The Role of Resources, Capabilities, and Digitalisation in Accelerating Internationalisation Process among Malaysian Small and Medium Enterprises

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By

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DEDICATION

This dissertation is dedicated to my family:

My dearly loving parents;

My beloved husband and my wonderful daughter;

my brothers, sisters and all family members

ABSTRACT

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Lee Yan Yin

The main objective of the study is to understand the key internal determinants that could affect Malaysian SMEs' competitive advantages in international markets. International Entrepreneurship studies suggest resources and capabilities drive SME internationalisation. Nevertheless, there is lack of research evidence that gives insight about what resources and capabilities will lead to SMEs' competitive advantages in international markets, especially in emerging countries like Malaysia. Apart from resources and capabilities, digitalisation and its interaction with competitive advantages in international markets have not been widely discussed.

This study develops a research model for testing of the direct relationships of resources, capabilities, digitalisation on competitive advantages in international markets. The model also tests the indirect relationships of resources and digitalisation on competitive advantages through capabilities.

Using MATRADE directory to target Malaysian exporting SME manufacturers, this study employs quota sampling method for distribution of

questionnaire. Based on 143 responses, partial least square structural equation modeling (PLS-SEM) was used for data analysis. The research findings reveal the distinctive role of resources and capabilities for different types of competitive advantages in international markets. Management international resources contribute to price advantage, international capabilities contribute to product and service advantages, while digitalisation has no direct effect to any of these competitive advantages. Nevertheless, these two constructs are important for SME internationalisation owing to their indirect effects on product and service advantages.

The research is valuable for Malaysian SMEs that wish to internationalise or strengthen their competitiveness in international markets. The main practical implication is that by having an evidence-based understanding of the resources and capabilities that accelerate internationalisation and SMEs can conduct international business easier with reduction of time, money and risks. In conclusion, SMEs should develop the right sets of resources (management characteristics, international knowledge, network) and capabilities (marketing, innovation, learning capabilities) for gaining of competitive advantages in international markets. They may also enhance both resources and digitalisation in developing their international capabilities.

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APPROVAL SHEET

This dissertation entitled "**THE ROLE OF RESOURCES, CAPABILITIES, AND DIGITALISATION IN ACCELERATING INTERNATIONALISATION PROCESS AMONG MALAYSIAN SMALL AND MEDIUM ENTERPRISES"** was prepared by LEE YAN YIN and submitted as partial fulfillment of the requirements for the degree of Master of Philosophy in International Business at Universiti Tunku Abdul Rahman.

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I understand that University will upload softcopy of my dissertation in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

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Lee Yan Yin

DECLARATION

I hereby declare that the dissertation is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

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INTRODUCTION

1.1 Background of Study

1.1.1 SME Internationalisation and Digitalisation

The emergence of globalisation and advancement of technology facilitate internationalisation of small and medium enterprises (SMEs). Thus, SME internationalisation has received ample of attention in the field of international entrepreneurship (Øyna & Alon, 2018; Rialp, Merigó, Cancino, & Urbano, 2019; Tsukanova & Zhang, 2019). This study aims to investigate the role of resources, capabilities and digitalisation that could affect competitive advantages for internationalisation of SMEs. The study is motivated by the government policy to increase SME export contribution for a more sustainable economic growth in Malaysia. The export contribution from SMEs recorded 18.6% in year 2016. Malaysian government intends to raise SME export contribution to 25% by year 2020 (Eleventh Malaysia Plan, 2015, May 21).

SME Corporation Malaysia defines SME based on annual sales turnover and number of employees. According to their guideline, SME is a company with

annual sales turnover below or equals RM50 million or full time staff below or equals 200 workers whichever lower (for manufacturing sector) and annual sales turnover below or equals RM20 million or full time staff below or equals 75 workers whichever lower (for services sector). For enterprise with sales turnover below RM300,000 or full-time staff below or equals 5 workers, it should be categorised as micro enterprise. This definition was last updated in year 2013. The definition was changed in order to keep the pace with price inflation, structural and business trends developments in Malaysia since 2005 (SME Corp, 2013).

SME export contribution can significantly affect Malaysia's economic growth. Based on the statistics from SME Corporation website, 98.5% business establishments in Malaysia are SMEs (SME Corp, 2016). SME contributed 36% of the Malaysia's Gross Domestic Products for year 2016 and established 65% of the country's employment for year 2016. Despite having over 900,000 SMEs in Malaysia, the export contribution from SME was only 18.6% in year 2016 (SME Corp website, 2018), which is far from the 25% target.

Figure 1.1 shows that the employment growth in Malaysia is strongly affected by SMEs.

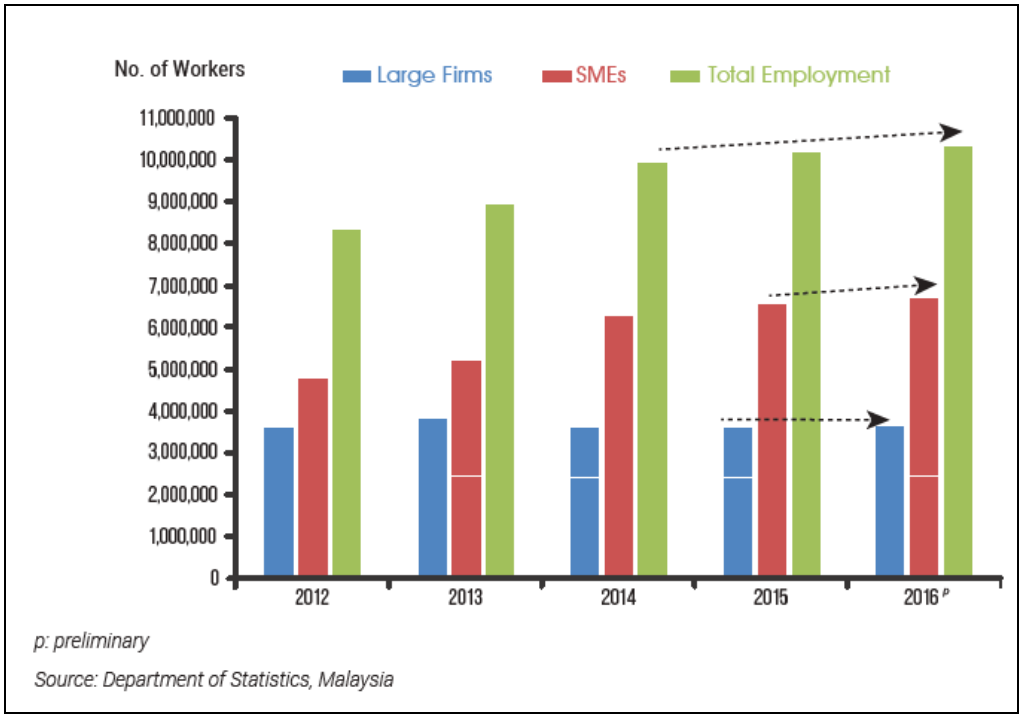

Figure 1.1: Employment by firm size (source: SME Annual Report 2016/2017)

In view of the limited size of domestic market, internationalisation is viewed as one of the solutions for firm survival or growth as the world is a bigger market place for greater business potential (Madsen & Servais, 1997). Several international business studies have found that internationalisation affects firm performance in a positive way (Chelliah, Sulaiman, & Yusoff, 2010; Knight & Liesch, 2016). Internationalisation refers to the involvement of the firm beyond the home country (Chelliah et al., 2010; Rialp et al., 2019). It covers more than exporting, but in Malaysia context, in line with the government

policy which strongly supports export activities, the internationalisation mode adopted by most Malaysian SMEs is mainly exporting (Falahat, Knight, & Alon, 2018). A study for Malaysian SMEs showed that 74.3% out of 250 respondents adopted export as the mode of entry (Nik Ab Halim & Shahrul Nizam, 2011). Another study by Singh and Mahmood (2014) found that 91% internationalising SMEs in Malaysia have entered international arena through exporting. This is also consistent with the early and rapid internationalising firm's definition by Knight and Cavusgil (2004) that emphasises: (1) companies that are relatively younger; (2) the unit of analysis is firm, instead of individual or group of companies; and (3) these firms mainly internationalise through exporting. This breed of firms are also known as 'born global' because they enter international markets at inception or with not more than 3 years from establishment of business (Cavusgil & Knight, 2009). Due to most of these young firms are less resourceful, exporting with lower commitment for entry and exit is the most common used entry mode (Cavusgil & Knight, 2015).

Despite exporting requires less commitment, the export contribution target is challenging because majority of SMEs in Malaysia are concentrated in service sector (89.2%). There are only 5.3% of SMEs from manufacturing sector as of year 2016 (SME Corp, 2018). By the nature of business, a product is more

export friendly and easier to scale than a service which requires on-site presence. Thus, SME manufacturers are encouraged to explore international markets through government support programmes such as e-trade programme organised by MATRADE (Malaysia External Trade Development Corporation). Under e-trade programme, firms are given subsidy to adopt e-commerce to reach international markets. In the Eleventh Malaysia Plan, government continues to encourage export growth to maintain Malaysia's trade balance. The target for SME contribution to export is increased to 25% by 2020 from 19% in 2015 (Eleventh Malaysia Plan, 2015). The strategies aim to increase exports by improving product competitive advantages, promoting services exports and diversifying markets (Eleventh Malaysia Plan, 2015). Under Eleventh Malaysia Plan, government will improve the export ecosystem, encourage companies to involve in high value added activities, creating opportunities for trade with China and ASEAN and provide more supports for Malaysian exporters. These efforts indicate a strong commitment from Malaysian government in supporting SMEs towards internationalisation.

Generally, SME export performance is mainly affected by three factors e.g. founder characteristics, organisation and environment (Cao & Ma, 2009; Knight & Liesch, 2016; Madsen & Servais, 1997). Founder characteristics such as their international attitude, entrepreneurial orientation, foreign

country's experience and strategic focusing were found to be one of the factors that encourage their international exploration (Cao & Ma, 2009). Besides, founder's proactiveness, innovativeness and risk-taking appetite also determine their export propensity (Knight & Liesch, 2016). Particularly in SMEs, the internationalisation strategy cannot be independent from their founder's knowledge and experience (Cao & Ma, 2009). Thus, founder's past experience, ambition level and motivation would affect the firm's direction (Madsen & Servais, 1997). Nevertheless, organisational factors such as business competence, process routines and corporate governance structure also play important roles in internationalisation process (Madsen & Servais, 1997). Hence, organisational capabilities have been studied to explain firm's performance (Knight & Liesch, 2016). Besides the internal determinants, environmental factors such as market condition, high or low technology industry and firm's specialisation also influence the internationalisation process. For example, firms from small domestic markets tend to consider exporting, while firms from large economies are less likely to internationalise, except for high tech industries (Madsen & Servais, 1997). By focusing on single country, Malaysia, this study chooses to focus on investigation of internal determinants, the founder and organisational factors. Generally, all firms from Malaysia are operating in small domestic markets which internationalisation is a strategy for firm's growth (Chelliah et al., 2010).

Further to that, all firms have equivalent access to infrastructure and government supports.

In response to the rapid changing business environment as a result of digitalisation, Malaysia's SME Corporation has established several initiatives to get Malaysian companies ready for embracing the industry revolution and digitalisation wave (SME Corp, 2017. Industry 4.0 and its implications to SMEs). In recent literature of internationalisation, researchers urge for empirical studies to investigate the role of digitalisation and its influence on SME internationalisation performance (Gerschewski, Rose, & Lindsay, 2015; Knight & Liesch, 2016). Although SME manufacturers are encouraged to leverage digitalisation for internationalisation, more knowledge is needed to guide SMEs through this process. Based on past history, failure rate of SME business is high (Adiana, Ahmad, Md. Rus, & Zainudin, 2014), hence, proper assessment and planning shall be carried out to prevent the organisation from international business risks. More studies about SMEs' resources, capabilities and digitalisation for internationalisation provide guidance in assessment and planning of internationalisation strategy.

A good understanding of the firm's resources and capabilities could provide more insights during risks and opportunities assessment for SME

internationalisation. This study contributes in this area by identifying key determinants that could affect the competitive advantages of SME manufacturers for internationalisation. Similar studies on drivers of SME performance suggest resources and capabilities play important role to drive SME internationalisation (Øyna & Alon, 2018). Resource-based theory (Barney, 1991; Barney, Ketchen, & Wright, 2011; Grant, 1991; Wernerfelt, 1984) is often used in internationalisation studies to explain the mechanism of how resources and capabilities impact performance (Øyna & Alon, 2018). Nevertheless, there is limited evidence and discussion about what resources and capabilities lead to SMEs' competitive advantages in international markets (Lee, & Falahat, 2019). SME internationalisation research in the lens of resources, capabilities and digitalisation from emerging countries like Malaysia is very limited (Falahat, Mohamad, & Migin, 2013; Falahat, Knight, & Alon, 2018; Ismail, Khurram, Abadi, & Jafri, 2017).

1.1.2 International Entrepreneurship

According to Zahra and George (2002, p.265), "international entrepreneurship is the process of creatively discovering and exploiting opportunities that lie outside a firm's domestic markets in the pursuit of competitive advantage". Three decades ago, globalisation facilitates young and small firms to explore opportunities in International markets. The growing numbers of these young

entrepreneurial firms simulate International entrepreneurship (IE) as a new field of study (Dana, 2017). While international opportunities are known to most of the firm owners, only entrepreneurial firms with competitive advantages could expand their business to other countries (Lee, & Falahat, 2019) Knight & Morgan, 2017; Rennie, 1993). For example, born global is recognised as a breed of firms that are capable to discover and exploit opportunities in other potential markets since or near their inception (Rennie, 1993). Their success demonstrates the possibility of young and less resourceful firms to overcome internationalisation barriers and challenge competitors in other countries. It attracts scholar attention of what resources and capabilities that lead these young and small firms to competitive advantages in international markets (Lee, & Falahat, 2019). This knowledge will enlighten other young and small firms as well as policy makers in planning of internationalisation strategy.

In most international entrepreneurship studies, scholars acknowledge competitive advantages as a prerequisite to compete in international markets, yet empirical studies rarely investigate the antecedents of competitive advantages (Falahat, Ramayah, Soto-Acosta, & Lee, 2020; Kaleka, 2002; Rialp et al., 2019). Most studies have chosen international performance as the research focus without explicitly discuss the assortment of resources and

capabilities for different types of competitive advantages among these internationalising SMEs (Ding, Fu, Zheng, & Yan, 2019; Falahat et al., 2020; Knight and Liesch, 2016). Despite some works have focused on competitive advantage as a construct in research model, these studies did not distinguish each type of competitive advantages (Falahat et al., 2020; Øyna & Alon, 2018; Weerawardena, 2003). One of the exceptional study is the work by Kaleka (2002). The study presents resources and capabilities for cost, product and service advantages. A clear understanding of what resources and capabilities impact which type of competitive advantage provides an important basis for managers who determine and plan the competitive strategies.

A review of international entrepreneurship literature also suggests the emergence of SME internationalisation is inseparable with digitalisation (Cavusgil & Knight, 2015; Oviatt & McDougall, 1994; 1999; 2005). Many small firms ride on the digitalisation wave to internationalisation early and rapidly, mostly through exporting (Dana, 2017; Knight & Liesch, 2016).

