

SME Readiness Towards Digitalization in Malaysia

Tham Kai Wen¹ & Siti Anisah Atan^{1,*}

¹Department of Production and Operations Management, Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, Batu Pahat, Johor, 86400, MALAYSIA

*Corresponding Author

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Abstract: The Malaysian Government through the Ministry of Finance (MOF) allocated RM500 million in Budget 2020 to digitalize SMEs operation. Digitalization engagement is one of the challenges that SMEs are facing today. SMEs need to remain competitive and prepare for digitalization and able to respond to the current social challenges, regulatory, technological and economic, optimize the scope of digitalization, and take advantage of new growth opportunities. Therefore, the purpose of this study is to determine the readiness of SMEs from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change before embarking on digitalization. The scope of this study covers manufacturing SMEs in the Northern Region which is Perak Region. Data were collected from 200 respondents from the manufacturing sector of SME in Perak by using an online survey. Descriptive analysis was carried out in this study. The overall digital readiness suggests that SMEs in Perak are ready to embark on the e-business journey. However, the readiness to adopt digitalization can still be improved. Further study could be obtaining a larger sample size of potential results from all states from Malaysia, which could be important for generalizing the readiness of SMEs. This study has merit in the sense that it can help the manufacturing SME to adopt digitalization and improve their readiness factors at the SMEs continuously.

Keywords: Digitalization, SMEs, Digital readiness

1. Introduction

Digitalization trends, to a certain extent, shape organizations and individuals in a similar way. The application of digitalization becoming widespread and is a necessity in a business today. In the annual report 2017/2018 that published SME Corp Malaysia (2018) had recognized and established the crucial role that digitalization plays in improving the business landscape by creating the opportunity to enhance development, increase employment opportunities, and accelerate innovation. Organizations that implemented a transformation towards the digital environment, a myriad of digital

technologies (Internet of Things, Cloud Computing, Big Data, Mobile and Social) can enhance business growth and open up new opportunities (Sanchez, 2017).

In addition, the digital transformation had present challenges at multiple levels which are global supply chain processes, data governance, leadership, and how to integrate organizational transformation technologies. These obstacles may have been unprecedented decades ago, and this transformation has put the sustainability of traditional business models under test (Sanchez, 2017). Besides, organizations not only struggle to take advantage of the opportunities presented by digitalization but also fails to adapt their business models to reflect the economic characteristics and basic processes of digitalization (Weill & Woerner, 2015). The development of globalization and the digital world raises the question that the principles derived from traditional theories are still sufficient to explain the organization's performance.

According to Sammut-Bonnici (2015), digitalization mainly affects operational processes, but their complexity and scope of use vary. In the article written by Mathur (2018) conducted some large companies in India have quickly transitioned into this digital world and the majority of SME in the manufacturing sector is not ready to put these digital technologies into their business practice. Further, digitalization has penetrated all areas of life and creates new ways of working, communicating and cooperating (Loebbecke & Picot, 2015). However, the standardization and massive adoption of these solutions are not sufficient to obtain a sustainable competitive advantage (Markus & Loebbecke, 2013).

1.1 Research Background

The definition for SMEs approved by the National SME Development Council (NSDC) has been adopted across ministries and agencies, financial institutions and regulators agencies that are participating in SME development plans since 2013. The definition is in Table 1.

Table 1: Definition of SMEs in Malaysia (SME Corp. Malaysia, 2017)

Category	Micro	Small	Medium
Manufacturing		Sales turnover from RM300K to less than RM15M OR full-time employees from 5 to less 75	Sales turnover from RM15M to not exceeding RM50M OR full-time employees from 55 to not exceeding 200
Services and other sectors	Sales turnover less than RM300K OR full-time employees less than 5	Sales turnover from RM300K to less than RM3M OR full-time employees from 5 to less 30	Sales turnover from RM3M to not exceeding RM20M OR full-time employees from 30 to not exceeding 75

According to the 11th Malaysia Plan 2016, SMEs in Malaysia make up 98.5% of the total establishments, with the bulk of the businesses in the Services Sector (89.2%), followed by Manufacturing (5.3%) and Construction (4.3%). The “National E-Commerce Strategic Roadmap” also enables SMEs to maximize their contribution to the total GDP to reach RM211 billion by 2020. The areas covered by the roadmap include accelerating seller’s adoption of e-commerce, promoting national brands to boost cross-border e-commerce, and adjusting existing economic incentives.

