

EMPOWERING CROSS-BORDER WOMEN ENTREPRENEURS VIA MOBILE ICT: FRAMEWORK FOR MALAYSIAN AND INDONESIAN WOMEN-LED MSMEs

¹Dewi Sad Tanti, ^{*2}Robert Jeyakumar Nathan, ³Ponco Budi Sulisty, ⁴Soekmawati, ⁵Farah Hanim & ⁶Viviane Sarjuni

^{1,3} Faculty of Communications Studies, University Mercu Buana,
Jakarta, Indonesia.

^{2,4,5} Faculty of Business, Multimedia University,
75450 Bukit Beruang, Melaka, Malaysia.

⁶ Sabah Creative Economy and Innovation Centre,
88460 Kota Kinabalu, Sabah, Malaysia.

*Corresponding author: robert.jeyakumar@mmu.edu.my

Received: 13.03.2021

Accepted: 28.05.2021

ABSTRACT

Women's share in the business sector in Malaysia and Indonesia lags behind their male counterpart. However, Information and Communication Technology (ICT) could serve as a game changer to empower women startup and entrepreneurs. The acceptance and usage of Mobile ICT in business operations could empower more women-led Micro, Small and Medium Enterprises (MSMEs) to grow and fulfill customer needs and wants. However, there is a lack of established models to measure mobile ICT's role in women MSMEs in these developing countries. Through the review of policy papers and relevant literatures, this study presents a framework to assess the adoption of Mobile ICT in women-led MSMEs factoring cross-border networking. Building upon Social Network Theory and Technology Acceptance Model, this study presents a framework and discusses recommendations for further action to empower women-led MSMEs in both countries by leveraging on cross-border networking capabilities between Indonesian and Malaysian women-led MSMEs. This study highlights the strength of international and cross-border networking among

women startup and entrepreneurs where mentoring could happen to empower women startups and entrepreneurs.

Keywords: Mobile ICT usage, women empowerment, MSMEs development, workforce digitization, cross-border entrepreneurship, social network theory, startups.

Cite as: Tanti, D. S., Nathan, R. J., Sulisty, P. B., Soekmawati, Hanim, F., & Sarjuni, V. (2021). Empowering cross-border women entrepreneurs via mobile ICT: Framework for Malaysian and Indonesian women-led MSMEs. *Journal of Nusantara Studies*, 6(2), 340-357.
<http://dx.doi.org/10.24200/jonus.vol6iss2pp340-357>

1.0 BACKGROUND

In most Asian regions, state-owned companies or well-connected large corporations continuously receive privileged access to resources, procurement contracts and government concessions. Small businesses, on the other hand, lacks access to such privileges. In Indonesia, for instance, many people do not consider MSMEs and often choose to work in larger established companies.

Although MSMEs are often undervalued by public, their role in boosting nation's economy is pivotal. Association of Southeast Asian Nations (ASEAN) has also been giving strong emphasis to MSMEs and Entrepreneurship development agenda through the ASEAN Coordination Committee for Micro Small and Medium Enterprises (ACCMSME). Significant progress has been made in relation to the ASEAN Strategic Action Plan for MSME Development (SAPSMED 2016 - 2025) and further work is needed to tap on the Information and Communication Technology (ICT) potential to boost MSMEs participation in the economy (ASEAN SME Academy, 2021). Interest for SMEs and startup has increased, and demand for home-based businesses has also increased in the recent years (Nathan, Victor, Gan, & Kot, 2019), with the recent covid-19 pandemic believed to further boost the role of MSMEs to sustain the economy.

Women participation and success in MSME is Indonesia and Malaysia are relatively lower compared to their male counterpart (OECD, 2017). Even though there are government policy papers and structural assistance, these could rarely reach the masses of women in both countries. Various factors hinder women to explore these opportunities and be empowered to gain significant share of the business sector in Indonesia and Malaysia including formal education qualifications. However, the advent of ICT promises to be a game changer and more women are willing to try

this new modality and avenue to venture into MSMEs. Mobile ICT such as using a mobile app and e-wallet for business transactions provide a more agile way of utilizing ICT which requires less effort to learn and adapt. The intuitiveness and learnability of Mobile ICT allows more individuals to apply it in their business.

Mobile ICT also provides a new platform and possibility for women entrepreneurs in Indonesia and Malaysia to communicate and establish networking among them. As Indonesian and Malaysian women are also able to communicate easily in mutually understandable language, it makes relationship and network building among women seamless. However, there is a lack of framework to understand and advocate women participation in MSMEs in Indonesia and Malaysia, for utilizing the potential of Mobile ICT and strength of networking between women-led MSMEs in both countries. Current frameworks for women entrepreneurship focus on each country and lack the inclusion of Mobile ICT as well as cross-border networking among women the region.

