [online] NST Online. Available at: https://www.nst.com.my/business/2020/08/615531/sme-association-smes-need-realise-role-technology-strategic-business-enabler [Accessed 28 Nov. 2020].

NST Online (2020). *Small Businesses well-placed to Recover from Covid-19* [online] NST Online. Available at: https://www.nst.com.my/business/2020/04/583029/small-businesses-well-placed-recover-covid-19 [Accessed 28 Nov. 2020].

Ozili, P.K. and Arun, T. (2020). Spillover of COVID-19: Impact on the Global Economy. *SSRN Electronic Journal*.

Poon, S. and Swatman, P. (1997). The Internet for Small businesses: an Enabling Infrastructure. In: *In Fifth Internet Society Conference*.

Poorangi, M.M., Khin, E.W.S., Nikoonejad, S. and Kardevani, A. (2013). E-commerce Adoption in Malaysian Small and Medium Enterprises Practitioner Firms: a Revisit on Rogers' Model. *Anais Da Academia Brasileira De Ciências*, 85(4), pp.1593–1604.

Post, T.J. (2020). *SMEs Need Right Skills to Shine in E-commerce*. [online] The Jakarta Post. Available at: https://www.thejakartapost.com/academia/2020/07/21/smes-need-right-skills-to-shine-in-e-commerce.html [Accessed 28 Nov. 2020].

Priscilla, P. (2020). *Branching into Digital Transformation for SME post-Covid 19: Part 1*. [online] Exabytes Digital. Available at: https://www.exabytes.digital/blog/sme-branching-into-digital-transformation [Accessed 28 Nov. 2020].

Rahayu, R. and Day, J. (2016). E-commerce Adoption by SMEs in Developing countries: Evidence from Indonesia. *Eurasian Business Review*, 7(1), pp.25–41.

Ramayah and Koay, P. (2002). An Exploratory Study of Internet Banking in Malaysia. In: *The Proceedings of the 3rd International Conference on Management of Innovation and Technology*.

Rashid, A. (2020). *COVID-19: Impact on Malaysian Businesses*. [online] EY. Available at: https://www.ey.com/en_my/take-5-business-alert/covid-19-impact-on-malaysian-businesses.

Raz, M. (2020). *Covid Will Spur Digital Transformation of Malaysia's SMEs*. [Online] Malaysiakini. Available at: https://www.malaysiakini.com/advertorial/534698 [Accessed 28 Nov. 2020].

Robalino, D., Jenkins, C. and El Maroufi, K. (2002). The Risks and Macroeconomic Impacts of HIV/AIDS in the Middle East and North Africa: Why Waiting to Intervene Can Be Costly. *Policy Research Working Paper Series*, 2874.

Robalino, D.A., Voetberg, A. and Picazo, O. (2002). The Macroeconomic Impacts of AIDS in Kenya Estimating Optimal Reduction Targets for the HIV/AIDS Incidence Rate. *Journal of Policy Modeling*, 24(2), pp.195–218.

Scull, C., Milleski, A. and Millen, D. (1999). Envisioning the web: User Expectations about the cyber-experience. In: *ASIS '99: Proceedings of the 62nd ASIS Annual Meeting*.

Shretha, R. (2020). *SMEs Need Right Skills to Shine in E-commerce*. [online] The Jakarta Post. Available at: https://www.thejakartapost.com/academia/2020/07/21/smes-need-right-skills-to-shine-in-e-commerce.html.

SME Corp (2020). Additional Measures to Support SMEs Affected by the COVID-19 Outbreak. [online] SME Corp. Available at: https://www.smecorp.gov.my/index.php/en/initiatives/2020-03-31-00-53-27/additional-measures-to-support-smes-affected-by-the-covid-19-outbreak [Accessed 28 Nov. 2020].

Soh, C., Yong Mah, Q., Jek Gan, F., Chew, D. and Reid, E. (1997). The Use of the Internet for business: the Experience of Early Adopters in Singapore. *Internet Research*, 7(3), pp.217–228.

Street, C. and Meister, D. (2004). Small Business Growth and Internal Transparency: the Role of Information Systems. *MIS Quarterly*, 28(3), p.473.

Subramaniam, P. (2020). *Tech Companies Offer Digital Solutions to SMEs Hampered by Covid-19*. [online] The Edge Markets. Available at: https://www.theedgemarkets.com/article/tech-companies-offer-digital-solutions-smeshampered-covid19.

Sulaiman, M. (2020). *Here's Why Digitalization Should Be Part of Your Business Transformation*. [online] The Edge Markets. Available at: https://www.theedgemarkets.com/content/advertise/heres-why-digitalisation-should-be-part-your-business-transformation [Accessed 28 Nov. 2020].

Team, B. (2020). #TECH: MDEC Introduces SME Digital Quickwins to Assist Businesses Affected by Covid-19. [online] NST Online. Available at: https://www.nst.com.my/lifestyle/bots/2020/04/584241/tech-mdec-introduces-sme-digital-quickwins-assist-businesses-affected%20New%20Straits%20Times. [Accessed 28 Nov. 2020].

EY PR Team (2020). *COVID-19 - a Game Changer for Digital transformation, According to EY.* [online] EY. Available at: https://www.ey.com/en_my/news/2020/06/covid-19-a-game-changer-for-digital-transformation-according-to-ey [Accessed 28 Nov. 2020].

The Edge Markets (2020). *Covid-19 Pandemic Shows the Need for SMEs to Embark on Digital Transformation*. [online] The Edge Markets. Available at: https://www.theedgemarkets.com/content/advertise/covid-19-pandemic-shows-the-need-for-smes-to-embark-on-digital-transformation.

The Star Online (2020). *Reviving SMEs Key to Post Pandemic Recovery | the Star.* [online] The Star. Available at: https://www.thestar.com.my/business/business-news/2020/06/13/reviving-smes-key-to-post-pandemic-recovery [Accessed 28 Nov. 2020].

The Star Online (2020). *Technology Adoption Can Help SMEs Reach New Customers | the Star.* [online] The Star. Available at: https://www.thestar.com.my/business/smebiz/2020/05/09/technology-adoption-can-help-smes-reach-new-customers [Accessed 28 Nov. 2020].

Tranfield, D., Denyer, D. and Smart, P. (2003). Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. *British Journal of Management*, 14(3), pp.207–222.

Yusof A. (2019). World Bank Identifies Three Indicators for Malaysia to Ease of Doing Business. [online] NST Online. Available at: https://www.nst.com.my/business/2019/10/533243/world-bank-identifies-three-indicators-malaysia-ease-doing-business.

Z, H., Masa'deh, R., Mansour, M. and Al-Nawafleh, A. (2009). Electronic Commerce Adoption Barriers in Small and Medium-Sized Enterprises (SMEs) in Developing Countries. In: *the 11th IBIMA Conference*.

Zahiid, S.J. (2020). For Perikatan's technocrats, Covid-19 an Opening to Reset Malaysia's Economy. [online] Malay Mail. Available at: https://www.malaymail.com/news/malaysia/2020/04/24/for-perikatans-technocrats-covid-19-an-opening-to-reset-malaysias-economy/1859855 [Accessed 28 Nov. 2020].