Further, the Malaysian Government has launched the National Entrepreneurship Policy 2030 (DKN 2030), which formulates policies for the development of an inclusive and competitive entrepreneurial community, particularly the SME sector, capable of competing in the global market as

well as promoting the development of the B40 group and social entrepreneurs. The goal of DKN 2030 is to increase the number of skilled, viable and resilient entrepreneurs as well as to increase the ability of local entrepreneurs, particularly in the SME sector, in line with the shared prosperity concept of the Government. Strategic Thrust 4 (D1) of the DKN 2030 had mentioned that it supports high growth and innovation-driven enterprises by creating high growth and innovative firms through targeted support in nine pillars of Industry 4.0, including automation, digitalization and Artificial Intelligence (AI) (DKN 2030, 2019).

1.2 Problem Statements

The Malaysian Government through the Ministry of Finance (MOF) allocated RM500 million in Budget 2020 to digitalize SMEs operation (BUDGET 2020). The grant aims to encourage small businesses to implement an electronic point of sales (e-POS) system, enterprise resource planning (ERP) solutions and electronic payroll. According to Budget 2020, the equivalent allocation of RM500 million will be allocated for 5 years, limited to the first 100,000 SMEs that have applied to upgrade their systems.

Further, most business activities in Malaysia are in the SME sector, and their contribution to economic development is critical, various efforts have been taken to maintain their global competitiveness. For example, SMEs are innovating their business practices but need to innovate at a faster rate to adapt and respond to many challenges and rapidly changing conditions. They must maintain their competitive advantage, adopt new growth models, develop global product network exchanges, and establish a more comprehensive international network.

Digitalization engagement is one of the challenges that SMEs are facing today. Although big organizations can generally gather the resources needed for digitalization, the problem is that by solving the shortage of resources and skills of SMEs (such as infrastructure & technology, human capital, information security concern, top management commitment and resistance to change) to enable SMEs to enter the Internet agenda (Ramayah *et al.*, 2005). According to Schlepper *et al.* (2017), organizations need to remain competitive and prepare for digitalization, be able to respond to the current economic, technological, regulatory and social challenges, take advantage of new growth opportunities and optimize the scope of digitalization. Transformational changes need to occur in the four dimensions of organization, culture, people and digital environment to achieve all this.

1.3 Research Questions

Does SMEs in Malaysia ready to embark digitalization from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change?

1.4 Research Objectives

To determine the readiness of SMEs from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change before embarking on digitalization.

1.5 Scope of the Study

The research study focuses on the context, respondents, activities, and factors involved in SMEs. This research will determine the readiness of SMEs before embarking on digitalization and the scope of this study also covers the manufacturing sector SMEs in the Northern Region. The reason for choosing manufacturing SMEs in the Northern Region which is the Perak Region because manufacturing SMEs are of the main drivers of the modern Perak economy. In addition, the respondents were divided into three categories of management level which are senior, middle and first-line management and the job function of the respondents have divided as information

technology, finance/accounting, human resources, sales/marketing, customer service, administration/owner and operation in the manufacturing SMEs who have a proper understanding and exposure to digitalization adoption.

1.6 Significance of the Study

This study will help relevant government agencies or policymakers to identify the aspects whereby SMEs ready to adopt digitalization. In addition, SMEs in Malaysia will be able to have higher availability of resources to exploit digitalization through policy or government agency. Furthermore, this study can be used by future researcher as a reference or academic sources. It can provide an in-depth understanding of a literature review contribution towards digitalization in SMEs.