1.1 Forth Industrial Revolution: Mobile ICT for International Networking

Currently the world has entered the fourth industrial revolution (Industry 4.0) that upends latest economic framework. This revolution provides challenges and opportunities for future economic development. ICTs are indeed regarded as an essential element in the current business world (Goswami & Dutta, 2015). Mobile ICT would only take this further as people can use ICT tools on the go and it reaches wider users in both urban and rural locations. In today's digital era, the presence of Mobile ICT is becoming part and parcel of people's daily lives. Mobile ICT allows access to various mobile applications as well that makes supply chain processes simpler for business. This also leads to the potential of applying Artificial Intelligence in business as Mobile ICT provides greater connectivity and access to user data. According to Nagy, Oláh, Erdei, Máté, and Popp (2018), digitization, automation and the use of Artificial Intelligence in business activities would increase productivity and efficiency in modern production, as well as provide convenience and comfort for consumers. Among Indonesians, the development and integration of Mobile ICT can be observed at two levels. Firstly, the technological factors change the structure of Indonesian society. This change encompasses a society that relies on face-to-face and conventional mass media consumption to a society that is more dominant using electronic devices and virtual Mobile Apps.

Secondly, cultural changes in communication modes have implications for changes in the ways in which information is used in the society (Siregar, 2010). Mobile ICT integration among Indonesians is particularly impactful when it comes to adaption of Internet of Things (IoTs) in their daily lives. The data shows that Indonesian internet users are ranked at the 6th position in the world; this position is expected to climb higher as the number of users continue to grow along with the ease of obtaining internet access in Indonesia. Data from the Ministry of Communication and Informatics of the Republic of Indonesia reveals that Indonesian internet users have reached 73.7 percent from total population or approximately 196 million users in 2019 (Eloksari, 2020).

The Deloitte Access Economy Report (2015) shows that the benefits of using digital technology for MSMEs in Indonesia would have the potential to increase their incomes by up to 80 %. Furthermore, it is predicted that startups that would dominate Indonesia would be from the e-Commerce and Fintech industries (Shimada, 2017). As the number of internet users multiply rapidly compounded with the increase in e-commerce penetration, the contribution of this sector to the Indonesian economy has a promising prospect. In Indonesia, the use of basic ICT, in terms of operating computers and assessing internet, among MSMEs is relatively popular. However, incorporating Mobile ICT in support of business management efficiency is relatively low. Internal challenges are visible among entrepreneurs. For example, entrepreneurs' personality traits, education, and prior experiences are found to have impact to their entrepreneurship activities (Kim, Abdullah, Thuy, & Boey, 2020). Successfully incorporating ICT is found useful for SMEs internationally, especially in improving customer satisfaction via online presence (Gonda, Görgényi, Nathan, & Farkas, 2020).

The Malaysian government has actively promoted the development and growth initiatives towards digitalization. Malaysian Communication and Multimedia Commission (MCMC) supported ICT implementation to advance MSMEs' overall economic agenda. However, the Malaysian adoption of ICT in MSMEs is reportedly low, at only around 10 per cent. There are more than 600,000 MSMEs in Malaysia but the percentage of MSMEs owners who integrate ICT in their business operation is relatively small (Ministry of International Trade and Industry, 2016). Explained in the findings of Malaysian SME Corporation Masterplan study, there are several key attributes that must be handled by the government in order to empower all the MSMEs as a new hub of economic growth (SME Corp, 2012). Firstly, it is important to create a platform to facilitate ease of doing business for the MSMEs to increase the productivity in workplace. Secondly, ease

of access to finance and market allows high business formation, hence, it serves as a foundation for the advancement of MSMEs to achieve the national goal of becoming a high-income nation.

In addition, human capital and entrepreneurship development as well as fostering innovation would enable Malaysia to transform the proof of concept to the commercialization stage. However, there is a concerning issue especially for women entrepreneurs in Sabah where Internet infrastructure is still poor, causing them unable to access to the wider consumer market (Business Today, 2020). Therefore, it is crucial for the government to not use one-size-fits-all template and be more attuned to different landscapes and demographics in Malaysia. To increase MSMEs performance, improvement of ICT adoption is needed in MSME business operations activities, knowledge of electronic commerce as well as innovative thinking (Nathan et al., 2019; Muljono, Setiyawati, Sudarsana, & Setiawati, 2021).

2.0 LITERATURE REVIEW

2.1 MSMEs and Their Potential Growth in Malaysia

In Malaysia, the term of SME is commonly used which stands for Small- and Medium- sized Enterprise. A common definition for SMEs is endorsed by Malaysian National SME Development Council (NSDC) and adopted across government ministries, agencies and financial institutions and regulators involved in SME development programs in the country. The main goal of the council is to ensure holistic and coordinated development of SMEs across all sectors of the economy and to ensure all employees could flourish as well (Kim et al., 2020).