International entrepreneurship scholars have tried to identify drivers for SME internationalisation from different perspectives (Dana & Wright, 2009; Romanello & Chiarvesio, 2019). Generally, the drivers could be grouped into founder characteristics, external and internal conditions of a firm (Hagen &

Zucchella, 2014; Madsen & Servais, 1997). Owing to difference institutional factors, firms from one country could behave differently from another country. In the field of international entrepreneurship, the works from emerging markets are significantly lesser than developed markets (Meyer & Peng, 2016; Sheth, 2011; Xu & Meyer, 2013). Hence, the study in the Malaysia context extends current understanding of SME internationalisation and validate if findings from developed markets are applicable in an emerging market (Dana, 2017; Romanello & Chiarvesio, 2019).

1.1.3 Resource-Based View Studies in the Context of Malaysian SMEs

Resource-based view (RBV) explains the main thought of this study. According to Grant (1991, p.118-119), "resources are inputs into the production process" and "capabilities are capacity for a team of resources to perform some task or activity". Barney (1991) suggests that competitive advantage is an output of resources and capabilities that are "valuable (V), rare (R), inimitable (I) and non-substitutable (N)" and only resources and capabilities that are intangible in nature possess these criteria. Resources such as network, experiential knowledge and capabilities such as innovation and marketing capability that contribute to firm's competitive advantages in international markets are likely to exhibit VRIN criteria (Grant, 1991).

To date, most empirical researches about resources and capabilities are carried out in advanced economies, therefore less evidence is available outside this context (Kamasak, 2017; Øyna & Alon, 2018; Romanello & Chiarvesio, 2019). In view of the differences of economic status and the institutional environment between developed and developing countries, SMEs from Malaysia need further understanding about the relationships of resources, capabilities and firm's competitive advantages in international markets based on evidence from emerging countries (Falahat et al., 2018).

Most SMEs are not risk takers (Gerschewski, Lindsay, & Rose, 2016; Morgan & Strong, 2003). More research evidence is necessary to demonstrate the evidence-based outcomes of resources and capabilities development, thus support SMEs to gain highest return on their investment on resources and capabilities development (Kaleka, 2012; Lu, Zhou, Bruton, & Li, 2010).

1.1.4 Digitalisation in the Context of Malaysian SMEs

Apart from resources and capabilities, international entrepreneurship study also concerns the contemporary research topic such as digitalisation (Dana, 2017). Digitalisation refers to adoption of digital technologies by a firm into any business aspect that can be digitized to achieve specific objective, such as to speed up process of internationalisation (Collin et al., 2015; Lee, Falahat, &

Sia, 2019). The internationalisation study involves digitalisation is still at its infancy stage and there is no absolute conclusion on conceptualisation of digitalisation (Neubert, 2018). Although digitalisation can be conceptualised as one dimension of resources, it is beneficial to position it as a separate construct in this study for better understanding of its interaction with firm's competitive advantages in international markets.

Several government support programmes are initiated in Malaysia to boost SMEs readiness to international markets and towards digitalisation. In November 2017, Malaysian Digital Economy Corporation (MDEC) has launched an electronic world trade platform (eWTP) in Malaysia with the support from Alibaba group. The eWTP hub offers Malaysian SME manufacturers the e-commerce infrastructure to enhance global competitiveness. The digitalisation of its external environment is expected to encourage Malaysian SME manufacturers to explore the international markets for survival or growth (Vahlne & Johanson, 2017). However, digitalisation can be a double-edged sword, it can be useful to accelerate SME performance if it is adopted to integrate well with business strategy or it can be harmful if the investment for digitalisation fails to deliver intended results.

A digital environment is more transparent and competitive, SMEs which are unable to adapt to these changes are difficult to compete in international markets. Without the impact of digitalisation, Malaysian SME manufacturers may stay within their comfort zone without considering market expansion. However, global digitalisation will gradually affect the domestic market. Buyers can reach various sellers around the world and worldwide exporters are growing. As a result, domestic market may shrink due to buyers not necessarily purchasing from domestic seller in borderless marketplace. Therefore digitalisation may increase the export propensity of domestic SME as a firm survival or firm growth strategy when they perceive any risk or opportunity.

SME needs to consider the impact of digitalisation on their resources planning and capabilities development. According to a digitalisation survey initiated by Malaysian government (Digitalisation Survey of SMEs, 2018), 42.7% out of 2033 SME respondents have a future business plan to develop new products, 38.6% intend to increase online marketing and 37.6% will develop employee skill set in line with digitalisation trends. Despite the survey showed that SME respondents are keen to leverage digitalisation in their business strategy, the actual benefits of digitalisation within the organisation have not been made

available in both international entrepreneurship studies as well as government survey reports.

1.2 Problem Statement

Knowledge of the relationships between resources, capabilities and competitive advantages is crucial for entrepreneur's business strategy decision (Cavusgil and Knight, 2015). Extant literature on SME internationalisation is mainly contributed from developed countries. As international business is highly context dependent, different barriers and challenges exist due to various situations and conditions in local market and the country's position in international markets (Nik Ab Halim & Shahrul Nizam, 2011; Paul, Parthasarathy, & Gupta, 2017; Uner, Kocak, Cavusgil, & Cavusgil, 2013, Zain, Khalili, & Mokhtar, 2008). Clearly, while some barriers are universal, each country has its specific barrier due to institutional factors. Firms from different country may need to develop different skill set to overcome their internationalisation barriers. Due to internationalisation activities are highly dependent to home country and host country factors, the drivers for internationalisation are not exactly similar across different countries (Dana, 2017; Ding, Fu, Zheng, & Yan, 2019; Kahiya, 2013). In Malaysia, many factors need to be investigated for SME internationalisation in term of sources

of capabilities and competitive advantages in international markets (Che Senik, Isa, Sham, & Ayob, 2014; Kaur and Sandhu, 2014).

The global economic landscape is changing rapidly and undoubtedly, now the industry is in the midst of a revolution process influenced by new digitalisation trends. In this digital environment, do SMEs opt to adopt digital technologies could benefit from better internationalisation performance? Owing to the scarcity of empirical evidence that links digitalisation and SME internationalisation, the effect of digitalisation on SME internationalisation is a topic that is worth further investigation (Lee, Falahat, & Sia, 2019; Vahlne & Johanson, 2017).

In view that SMEs generally have limited resources to trial and error, a better knowledge of the relationships between resources, capabilities and competitive advantages are paramount for SMEs to accelerate their internationalisation. Fragment evidence demonstrated variables such as management characteristics, entrepreneurial orientation, knowledge, international experience, marketing competence, networking competence, learning orientation, digitalisation etc (Knight & Liesch, 2016; Øyna & Alon, 2018). It is necessary to identify the factors which are more influential for SMEs and policy maker to set priority. However, relevant research in this area

is limited in emerging countries as most studies are carried out in developed countries (Chelliah, Sulaiman, & Yusoff, 2010; Kaur & Sandhu, 2014; Che Senik et al., 2014). There is very limited academic work in emerging countries to assess the resources and capabilities that affect firm's competitiveness for internationalisation (Cavusgil & Knight, 2015; Dana, 2017). This leads to the needs to examine the resources and capabilities that are applicable to Malaysian SMEs' competitive advantages for internationalisation.

Further from previous discussion on the digitalisation trends, it is vague about how digitalisation will affect the relationships of resources, capabilities and firm's competitive advantages of Malaysian SMEs. Empirical research exists and revolves around on how exporters succeed in exporting through e-commerce marketplace (Gregory, Ngo, & Karavdic, 2019) but there is less academic work that integrating new technologies into export literature (Gregory, Karavdic, & Zou, 2007). In most SME internationalisation studies, digitalisation is not explicitly studied in a research model even though its effect on firm internationalisation has been always discussed in a narrative way (Gerschewski et al., 2015; Hagen and Zucchella, 2014).

Malaysian Government strongly encourages digitalisation through several Industry 4.0 initiatives by different working groups such as SME Corporation,

Ministry of Finance, Ministry of Human Resource and others. The trends of increasing attention of digitalisation can be observed from a Digitalisation survey in Malaysia which presented in SME Annual Report 2017/2018 by SME Corporation. The survey showed 79.7 per cent of SME respondents recognised the role of digitalisation in their business. Digitalisation allows firms to improve their communication, flexibility, productivity and product novelty through research and development (Pagani & Pardo, 2017). Firms with high IT capability are associated with better export performance (Zhang, Sarker, & Sarker, 2013). Many born global firms have internationalised through adoption of digitalisation (Lee, Falahat, & Sia, 2019; Sinkovics, Sinkovics, & "Bryan" Jean, 2013). The advancement of digital technology can assist the firms to outperform their rivals, yet, impact of digitalisation on internationalisation has not been extensively researched to support this general notion (Coviello, Kano, & Liesch, 2017; Vahlne & Johanson, 2017). Academic research on the effects of digitalisation on SME internationalisation is scarce (Lee et al., 2019; Vahlne & Johanson, 2017). In view that digitalisation is unavoidable, it is a salient agenda for SMEs to align their business with this megatrend so that they can continue to stay relevant in future. How SME manufacturers should prepare themselves to cope this new challenge to accelerate internationalisation? For instance, can resourceful and capable SME manufacturers own better competitive advantages in

international markets? Current understanding is yet to provide any clear evidence about the interactions of resources, capabilities, digitalisation and Malaysian SME manufacturers' competitive advantages in international markets.

SME Association of Malaysia has commented that 95% of Malaysian SMEs stay local despite government has initiated great effort in encouraging exports ("SMEs Need To Rise To The Challenge,"2018). This could eventually be a threat to Malaysia's economic growth if most of the SMEs are unable to expand their business. Since they are the main driver of Malaysia's economic growth, several government support programmes are provided for development of SMEs over the years. Total of 133 programmes with total fund amounting to RM5.77 billion was utilised for SME development in year 2016 (SME Annual Report 2016/2017).

The programmes are developed to assist SMEs for better international performance. MATRADE also planned 397 programmes in year 2018 to boost Malaysian companies' capability and internationalisation. These programmes include export promotion programmes (46 programmes), exporters development programmes (280 programmes), exporters trainings (44 programmes) and collaborative initiatives (27 programmes). Linking with the

study on resources and capabilities, it is beneficial to understand whether a more comprehensive programme that covers a few aspects of firm's resources and capabilities can boost their international performance. An effective programme that is highly appreciated by SME exporters is likely to maximise the outcome of government investment in encouraging SME exporting. Despite having many programmes to support SME development, Malaysian government has not been satisfied with the export contribution of SMEs ("Export contribution of SMEs still low: Matrade,"2017).

In brief, internationalisation is a great move for SMEs to grow in terms of size and revenue. Low export contribution from Malaysian SMEs reflects most SMEs are not competently ready for their departure to international markets. Based on SME internationalisation studies, the inadequacy is very likely to be related to deficiencies of competitive advantages. Failure of SMEs to compete in international markets may affect SMEs' business sustainability and it could be harmful to Malaysia's economic growth. Hence, the role of resources, capabilities and digitalisation in accelerating internationalisation may shed some lights on how SMEs gain competitive advantages and accelerate their internationalisation process.

1.3 Research Objectives

There are external and internal determinants for internationalisation of firm (Zou & Stan, 1998). In view of the complexity of internationalisation context, the scope of this study focuses on firm's internal factors, particularly on three key areas, namely resources, capabilities and digitalisation. The main objective of the research is to understand key internal determinants that could affect Malaysian SMEs' competitive advantages in international markets. It posits that firms which achieve competitive advantages are capable to enter international markets. The specific objectives are:-

- To examine the resources (management characteristics, international knowledge and network) that are associated with competitive advantages for Malaysian SMEs internationalisation
- To examine the capabilities (marketing, innovation and learning capabilities) that are associated with competitive advantages for Malaysian SMEs internationalisation
- To examine the role of digitalisation in achieving competitive advantages for Malaysian SMEs internationalisation
- To test international capabilities as a mediator between resources and competitive advantages
- To test international capabilities as a mediator between digitalisation and competitive advantages

1.4 Research Questions

This research answers the questions that could assist SMEs to succeed in international market:

- What resources and capabilities are associated with firm's competitive advantages for Malaysian SMEs internationalisation?
- Are resources, capabilities and digitalization associated with firm's competitive advantages to boost Malaysian SMEs internationalisation?
- Are international capabilities act as a mediator (a) between resources and competitive advantages? (b) between digitalisation and competitive advantages?

1.5 Synopsis on Research Gap

Based on existing SME internationalisation literature, there is only limited empirical research on drivers for SME internationalisation in Malaysia (Chelliah, Sulaiman, & Yusoff, 2010; Che Senik et al., 2014; Paul et al., 2017). It is beneficial to understand the key factors that lead to Malaysian SME internationalisation in view that findings from other countries can be context dependent. The study on the resources, capabilities, digitalisation and competitive advantages relationships will provide better understanding for the necessary preparation needed for SMEs to enter international markets. It also

helps firms that intend to revisit their competitive strategies in international markets. This will reduce the risk, time and cost for their internationalisation process.

From the literature of drivers for SME internationalisation, there is limited study focusing on multiple resources and / or capabilities within a same study. There is lack of comparison among resources and capabilities to comprehend their relative importance and interactions. This information is useful for SMEs or policy maker for their decision making process on the priority of focus when actions cannot be carried out simultaneously. A construct set that includes a few resources and capabilities which is broader but not exhaustive is helpful for better understanding of resources, capabilities and performance relationship as compared with a general resource category (Kamasak, 2017).

The research model also provides better understanding on resources, capabilities and competitive advantages relationship by studying the interaction between resources, capabilities and digitalisation. There is a need for research integrating digitalisation into existing export theory (Gregory et al., 2019). From the review of digitalisation literature, notably that digital technology enables all-time availability, case by case treatment and fast offering of standardized goods or services to a larger markets, at the most

economic cost and with manageable risk. SMEs can appear large with proper leverage of digital technologies in their business. There is limited study to discuss the role of digitalisation together with firm resources and capabilities on SME internationalisation (Knight & Liesch, 2016).

1.6 Summary of Hypotheses

Based on studies about drivers for SME internationalisation, a research model consists of management international resources, international capabilities, digitalisation and competitive advantages in international market is developed and tested. The below table summarises the list of hypotheses.

Table 1.6: Summary of hypotheses

#	Hypotheses
H1	Management international resources are positively related to price advantage
H2	Management international resources are positively related to product advantage
H3	Management international resources are positively related to service advantage
H4	Digitalisation is positively related to price advantage
H5	Digitalisation is positively related to product advantage
H6	Digitalisation is positively related to service advantage
H7	International capabilities are positively related to price advantage
H8	International capabilities are positively related to product advantage
H9	International capabilities are positively related to service advantage
H10	Management international resources are positively related to

#	Hypotheses
	international capabilities
H11	Digitalisation is positively related to international capabilities
H12	International capabilities mediate the proposed relationship between management international resources and price advantage
H13	International capabilities mediate the proposed relationship between management international resources and product advantage
H14	International capabilities mediate the proposed relationship between management international resources and service advantage
H15	International capabilities mediate the proposed relationship between digitalisation and price advantage
H16	International capabilities mediate the proposed relationship between digitalisation and product advantage
H17	International capabilities mediate the proposed relationship between digitalisation and service advantage

1.7 Significance of Research

Outputs from all stages of research will be summarised and a conclusion on the feasibility and shortcomings will be made at the end of research. The main practical implication is that by gaining an understanding of the performing resources and capabilities , SMEs can be more competitive and conduct international business smoother with reduction of time, money and risks. Furthermore, the research can be valuable for Malaysian SMEs that wish to internationalise or strengthen their competitive advantages. It improves understanding of resources and capabilities that can assist SMEs to compete for internationalisation. For SMEs with limited resources, it is important for

them to understand the impact of the specific resources and capabilities on each type of competitive advantage, as well as digitalisation before considering any budget allocation for development of resources and capabilities to support their competitive strategies.