2. Literature Review

2.1 SMEs

Small and medium enterprises (SMEs) have played an essential role in the Malaysian economy and are regarded as the backbone of the country's economic growth (Asmy & Mohammed, 2015). As Malaysia began to move towards the National Entrepreneurship Policy 2030, SMEs also continued to contribute to the economy as Malaysia embarks on its journey. In 2013, the 14th National SME Development Council (NSDC) meeting defined a new definition in the manufacturing, services & other services. The description of SMEs based on two categories, namely the total sales turnover by a business in a year or the number of full-time employees by a company.

(a) Contribution of SMEs

According to the Census Report on SMEs 2016, there was a total of 907,065 SMEs operating their business in Malaysia, representing 98.5% of total business establishments. The results showed that 89.2% of the establishment was in the service sector, 5.3% in the manufacturing sector, 4.3% in the construction sector, 1.1% in the agriculture sector and the remaining was 0.1% in the mining quarrying sector. Moreover, 78.5% were micro-sized establishments followed by small establishments, 21.2% and medium-sized establishment, 2.3%.

(b) Advantage and Disadvantage of SMEs

Malaysia is concerned about establishing Small and Medium-sized Enterprises (SMEs). Malaysia considers SMEs to be an important contributor to economic growth and later become the essential instruments for economic progress, gross domestic product and employment (Razak *et al.*, 2018). According to SME Corp Malaysia (2019), SMEs have been the core of Malaysia's economic transformation and are an essential driver of employment and economic growth. SMEs are almost the dominating sector and the most important in the founding aspect and their management.

Further, one of the advantages of being SMEs is they are getting closer to customers. This is one of the most obvious advantages. Medium-sized companies, especially small companies, will deal more directly with customers, which will enable them to meet their needs more accurately, provide more personalized services, and even establish contact with users (Asheq *et al.*, 2019). Due to their size and simple structure, SMEs will have a more exceptional ability to adapt to change. In addition, this will help them get closer to customers, which will enable them to understand market changes earlier than others.

SMEs face common problems in survival or gaining a competitive advantage. Besides, more than 50% of SMEs went bankrupt during the first five years of operation. According to available resources (Khalique & Ageel, 2011). Generally, SMEs do not have the financial capabilities of large companies. As a result, they will usually require external financing, which will be more restricted and worse, and

they will not be able to obtain financial instruments available to large companies, such as listing on the stock market and increasing capital (Yoshino & Taghizadeh-hesary, 2016).

Furthermore, the task of attracting customers can be challenging for SMEs. The financial strength of large companies allows them to advertise themselves through mass media, but for SMEs attracting a large number of customers can be a task that requires years of effort. In addition, compared with large competitors, SMEs are not well-known, so it may be difficult for SMEs to communicate to customers the security that large companies can provide for them.

2.2 Digitalization

Digitalization described as one of the significant trends in the short-term and long-term transforming society and business. Digitalization also had interpreted as accepting or extending the use of organizations, industries, countries, etc. with digital or computer technology. In addition, the new economy, environment and culture under digitalization consider this term as one of the features of the modern era (Shpak *et al.*, 2019). The term digitalization refers to the changes related to the use of digital technology in all aspects of human society (Parviainen *et al.*, 2017). Digitalization also known as the ability to convert existing products or services into digital variants, thereby offering benefits over tangible products (Henriette *et al.*, 2015).

Further, digitalization offers new opportunities for SMEs, including the possibilities of global trade, innovation, and growth. With relatively low costs, SMEs can access knowledge networks and strengthen their competitiveness in the innovation of products and services and improve production processes. They help the SME better understand internal processes, customer and partners' needs, and the overall business environment. Digitalization facilitates SMEs' access to skills and talents, as it makes to them available outsourcing and online renting of services as well as links with experienced partners (Presidency, 2017).