Specifically, the Malaysian NSDC defines SME as (1) for manufacturing industry: an enterprise that has sales turnover not exceeding RM50 million or full-time employees not exceeding 200 workers; (2) for services and other sectors: an enterprise that has sales turnover not exceeding RM20 million or full-time employees not exceeding 75 workers. Based on this definition, the total SMEs in Malaysia stands at 907,065 or 98.5% of the total business establishments in the country. With such sizable number, SMEs are considered as the main driver of the country's economic stability and growth. According to the Department of Statistics, SMEs contributed 35.9% to Malaysia's Gross Domestic Product (GDP) in 2014 and fast forward to year 2019, SMEs' contribution to GDP rose to 38.9% (Department of Statistics Malaysia, 2020)

2.2 MSMEs and Their Pivotal Role in Indonesian Economy

As for Indonesia, the SME terminology in Indonesia is commonly referred to as MSME which stands for Micro, Small, and Medium Enterprise. Classification of enterprise as a MSME is governed under the Indonesia's Law No. 20 of 2008 concerning MSMEs. In this law, micro enterprises are defined as productive businesses owned by individuals and/or individual business entities that meet the criteria of micro enterprises as regulated in law. Wilantara and Indrawan (2016) in their study emphasized the important position that MSMEs play in Indonesian economy. This is evident by the number of existing businesses and their contribution to job creation and to GDP. Indonesian government sees a great potential of MSMEs in boosting the nation's economy and successfully strengthening Indonesian economy from hyperinflation and financial crisis.

As of year 2018, MSMEs' contribution to Indonesian GDP reached 62 percent, or equivalent to IDR 8,000 trillion (Bank Rakyat Indonesia, 2021). With such large contribution made by MSMEs to the country, the Indonesian government encourages MSMEs to embrace ICT in order to further expand market reach of MSME. The steps taken by the central and local government include preparation of program and facilities the growth of MSMEs and entrepreneurial interest in the community. According to McClelland (2004) and Poggesi, Mari, and De Vita (2015), the right government policies will help soften the ground to encourage entrepreneurship and innovation among women. Women entrepreneurs could benefit from the vision of economic leaders to create smart economy as women in Indonesia are increasingly showing interest in participating in economic activities (Fauzi, Fasta, Nathan, & Jeong, 2020).

2.3 Women Entrepreneurship and Cross-Border Networking

Recent studies show greater interest in Indonesian and Malaysian MSMEs to accept foreign products into their local market (Nathan et al., 2020). Acceptance of foreign products and culture makes the local economies more open for trade, collaboration and networking. In Indonesia and Malaysia, women entrepreneurs are increasingly recognized to play an important role to the unprecedented rate of growth of the MSMEs in both countries (The Asia Foundation, 2016). Women in Indonesia are becoming increasingly active in the entrepreneurial space. More than fifty per cent of enterprises in Indonesia are owned by women; however, the majority are concentrated in MSMEs, and the rate of women's entrepreneurship declines as the size of the business increases. According to the Global Entrepreneurship Monitor (GEM) 2016/2017, female entrepreneurship

rate in Indonesia was 15.6 per cent in period of 2015 - 2016. This indicates the share of adult women who were engaged in early-stage business activity, defined as a business that has existed for 3.5 years or less. This rate was lower than that in the Philippines and Thailand, but higher than those in Vietnam, China, and Malaysia. GEM Report 2019/2020 highlights that entrepreneurship in Indonesia suffers from the lack of internationalization and of use of medium-to-high technologies (Global Entrepreneurship Monitor, 2021).

Supporting women entrepreneurs, particularly owners and leaders of MSMEs, has been the focus for both Malaysian and Indonesian governments, via providing access to capital, including microfinancing has been made available in order to encourage more women's entrepreneurship initiatives. The Malaysian government has come to realize that fostering the development of women entrepreneurship in the country is crucial for the achievement of Malaysia's broader development objectives including economic development and growth. Malaysian government has pledged to ensure that women entrepreneurs are not marginalized in this era of ICT. In Malaysia's Shared Prosperity Vision 2030, nine groups will be given priority for development and government assistance in order to improve their socioeconomic status and to ensure that no one is left behind and one of them is women (Shared Property Vision, 2020).

In Indonesia, President Suharto made vital political and economic progress for MSME since year 2010. In terms of financial policy, the government is implementing a micro-finance approach and program for women in Indonesia and providing better access to capital at a relatively low level of interest, specifically targeting the growth of small rural banks. This alternative provision of financial services makes it easier for small rural banks to borrow funds to assist small and medium-sized enterprises. Indonesian policy makers are aware of the role of women entrepreneurs in the country to substantially contribute towards economic stability by creating jobs, providing affordable goods and services and eventually eradicate poverty.