1.7.1. Theoretical Implications

This study demonstrates a model for SME internationalisation with empirical evidence, thus extends the knowledge in international entrepreneurship. It provides empirical evidence and knowledge about relationships of resources, capabilities, digitalisation and firm's competitive advantages in international markets.

This research further explains the resources, capabilities and competitive advantages relationships as suggested by Kamasak (2017). The research model introduces a perspective to study the determinants of competitive advantages for internationalisation through investigation of the interactions and effects of the multiple international resources and capabilities simultaneously (Ibrahim, Abdullah, & Ismail, 2016; Kamasak, 2017). It shows the role of resources, capabilities and digitalisation on different types of competitive advantages.

Another contribution is regarding the effects of digitalisation on capability development or SME internationalisation. The needs for more knowledge about the impact of digitalisation on SME internationalisation arise as a result of technology advancement and the raising numbers of internationalising firms (Gregory et al., 2019; Knight & Liesch, 2016).

1.7.2. Managerial Implications

This study provides better understanding on the successful factors of exporting SMEs and the learning from successful exporting firms can be applied in general SMEs who wish to prepare their organisation for internationalization. By knowing which resources or capabilities are the most effective antecedents, entrepreneurs can focus their investment based on the capabilities that best suit to their competitive strategies. The research will offer managerial implications to entrepreneurs and managers who make decision for investment to justify the needs of spending limited company resources to gain maximum results. It also provides insights on how to leverage existing firm resources for internationalisation regardless of small firm size and limitation in resources.

1.7.3. Implications to Malaysian Government

Policy makers such as Ministry of International Trade and Industry and Ministry of Entrepreneur Development can be benefited from a better understanding on the suitable export stimuli needed by SMEs to improve their resources and capabilities for internationalisation. Several financial and educational supports have already been provided to Malaysian SMEs, but why some SMEs fail to expand overseas in early age of establishment? By understanding of the interactions of resources, capabilities and digitalisation on SME internationalisation, policy makers can better plan the government informational support programme, capability building programme, and financial assistance programme. They can review the adequacy and attractiveness of existing resource assistance and capability building programme to prepare more SMEs towards internationalisation or to boost SMEs international performance.

1.8 Chapter Organisation

A brief summary of the chapter organisation can be referred as below:

Chapter 1 consists of the background of study, problem statement, research objectives, research questions, synopsis on research gap, summary of hypotheses, significance of research and chapter organisation.

Chapter 2 presents the literature review of underlying theories, drivers for SME internationalisation, digitalisation, international resources for competitive advantages, international capabilities for competitive advantages, competitive advantages and followed by hypotheses development and concluded with the research model.

Chapter 3 starts with research philosophy, research design, sampling selection, data collection, measurements and data analysis approach.

Chapter 4 focuses on the results of analysis. It discusses the descriptive statistics, assessment of measurement model and assessment of structural model. The chapter ends with summary of results.

Chapter 5 covers the interpretation of the hypotheses findings and key implications, research limitations, recommendation for future research and conclusion.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

The presentation of review proceeds as follows. First, the review starts with underlying theories related to drivers for SME internationalisation. Second, the review continues with success factors that are related to SME internationalisation. Next, the literature on digitalisation is discussed. Lastly, this chapter concludes the discussion with hypotheses development of research model.

2.2 Underlying Theories

2.2.1 Internationalisation Theories

A study focuses on Malaysian SMEs in manufacturing sector showed empirical evidence that SME internationalisation leads to performance (Chelliah et al., 2010). It provides valid reason on why SMEs should consider internationalisation, and why government should support internationalisation.

Scholars generally apply five main theories in SME internationalisation studies. There are traditional internationalisation theories, RBV, dynamic capability view (DCV), network theory and entrepreneurship theory (Øyna & Alon, 2018). Among these theories, RBV and DCV are often been applied to study capabilities, while entrepreneurship theory is often used in studies about strategic choices and factors related to external business context.

In a study about Malaysian SMEs' internationalisation, Nik Ab Halim and Shahrul Nizam (2011) found that all three common internationalisation theories are relevant. Despite some firms follow international new venture (INV) or born global (BG) theory, the network approach as well as Uppsala model also found relevant. The findings also indicated exporting as the most commonly used internationalisation entry strategy and most firms internationalise for profit growth (Nik Ab. Halim & Shahrul Nizam, 2011).

2.2.1.1 Uppsala Model

Uppsala model (Johanson & Vahlne, 1977) is a theory for the traditional way of internationalisation, which the process happens gradually and incrementally through experiential learning. Once the firm is familiar with international markets, they are willing to commit for higher risk by active involvement in international business. The approach is suitable for entrepreneur with lower

risk appetite, and export is normally the first entry mode. Following Uppsala model, it will take longer time for internationalisation due to the experiential learning takes time.

2.2.1.2 Network Approach

Network approach (Johanson & Mattsson, 1988) emphasises the relationships with various interested parties including customers, external providers, government agency and other business partners to gain success in international business.

Network approach suggests firm can use network as a source of learning and to gain knowledge and resources for their internationalisation process. For less resourceful firm, especially for those with financial constraint, network approach is an economic way for gaining knowledge and experience to enter the foreign market (Freeman, Edwards, & Schroder, 2006; Zhou, Wu, & Luo, 2007).

2.2.1.3 Born Global and International New Venture

In recent SME internationalisation studies, the BG and INV theory are often applied. Before the emergence of globalisation, international business are often associated with large and established firms because they can afford the

costly investment for foreign market expansion. Most SMEs focus their operations in local market and they rarely explore international markets. The condition changed since the information communication technology emerged about three decades ago, BG and INV grow as SMEs that involve in international business as soon as their inception or at the beginning stage of their business cycle (Cavusgil & Knight, 2009; Knight & Cavusgil, 1996; Rennie, 1993).

BG and INV have been used interchangeably in some internationalisation studies, but there is a clear distinction as described by Cavusgil and Knight (2015). Although both refer to firms that internationalise young, BGs mainly enter international market through exporting. Instead, INV may apply multiple entry strategies. INV is not necessary a small firm, it could be a new venture of a long established multi-nationals (Cavusgil & Knight, 2015).

Although SMEs generally have tight budget and limited resources, the born global phenomenon has proven to other SMEs that a small firm can go for internationalisation within 2-3 years from their official establishment. Scarce resources should no longer be viewed as a barrier for internationalisation. SMEs can follow the success factors of BG/INV to accelerate their internationalisation process. Specifically, BG studies have demonstrated the

means for small and young firm internationalisation, thus these studies provide good insights for SME internationalisation.

The term ‘Born Global’ (BG) was first introduced by Rennie (1993) in an early internationalising firms research project that held in Australia. Subsequently, scholars apply speed, intensity and scope of internationalisation to define BG (Weerawardena et al., 2007). Contextual variables such as institutional environment, economic situation, social-cultural, market are possibly affecting the speed and degree of internationalisation (Knight & Liesch, 2016; Kuivalainen, Sundqvist, & Servais, 2007). Thus, it is unsurprisingly that the criteria to categorise these early internationalising firms vary from 2 years to 10 years of business establishment among different scholars in various context (Gassmann & Keupp, 2007; Knight & Cavusgil, 1996; Zahra, Ireland, & Hitt, 2000).

The understanding of differences between born global and traditional SME help to identify firms that are likely to take initiative for internationalisation and distinguish them from those are less proactive for internationalisation. Following the summary from Cavusgil and Knight (2015), the significant differences are listed here (1) traditional SME considers export only if any push factor from local market but BG will explicitly and implicitly views the

world as their market place; (2) traditional SME tends to internationalise gradually and incrementally, but BG tends to internationalise early and rapidly; (3) traditional SME perceives internationalisation as risk but BG perceives internationalisation as opportunity. Based on the above significant differences, the factor determining the differences could be the ability of BG to introduce unique offering to international markets, in comparison to traditional SME that only provides general offering that without clear differentiation to compete with foreign market competitors (Cavusgil & Knight, 2015).

As being miniature in nature, SME's strategies are mainly determined by owner, thus, owner's management characteristics represent firm's characteristics (Abu Bakar & Ahmad, 2010). Many studies conclude owner's management characteristics are key resource that distinguishes BG from traditional SME (Cao & Ma, 2009; Kaur & Sandhu, 2014; Madsen & Servais, 1997). These studies support management characteristic as an important factor to determine SME internationalisation.

In this study, we apply the BG and INV theory, also often called as INV theory (Oviatt & McDougall, 1994, 1999) through the lens of resource-based and dynamic capability view. Empirical studies of the resources and capabilities

will be compiled in section 2.3.

The effect of technological change is critical for new venture internationalisation in view that technological change is the foundation for speedy internationalisation. It is the technological change in last two decades that stimulated and facilitated the internationalisation of SMEs (Oviatt & McDougall, 1994, 1999). BG phenomenon is triggered by globalisation that has made internationalisation easier than before and the advances in communication and transportation technologies have reduced the transaction cost (Knight & C.avusgil, 2004).

Under the foundation of technological changes, the international business environment is favourable for smaller firm to assess resources and to leverage their firm's capabilities for internationalisation. Digitalisation is therefore viewed as an opportunity for small firm to enter international markets. The key factors that are driving these SME internationalisation reflect the resources and capabilities that need to be developed by SMEs who wish to boost their internationalisation.

2.2.2 Resource Based View (RBV)

In some studies, researchers use 'resource' and 'capability' terms interchangeably and do not intentionally give clear distinctions between these two terms (Barney, 1991; Pett, Francis, & Wolff, 2004). Despite resources and capabilities sometimes being used together, the dominant view is that resource and capability are two different concepts (Day, 1994; Grant, 1991; Lu et al., 2010; Teece, Pisano, & Shuen, 1997). In this study, resource and capability is considered two different concepts that are interrelated. This study adopts the definition of Grant (1991) that "resources are inputs into the production process" and "capabilities are capacity for a team of resources to perform some task or activity". Conceptually, capability refers to firm's ability to utilise the available resources for their intended deliverables (Lu, Zhou, Bruton, & Li, 2010). The utilisation involves identification, coordination, recombination and allocation of resources for specific purpose, hence it is an intangible process as described in resource-based view (RBV). In other words, resource itself may not lead to desirable outcome without capability to utilise it effectively.

RBV explains why firms from the same industry may perform differently due to valuable and intangible factors (Wernerfelt, 1984). RBV supports the notion that resources of a firm will determine its decision on market entry. Limited

resources are then reducing the available options for market entry.

According to Barney (1991), VRIN attributes are key to a sustainable competitive advantage. ‘V’ refers to the resource must be valuable, ‘R’ refers to rare among competitors, ‘I’ refers to imperfectly imitable and ‘N’ refers to non-substitutable. It leads to a focus on something intangible, because tangible resource can be easily purchased and copied by competitors. For SME internationalisation, a firm should build the resources and capabilities for their competitiveness in foreign market. The firm’s competitive advantages will be determined by how effective and efficient of the firm to leverage their limited resources. These abilities fulfill the VRIN criteria (Abu Bakar & Ahmad, 2010).

Grounded on the above concept, internationalising SMEs are believed to have intangible resources and distinctive capabilities to make better configuration of resources to gain competitive advantages. Many researchers attempt to analyse the internationalisation process through RBV (Cavusgil & Knight, 2015; Falahat, Knight, & Alon, 2018; Prange & Verdier, 2011; Protogerou, Caloghirou, & Lioukas, 2012; Weerawardena, et al., 2007).

2.2.3 Dynamic Capability View

The dynamic capability view is extended from the static RBV. Dynamic capability (DC) refers to the firm's ability for learning, integrating, building, reconfiguring resources and capabilities for creation of new competitive advantage (Teece et al., 1997). Dynamic capability is more influential within a changing environment to maintain competitive advantages. It is also suggested that dynamic capability is less vital if the market has little or no competition (Wilden, Gudergan, & Nielsen, 2013).

SMEs that are planning to accelerate their internationalisation should cultivate a bundle of dynamic capabilities (Weerawardena et al., 2007). Dynamic capabilities are important for sustainable growth (Hagen & Zucchella, 2014).

Weerawardena et al. (2007) introduce three types of learning capabilities that are essential to internationalisation among born global firms: (1) "market-focused learning capability"; (2) "internally focused learning capability" and (3) "networking capability". "Market-focused learning capability" is defined as "the capacity of the firm, relative to its competitors, to acquire, disseminate, unlearn and integrate market information to create value activities" (Weerawardena et al., 2007, p.300). "Internally focused learning capability" refers to "the acquisition, dissemination, unlearning and integration of

technological and non-technological information into knowledge that can be applied for international goals such as development of leading-edge innovative products" (Weerawardena et al., 2007, p.300). "Networking capability" refers to "the ability to acquire knowledge and develop complementary resources through building and maintaining relevant, superior and effective networks" (Weerawardena et al., 2007, p.301).

The effect of dynamic capabilities is positively related to firm performance and it improves with greater competitive intensity (Wilden et al., 2013). The influence of dynamic capabilities on performance depends on the context of study. In some circumstances, dynamic capabilities are costly and may lead to losses if their benefits are not realized (Wilden et al., 2013). However, for internationalising firms that consistently operate under competitive pressures, dynamic capabilities are crucial for their adaptability and survival (Wilden et al., 2013). This indicates dynamic capabilities are essential for SMEs that explore international markets.

SMEs are known to have limited slack resources. With the finite resources, SMEs are advised to develop their dynamic capabilities (Teece et al., 1997). The management must be able to allocate their focus to develop the resources and capabilities which can directly affect their competitive advantages for

internationalisation. The deployment of different resources and capabilities will lead to different outcomes (Kaleka, 2002). A firm with growth strategies will have different deployment plan compared with a firm with survival strategies. The higher investment will be allocated for growth but limited investment will be allocated for profit-oriented survival strategies (Prange & Verdier, 2011). SME needs to acquire the right set of resources and develop dynamic capabilities that are able to succeed in international markets rapidly.

2.3 Drivers for SME Internationalisation

Drivers for internationalisation also vary from one region to another due to different external factors such as domestic market competition, encouragement from existing government policy, infrastructure condition etc (Cavusgil & Knight, 2009). Despite there are studies on drivers for SME internationalisation from developed countries, it is necessary to evaluate if the driver is applicable to Malaysian SMEs.

Generally, factors affecting internationalisation behaviour can be grouped into 3 main categories e.g. (1) entrepreneurs' characteristics which comprise of internal entrepreneurial orientation, global mindset, prior international experience, management's network and knowledge; (2) firm's internal environment e.g. resources, capabilities, digitalisation, networks, business idea

and strategy; (3) firm's external environment such as globalisation, industry-specific factors (Gerschewski et al., 2015; Hagen & Zucchella, 2014).

External environment is homogeneous for a firm of same country and industry, the factors which distinguish internationalising SME and domestic SME are then affected by internal factors. New venture internationalisation scholars observe through various studies that BG's founder or manager owns entrepreneurs' characteristic which lead to better firm performance. For example, entrepreneurial orientation helps in handling of risks and uncertainty during exploration of International markets.

Many scholars have studied on why born globals able to realise early internationalisation. The findings showed that resources or capabilities for competitive advantage and adapt to external environment play important role. This enables born global to succeed in international markets under asset parsimony (Knight & Cavusgil, 2004).