2.3 Readiness Dimension

Readiness is one of the indicators of the degree to which a government, nation or economy can be able or prepared to receive benefits from information and communication technology (Lalic & Marjanovic, 2010). According to Noor *et al.* (2013), readiness for transformation characterizes the perception of the employee when assessing the level of organizational readiness to encounter transition from the perspective of the members of the organization. Also, readiness towards digitalization can be obtained by having a positive attitude towards change. Moreover, readiness can be distinguished from maturity in the sense that preparation is assessed before maturing, while maturity is assessed from actual implementation and forward (Stentoft *et al.*, 2019).

Moreover, companies are to navigate current challenges successfully and make the best use of growth opportunities and the scope offered by digitalization to maintain and develop their competitiveness and future readiness, companies must reorient themselves and drive forward transformation in several operating areas (Schlepper *et al.*, 2017). According to Schlepper *et al.* (2017), companies' future readiness can be defined based on four dimensions which are organization, culture, employees and digital environment. Within this study, the performance of SMEs will be measured by these dimensions that relevant digitalization based on past studies.

(a) Infrastructure and Technology

The Internet is a collection of client/server computers and infrastructure that spans the globe. E-business and e-commerce in the term of infrastructure and technology to improve business (Scornavacca, 2007). E-commerce describes the process of buying, selling, or exchanging products, services, or information through computer networks and the Internet. In addition, e-business refers to a broader definition of e-commerce not only includes the purchase and sale of goods and services but

also includes providing services to customers, working with business partners, conducting e-learning and processing electronic transactions (Scornavacca, 2007). Without sufficient capacity, e-commerce and e-commerce will not function properly. Further, the organization with proprietary or shared access devices or terminals/kiosks that can access these networks can participate in e-business or e-commerce (Ramayah & Sulaiman, 2014).

However, the foundation for all e-commerce and e-business readiness is based on modern technologies and access to these technologies in the field of communication and information. The communication and information system infrastructure includes network and computer hardware, basic application software technology for e-business applications, and applications that represent automated business processes (Jutla *et al.*, 2002).

(b) Human Capital

Human capital defines as the knowledge, skill, and experience of the workforce. According to Muda *et al.* (2016), that human capital is mainly based on individual abilities, knowledge, know-how, talent, education skills and experience of employees in the firms. There are different types of capital as inputs, and they have entered the process of producing goods and services, but human capital is not a simple input, because human capital plays a more involved role in the process of creating products or providing services (Pasban & Nojodeh, 2016).

As an intangible resource to the firms, human capital is a crucial element in the transformation process of information to valuable knowledge that will enhance firm performance (Ramayah & Sulaiman, 2014). Further, employees are regarded as a capital resource that needs to be invested from the human capital perspective. In order to realize the organization's vision of participating in the network economy, the organization needs to create and nurture a well-developed human capital base on which the skills and professional ethics have the highest qualities and need to be generated spontaneously (Pasban & Nojodeh, 2016). Moreover, human capital is an investment in human resources to improve its efficiency. The cost of this investment is provided for future use. Therefore, organizations need to choose to invest in individuals because employees are valuable human capital with different qualities (Kucharčíková, 2011).

(c) Information Security Concern

Information security is one of the most important and exciting career paths in the world today. Further, information security is a practice that protects information from unauthorized access, use, disclosure, destruction, modification, careful reading, inspection, recording, or destruction (Alhassan & Adjei-Quaye, 2017). People that lack knowledge in this critical area of information security are more likely to develop insecure applications or build networks that are insecure and more easily penetrated by hackers, which is why information security is essential for the organization (Alhassan & Adjei-Quaye, 2017).

(d) Top Management Commitment

Top management plays an essential role in shaping the organization (Tzempelikos, 2015). Further, top management must be directly involved in technology-related decisions, even if there are technically qualified staff in the organization. Management commitment to technology acquisition, application and development must be reflected and felt through the organization. As an organizational factor, top management commitment is needed to ensure the successful adoption of Internet technology.