Unfortunately, women startups often face some discriminations. In Indonesia for instance, although female entrepreneurs are burdened by the same bureaucratic constraints in the business environment as men, they often face discriminatory regulatory and informal practices that make starting and expanding a business even more difficult. Poggese et al. (2015) highlighted the differences in the access to finance in developed countries where financial discrimination against women entrepreneurs does not exist because of legal restrictions while in developing countries gender discrimination in the access to finance still exists. For example, obtaining a business license

requires that the business owner shows evidence of a tax identification number. However, regulations dictate that one tax identification number per household, which is automatically given to the husband. As a result, women startups are required to have recommendation letters from their spouse or parent, which are not the case for men (The Asia Foundation, 2016). In addition to the prevalence of gender disparities in women's vocational and technical skills, the other major constraints faced by women entrepreneurs in Indonesia are financial constraints (World Bank Indonesia, 2016).

Tanusia, Marthandan, and Subramaniam (2016) posits that government support for women-owned enterprises is indeed an enabler of women-entrepreneurial success, but lack of knowledge, skills and social circle support to women their businesses were observed constraints among the women-entrepreneurs in Malaysia. Among the lacking skills includes mobile ICT competencies. Realizing the value of ICT in business today, especially with the wide penetration of mobile ICT usage among the community, it is timely for the government and policy makers to implement policies that can empower women-led MSMEs to leverage the use of mobile ICT devices and networks.

2.4 Empowering Women Entrepreneurship through Mobile ICT and Cross-Border Networking

Past literatures on gender and economic rights expounds on the link between women's economic rights and women's empowerment. Capability in providing economic resources has become an important element in women's empowerment as it would improve their bargaining position in the household. By strengthening their bargaining position and building women's confidence, it is assumed that women's position in the community could be improved, hence their participation in community affairs and decision-making are encouraged (Kangas, Haider, & Fraser, 2014). Ensuring women's economic rights could be achieved via empowering them as entrepreneurs of MSMEs. Through entrepreneurship, women would be freed from some constrictions, especially the pre-existent social order surrounding them (Ojediran & Anderson, 2020). Evidently, recent studies begin to show special interest in the cross-border relationship among consumers and potential for businesses in Malaysia and Indonesia (Lee, Jung, Nathan, & Chung, 2020).

Adoption of ICT in supporting their businesses would be a timely solution for women entrepreneurs as ICT offers many advantages for business operations. Muljono et al. (2021) argue

that the advantages behind the adoption of ICTs by MSMEs would lead to better resilience for MSMEs and allow them to be more innovative. The study also highlights the benefit of potential mentoring through ICT adoption among MSMEs. Mobile ICT and smartphone usage among women entrepreneurs can be viewed as a disruptive technology in their hand for business. Disruptive technologies such as this has been viewed historically as an anomaly in the mastery of technology, however with proportionate behavioural changes among users, would lead to growth (Christensen, Altman, McDonald, & Palmer, 2017). Women entrepreneurs today has a powerful tool/enabler in their hand, which they may not have realized. The smartphone in their hand is the disruptive technology, and with the right knowledge would serve as game changer and enabler for their mobile ICT usage in business.

Beyond the usual business pros of mobile ICT adoption, there are four primary benefits tied specifically to female entrepreneurs: (i) a degree of anonymity, which shields women from some gender biases, (ii) greater access to networks and knowledge sharing, (iii) the flexibility to shift the time and place of work, which allows women to both balance domestic and entrepreneurial responsibilities and avoid dangerous commutes, and (iv) time and cost efficiencies in managing their businesses, which disproportionately benefit women given that they are more time impoverished than men (Sasakawa Peace Foundation, 2017). Digitalization and ICT could transform the entrepreneurial ecosystem, offering a flexible yet efficient way to funding and providing global market opportunities for women entrepreneurs to thrive (Ughetto, Rossi, Audretsch, & Lehmann, 2020). In a recent qualitative literature review by Paoloni, Secundo, Ndou, and Modaffari (2019), a new phenomenon of women digital entrepreneurship was discovered. It refers to how women entrepreneurs could leverage “digital technologies in order to shift the traditional way of creating and doing entrepreneurship toward new perspectives where digital technologies play an increasingly relevant role for success” (Paoloni et al., 2019, p. 189).

From the study of ICT adoption among owners of small firms, Orser and Riding (2018) found that gender-related factors influence ICT adoption decision, where the study found women were less likely to adopt ICT for business than men. Across Indonesia, Malaysia and Singapore, women’s access to the Internet is 4% lower than men, while women have 4-14% lower mobile phone ownership than men. Despite this gender gap in ICT usage, mobile phones appear to be a better and promising ICT medium to reach women startups and entrepreneurs. Across Southeast

Asia, women are far more likely to use mobile phones than laptops. Most women tend to use mobile phone to access social networking applications such as Facebook.

Recent studies also have highlighted the role of cross-border networking and usage of ICT among women entrepreneurs (Kim et al., 2020). Mobile ICT would inevitably strengthen women's international networking modality and encourage startup among women in these regions by allowing them to mentor other startups in the region or receive mentorship from experienced entrepreneurs. Malaysian Global Innovation and Creativity Centre (MaGIC) has come up with an online mentoring platform for free online collaboration with FutureLab. The Mobile ICT tool acts as an online mentorship platform that connects students, working professionals, jobseekers and entrepreneurs with experts from the industry across the region. Likewise, for rural development, the Sabah Creative Economy and Innovation Centre (SCEIC) has also followed in this footsteps to offer mobile ICT mentorship platform in Sabah for their startup and entrepreneurs.