The award winning literature by Knight and Cavusgil (2004) postulates that innovation is a determinant that drives BG firm's internationalisation. However, there are limited studies on whether the success is a result of the combination of different types of capabilities or influenced by one or two

strong influencers. There is also limited information on whether the firm can achieve better performance with only one or two outstanding capabilities. What is the best composition of capabilities to achieve better performance? In view that SME is less resourceful, it is hard for them to develop all capabilities at once.

Despite there are studies on drivers for SME internationalisation from other countries, the findings could be country or region-based. There are limited studies in South East Asia to generalise or validate whether the same applies to countries in developing countries, like Malaysia. For instance, cost leadership was found not generally applied by Malaysian SMEs as their competitive advantage because their pricings are not competitive to other countries, such as China (Chelliah, Sulaiman, & Pandian, 2010).

External environment is beyond a firm's control, however, a firm can seize the opportunity from the environment and adapt their business strategy to reduce the risk or embrace the opportunity. In Malaysia, digitalisation is strongly encouraged by local authorities with efforts to provide necessary infrastructure such as Digital Free Trade Zone, financial subsidy for automation and various programme to support technology development for better innovation. The favourable external factors could be the driver to accelerate

internationalisation if the company with ordinary resources, ordinary capabilities are able to apply strong composition capabilities to use external open resources for the firm improvement. Strong composition capabilities allow internationalising firms to exploit a set of resources that can be obtained externally and used collectively in realising a market opportunity (Luo & Child, 2015; Volberda & Karali, 2015). This implies that innovation and learning capability are important to facilitate a firm's capability to composite all strategic resources to achieve intended outcome.

Appendix 2.1 summarises literature about drivers for SME internationalisation. Apart from some studies that focuses on external factors, studies concern about internal factors often view resources and capabilities as important factors that affect firm's internationalisation. Among the common resource constructs that have been discussed in these SME internationalisation literature are management characteristics (Cao & Ma, 2009; Gerschewski et al., 2015), network (Cao & Ma, 2009; Ellis, 2011); international knowledge (Oura, Ziber, & Lopes, 2016). In term of capabilities, the common capability constructs that are often discussed in SME internationalisation literature are marketing capability (Gregory et al., 2019; Martin, Javalgi & Cavusgil, 2017); innovation capability (Efrat et al., 2017; Fernández-Mesa & Alegre, 2015) and learning capability (Evangelista & Mac, 2016; Fernández-Mesa & Alegre,

2015). Apart from that, digitalisation also a newly emergence topic in SME internationalisation (Gregory et al., 2019; Zhang, Sarker, & Sarker, 2013).

In spite of resources and capabilities are generally agreed as the drivers for internationalisation, there is limited study that include a few resources and capabilities within a research model to understand resources, capabilities and their interaction effect (Ibrahim, Abdullah, & Ismail, 2016; Kamasak, 2017). The research papers that cover multiple capabilities are mostly conceptual papers. Among them, Weerawardena et al. (2007) conceptualises a model consists of "owner or manager profile", "market-focused learning capability", "internally-focused learning capability", "networking capability", "marketing capability" and "knowledge intensive product" that lead to accelerated internationalisation. Roudini & Osman (2012) conceptualises "international networking capability", "international marketing capability", "innovation and risk taking capability", "international learning capability" and "international experience" as the dimensions of international entrepreneurship capability that contribute to export performance. Kor and Mesko (2013) also conceptualises three elements for dynamic managerial capabilities for evolutionary fit performance, these elements are "managerial human capital", "social capital" and "cognition". Generally, empirical studies that discuss multiple resources and capabilities are limited. Among the few are Efrat, Hughes, Nemkova,

Souchon and Sv-Changco (2018), Kaleka (2002) and Hao and Song (2016). Summary of drivers to internationalisation is attached as Appendix 2.1.

2.4 Digitalisation

The existing environment provides opportunities to both BG and existing SMEs such as the rise of middle class group globally, the increase of homogeneous demand internationally, the technology advancement, the convenient and low cost logistics, and the availability of business networks in multi-countries (Cavusgil & Knight, 2015). As a result, e-commerce has grown to be a major channel for international marketing. It facilitates innovation and change through sharing of information and improved communication between suppliers and buyers (Walters, 2008). E-commerce is used as a virtual marketplace for sourcing, engagement, interaction, transaction and tracking. By integrating e-commerce into their business, a company can reduce the selling process lead time and build a highly efficient sales funnel (Gregory, Karavdic, & Zou, 2007).

To maximize the opportunity given in existing context, a firm should assess the external factors such as the infrastructure for implementation of e-commerce and demand of their offerings on e-commerce. In addition, they should also evaluate the internal factors, for instance, the possibility to transfer

their product online and their e-commerce assets (Gregory et. al, 2007). When all the above factors exist, e-commerce usage is a strategic move that lower the cost of marketing and sales transaction (Gregory et. al, 2007). As for external driver, the management needs to decide which markets are appropriate to allocate resources for e-commerce by considering the readiness of infrastructure and e-commerce demand at the target market.

The "capability-efficiency-performance model" developed by Gregory, Ngo, and Karavdic (2019) clearly demonstrated the use of digitalisation for internationalisation. They found that e-commerce marketing capabilities directly affect the distribution and communication efficiencies as well as export performance. Generally, e-commerce capabilities enhance SME's marketing strategy implementation effectiveness and this will accelerate their internationalisation process (Gregory et al., 2019).

From another perspective, digitalisation increases SMEs' export propensity. Export propensity is affected by institutional environment (Krammer, Strange, & Lashitew, 2018). The global trend of digital forces especially the disintermediation e.g. using digital to cut out the middle man will increase local market informal competition. Thus, domestic SME may increase their export propensity as a firm survival strategy when they perceived greater

competition in the current market.

Despite digitalisation is deemed as a desirable strategic move that contributes to performance in various aspects, there are several considerations before the firm finally commit to adopt new technology in their routines. Firms which interested in adoption of digital channels should consider their firm-specific factor, management factor, resources and external context (Karjaluoto & Huhtamäki, 2010). They note that these factors can either encourage or discourage the adoption. SMEs which typically shortage of time, human and financial resources may have difficulty to commit the adoption of new technology in view that some tangible resources allocation is necessary for the adoption.

Although e-commerce is most often discussed, other digital technologies that may affect SME internationalisation cannot be ignored. Digitalisation refers to adoption of digital technologies for facilitating technical knowledge creation, market knowledge creation, internal and external communication, marketing and promotion, process automation and product development (Collin et al., 2015), hence it is not only limited to e-commerce.

The effects of digitalisation can be categorised into 3 main types: 1) activity-links-centred digitalisation when the digital technology is used to optimise existing activities; 2) resource-ties-centred digitalisation when the digital technology is used to facilitate inputs for new activities; 3) actor-bonds-centred digitalisation when the digital technology is used to create or maintain networking between various business partners (Pagani & Pardo, 2017). Industry 4.0 technologies such as 3D-printing, robotics, Internet of Things etc are among examples of activity-links-centred digitalisation, which could be used to improve lead time and productivity of the processes.

It is undeniable that cost is the main concern for the success of digitalisation (Choshin & Ghaffari, 2017), but in the view of the opportunities and risks from the effects of digitalisation, those who can apply the best suitable strategy could finally get the reward from digitalisation. Inaction could be harmful to overall firm growth and survival, just like the quote by John F. Kennedy, "There are risks and costs to action. But they are far less than the long range risks of comfortable inaction." SMEs need to seriously look into the potential effects and act fast to adapt to this global digital trends. Thus, it is crucial to understand the interaction between digitalisation and firm's competitive advantages in International markets to encourage more initiatives towards digitalisation.

2.5 International Resources for Competitive Advantages in International Markets

Consistent with previous understanding that resource is input to production process, this study compiles a few fundamental resources (Laanti, Gabrielsson, & Gabrielsson, 2007; Oviatt & McDougall, 2005; Ruzzier, Hisrich, & Antoncic, 2006) that are essential for international performance and conceptualise them as management international resources. Guided by new venture internationalisation literature, we posit that a firm with sufficient management international resource should exhibit strong management characteristics toward internationalisation, show strong network orientation and build robust network with business partners and export related institution, and hold sufficient international knowledge either through their learning orientation or through prior working experience. Management characteristics, international knowledge and network are three concepts that are often found in studies of forces influencing SME speedy internationalisation (Falahat et al., 2018; Langseth, O'Dwyer, & Arpa, 2016; Oviatt & McDougall, 2005). The literature supports for the selection of these resources are presented in following section.

2.5.1 Management Characteristics

Entrepreneurial orientation is one of the management characteristics that is often discussed. Its role for international performance has been well recognised and validated by several studies. Lately, scholars start to emphasize the management characteristics as antecedent to international performance (Hagen & Zucchella, 2014; Loane, Bell, & McNaughton, 2007; Øyna & Alon, 2018; Weerawardena et al., 2007).

According to the new venture internationalisation studies, the born global's entrepreneurial orientation is essential for their success (Knight & Cavusgil, 2004). Most scholars agree that it is an important factor that trigger early internationalisation (Cavusgil & Knight, 2015). Some empirical findings found that owner-manager's prior experience from other exporting firms will motivate the firm to become born global (Madsen & Servais, 1997). In SME or born global studies, entrepreneurial orientation is strongly linked with firm performance (Abu Hassim, Abdul-Talib, & Abu Bakar, 2011; Fernández-Mesa & Alegre, 2015; Gerschewski et al., 2015; Monteiro, Soares, & Rua, 2017; Gruber-Muecke & Hofer, 2015). An active exporter may perceive the issue as an opportunity while a passive exporter will consider it as a risk. Active or passive exporters have different perception of export problems (Pinho & Martins, 2010; Sharkey, Lim & Kim, 1989). It reflects that management

characteristics may play an important role as antecedent to capability building and firm performance in international markets.

2.5.2 International Knowledge

Uppsala internationalisation process model stated that commitment decisions for internationalisation depend on the firm's market knowledge (Johanson & Vahlne, 1977). Firm learns from their international business activities. Through their experiential knowledge, the firm has better understanding of the opportunities or risks of the international business and thus able to increase their commitment stage by stage. This concept can be applied to born global firms as well. Although the born global firms normally export within 3 years from the inception, it is observed that most of the entrepreneurs of born global firms have prior international exposure which accelerate their decision making of internationalisation commitment (Knight & Liesch, 2016; Madsen & Servais, 1997). Along the internationalisation process, knowledge is a critical asset for a firm to gain competitive advantage (Ismail, Khurram, Abadi, & Jafri, 2017; McDougall & Oviatt, 2003). Lu et al. (2010) emphasise the critical role of information acquisition capability in international expansion. With this capability, firms obtain information related to product, company, market, and customer, which in turn, those international knowledge drives them to better international performance. Usually, business and social networks are source of

international knowledge for small and young firms (Freeman, Hutchings, Lazaris, & Zyngier, 2010).

2.5.3 Network

Relational resources are concluded as an important factor for born global to compete internationally (Freeman & Cavusgil, 2007; McDougall & Oviatt, 2003; Zhou, Wu, & Luo, 2007). Born global uses networks to overcome the constraints of scarce resources (Mort & Weerawardena, 2006). The strong relationships with local authorities, investors, business partners, suppliers, distributors, customers, multinational enterprises can help born global to create sustainable competitive advantages (Falahat et al., 2018). Recognising the critical role of network, Johanson and Vahlne (2009) proposed a business network model which emphasises the role of trust and commitment in the internationalisation business relationship.

Freeman, Edwards, and Schroder (2006) proposed that network and alliances help small and young firms to overcome their internationalisation barriers. They suggested five workable strategies in order to achieve this outcome e.g. use of personal network, client followership, collaborative partnerships, multiple modes of entry and use of advanced technology. Felzensztein, Ciravegna, Robson, and Amorós (2015) observed that the network plays a role

in determining the internationalisation scope. Zhou et al. (2007) also shown social networks affect the internationalisation orientation and firm performance. Hagen and Zucchella (2014) stated that strategic partnership is one of the main differentiators in born global's growth patterns regardless the industry type. According to Freeman et al. (2010), network is also a source of new knowledge for smaller born global firms. Network also allows born global to source for complementary resources and capabilities which the firm is lacking through outsourcing of the tasks to reliable alliances (Madsen & Servais, 1997). Born globals can reach new business space faster by using the large channels provided by MNC partners (Gabrielsson & Manek Kirpalani, 2004). Strong relationships with government as part of the network also enable SMEs to gain benefits from government support programmes (Faroque & Takahashi, 2015). Through networking with government, firms can obtain institutional capital such as informational and financial resources (Lu et al., 2010). Through networking with business partners, firms can secure their consistent suppliers, good quality materials and other resources (Lu et al., 2010). In Malaysia context, network is essential for born global and SME internationalisation (Che Senik, Scott-Ladd, Entrekin, & Adham, 2011; Falahat & Migin, 2013).

2.6 Digitalisation for Competitive Advantages in International Markets

New venture internationalisation theory (McDougall & Oviatt, 2003; Oviatt & McDougall, 1994; 1999; 2005) emphasises that technological change is the foundation of new venture internationalisation. Born global was found adopting digital technologies such as internet, digital marketing tools, e-commerce, big data, internet of things, cloud computing etc. in their business. Adoption of digital technology can directly or indirectly create competitive advantages in the digital economy. Thus, it is worthy to comprehend the effects of digitalisation on SME internationalisation (Gregory et al., 2019; Knight & Liesch, 2016).

Many recent studies have been done for investigation of the effects of digitalisation. Foroudi, Gupta, Nazarian and Duda, (2017) investigated "to what extent does digital technology influence marketing capability which leads to companies growth?" through 21 in-depth interviews. Bouwman, Nikou, Molina-Castillo and Reuver (2018) conducted empirical studies for the impact of digitalisation on business models through 4 independent variables e.g. innovation activity, strategy, competitive intensity and technology turbulence. There were significant results for three out of four variables, except competitive intensity.

In accordance to the effects of digitalisation suggested by Pagani and Pardo, 2017, firms can use digital technology to optimise their processes, to support creation of new products or services or to further support the bonding with business partners in their network.

In an article "The case for digital reinvention", McKinsey Quarterly (February 2017) reported that there are uneven returns for digital investment due to some companies which do not have precise targeting of their digitalisation strategy. Clearly, as discussed in the "resource-based theory of competitive advantage" (Grant, 1991), it is not competing on the number of digital technologies used, the key is how firms establish their competitive advantage through the use of suitable digital technology in their own business context.

2.7 International Capabilities for Competitive Advantages in International Markets

SME internationalisation literature and born global literature have been used as the inputs for operationalisation of international capability. Grounded on resource-based view, international capability that contributes to international performance is likely to be a bundle of capabilities (Kaleka, 2002; Leonidou, Palihawadana, & Theodosiou, 2011). The complexity in a bundle prevents other firms to imitate and transfer the capability easily, thus assists the firm to

outperform other competitors.

Lu et al. (2010) suggest adaptive capability and information acquisition capability are salient to internationalisation. In their study, "adaptive capability" refers to a firm's ability to meet foreign customer's requirements, customise products or services as per customer's request and response to price change demand within their own control. While information acquisition recognises the importance of international knowledge such as customer and market information, adaptive capability recognises the importance of innovation and learning capability. Product innovation allows firm to have control over their product development and customisation while process innovation allows firm to have more flexibility to response to foreign customer's price change demand.

Consistent with resource-based view, only some capabilities can meet the valuable, rare, inimitable and non-substitutable criteria. For example, Lu et al. (2010) found that information acquisition capability is a type of common skill that does not lead to competitive advantage. On the other hand, adaptive capability which involves more complex activities significantly contributes to sustainable competitive advantages.