The role of top management in hosting and supporting organizations through digital business transition is critical (Larjovuori *et al.*, 2018). The importance of leadership to the change management process is highlighted by the fact that change requires creating a new system and then

institutionalizing the new approaches. Management needs to monitor employee responses to technological changes and develop appropriate action plans to acquire, implement and operate IT.

(e) Resistance to Change

Resistance to change is a key in management and should be seriously considered to help the organization to achieve the advantages of the transformation. According to Dent and Goldberg (2018), resistance arises from those whose jobs are directly affected. Both rational and irrational resistance can halt the change process. For change to be successful, management must foresee and neutralize any resistance that may occur. In a format standard among all of these texts, the organization need to cover strategies for overcoming resistance to change. The key to success is adapting their use in a situationally appropriate way.

2.4 Research Framework

Based on the previous study, it confirmed that infrastructure & technology, human capital, information security concern, top management commitment and resistance to change would be the dimension of SME readiness will contribute toward digitalization Figure 1 presents the research framework in explaining the concepts of this study.

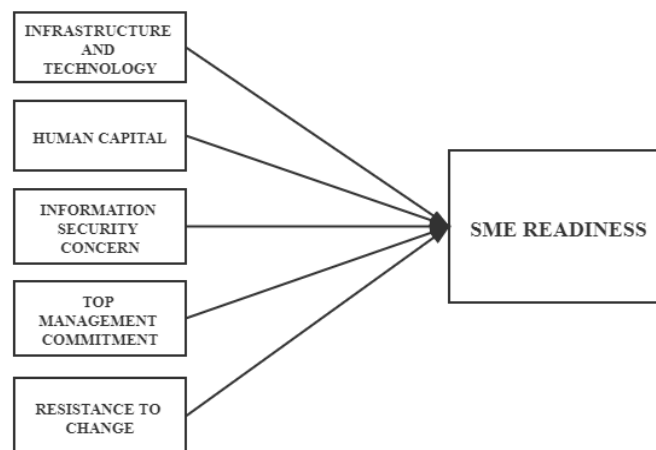


Figure 1: Research framework

3. Research Methodology

3.1 Research Design

Van (2015) defined research design as a method to relate the conceptual research questions to achievable and relevant research. Research design is the arrangement of data collection and analysis requirements to combine the significance of the research purpose (Yousaf, 2018). According to Galvan *et al.* (2016), a significant decision in the research design process is the choice of research method as it defines how appropriate knowledge should be collected for research.

In this study, the researcher has used descriptive analysis to determine the readiness of SMEs from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change before embarking on digitalization. Non-random sampling techniques were used in this study. The survey in this study used cross-sectional studies to collect data. This research adopted a quantitative method which is to quantify problems by generating numerical data or data that can be converted into useful statistics. Subsequently, the questionnaire was

distributed through an online platform which is Google Form as a research instrument to collect data among the respondents from the manufacturing sector of the SME in Perak.

3.2 Population and Sampling

The target population in this study is the manufacturing sector of SMEs in Perak, Malaysia and the reason for choosing to conduct this research in Perak is one of the main drivers of the modern Malaysian economy. This study uses a convenience sampling method to collect data where convenient sampling is easy, inexpensive and quick to perform. In this study, the total number of the manufacturing sector in SME is 47,698 in Perak based on Economic Census 2016, Department of Statistics, Malaysia and refer to the Krejcie and Morgan sampling schedule (1970), this study has set a total of 380 respondents to answer the questionnaire.

3.3 Research Instrument

The researcher had used the measurement tools which are questionnaire and scales that designed to obtain data on the research being studied. A structured questionnaire was used to determine the readiness of SMEs before embarking on digitalization adopted from Ramayah and Sulaiman (2014) and Parasuraman and Colby (2015). Further, the questionnaire consists of three sections which are demographic of respondents, readiness factors and digital readiness.