3.0 THEORETICAL UNDERPINNINGS: SOCIAL NETWORK THEORY AND TECHNOLOGY ACCEPTANCE MODEL

Studies on entrepreneurship have incorporated various fundamental theories in explaining how the entrepreneurship process could be successfully carried out by an entrepreneur. One of the famous theories utilized in the entrepreneurship studies is the Network Theory which initially focused on relations between discrete entities. Adaptation of this theory expanded vastly to conceptual frameworks of studies in various disciplines, such as computer science, climatology, economics, electrical engineering, finance and entrepreneurship. Its wide applications in social sciences have established the sub-theory of the Social Network Theory (Liu, Sidhu, Beacom, & Valente, 2017), including those that explained attributes of a successful entrepreneurship.

It is the nature for entrepreneurs to always aim for profit maximization and thus, find the best way to capitalize on opportunities to sustain their businesses. One of the keys to open more opportunities is through impactful social networking. It has been long recognized that a strong bond among a group of people would be established resulting to a social capital for those individuals (Brass, 1992; Burt, 1992). With strong social network and capital, entrepreneurs would be able to access useful information and market knowledge, obtain market insights and gain necessary assistance, in terms of collaboration as well as moral support (Subrahmanyam, 2019). Moreover, inter-organizational network and access of relevant knowledge are among the important

assets for entrepreneurial innovation and sustainability (Lechner & Dowling, 2003).

Based on the Social Network Theory, two variables; ‘Strength of International Women Networking’ and ‘Mobile ICT Knowledge and Skills’ were included in the conceptual framework as the determinants of ‘Mobile ICT Adoption by Women-Led MSME’. Since this conceptual paper discusses on adoption of mobile ICT, inclusion of Technology Acceptance Model (TAM) was apt to grasp aspects of women entrepreneurs’ acceptance of technology. TAM serves as a conceptual basis for Information System research (Hubert et al., 2019). It was introduced by Davis (1989) who examined how perceived usefulness and perceived ease of use would affect users’ acceptance of information technology. Besides, cost factor was also identified as an important determinant in influencing adoption of technology, particularly that of Information System (Seyal & Rahim, 2006; Subrahmanyam, 2019).

3.1 Proposed Conceptual Framework

Based on the discussion above, this paper formulates a theoretical model for women empowerment in MSMEs through the use of ICT, particularly via mobile ICT and cross-border networking among women in Indonesia and Malaysia. The theoretical framework formed would assist with improved policy-making that empowers women in its technological aspects and potentially uplift the socio-economic status of women entrepreneurs. Moreover, lack of quantitative studies on women entrepreneurs was identified, particularly those of cross-countries comparative studies (Meyer, 2018). There is urgency in establishing a conceptual framework capturing the essentials of digital transformation in women-led MSME to foster greater and effective women startups.