Based on previous discussion that capability transforms resource to meaning output and capability that create sustainable competitive advantage should closely match the VRIN criteria, this study compiles a few fundamental capabilities from SME internationalisation studies that are essential for international performance and conceptualise them as international capability. We posit that a firm with strong international capability should exhibit strong innovation capability in term of product and process innovation, which they have control over product specification, quality and customisation, at the same time able to control productivity and production cost to meet pricing flexibility. In addition, firm with strong international capability should exhibit strong marketing capability so that they could effectively introduce their product to the new market. In the light of dynamic capability view, firm with strong international capability should exhibit strong learning capability, which they could always response to changes in International markets in term of regulatory requirements, customer requirements or market requirement. Firms with learning capability know how to apply new technology to support product and process innovation. In international marketing studies, scholars suggest marketing capability as one type of dynamic capability (Morgan, Katsikeas, & Vorhies, 2012). The literature supports for the rationale of inclusion of these capabilities are presented in following section.

2.7.1 Marketing Capability

Born global scholars suggest marketing orientation is one of the important organisation culture that provide foundation for better market-focus strategies that lead to better international performance (Knight & Cavusgil, 2004). Marketing capability is the strategic capability (Lenz, 1980) for a market-oriented firm. Positive association is also found in technology-driven firm (Hao & Song, 2016). The ability of the firm to perform traditional marketing activities like proper segmentation-targeting-positioning of market, and develop highly effective marketing 4P (product, price, place, promotion) strategies allow them to rapidly enter the international markets (Weerawardena et al., 2007). Marketing capability contributes to firm's competitive advantage (Kamboj, Goyal, & Rahman, 2015; Weerawardena, 2003).

2.7.2 Innovation Capability

The concept of innovation is broad (Kotsemir & Abroskin, 2013). In OECD Oslo Manual, 3rd edition (2005) innovation is categorised into four types e.g. process innovation, product innovation, organisational innovation and marketing innovation. In SME internationalisation studies, it is observed that the most often discussed innovations are process and product innovations (Gerschewski et al., 2015; Ruzzier, Hisrich, & Antoncic, 2006).

Innovation can be either technological or non-technological (Weerawardena, 2003). It is linked with born global phenomenon by Knight and Cavusgil (2004) in the award winning article – "Innovation, organizational capabilities, and the born-global firm". According to the 2004 article, the innovation capability in offering new product and developing new market is essential for born global's success. It accelerates born global's internationalisation process. For example, innovation capability enhances a firm's ability to develop innovative products and increase their speed in introducing the products to the market (Sok & Cass, 2011). Several empirical findings acknowledge the contribution of innovation to firm performance (Abu Hassim, Abdul-Talib, & Abu Bakar, 2011; Fernández-Mesa et al., 2015; Oura et al. 2016; Raymond, Bergeron, & Croteau, 2013).

Process innovation such as improvement of process flow will improve the pricing capability of a firm. Firms with flexibility to offer competitive price are likely to achieve better export performance (Katsikeas, Piercy, & Ioannidis, 1996; Kirpalani & MacIntosh, 1980).

2.7.3 Learning Capability

The role of learning capability is crucial to ensure the continuity of existing competitive advantages in international markets (Johanson & Vahlne, 2009).

According to dynamic capability view, ability to learn is essential to maintain competitiveness despite external conditions which are changing. A firm without learning capability is difficult to sustain in long run because of failure to develop the capabilities required for a sustainable competitive advantage in facing future challenges (Gassmann & Keupp, 2007; Grant, 1991; Teece, Pisano, & Shuen, 1997). It is necessary to develop and maintain learning capabilities for accelerated internationalisation, these capabilities will enable the firm to develop knowledge intensive products (Weerawardena et al., 2007). Technological learning capability provides the advantages of quick response to market needs and therefore able to increase financial returns (Zahra et al., 2000). New venture with minimal knowledge and information of foreign market needs to leverage their learning capability to overcome all possible challenges during internationalisation process (McDougall & Oviatt, 2003).

2.8 Competitive Advantages in International Markets

The operationalisation of dependable variable's measurement is fundamental in any research design. This can be clearly seen from how born global researchers measure performance. For young internationalising firms, return on investment may take longer duration, thus the internationalisation performance emphasises more on the speed of first international activity, the scope of internationalisation and the extent of exports instead of the return-on-

investment (Weerawardena et al., 2007).

Most SME internationalisation studies have connected resources and capabilities with financial or strategic international performance. There is only a few exceptions which demonstrate the impact of resources and capabilities on competitive advantages (Kaleka, 2002). Following the resource based theory of competitive advantage proposed by Grant (1991), understanding of the influence of resources and capabilities on competitive advantages is beneficial for a systematic investigation. There are several determinants that could affect the financial or strategic international performance (Elena, 2014; Zou & Stan, 1998), measuring outcome of resources and capabilities with competitive advantages provides more straight forward results in comparison to evaluation of financial or strategic performance. Prior findings have provided evidence that firm's competitive advantage is positively related with international performance (Kaleka, 2002; Weerawardena, 2003).

In view of the complexity in international business, the suitable use of performance measurement for SME internationalisation could affect the outcomes of study. Scholars mostly apply perceptual measures for international performance (Lu et al., 2010). In most circumstance, perceptual measures are more feasible in comparison to objective measures which could

be different due to industry or market factors and are closely affected by variations in financial or accounting practices (Lu et al., 2010).

Kaleka (2002) demonstrated that different assortments of resources and capabilities are corresponding with specific export competitive advantages. This finding calls for a need to examine whether there are different resources and capabilities mechanisms for different competitive advantages. In line with the export competitive advantage dimensions proposed by Kaleka (2002), namely product, service and cost advantages, this study measures the outcome of resources, capabilities and digitalisation with competitive advantages in international markets. The definition of competitive advantages refers to whether a firm performs better in these three advantages, in comparison with its competitors in international markets. Specifically, price advantage means firm at better position in terms of pricing when competing with other industry players in their international venture. Product advantage means firm at better position in term of their product design, customisation, adaptation and quality in comparison with other industry players in their international venture. Service advantage refers to a firm at better position in term of their reliability of service, timeliness of delivery, product accessibility and overall service quality and customer satisfaction. These three performance measurements are analogy to the concepts of lower cost strategy and differentiation strategy

(Porter, 1980), in which differentiation could be either product differentiation or service differentiation.

Despite competitive advantages and international performance could be closely related, it does not imply testing of direct relationship between resources, capabilities and international performance will produce similar outcomes as testing resources, capabilities and competitive advantages. A clear example is the finding from Kaleka (2012) which found insignificant results between both product development capability and customer relationship capability with export venture performance. In an earlier study, these two capabilities are found positively related to competitive advantage.

Although achieving financial and strategic success should be the ultimate objective of the internationalisation strategy, understanding of resources, capabilities and competitive advantages provides additional insights for a more systematic planning of resource allocation. Hence, this is the motivation for present study which operationalize dependable variable in measurements that reflect price, product and service advantage. Supported by Grant (1991), resources and capabilities must be first contributed to competitive advantages, then subsequently to export performance (Falahat, & Migin, 2017). Owing to other internal or external factors, if the resource or capability fails to

contribute to competitive advantage, it does not lead to performance.

2.9 Hypotheses Development

2.9.1 Hypotheses Development for Management International Resources and Competitive Advantages in International Markets

Gerschewski et al. (2015) conducted a comparative study between 147 BG and 163 non BG companies from Australia and New Zealand. The result provided support that entrepreneurial orientation is a critical driver for international performance of born global firm. Abu Hassim, Abdul-Talib, & Abu Bakar (2011) also found similar conclusion with a data from 398 Malaysian firms across 11 industries.

Some studies attempt to investigate entrepreneurial orientation and firm performance. Fernández-Mesa and Alegre (2015) in a research of 150 firms from ceramic tile industry, revealed that entrepreneurial orientation is positively related to SME's export intensity though innovation performance and organisational learning capability. In a study of 324 manufacturing firms, Weerawardena (2003) concluded that entrepreneurial orientation affects firm's competitive advantage through its marketing capability and innovation intensity.

Monteiro, Soares, and Rua (2017) studied 265 firms in Portugal and the results showed both informational and relational resources affect dynamic capabilities development and subsequently dynamic capabilities contributes to export performance.

Noroozi, Mobarekeh, and Zadeh (2010) conducted a survey in 96 SMEs from Malaysia and 123 SMEs from Iran and their findings revealed that SMEs can obtain more market knowledge through the e-commerce implementation. The more market knowledge obtained, the lower the perceived environmental uncertainty of foreign market, thus encourage direct exporting.

From a study of 112 firms in Brazil, Oura, Zilber, and Lopes (2016) shown that there is positive relationship between international knowledge gained from experience and SMEs' export performance in emerging country.

Cao and Ma (2009) surveyed 74 born global firms in the Yangtze Delta, China. Their results indicated that network specific factors such as some forms of formal or social inter-firm agreement, communication within network positively affect the rapid internationalisation of born global firms.

Krammer, Strange, and Lashitew (2018) who studied 16000 firms from emerging economies based on the database of World Bank's Enterprise Surveys found that access to external technology via licensing is one kind of relational resource that is positively related to the export intensity of these firms. From a feedback of 129 born global firms in Guanxi, Zhou et al. (2007) found that social network is a mediator between internationalisation orientation and firm performance. Lu et al. (2010) tested the relationship of "resource-capability-performance" by using 775 firms in China. The results showed that there is a positive relationship between management's network and the international performance, mediated by an entrepreneurial firm's adaptive capability. Kim and Hemmert (2016) also conducted a study on 1733 subcontracting firms in Korea from electronics, machinery and chemical industries. The results showed that firms' export orientation and export intensity are related to their subcontracting network ties. Kaleka (2002) found that customer or supplier relationship building capability are critical to competitive advantages of a firm in terms of cost, product and service. This implies the importance of network in achieving competitive advantages. In Malaysia context, Falahat et al. (2018) found that ability to maintain good relationships with institutional and business network contributes to international performance through formulation of proper export marketing strategy.

Based on the empirical studies, resource may directly related to capability (Fernández-Mesa & Alegre, 2015; Monteiro et al., 2017; Weerawardena, 2003) or directly related to international performance (Cao & Ma, 2009; Kaleka, 2002; Krammer et al., 2018; Zhou et el., 2007). Despite most studies have directly tested international performance based on financial and strategic performance, this study intends to provide more insights on competitive advantages in international markets, namely price advantage, product advantage and service advantage. Firms that are capable to achieve competitive advantages stand a better chance to achieve financial and market performance. The discussion in section 2.9.1 leads to the following hypotheses development:

H1: Management international resources are positively related to price advantage in international markets.

H2: Management international resources are positively related to product advantage in international markets.

H3: Management international resources are positively related to service advantage in international markets.

2.9.2 Hypotheses Development for Digitalisation and Competitive Advantages in International Markets

Gabrielsson and Gabrielsson (2011) conducted a multiple case study on 35 born global firms in Finland consists of high-tech, high-services, and high-know-how / systems firms. The results revealed that BGs which apply internet-based channel together with conventional channels tend to achieve higher degree of globalisation compared with those implementing internet-based sales channel at beginning stage.

Zhang and Tansuhaj (2007) carried out qualitative research on 3 United States firms to propose that IT capability is influenced by international entrepreneurial orientation, market orientation and organisational learning orientation. It also positively influences the international performance.

Gregory et al.(2019) studied the impacts of "e-commerce marketing capabilities" to export venture sales with 340 samples in Australia and the results showed positive relationship between "e-commerce marketing capabilities" and sales performance, mediated by distribution efficiency and promotion efficiency. Zhu (2004) investigated the impacts of e-commerce capability in 114 firms in retail industry and found e-commerce capability and firm performance are positively related.

Based on 411 samples from European countries, Eggers, Hatak, Kraus, and Niemand (2017) found that capability of the firm to use social network is mediating the relationship between entrepreneurial orientation and firm growth.

Apart from these, some studies have investigated the relationship between a specific type of digital technology and firm performance, e.g. informediation (Ordanini and Pol ,2001); e-Commerce (Gregory et al., 2007; Gregory et al., 2019); social media (Eggers et al., 2017). Several studies have shown that adoption of one or more digital technologies lead to better capability (Bouwman et al., 2018; Foroudi et al., 2017; Gregory et al., 2019) and better firm performance (Morgan-Thomas & Bridgewater, 2004; Eggers et al., 2017; Gregory et al., 2019). Thus, the following hypotheses are developed:

H4: Digitalisation is positively related to price advantage in international markets.

H5: Digitalisation is positively related to product advantage in international markets.

H6: Digitalisation is positively related to service advantage in international markets.

2.9.3 Hypotheses Development for International Capabilities and Competitive Advantages in International Markets

Pham, Monkhouse, and Barnes (2017) in their study of 333 Vietnamese exporting firms found that marketing capability has positive impact on export performance in emerging economies. Weerawardena (2003) studied 326 manufacturing firms in Australia to examine marketing capability and strategy. The findings showed that marketing capability is playing dual role which it can directly contribute to competitive advantage, and influence organizational innovation intensity which positively related to competitive advantage. Takahashi, Bulgacov, Semprebon, and Giacomini (2016) also found that marketing capability acts as a mediator between dynamic capabilities and organisation performance in a study of 316 higher education institution in Brazil. Kamboj et al. (2015) realised that marketing capability is mediated by competitive advantage to the financial performance based on 127 responses from marketing, manufacturing and project managers in India. The finding for the relationship between marketing capability and competitive advantage is also consistent in the study by Ahmadi, Cass, and Miles (2014) for 142 new technology ventures' first product commercialisation. Despite marketing programme could be costly, Katsikeas, Piercy and Ioannidis (1996) found that marketing capability is an important determinant for export performance.

Raymond et al. (2013) proved the positive relationship between innovation capability and firm performance in the study of 309 Canadian manufacturing SMEs. Oura et al. (2016) found that both international experience and innovation capacity are paramount for export performance, although there is greater impact from international experience in their study on 112 Brazilian industrial SMEs. Sok and Cass (2011) highlighted that resource-capability complementarity has positive impact on performance based on 171 manufacturing SMEs in Cambodia. Wu, Chen, and Jiao (2016) found that dynamic capability mediates the relationship between international diversification and innovation performance from their study of 179 manufacturing firms in China. In Malaysia, Abu Hassim et al. (2011) also obtained similar result from 398 firms across 11 industries, which they observed that organisational innovation is positively related to firm business performance. Kaleka (2002) showed that firms with product development capability can achieve product advantage. This is unruffled because product development skills allow firm to realise the product innovation efficiently as compared with their competitors.

Zahra et al. (2000) found in a study of 103 U.S new venture that technological learning capability is positively associated with new venture performance. Sok

and Cass (2011) has similar finding in their study on 171 SMEs in Cambodia, which superior learning capability has lead to better innovation-based performance. Evangelista and Mac (2016) also concluded that foreign market learning has significantly contributed to export performance in a study of 139 SMEs in Australia. In addition to this, Fernández-Mesa and Alegre (2015) demonstrated that organizational learning capability has a mediating effect for the relationship between entrepreneurial orientation and export intensity of SMEs. The study was carried out in Spain and Italy on 150 firms from ceramic tile industry. Another study on 111 firms in Spain by Prieto and Revilla (2006) also supported that learning capability will improve the firm performance.