There are three sections in the questionnaire which are section A, section B and section C. Section A is the demographic of the respondents; section B is readiness factors, and section C is digital readiness. Besides, the questionnaire adopted a 5-Likert type scale in section B and section C on which the respondents requested to select the appropriate option that suits their responses based on the 5-scale that ranges from 1 to 5 (1-Strongly Disagree to 5- Strongly Agree). Table 2 shows the summary of the questionnaire.

Table 2: Questionnaire summary

Section	Number of Item	Content	Data Categories	Journal Adopted
A	6	Demographic	Nominal	
B	17	Readiness Factors	Five-point Likert Scale	Parasuraman and Colby (2015)
C	10	Digital Readiness	Five Point Likert scale	Ramayah and Sulaiman (2014)

3.4 Pilot Study

The pilot study conducted to determine the feasibility of using the questionnaire and the recruitment and collection of data (Fraser *et al.* 2018). Before the questionnaire was finalized, a set of questionnaires had been distributed to the SMEs for pilot studies. Based on the respondents' feedback on the comments, some improvements were made to the questions in the questionnaire. Researchers have improved the quality of these ambiguous and misleading questions and ensured that respondents could easily answer them. Table 3 shows the reliability test of the pilot study. It shows the reliability value for the readiness factors and digital readiness is above the value of 0.70.

Table 3: Pilot test result for readiness factors and digital readiness

Item	Cronbach's Alpha	Total respondent
Readiness factors	0.822	30
Digital readiness	0.813	30

3.5 Reliability and Validity

Reliability related to the consistency of a measure and respondent finishing an instrument intended to measure motivation should have about the same responses each time when the test is completed (Heale & Twycross, 2015). In addition, reliability is a measure of the total population studied. Participants who completed the instrument should have the same response time. A strong correlation indicates high reliability, while a weak correlation indicates that the instrument is unreliable.

Furthermore, reliability estimates cannot be measured. Questionnaires answered by employees in the SMEs in the Northern Region that the invalid tools were unreliable, so the answers were consistent. The reliability of the collected data can minimize measurement errors. The data collected is private and confidential. The questionnaire will be distributed online via Google Forms. It takes about five to ten minutes for the respondent to answer the question. After answering, a questionnaire will be submitted, and instruction will be asked not to write names to ensure confidentiality.

Validity is often defined as the degree to which an instrument measures what it claims it is measuring. The validity of a research instrument evaluates to what extent the instrument measures what it intended to measure. Moreover, it requires a research tool (questionnaire) to measure the concepts under study accurately. It encompasses the entire concept of experimentation and determines whether the results obtained *meet all* the requirements of the method of scientific research. Qualitative research is based on the fact that validity is a question of credibility, utility and reliability.

Subsequently, the validity process includes data collection and analysis to obtain accurate results. Statistical data tests are used to assess the effectiveness of quantitative research. The questionnaire provided includes various questions about the readiness of SMEs before embarking on digitalization. The questionnaire will be constructed in simple language to ensure that employees understand each element of the questionnaire.

3.6 Data Analysis

Descriptive analysis will be applied to demographic information, digitalization and readiness dimension. Data collected in this study will be analysed by using IBM Statistical Package for Social Sciences (SPSS) version 25. Responses were tabulated and analysed in the form of mean, percentage, and standard deviation for the descriptive analysis.

4. Results and Discussion

4.1 Responses Rate

According to Krejcie and Morgan (1970), at least 380 respondents were required answer to this questionnaire. However, 200 sets of questionnaires responded by respondents and the rate of return for this study is 71.43%. Table 4 shows the result of the respondent responses rate.

Table 4: Response's rate

Population	Sample size	Questionnaire distributed	Questionnaire received	Percentage (%)
47,968	380	380	200	71.43%

4.2 Descriptive Analysis

Respondents are required to answer each question in the survey questionnaire by scoring 1 to 5 based on their perception. The collected data is analysed using SPSS into mean and standard

deviation. Mean value from SPSS that provides the average response rate for each question they answered.