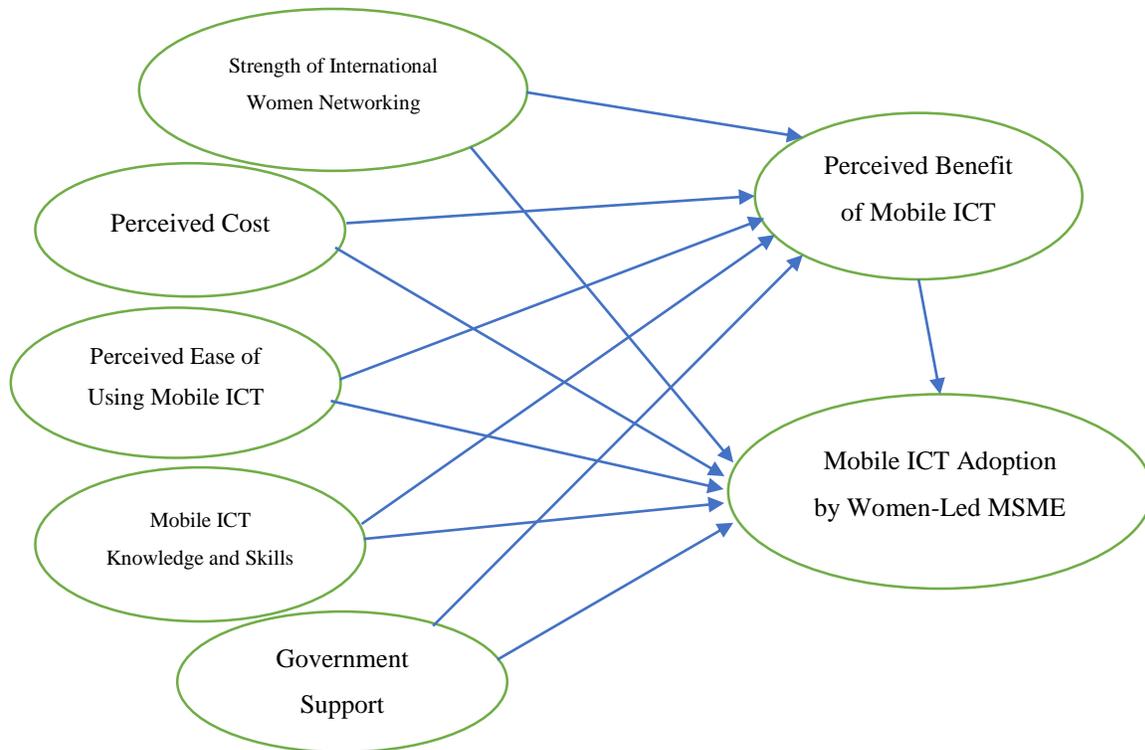


Figure 1: Framework for Mobile ICT adoption among Women Entrepreneurs in Indonesia and Malaysia

Figure 1 presents the proposed research framework to investigate the crucial factors that would lead to the adoption of mobile ICT in MSMEs led by women in Malaysia and Indonesia. Based on the theoretical discussion presented earlier, this study proposes five independent variables, one mediating variable and one dependent variable as a research framework.

The strength of international women networking between women entrepreneurs and startup founders in Malaysia and Indonesia is expected to positively impact their perceived benefit of mobile ICT and eventually lead to its adoption. Similarly, the perceived ease of use of mobile ICT, women's mobile ICT knowledge and skills, and government support towards mobile ICT adoption for women-led MSMEs from both countries, are expected to positively impact their perceived benefits of mobile ICT while positively impacting their adoption of mobile ICT simultaneously.

On the other hand, this framework introduces one independent variable which is expected to have a negative impact towards their perceived benefit of mobile ICT, which is the perceived cost of mobile ICT investments for MSMEs. This perceived cost is also expected to negatively

influence their adoption of mobile ICT for their MSMEs. The perceived benefits of mobile ICT is positioned in this framework as a mediating variable that would mediate the relationships between the independent and the dependent variable. Based on these expected relationships among the research variables, relevant hypotheses can be formulated to empirically test this research framework.

4.0 THE WAY FORWARD

Despite physical geographical boundaries, the world is getting more connected than ever with rapid cross-border exchange of information via ICT. This ICT ecosystem, especially the mobile ICT ecosystem empowers women to become a startup founder and get involved in entrepreneurship as it gives them more flexibility in managing family and work. The digital environment encourages women MSMEs to participate in business activities, to be more adaptive, resilient and responsive towards needs of customers as well as changes in business environment.

Mobile ICT devices such as mobile commerce encourages the emergence of new patterns in communication as well as innovative development on how information is accessed and shared. It also allows greater agility for businesses to perform mobile commerce and manage deliveries of products to consumer, even supporting contactless delivery such as click-and-collect delivery systems that are especially instrumental during pandemic such as the covid-19 pandemic (Victor, Sharfa, Nathan, & Hanaysha, 2018).

Ideally, mobile ICT could serve not only a means of supporting operations but also as a means of supporting business directions as a strategic business enabler with customer analytics abilities. Thus, the existence of mobile ICT as a business enabler requires that mobile ICT is placed in a strategic position in business so that it becomes an integral part of the business value chain. Although women entrepreneurs would benefit substantially via mobile ICT integration in their businesses, the process of empowering women in MSMEs via mobile ICT requires the support of all stakeholders especially from the public sector. On the other hand, mentoring session between new startup entrepreneurs and experienced entrepreneurs should be encouraged and extended.

Mentoring could be further enhanced by establishing cross-border networks among entrepreneurs from Malaysia and Indonesia. Such networks of mutual support would further empower women entrepreneurs from both countries where the Mobile ICT platforms could assist in allowing their seamless interaction. Especially during the time of pandemic, when international

travels are restricted, mobile ICT platform can offer networking among entrepreneurs from various location without having to meet physically.

Policymakers can also provide right platforms for women to learn ICT skills needed to grow their businesses. Further to this model, future studies could also model into the framework dimensions to measure women startup and entrepreneurs' wellbeing and mental health as these issues have become of growing concern, especially during the pandemic (Görgényi, Nathan, & Farkas, 2021). Overall, the theoretical framework constructed in this study could be further measured and validated by quantitative data collection in both countries.

5.0 CONCLUSION

Facing a future of an increasingly flat and connected world, there must be a condition that uplifts and encourages women-led MSMEs to be more adaptive, resilient and responsive in the changing business environment. Unfortunately, low access and usage of ICT remain as constraints for women. In recent times, the participation of women entrepreneurs around the world has increased and contributed significantly to the growth of the economy, this is also fueled by the access to mobile ICT among women. However, women in Malaysia and Indonesia need more empowerment to achieve greater progress in business.