Based on the empirical studies, capability is directly related to competitive advantage (Ahmadi et al., 2014; Kamboj et al., 2015; Weerawardena, 2003) or directly related to international performance without explicit investigation on competitive advantage (Evangelista & Mac, 2016; Katsikeas et al., 1996; Pham, Monkhouse, & Barnes, 2017; Prieto & Revilla, 2006; Raymond et al., 2013; Sok & Cass, 2011; Takahashi et al., 2016; Zahra et al., 2000). Despite most studies have directly tested international performance using strategic and financial performance, this study intends to provide more insights on competitive advantages, namely price advantage, product advantage and service advantage. Firms that are capable to achieve competitive advantages

stand a better chance to achieve financial and market performance (Knight & Cavusgil, 2004; Lu et al., 2010, Weerawardena, 2003). The discussion in section 2.9.3 leads to the following hypotheses development:

H7: International capabilities are positively related to price advantage in international markets.

H8: International capabilities are positively related to product advantage in international markets.

H9: International capabilities are is positively related to service advantage in international markets.

2.10 Mediating Effect of International Capabilities

The study of interactions between resource and capability is scarce in comparison to study of the direct relationship between resource, capability and performance (Kaleka, 2012). Nevertheless, there are some exceptions. Some scholars have tested capability as a mediator that linking resource and performance (Lu et al., 2010). In emerging economy, Lu et al. (2010) found that adaptive capability exists between resources and international performance. Authors tested different models such as direct, indirect, and even reverse causality model. They finalised that capability is linking resource and international performance. In their case, the tested resources are institutional capital such as government informational or financial supports, and

managerial ties such as network with suppliers, customers and competitors.

Extended from the direct relationship that is reported in previous hypotheses development, this study posits the international capability is a mediator between resource and international performance. Although digitalisation is separated from resource, it is conjectured to have similar attribute as a resource in which a firm utilises digital tools as input to enhance their international capability (Neubert, 2018), and subsequently lead to international performance. This assumption agreed with Grant (1991) and other research models (Fernández-Mesa & Alegre, 2015; Lu et al., 2010; Monteiro et al., 2017; Weerawardena, 2003). Thus, the following hypotheses are developed:

H10: Management international resources are positively related to international capabilities.

H11: Digitalisation is positively related to international capabilities.

H12: International capabilities mediate the proposed relationship between management international resources and price advantage in international markets.

H13: International capabilities mediate the proposed relationship between management international resources and product advantage in international markets.

H14: International capabilities mediate the proposed relationship between

management international resources and service advantage in international markets.

H15: International capabilities mediate the proposed relationship between digitalisation and price advantage in international markets.

H16: International capabilities mediate the proposed relationship between digitalisation and product advantage in international markets.

H17: International capabilities mediate the proposed relationship between digitalisation and service advantage in international markets.

2.11 Research Model

In the light of SME new venture internationalisation theory (Dana, 2017; Oviatt & McDougall,1994, 1999, 2005), this paper aims to study the role of resources, capabilities and digitalisation of Malaysian SMEs for firms' competitive advantages in international markets.

Grounded on the RBV, DCV and new venture internationalisation theory, the research framework examines resources and capabilities that lead to competitive advantages in international markets. Digitalisation, which is also a resource that could affect international capabilities, is tested separately as an individual construct to reveal its specific effect on capabilities and competitive advantages in international markets. The concept of resource and capability is

based on RBV(Barney, 1991; Wernerfelt, 1984) and the dynamic capability view (Teece et al., 1997) which extended from RBV.

Conceptualisation and selection of resources and capabilities are guided by new venture internationalisation theory and empirical findings from SME internationalisation and born global studies. The research model posits management international resources (management characteristics, international knowledge and network) contribute to international capabilities (marketing capability, innovation capability and learning capability) and competitive advantages. Similarly, digitalisation demonstrates similar effects on international capabilities and competitive advantages. International capabilities are playing two roles: (1) directly contribute to competitive advantages; (2) mediate the relationships between resources and digitalisation with competitive advantages.

The research model is presented in Figure 2.11.

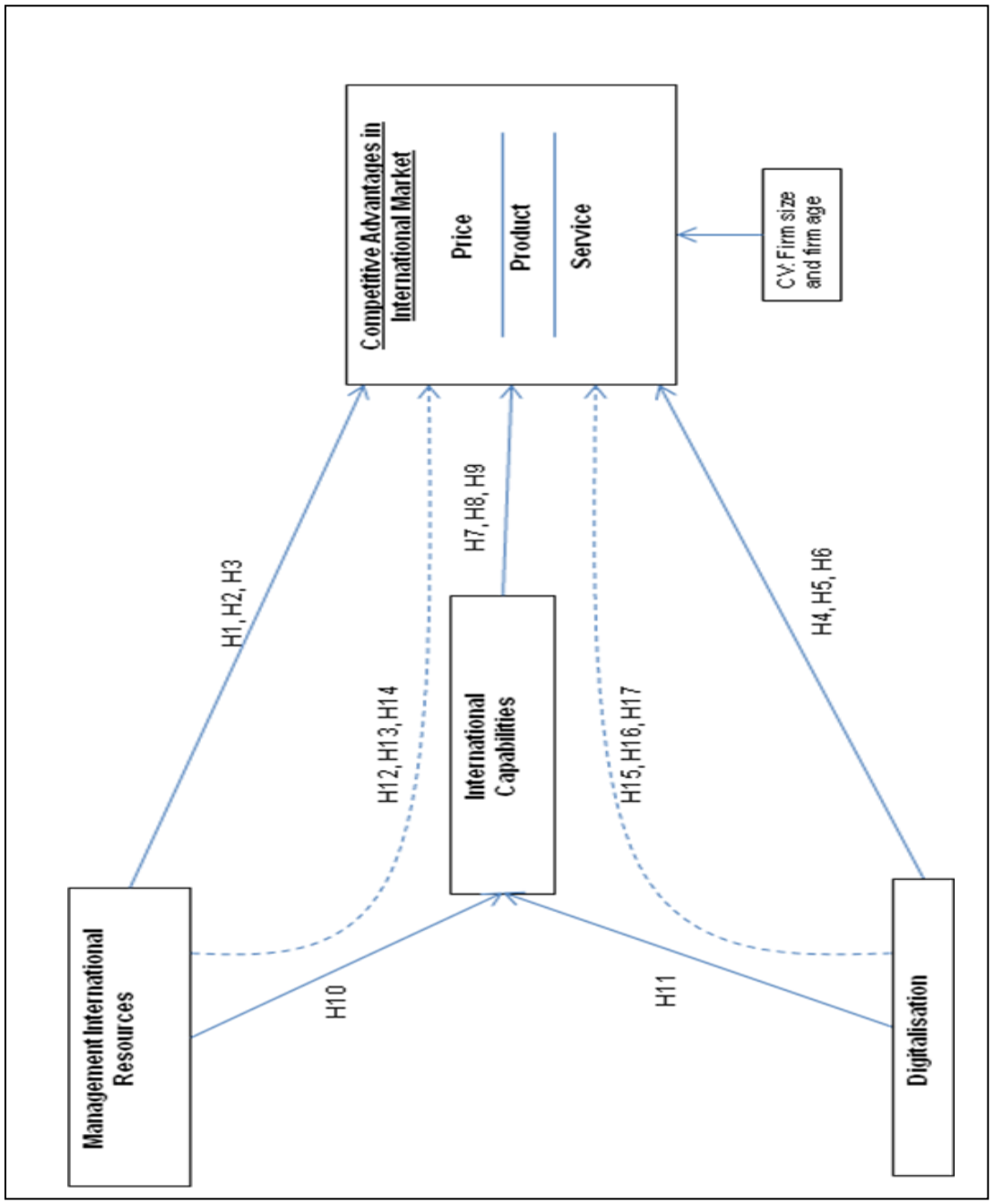

Figure 2.11 Research Model

Note: Dotted line denotes the indirect relationship, international capabilities construct as a mediator.

CHAPTER 3

METHODOLOGY

3.1 Overview

This chapter is started with a review on research methodology and analytical methods, followed by an overview of the design of research. Next, the chapter continues with the details which cover data collection, sampling, measures, and approach used for analysis of data.

3.2 Review on Research Methodology and Analytical Methods

SME internationalisation studies apply two common approaches, namely qualitative and quantitative for the research. During the early stages of SME internationalisation and born global phenomenon, scholars use qualitative approach to explore why and how born global could internationalise early (Knight & Liesch, 2016; Romanello & Chiarvesio, 2019). Among the highly cited literature based on qualitative approach are mostly from developed countries (Freeman et al., 2006; Rialp, Rialp, & Knight, 2005). In Malaysia, a qualitative research was carried out by Kaur and Sandhu (2014). The study

highlighted that management characteristics, unique resources, networking ability and external factors are drivers of born global firms in Malaysia.

There are quantitative studies that attempt to explain relationships among various constructs that are applicable to drivers for SME internationalisation. Nevertheless, these studies mostly focus on one or two capabilities, the studies of multiple resources and capabilities to understand their roles are scarce, especially in emerging countries (Kamasak, 2017). There is only one quantitative study based on literature search on Science Direct and Google Scholar within Malaysia context, which is Falahat et al. (2018). The paper discusses the relationships of entrepreneurial orientation and networking capability on marketing strategy and foreign market performance.

In the past two decades, cluster analysis, multiple regression or logistic regression are the commonly used multivariate methods. However, these methods require an assumption of normal distribution and need large sample size to achieve statistical significance (Hair, Hult, Ringle, and Sarstedt, 2017). In recent days, researchers have started to apply new techniques like structural equation modelling (Hair et al. 2017).

Structural equation modeling (SEM) refers to model to measure relationships among latent variables. PLS-SEM is a new multivariate technique that more prominent because it eliminates the constraints of old techniques, in term of accounting for measurement error.

The strengths of PLS-SEM are a few key characteristics of its usage that make data collection more practical and flexible (Hair et al., 2017). First, PLS-SEM is a nonparametric method which does not insist normal distribution assumptions. As known, normal distribution is difficult to be reached especially when researcher is unable to carry out random sampling due to some research constraints during data collection. Second, PLS-SEM gives good statistical power despite using a small sample size. Although larger sample size would contribute to better precision of estimation, PLS-SEM requires relatively small sample size compared with other analysis technique such as multiple regression. The sample size requirement for PLS-SEM is "10 times the largest number of formative indicators used to measure a single construct" or "10 times the latest number of structural paths directed at a particular construct in the structural model" (Hair et al., 2017). Another alternative is to calculate minimum sample size with the assistance of G-Power software. Third, PLS-SEM can evaluate the measurement model and the structural model at the same time. It can reveal the relative importance of

an indicator within the construct and the relative importance of a construct to the endogenous latent variables. Fourth, reflective and formative measurement models can be easily incorporated in the structural model. PLS-SEM is able to analyse model with complex relationships. Fifth, PLS-SEM can handle missing values easily with the condition that the missing values are below the acceptable level. In general, the selection of methods is based on the research questions and nature of empirical data. PLS-SEM provides less error in measurement through bootstrapping technique. A few key features of PLS-SEM have led to the selection of this analysis method e.g. no specific requirement for normal distribution of data, ability to analyse all constructs and its indicators simultaneously and able to deal with small sample size for exploratory purpose (Hair et al., 2017).

Despite having above favourable features, PLS-SEM has its constraints too. It cannot handle structural models that contain circular relationships or causal loops. Besides, it is not recommended for confirmatory purpose because there is no adequate global goodness-of-model fit measure. Recognising that a well recognised goodness-of-model fit measure for PLS-SEM has not been established, it is recommended to perform reliability and validity tests to check for model's quality and predictive power (Hair et.al.,2017).

3.3 Overview of Research Design

Research philosophy is the researcher's belief about what reality is. Thus, it determines the research approach. Since the research model is developed from existing literature, it is suitable to follow positivists' philosophy, which is a belief that the reality is fixed, it is measurable and knowable through proper design of measurement tools (Sekaran, 2003). In contrast, naturalist prefers to adopt qualitative approach to explore the reality which is uncertain. Consistent with the research objectives to test the relationships between variables, this study employs quantitative research approach to examine the model. This study follows the positivist approach research paradigm through hypothetico-deductive method (Sekaran, 2003). This method focuses on identifying problems, develop hypotheses, collect data, analyse data and draw conclusion. Differing from inductive approach that is usually qualitative-based, hypothetico-deductive method is quantitative-based. Through quantitative measurement tools, the results could avoid bias due to subjective judgement of researchers.

Apart from literature review, advice from experts was also used to assess and explore resources and capabilities for SME internationalisation. Experts' advice was used as input to further advance the research model and design the questionnaire related to the main objectives of the research which will give

extensive information about the key factors that associated with internationalisation of SMEs. Pre-testing was carried out to identify any error with the survey questionnaire and to check whether respondents can comprehend all questions easily. Pre-tests of questionnaire were completed by SMEs' managers and their replies were used to further improve the questionnaire (Sekaran, 2003).

As discussed in earlier section, manufacturers are selected as the sample in this study due to the fact that exporting mostly involved manufacturing goods. The selection of exporting SME manufacturer as target respondent is consistent with the research setting in most of the internationalisation studies (Falahat, & Migin, 2017). Thus, the questionnaire is distributed to exporting SMEs from manufacturing sectors.

3.4 Sample Selection, Sampling Technique and Data Collection

The objective of quantitative approach through survey questionnaire to managerial staff of export activities of the active exporting firm is to examine the relationships of variables. The population of exporting SME manufacturers is unknown due to there is no existing database for this group. Among the three official database that are commonly used by researchers, SME corporation directory and FMM directory consist of all firms regardless

exporters or non-exporters. Despite there are small and large firms, manufacturers and service providers in the list, MATRADE directory consists of majority exporters and potential exporters is the most complete and updated directory to reach exporting SME manufacturers. Thus, MATRADE Directory is more suitable as compared with other directories which are not export-focus.

The selection of the companies will be derived by using quota sampling technique, where the firm will be chosen from targeted groups according to the major sectors of Malaysian SMEs. Quota sampling is a non-probability sampling approach (Saunders, Lewis & Thornhill, 2012). It is applicable in this study because the actual numbers of exporting SMEs is unknown. Despite most companies in MATRADE Directory are interested to exporting, not all of them have been started their export venture. In addition, not all of the companies in MATRADE Directory are categorised as SMEs.

Although quota sampling is less representative as compared with random sampling and stratified sampling, it ensures the sampling could reach members of each sector according to ratio, so that the responses will not be biased to an industry that less is popular and ignore the most popular one (Saunders et al., 2012). In doing so, the collected data is matching with the characteristics of

the industry composition in Malaysia. For example, food and beverage industry is the majority group.

According to Saunders et al. (2012), there are two types of quota sampling. The first type is controlled quota sampling which introduces some restrictions that will limit the researcher's selection of samples. Second type is uncontrolled quota sampling, which is similar to convenience sampling method. Researcher may choose any sample group members following their will. This study intends to use contacts from the directories conveniently, by distributing questionnaire to companies with high potential of exporting and with complete contact information. Thus, it is a type of uncontrolled quota sampling. It is differentiated from typical convenience sampling by an additional steps to target the respondents based on a ratio that reflects composition of industry sectors.

It was noted that some members in MATRADE directories have not started their exporting activities. Based on the information provided in directories, the firms were assessed from internet website survey to confirm their export status. Questionnaires were sent to firms with complete contact details and these firms were followed up through email or call to verify that they have

received the questionnaire. The questionnaire distribution process was carried out from December 2018 to March 2019.