Table 5 shows the mean and standard deviation for readiness factors and digital readiness. The dimension of the readiness factors is infrastructure and technology ($M = 4.3100$ and $SD = 0.43064$), human capital ($M = 4.1600$ and $SD = 0.49687$), information security concern ($M = 4.1837$ and $SD = 0.45354$), top management commitment ($M = 4.1233$ and $SD = 0.47177$) and resistance to change ($M = 4.2050$ and $SD = 0.56531$). It can be concluded that the overall mean value range of readiness factors is 4.1964 and the standard deviation value range is 0.37532 while digital readiness had a mean value of 4.1820 and a standard deviation value range of 0.37239. Further, it can be concluded that the average respondents were agreed based on Table 5.

Table 5: Mean analysis of readiness factors and digital readiness

Variable	N	Mean	Standard Deviation
Readiness Factors:			
Infrastructure and Technology	200	4.3100	0.43064
Human Capital	200	4.1600	0.49687
Information Security Concern	200	4.1837	0.45354
Top Management Commitment	200	4.1233	0.47177
Resistance to Change	200	4.2050	0.56531
		4.1964	0.37532
Digital Readiness	200	4.1820	0.37239

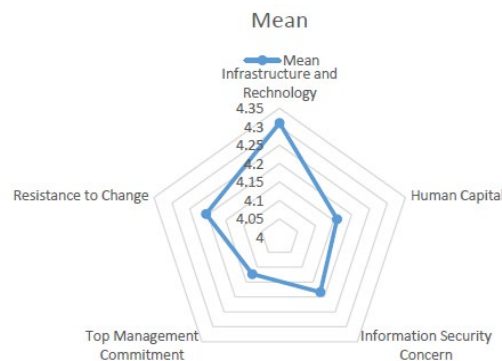


Figure 2: Readiness in radar chart

4.3 Discussion

The objective of this research is to determine the readiness of SMEs from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change before embarking on digitalization. By conducting this research, the researcher had used descriptive analysis to determine the readiness factors and digital readiness in form of mean and standard deviation. According to the result in previous subtopics, it shows that the range of the agreement is high, and the findings will be concluded and discussed as follows:

(a) Readiness Factors

Table 5 shows the mean analysis and standard deviation for readiness factors. The mean value of readiness factors is 4.1964 and the standard deviation value is 0.37239. It concluded that the majority

of the respondents had agreed with the statement in the questionnaire and it shows that SME is still facing issues or aspects before embarking on digitalization.

In the article written by Sanchez and Zuntini (2018), even SMEs get opportunities are given technology but SMEs still operating in developing region have slower transformation. Therefore, they should have adapted their business models or processes and determine factors related to the organization's preparation for digital transformation. The following will discuss the influencing factors before embarking on digitalization.

(b) Infrastructure and Technology

Table 5 shows the mean analysis and standard deviation for readiness in infrastructure and technology. The mean value is 4.3100 and the standard deviation is 0.43064 shows that respondents were agreed to both item of infrastructure and technology.

In the article that was written by Barua *et al.* (2004), system integration enables companies to innovate, respond and continuously improve to identify and share information across business units, services and products that enhance the readiness and knowledge of the organization to adopt digitalization. Therefore, the higher the availability of the latest infrastructure and technology, the easier for the company to adopt digitalization.

Further, Akomea-Bonsu and Sampong (2012) claimed that companies using infrastructure and technology can improve business activity and help increase the productivity of SMEs after adopting digitalization. Furthermore, companies will increase production since digitalization may increase production speed and reduce production time to meet the demand of the customer which tends to increase the sales of companies that adopt digitalization in their business.

(c) Human Capital

For the human capital aspect of digitalization readiness, the mean score is 4.1600 and the standard deviation 0.49687. Based on the high level of agreement of the respondents, it can be shown that the studied SME companies are putting a lot of efforts into encouraging their employees to undergo the digital transformation.

Digitalization adoption is changing the way of the company to conduct their business internally and externally. Further, digitalization can help the company increase their productions, but human capital is also one of the components that increase companies' adoption of digitalization. Therefore, companies need to improve the skills of their employees and attract new employee needed in digital transformation.