Malaysian and Indonesian women-led MSMEs and startups could embrace mobile ICT technologies and improve their business sustainability. Both countries' commitment to women startups is encouraging, however more can be done to empower and upskill women. Women here have a powerful tool in their hand; the smartphone. With the right knowledge and skill-set training, they could transform their smartphones into mobile ICT business solution, and take their business beyond national borders through cross-border networking.

MSMEs play an important role in the revitalization and growth of the national economy for both Malaysia and Indonesia. Women's role in the economy of both countries are valuable and undeniable, however there is a lack the right mix of empowerment and framework to support their active participation and sustainability in business. The dawn of digital business, progress of mobile ICT and international cross-border networking would serve as a game changer to empower and strengthen women startups and women-led MSMEs in Malaysia and Indonesia.

ACKNOWLEDGEMENT

This research was funded by Universitas Mercu Buana, Indonesia (Funding ID: 02-5/032/B-SPK/IX/2019) and supported by Multimedia University, Malaysia.

REFERENCES

- ASEAN SME Academy. (2021). ASEAN coordinating committee for MSMEs. <https://asean-sme-academy.org/about/about-the-organizer/asean-coordinating-committee-for-msmes/>
- Bank Rakyat Indonesia. (2021). BRI microfinance outlook spurs positive growth in Indonesian Microfinance and SME Sector. <https://www.prnewswire.com/news-releases/bri-microfinance-outlook-spurs-positive-growth-in-indonesian-microfinance-and-sme-sectors-301280862.html>
- Brass, D. J. (1992). Power in organizations: A social network perspective. *Research in Political Sociology*, 4(1), 295-323.
- Burt, R. S. (1992). *Structural holes: The social structure of competition*. Harvard University Press.
- Business Today. (2020, November 30). Resolving digital poverty in Sabah is the way forward. *Business Today*. <https://www.businesstoday.com.my/2020/11/30/resolving-digital-poverty-in-sabah-is-the-way-forward/>
- Christensen, C. M., Altman, E. J., McDonald, R., & Palmer, J. E. (2017). Disruptive innovation: Intellectual history and future paths. *Journal of Management Studies*, 55(7), 1043-1078.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.
- Deloitte Access Economy Report. (2015). *UKM pemicu kemajuan Indonesia*. Instrumen Pertumbuhan Nusantara Jakarta.
- Department of Statistics Malaysia. (2020). Small and Medium Enterprises (SMEs) Performance 2019. <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=VjM1enZ2RmlVRDVTNFAwRWZiZUs3QT09>
- Eloksari, E. A. (2020, November 11). Indonesian internet users hit 196 million, still concentrated in Java: APJII survey. *The Jakarta Post*. <https://www.thejakartapost.com/news/2020/11/11/indonesian-internet-users-hit-196-million-still-concentrated-in-java-apjii-survey.html>

- Fauzi, E. P., Fasta, F., Nathan, R. J., & Jeong, S. W. (2020). Modern Muslimah in media – A study of reception analysis in “Saliha” program on Net TV. *Aspiration Journal*, 1(2), 135-162.
- Global Entrepreneurship Monitor. (2021). Global report 2019/2020. <https://www.gemconsortium.org/report/gem-2019-2020-global-report>
- Gonda, G., Görgényi, E. H., Nathan, R. J., & Farkas, M. F. (2020). Competitive factors of fashion retail sector with special focus on SMEs. *Economies*, 8(4), 1-18.
- Görgényi, E. H., Nathan, R. J., & Farkas, M. F. (2021). Workplace health promotion, employee wellbeing and loyalty during Covid-19 pandemic – Large scale empirical evidence from Hungary. *Economies*, 9(2), 1-22.
- Goswami, A., & Dutta, S. (2015). ICT in women entrepreneurial firms: A literature review. *Journal of Business and Management*, 17(2), 38–41.
- Hubert, M., Blut, M., Brock, C., Chang, R. W., Koch, V., & Riedl, R. (2019). The influence of acceptance and adoption drivers on smart home usage. *European Journal of Marketing*, 53(6), 1073-1098.
- Kangas, A., Haider, H., & Fraser, E. (2014). *Gender: Topic guide* (Revised edition). GSDRC, University of Birmingham.
- Kim, M., Abdullah, S. C., Thuy, N. T. B., & Boey, I., (2020). Female entrepreneurship in the ICT sector: Success factors and challenges. *Asian Woman*, 36(2), 43-72.
- Lechner, C., & Dowling, M. (2003). Firm networks: External relationships as sources for the growth and competitiveness of entrepreneurial firms. *Entrepreneurship and Regional Development*, 15(1), 1–26.
- Lee, Y. L., Jung, M., Nathan, R. J., & Chung, J.-E. (2020). Cross-national study on the perception of the Korean wave and cultural hybridity in Indonesia and Malaysia using discourse on social media. *Sustainability*, 12(15), 1-33.
- Liu, W., Sidhu, A., Beacom, A. M., & Valente, T. W. (2017). *Social network theory. The international encyclopedia of media effects*. John Wiley & Sons, Inc.
- McClelland, E. (2004). Irish female entrepreneurs: Mapping the route to internationalization. *Irish Journal of Management*, 25(2), 92–107.
- Meyer, N. (2018). Research on female entrepreneurship: Are we doing enough? *Polish Journal of Management Studies*, 17(2), 158-169.