Based on the analysis by G Power 3.1.9.4 software, the sample size of 130 would obtain effect size of 0.15 at a statistical power of 90 percent (Cohen, 2013). Prior SME studies conducted in Malaysia shown that the estimated response rate is approximately 15-25% (Julienti Abu Bakar & Ahmad, 2010). Considering there are only limited number of SME exporters in Malaysia, the complexity of questionnaire and number of questions may lead to a lower response rate, thus total of 1000 SMEs from MATRADE directory were invited to contribute their feedback through a self-administered survey questionnaire. The distribution of questionnaire to the 1000 SMEs was carried out according to the ratio calculated from the members of MATRADE directories. There are some overlapping contacts from the directories, for instance, contacts under 'Prepared Food' category may also appear in 'Beverages' category. After initial screening to remove duplicate contacts, there are altogether 8869 unique contacts from the directory.

Details as below:-

Table 3.4: Quota sampling calculation based on MATRADE directories

Industry	Database	Ratio (%)	Sent	Ratio (%)
Food and Beverages	2643	30%	298	30%
Construction and Metal Products	1581	18%	178	18%
Household and consumer products	1466	17%	165	17%
Petroleum, Chemical, Rubber, Plastics	894	10%	101	10%
Wood, furniture, paper products	875	10%	99	10%
Electrical, electronics, medical and telecommunication	821	9%	93	9%
Others	589	7%	66	7%
Total	8869*		1000	

Note: *Total unique contacts in MATRADE directories as of 15th December 2018 were 8869 contacts.

3.5 Measurements

The measurements are adopted or adapted from existing literature and all measures used were previously validated in literature. The adapted variables will be reviewed by academic experts and pre-testing will be carried out. Refer to Table 3.5 for the measurement details for all variables.

Table 3.5: Measurement of all variables

Construct	Measurement
Management characteristics 9 items, 5-point Likert scales: Strong disagree---strongly agree (Question i) Source: Adapted from Knight and Cavusgil (2004); Zhang, Sarker and Sarker (2013); Pre-test	1. "See the world as our company's marketplace" 2. "Active exploration of new business opportunities abroad" 3. "Continuously communicates mission of success in International markets with employees" 4. "Experienced in export market" 5. "Ambitious vision on company's growth" 6. "Acts aggressively to pursue opportunity" 7. "Actively involves in business operations" 8. "Hardworking and energetic" 9. "Good business sense to recognise market opportunity"
International knowledge 3 items, 5-point Likert scales: Strong disagree---strongly agree (Question ii) Source: Adapted from Eriksson, Johanson, Majkgard, and Sharma (1997); Monteiro, Soares, and Rua (2017)	1. "Knowledge about our customers and/or competitors" 2. "Knowledge about law, regulations and standards in export markets" 3. "Knowledge on international trade"
Network 6 items, 5-point Likert scales: Strong disagree---strongly agree (Question iii) Source: Adapted from Falahat et al.(2018); Yiu, Lau, and Bruton (2007); Pre-test	1. "Government agencies" 2. "Key member(s) in government, industry or policy makers" 3. "Business association of export market" 4. "Key customer(s) in export / local market" 5. "Key supplier(s) in export / local market" 6. "Key competitor (s) in export / local market"

Construct	Measurement
Digitalisation 6 items, 5-point Likert scales: Strong disagree---strongly agree (Question v) Source: Adapted from Hao and Song (2016); Song, Nason, and Di Benedetto (2008); Yu, Jacobs, Chavez, and Feng (2017)	1. "We use IT / digital technology for facilitating technical knowledge creation" 2. "We use IT/ digital technology for facilitating market knowledge creation" 3. "We use IT/ digital technology for communication (e.g. inter-departments, suppliers, customers, channel members, etc.)" 4. "We use IT/ digital technology for marketing and promotion purposes" 5. "We are moving towards automation or digitalisation of processes" 6. "We use IT / digital technology to develop new product or service"
Marketing capability 4 items, 5-point Likert scales: Very poor ----Very good (Question vi: F13-F16) Source: Adapted from Pham et al. (2017)	1. "The ability to develop effective export promotion programs" 2. "The ability to launch export marketing communication programs" 3. "The ability to manage export marketing communication programs" 4. "The ability to skillfully use marketing communication programs"
Innovation capability 7 items, 5-point Likert scales: Very poor ----Very good (Question vi: F6-F12) Source: Adapted from Pham et al. (2017)	1. "The ability to modify products to fit export markets' demands and tastes" 2. "The ability to develop new products / services for export markets" 3. "The ability to successfully manage new product development for export markets." 4. "The ability to adjust the prices in export markets" 5. "The ability to respond quickly to export competitors' pricing actions" 6. "The ability to respond quickly to

Construct	Measurement
	customers' demands in terms of price considerations" 7. "The ability to effectively communicate pricing information to customers"
Learning capability 5 items, 5-point Likert scales: Very poor ----Very good (Question vi:F1-F5) Source: Adapted from Pham et al. (2017)	1. "The ability to learn quickly about changes in regulations of export markets" 2. "The ability to learn quickly about changes in export customers' preferences" 3. "The ability to learn quickly about changes in competitors' strategies" 4. "The ability to learn quickly about changes in distribution channels" 5. "The ability to learn quickly about changes in demand and tastes in export markets"
Price advantage 2 items, 5-point Likert scales: Much worse---Much better (Question iv: D1-D2) Source: Adapted from Kaleka and Morgan (2017)	1. "Our cost" 2. "Our selling price"
Product advantage 3 items, 5-point Likert scales: Much worse---Much better (Question iv: D3-D5) Source: Adapted from Kaleka and Morgan (2017)	1. "Product quality" 2. "Uniqueness in term of packaging / branding / product design" 3. "Make / modify product according to customer requirements / needs"

Construct	Measurement
Service advantage 5 items, 5-point Likert scales: Much worse---Much better (Question iv: D6-D10) Source: Adapted from Kaleka and Morgan (2017)	1. "Product accessibility" 2. "Technical support and after-sales service" 3. "Delivery speed and reliability" 4. "End-customer rating of service quality" 5. "Overall end-customer satisfaction with service offering"

3.6 Data Analysis Approach

SPSS statistical software was used to perform data screening and prepare the descriptive statistics. Smart PLS software was used for hypothesis testing analysis. First, the PLS Algorithm was run to obtain the R square, f square, outer loadings, construct reliability and validity, discriminant validity and collinearity statistics. Second, the complete bootstrapping programme was run with setting of 5000 subsamples, two tailed test. Bootstrapping is a resampling technique applied in Smart PLS software which the software will draw 5000 subsamples according to the setting from the collected data through replacement. Then, each subsample was used to estimate models. Through this technique, PLS-SEM can assess statistical significance of model without a need of normal distribution assumption (Hair et al., 2017). After running the bootstrapping programme, the statistical significance of the relationships (both direct and indirect) was obtained. Third, the blindfolding programme was run with basic setting (omission distance: 7) to obtain the predictive relevance of

the model (Q square). Blindfolding is a technique with sample reuse. It omits the part of data matrix according to the omission distance setting and performs model estimates for prediction of the part that is being omitted. Thus, it provides an estimate of predictive power of the model.

In general, the selection of methods is based on the research questions and nature of empirical data. A few key features of PLS-SEM have led to the selection of this analysis method e.g. no specific requirement for normal distribution of data, ability to analyse all constructs and its indicators simultaneously and able to deal with small sample size for exploratory purpose (Hair et al., 2017). In social science survey data, it is arduous to expect normal distribution data and PLS-SEM provides less error in measurement through bootstrapping technique. In a comparison study of partial least square with ordinary least square regression and other prediction methods, it was found that PLS provides more stable results (Farahani, Rahiminezhad, & Same, 2010; Yeniay & Goktas, 2002). The research model consists of both first order and second order constructs, PLS-SEM analysis could handle these complexities with minimal error thus often been applied in similar research model (Amin, Thurasamy, Aldakhil, & Kaswuri, 2016; Oura, Ziber, & Lopes, 2016; Prange & Pinho, 2017).

Prior to reliability and validity test, non-response bias was assessed based on t-test (Armstrong & Overton, 1977) and common method bias was assessed based on Harmon's single factor test (Harman, 1976). Next, the descriptive statistics of the data was presented in Chapter 4. Both tests were carried out using SPSS software. For t-test, it was expected to have p value above 0.05 which means the two groups of data have no difference. For Harman's single test, it was expected the percentage of variance for a single factor is not more than 50%.

3.7 Reliability and Validity Test

Similar to other statistical technique, measurement model in PLS-SEM also being assessed for its reliability and validity. Measurement model refers to the constructs and its indicators. Depending on its nature, measurement models are named as reflective or formative measurement models.

In reflective measurement model, the indicators represent the outcomes of the construct. The causality is from the construct to its indicators. In reflective measurement model, all items are mutually interchangeable because the construct is a trait explaining all those indicators. In formative measurement model, the indicators cause the construct and the causality is from the indicators to the construct. It is useful when researcher intends to know which indicators have higher effect to the construct. In formative measurement

model, the construct is a combination of the indicators, each indicator is not interchangeable.

Due to the difference in nature, the reliability and validity test that to be carried out on reflective measurement models are different from formative measurement models. Reflective measurement model is assessed by four types of tests e.g. internal consistency (composite reliability), indicator reliability, convergent validity (average variance extracted) and discriminant validity. The rules of thumbs for the above tests are summarised as below (Hair et al., 2017):-

a) Internal consistency (composite reliability above 0.70)

b) Indicator outer loading (0.40- 0.70)

c) Convergent reliability (average variance extracted is 0.50 or above)

d) Discriminant validity (Heterotrait-Monotrait ratio should be below 0.85 for general variables, and below 0.90 for variables with similar concept)

Formative measurement model is assessed by three types of tests e.g. convergent validity, collinearity, statistical significance and the relevance of the indicator weights. The rules of thumbs for the above tests are summarised as below (Hair et al., 2017):-

a) Convergent validity (Path coefficient above 0.70)

b) Collinearity (Each indicator's tolerance (VIF) value must be more than 0.20 and less than 5)

c) Statistical significance and the relevance of the indicator weights (Bootstrapping routine to check t-values and p-values, loading should be above 0.50)

Next, the structural model shall be assessed by the tests as below (Hair et.al, 2017):

a) Coefficient of determination (R^2): R^2 depends on the research discipline

b) Cross-validated redundancy (Q^2) – Q^2 should be above zero to show predictive relevance.

c) Size and significance of Path coefficients (-1 to +1)

d) f^2 effect sizes (0.02 indicates small contribution, 0.15 indicates medium and 0.35 indicates large construct's contribution of exogenous construct on endogenous construct)

e) Collinearity between predictor constructs (Each indicator's tolerance (VIF) value must be more than 0.20 and less than 5)

In addition, due to the unavailability of goodness of fit index to distinguish valid and invalid models, researchers should not use GoF (Goodness-of-fit

index)(Hair et.al, 2017). Instead, the above reliability and validity test is recommended to check the PLS-SEM's model quality.

3.8 Mediating Effect

Referring to the concept of mediating effect as suggested by Hayes (2009; 2013), this study tests the mediating effect of international capability by bootstrapping the indirect effect (Falahat et al., 2018; Nitzl, Roldan, and Cepeda, 2016). This method is recommended by Hayes (2009; 2013) as a more relevant approach to test a mediating effect in comparison to Baron and Kenny (1986).

For interpretation of mediating effect results, Carrión, Nitzl, and Roldán (2017) and Hair et al. (2017) recommended the procedure outlined in Zhao, Lynch, and Chen (2010). The results of mediating effect are categorised into a few types as shown in Figure 3.7. Figure 3.7 was published in Hair et al. (2017, p. 233) and the below figure (same figure) was extracted from "SmartPLS website: https://www.smartpls.com/documentation/algorithms-and-techniques/mediation".

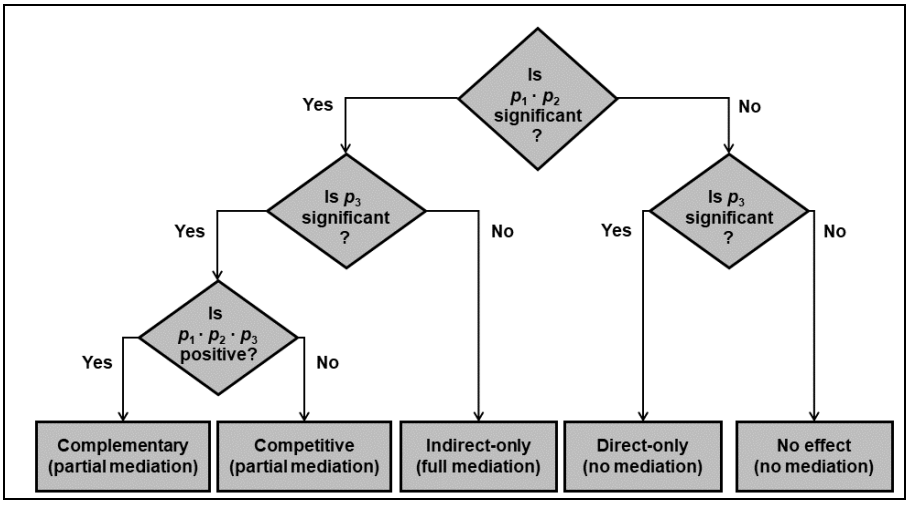

Figure 3.7: Mediation Analysis Procedure

(source: "https://www.smartpls.com/documentation/algorithms-and-techniques/mediation")

3.9 Hierarchical Component Model

The management international resources and international capabilities constructs in research model are hierarchical component model. It is a construct that involves a more abstract higher order component, also called as second order component. In this study, management international resources and international capabilities are two second order constructs. The higher order abstract component was related to the lower order, also called first order component. In hierarchical component model, the second order construct acts as a general construct representing its lower order components. Hierarchical component model is often used to form a more parsimonious model or to minimise collinearity issues among constructs with same or similar concepts (Hair et al., 2017).

Management international resources consist of three lower order components, namely management characteristics, international knowledge and network. International capabilities comprise three lower order components, that are marketing, learning and innovation capabilities.

Repeated indicators approach (Hair et al., 2017, p.283) has been used to form the second order measurement construct e.g. management international resources and international capabilities. Repeated indicator approach is "a type of measurement model setup in hierarchical component model that uses the indicators of the lower order components as indicators of the higher order components to create a hierarchical component model" (Hair et al., 2017, p. 327).

The rules of thumb for hierarchical component models (HCMs) are listed below:

a) Internal consistency (composite reliability above 0.70)

b) Indicator outer loading (0.40- 0.70)

c) Convergent reliability (average variance extracted is 0.50 or above)

d) Discriminant validity (HTMT ratio should be below 0.85 for general variables, and below 0.90 for variables with similar concept)

Technically, the assessment of HCMs concerns relationships between higher order and lower order components, not the higher order components and the indicator variables. Thus, discriminant validity involves higher order components and other constructs in the model. It is not necessary to establish discriminant validity between higher order and lower order components.

3.10 Control Variable

According to RBV, firm size and age could affect their resources and capabilities in achieving competitive advantages (Wernerfelt, 1984). Therefore, some firms internationalise gradually after they have been years in operations and have grown into certain sizes following Uppsala model (Johanson & Vahlne, 1977). To account for the potential effect from firm size and age, this study uses two control variables to provide better interpretation of the results. In this study, the measurement of firm size is the number of employees and the measurement of firm age is the number of years since firm's establishment. These measurements were commonly applied in other SME internationalisation studies (Gerschewski et al., 2015; Kamasak, 2017).