According to Aggawal *et al.* (2016), companies can help employees attend online courses offered by lecturers from open university and this not only reduce training costs but also opens up a wide range of resources. Employees may benefit from the flexibility of online training without affecting their personal lives and work. Besides, a company can benefit from providing training at a relatively low cost.

(d) Information Security Concern

The mean score and standard deviation for the item of information security concern are 4.1837 and 0.45354 respectively. It can be known that the SMEs are worried or unconfident about the full use of digitalization due to security issues. The article that written by Pappas *et al.* (2019) found that strategic decision-makers were aware of technical risks associated with the technologies they would adopt although the digital transformation is considered as strategy-driven actions with risk-taking becoming a cultural norm. Companies transform their business by using technologies such as cloud

computing, Internet-of-Things and mobility considered there is a security risk in digital transformation.

In business models that rely on the quality of the software-based services and products provided, network security has a direct impact on both value creation and financial aspects.

Further, Ikenwe *et al.* (2016) stated the awareness and knowledge of information security in this digital age in the various sector are important. There exists a security threat to information, which should be adequately protected through information security awareness. The information security awareness focuses more on the motivation of the employee in an organization to follow the policy and regulations towards the security of information in the company.

(e) Top Management Commitment

The mean and standard deviation for the item of top management commitment is 4.1233 and 0.47177 respectively. It shows that the involvement of top management is significant in the SME companies toward digitalization. This could be done through top management's active participation, motivation, and demonstration of eagerness to see that his employees are involved in the networked economy. This includes the top management support of initiatives for internet technology application, top management's views on the internet technology application as a strategic tool, sufficient management commitment to apply the internet technology, top management awareness of the benefits and providing necessary support, help, hardware and people resources to adopt and implement the latest system available in the market.

(f) Resistance to Change

From the aspect of resistance to change towards SME digital readiness, the mean value is 4.2050 and the standard deviation is 0.56531. Employees' resistance to change is one of the most perplexing and contumacious problems in the majority of the institutions when a new change is introduced. Technological change is mainly related to innovation change where something is new for the company generating or adopting new products, processes, and practices

According to Basyal and Seo (2017), resistance to change is a common phenomenon while introducing new technology or system. A recent study by Basyal and Seo (2016), using Analytical Hierarchy Process (AHP) where data were taken from experts, also revealed that employees' resistance to change was one of the major reasons for digital government implementation in Nepal.

In this regard, it was important to check whether the employees' resistance to change towards modern technological changes at the workplace was one of the major factors of failure for adoption of digitalization. And the results show that, although it was hard initially to launch the new technology at the workplace, employees gradually accepted and adopted it as per the need and demand for time.

(g) Digital Readiness

In term of digital readiness measured in this study, the mean value is 4.1820 and the standard deviation value is 0.37239. The level of agreement for respondents is high and it shows that their company are to adopt digitalization in SMEs.

This study showed that SMEs are ready to go for digitalization, even though inadequate infrastructure and limited application of new technology have been identified as a weakness for SMEs. In order for the entrepreneur of SMEs to compete successfully in the dynamic environment, they should be more involved in the networked economy based on their readiness to adopt digitalization.

5. Conclusion

From this study result, overall digital readiness suggests that SMEs in Perak are ready to embark on the e-business journey. However, the readiness to adopt digitalization can still be improved. Further studies are needed to refine this model so that we can have a better understanding and tool to measure the e-readiness of SMEs.

Besides, geographic boundaries will be one of the limitations faced during the entire process of conducting this research. This research does not represent the population of SMEs in Malaysia as it focused only on manufacturing industries in Perak.

Regarding the sample size of the study, obtaining a larger sample size involving SME in all states in Malaysia would be important for generalizing the readiness of SMEs from the aspects of infrastructure & technology, human capital, information security concern, top management commitment and resistance to change before embarking on digitalization.

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