- Ministry of International Trade and Industry. (2016). SME technology dilemma global competitiveness article 01/2016. http://www.mpc.gov.my/wp-content/uploads/2016/03/GC-Article-01_2016_Final.pdf
- Muljono, W., Setiyawati, S., Sudarsana, & Setiawati, P. P. (2021). Barriers to ICT adoption by SMEs in Indonesia: How to bridge the digital disparity? *Jurnal Aplikasi Manajemen*, 19(1), 69–81.
- Nathan, R. J., Victor, V., Gan, C. L., & Kot, S. (2019). Electronic commerce for home-based businesses in emerging and developed economy. *Eurasian Business Review*, 9(4), 463-483.
- Nathan, R. J., Yang, H., Chung, J., Jin, B. E., Jeong, S. W., & Nasution, R. A. (2020). Business implications for Korean products entering multicultural Malaysian market. *Polish Journal of Management Studies*, 22(2), 277-290.
- Nagy, J., Oláh, J., Erdei, E., Máté, D., & Popp, J. (2018). The role and impact of Industry 4.0 and the Internet of Things on the business strategy of the value chain – The case of Hungary. *Sustainability*, 10(1), 3491.
- OECD. (2017). Strengthening women’s entrepreneurship in ASEAN: Towards increasing women’s participation in economic activity. https://www.oecd.org/southeast-asia/regional-programme/Strengthening_Womens_Entrepreneurship_ASEAN.pdf
- Ojediran, F., & Anderson, A. (2020). Women’s entrepreneurship in the global south: Empowering and emancipating? *Administrative Sciences*, 10(4), 1-22.
- Orser, B. J., & Riding, A. (2018). The influence of gender on the adoption of technology among MSMEs. *International Journal of Entrepreneurship and Small Business*, 33(4), 514–531.
- Paoloni, P., Secundo, G., Ndou, V., & Modaffari, G. (2019). Women entrepreneurship and digital technologies: Towards a research agenda. In P. Paoloni, & R. Lombardi (Eds), *Advances in gender and cultural research in business and economics* (pp. 181-194). Springer.
- Poggesi, S., Mari, M., & De Vita, L. (2015). What’s new in female entrepreneurship research? Answers from the literature. *International Entrepreneurship and Management*, 12(1), 735–764.
- Sasakawa Peace Foundation. (2017). *Growing women's entrepreneurship through ICT in Southeast Asia*. Dalberg.

- Seyal, A. H., & Rahim, M. M. (2006). A preliminary investigation of electronic data interchange adoption in Bruneian small business organisations. *The Electronic Journal of Information Systems in Developing Countries*, 24(4), 1-21.
- Shared Property Vision. (2020). Shared property vision report. <https://www.epu.gov.my/sites/default/files/202002/Shared%20Prosperity%20Vision%202030.pdf>
- Shimada, L. (2017, March 21). Malaysia, Indonesia, Thailand dan Singapura: Pusat kekuatan "Fintech" baru di Asia. *Kompas*. <https://money.kompas.com/read/2017/03/21/120000126/malaysia.indonesia.thailand.dan.singapura.pusat.kekuatan.fintech.baru.di.asia>.
- Siregar, S. (2010). *Statistika deskriptif untuk penelitian*. Pt. Rajagrafindo Persada.
- SME Corp. (2012). SME masterplan 2012-2020. <https://www.smecorp.gov.my/images/flippingbook/SMEmasterplan/PDF/SMEMasterplan2012-2020.pdf>
- Subrahmanyam, S. (2019). Social networking for entrepreneurship. *International Journal of Commerce and Management Research*, 5(1), 117-122.
- Tanusia, A., Marthandan, G., & Subramaniam, I. D. (2016). Economic empowerment of Malaysian women through entrepreneurship: Barriers and enablers. *Asian Social Science*, 12(6), 81-94.
- The Asia Foundation. (2016). Unleashing small business growth. The Asia foundation experience in Indonesia. <https://asiafoundation.org/where-we-work/indonesia/>
- Ughetto, E., Rossi, M., Audretsch, D., & Lehmann, E. E. (2020). Female entrepreneurship in the digital era. *Small Business Economics*, 55(1), 305–312.
- Victor, V., Sharfa, N., Nathan, R. J., & Hanaysha, J. R. (2018). Use of click and collect e-tailing services among urban consumers. *Amity Journal of Marketing*, 3(2), 1-16.
- Wilantara, R. F., & Indrawan, R. (2016). *Strategi dan pengembangan kebijakan UMKM*. Bandung.