CHAPTER 4

RESULTS OF ANALYSIS

4.1 Overview

The study received 143 samples from exporting SME manufacturers. This chapter discusses the descriptive statistics of the data, measurement model and structural model assessment. The analysis was carried out by using SmartPLS v.3.2.8 software, a well recognised software for "partial least squares structural equation modelling" (PLS-SEM). The chapter is concluded with hypotheses testing results.

4.2 Survey Response

The directory of MATRADE (Malaysia External Trade Development Corporation) was used as the sampling frame. This is an official directory to reach most of the Malaysian exporters. Companies with export propensity are likely to be a member of MATRADE in order to apply for government grant, qualify for business matching and other subsidies.

Survey questionnaire was sent to members of MATRADE via postal and followed up via calls and emails. A total of 1000 questionnaires were distributed and obtained 17.2% response. The data collection period started from Dec 2018 to March 2019. Table 4.2.1 presents the survey response information and Table 4.2.2 shows the details of quota sampling based on industry.

Table 4.2.1: Details of Survey Response

Details	Cases	Percentage
Total questionnaires sent	1000	100%
Total questionnaires received	172	17.2%
Not accepted due to incomplete information	7	0.7%
Not accepted due to non-SMEs (Large firms)	12	1.2%
Not accepted due to non-exporters	10	1.0%
Total usable questionnaires	143	14.3%

Table 4.2.2: Details of Quota Sampling

Industry	Database	Ratio (%)	Sent	Ratio (%)	*Received	Reply Rate	Ratio (%)
Food and Beverages	2643	30%	298	30%	46	15.4%	32.2%
Construction and Metal Products	1581	18%	178	18%	18	10.1%	12.6%
Household and consumer products	1466	17%	165	17%	22	13.3%	15.4%
Petroleum, Chemical, Rubber, Plastics	894	10%	101	10%	13	12.9%	9.1%
Wood, furniture, paper products	875	10%	99	10%	4	4.0%	2.8%
Electrical, electronics, medical and telecommunication	821	9%	93	9%	20	21.5%	14.0%
Others	589	7%	66	7%	1	1.5%	0.7%
No info			-		19		13.3%
Total	8869		1000		143	14.3%	100.0%

Note: * based on usable questionnaire

After screening, the total usable questionnaires are 143 cases. All of them were replied by exporting SME exporters. Next, data screening was performed.

4.3 Data Preparation

4.3.1 Non-response Bias

Non-response bias could be a concern that may create bias in response results due to the differences between respondents and non-respondents (Armstrong & Overton, 1977). They could have significant attributes that generate bias

results. Thus, non-response bias test was performed to check for potential of this bias.

In line with Gerschewski (2011), the last 25% of respondents are used to represent the non-respondents. A t-test was carried out between early respondents (first 75%), and late respondents (last 25%) on their firm characteristics (export age, speed, intensity and scope of internationalisation, firm size and firm age).

The t-test which was carried out with the hypothesis showed that differences between the early and late groups were not significant. The desired result was to have a p-Value that exceeds 0.05. All results achieved p-Value above 0.05, thus there is no threat of non-response bias (Refer Table 4.3.1).

Table 4.3.1: T-Test for Non-Response Bias (NRB)

Description		N	Mean	Std. Deviation	p-Value	Result
Export age	Early	107	7.07	20.014	0.724	NS
	Late	36	5.72	19.168		
Speed of internationalisation	Early	107	3.58	1.995	0.532	NS
	Late	36	3.33	2.165		
Scope of internationalisation	Early	107	1.79	1.141	0.529	NS
	Late	36	1.92	0.874		

Description		N	Mean	Std. Deviation	p-Value	Result
Intensity of internationalisation	Early	107	3.84	2.295	0.761	NS
	Late	36	3.97	2.021		
Firm size	Early	107	40.84	49.931	0.605	NS
	Late	36	35.72	55.257		
Firm age	Early	107	13.07	19.609	0.466	NS
	Late	36	15.61	11.869		

NS: Not significant

4.3.2 Common Method Bias

Outcome of analysis can be affected by the data collection in which there is same respondent to provide the response of independent and dependent variables in a single data collection approach, such as the survey data based on questionnaire alone (Podsakoff & Organ, 1986).

Consistent with most published papers, Harman's single-factor test was performed to check for common method bias (Harman, 1976). Table 4.3.2 shows the result of analysis. The percentage of variance of single factor was 40.079%, which was far below the 50% cut off value. It reflects there is limited threat of common method bias (Yayla, Yeniyurt, Uslay, & Cavusgil, 2018).

Table 4.3.2: Harman's Single Factor Test

Harman's Single Factor Test (No rotation) Extraction Method: Principal Axis Factoring.	% of Variance of single factor
	40.079

4.4 Descriptive Statistics

Company details of 143 responses are outlined in below tables. Table 4.4.1.1 shows the internationalisation pattern of the samples, whether they are early internationalising firms which have started to export within 3 years from company establishment or traditional exporting firms which only explore International markets after third year of operations.

Table 4.4.1.1: Internationalisation Pattern

	Frequency	Percentage (%)
Traditional exporting firms	65	45.5
Early internationalising firms	78	54.4
Total	143	100.0

Firm age of the respondent's companies varies from 1 to 74 years with 2 missing values which the information was not filled up by respondents. Refer to Table 4.4.1.2.

Table 4.4.1.2: Firm Age

Firm Age (Years)	Frequency	Percentage (%)
No information	2	1.4
1-5	25	17.5
6-10	34	23.8
11-15	27	18.9
16-20	18	12.6
21-25	17	11.9
26-30	11	7.7
30-35	2	1.4
35-40	2	1.4
Over 40	5	3.5
		100.0

According to official guideline by Malaysian Government (SME Corp, 2019), small and medium enterprises from manufacturing industries refer to companies with less than 200 employees or yearly sales revenue below RM50 million, whichever lower. Based on the criteria, firm exceeds 200 employees but having sales turnover below RM 50 million still fall under SME category. The measures of firm size is the number of employees. Table 4.4.1.3 shows the distribution of the firm size.

Table 4.4.1.3: Firm Size

Number of employees	Frequency	Percentage (%)
No information	3	2.1
1-25	70	49.0
26-50	32	22.4
51-75	15	10.5
76-100	8	5.6
101-125	5	3.5
126-150	5	3.5
151-175	2	1.4
176-200	2	1.4
Over 200	1	0.7
		100.0

4.5 Measurement Model Assessment

4.5.1 Mean, Median and Standard Deviation

Prior to evaluation of measurement models, the descriptive statistics of the data is presented as in Table 4.5.1. All measurement models are measured reflectively. All measurement scales are measured by 5 point-Likert scales.

Table 4.5.1: Descriptive Statistics

Item	Missing	Mean	Median	Standard Deviation
Mgmt1	0	4.371	5.00	0.825
Mgmt2	0	4.308	4.00	0.821
Mgmt3	0	4.063	4.00	0.863
Mgmt4	0	3.958	4.00	0.930
Mgmt5	0	4.350	4.00	0.741
Mgmt6	0	4.259	4.00	0.755
Mgmt7	0	4.385	4.00	0.679
Mgmt8	0	4.434	5.00	0.664
Mgmt9	0	4.287	4.00	0.744
IK1	0	3.538	3.00	0.809
IK2	0	3.385	3.00	0.900
IK3	0	3.448	3.00	0.874
Netw1	0	3.881	4.00	1.048
Netw2	0	3.245	3.00	1.129
Netw3	0	3.448	4.00	1.008
Netw4	0	3.972	4.00	0.819
Netw5	0	3.888	4.00	0.901
Netw6	0	3.552	4.00	0.951
Digital1	0	3.559	4.00	1.001
Digital 2	0	3.685	4.00	0.949
Digital 3	0	3.699	4.00	0.968
Digital 4	0	3.811	4.00	0.975
Digital 5	0	3.420	3.00	1.013
Digital 6	0	3.378	3.00	1.133
LearnCap1	0	3.587	4.00	0.839
LearnCap2	0	3.692	4.00	0.813
LearnCap3	0	3.434	3.00	0.920
LearnCap4	0	3.566	4.00	0.874

Item	Missing	Mean	Median	Standard Deviation
LearnCap5	0	3.650	4.00	0.871
MktCap1	0	3.476	4.00	0.937
MktCap2	0	3.420	3.00	0.985
MktCap3	0	3.441	3.00	0.994
MktCap4	0	3.497	4.00	0.967
InvCap1	0	3.895	4.00	0.834
InvCap2	0	3.902	4.00	0.872
InvCap3	0	3.832	4.00	0.869
InvCap4	0	3.755	4.00	0.838
InvCap5	0	3.678	4.00	0.898
InvCap6	0	3.797	4.00	0.833
InvCap7	0	3.762	4.00	0.861
PriceAdv1	0	3.825	4.00	0.778
PriceAdv2	0	3.671	3.75	0.725
ProdAdv1	0	4.112	4.00	0.740
ProdAdv2	0	3.825	4.00	0.830
ProdAdv3	0	4.056	4.00	0.736
ServiceAdv1	0	3.699	4.00	0.837
ServiceAdv2	0	3.839	4.00	0.790
ServiceAdv3	0	3.734	4.00	0.784
ServiceAdv4	0	3.825	4.00	0.693
ServiceAdv5	0	3.839	4.00	0.696

Note: Mgmt-Management; IK-International Knowledge; Netw-Network; MktCap-Marketing capability; InvCap-Innovation capability; LearnCap-Learning capability; Adv- Advantage; Prod-Product

4.5.2 Internal Consistency and Reliability

Composite reliability (CR) is recommended for internal consistency and reliability in comparison to Cronbach's alpha (Hair et al., 2017). The argument

was made based on the fact that Cronbach's alpha is more sensitive to the number of items and the value tends to be better when number of items increase. Similar to interpretation of Cronbach's alpha, a CR figure above 0.70 indicates internal consistency and reliability.

Table 4.5.2: Internal Consistency and Reliability

	Cronbach's Alpha	Composite Reliability
Mgmt International Resources (2nd order construct)	**0.749**	**0.826**
Management Characteristics (1st order construct)	0.904	0.922
International Knowledge (1st order construct)	0.870	0.920
Network (1st order construct)	0.837	0.881
International Capabilities (2nd order construct)	**0.925**	**0.942**
Learning Capability (1st order construct)	0.947	0.959
Innovative Capability (1st order construct)	0.935	0.947
Marketing Capability (1st order construct)	0.969	0.977
Digitalisation	0.920	0.938
Competitive Advantages		
Price Advantage	0.869	0.938
Product Advantage	0.703	0.834
Service Advantage	0.888	0.918

Table 4.5.2 shows both Cronbach's Alpha and composite reliability. The "true reliability" is lying between the value of Cronbach's Alpha and composite reliability (Hair et al., 2017, p. 112).

4.5.3 Convergent Validity

Convergent validity measures the correlation of a measure with other measures within the a construct. Outer loadings of indicators and the average variance extracted (AVE) are recommended for testing of convergent validity (Hair et al., 2017). AVE refers to "the sum of the squared loadings divided by the number of indicators" (Hair et al., 2017, p. 114). Despite an outer loading value that is larger than 0.708 is desired, indicators with outer loadings between 0.40 - 0.70 are acceptable as long as the composite reliability is more than 0.70 and AVE value is more than 0.5 (Hair et al., 2017, p. 113). The outer loadings and AVE values of the construct are shown in Table 4.5.3.

Table 4.5.3: Outer Loadings and Average Variance Extracted (AVE)

Construct	Items	Outer loadings	AVE
Mgmt International Resources (2nd order construct)			**0.615**
Management Characteristics (1^{st} order construct)	Mgmt1	0.640	0.573
	Mgmt2	0.779	
	Mgmt3	0.805	
	Mgmt4	0.547	
	Mgmt5	0.838	
	Mgmt6	0.831	
	Mgmt7	0.777	
	Mgmt8	0.760	
	Mgmt9	0.785	
International Knowledge (1^{st} order construct)	IK1	0.843	0.794
	IK2	0.903	
	IK3	0.925	
Network (1^{st} order construct)	Netw1	0.778	0.553
	Netw2	0.758	
	Netw3	0.778	
	Netw4	0.679	
	Netw5	0.795	
	Netw6	0.664	
International Capabilities (2nd order construct)			**0.843**
Learning Capability (1^{st} order construct)	LearnCap1	0.882	0.826
	LearnCap2	0.927	
	LearnCap3	0.910	
	LearnCap4	0.921	
	LearnCap5	0.901	

Construct	Items	Outer loadings	AVE
Innovative Capability (1st order construct)	InvCap1	0.827	0.719
	InvCap2	0.837	
	InvCap3	0.857	
	InvCap4	0.859	
	InvCap5	0.834	
	InvCap6	0.864	
	InvCap7	0.854	
Marketing Capability (1st order construct)	MktCap1	0.960	0.914
	MktCap2	0.959	
	MktCap3	0.959	
	MktCap4	0.946	
Digitalisation	Digital1	0.864	0.716
	Digital 2	0.896	
	Digital 3	0.841	
	Digital 4	0.873	
	Digital 5	0.776	
	Digital 6	0.824	
Price Advantage	PriceAdv1	0.927	0.883
	PriceAdv2	0.952	
Product Advantage	ProdAdv1	0.794	0.626
	ProdAdv2	0.788	
	ProdAdv3	0.792	
Service Advantage	ServiceAdv1	0.774	0.691
	ServiceAdv2	0.847	
	ServiceAdv3	0.807	
	ServiceAdv4	0.846	
	ServiceAdv5	0.879	

Note: Mgmt-Management; IK-International Knowledge; Netw-Network; MktCap-Marketing capability; InvCap-Innovation capability; LearnCap-Learning capability; Adv- Advantage; Prod-Product

As shown in Table 4.5.3, most of the loadings are higher than 0.70, except for Mgmt 4 that recorded 0.547. However, this item is maintained since the CR and AVE are meeting the desired limit.

4.5.4 Discriminant Validity

Discriminant validity indicates the distinction among constructs. In this analysis, discriminant validity is tested by HTMT approach.

Despite Fornell-Larcker approach and cross loadings approach have been widely used, recently scholars pointed the weaknesses of these approaches in which neither of these are reliable in detecting discriminant validity issues (Henseler, Ringle, & Sarstedt, 2015). Instead, Henseler et al. (2015) suggested to test discriminant validity with an approach called heterotrait-monotrait ratio (HTMT).

HTMT refers to "the ratio of the between-trait correlations to the within trait correlations" (Hair et al., 2017). Generally, 0.85 is the threshold value for HTMT approach when constructs in the path model are distinct and 0.90 is the

threshold value for constructs that are similar (Hair et al., 2017, p.119). In order to assess the discriminant validity among constructs, discriminant validity analysis was carried out based on HTMT approach as shown in Table 4.5.4.1. Technically, discriminant validity is exempted between 1st order and 2nd order constructs because these two constructs are sharing the same indicators and are conceptually identical (repeated indicators approach)(Hair et al., 2017).

Table 4.5.4.1: Discriminant validity based on HTMT (among 1st order construct)

HTMT	IK	InvCap	LearnCap	Mgmt	MktCap	Network
IK						
InvCap	0.574					
LearnCap	0.677	0.806				
Mgmt	0.461	0.500	0.430			
MktCap	0.598	0.791	0.819	0.480		
Network	0.541	0.544	0.594	0.495	0.626	

Note: Mgmt-Management; IK-International Knowledge; Netw-Network; MktCap-Marketing capability; InvCap-Innovation capability; LearnCap-Learning capability; Adv- Advantage; Prod-Product

All 1st order constructs have HTMT value below 0.85 indicate discriminant validity among first order constructs. Subsequently, Table 4.5.4.2 shows the discriminant validity between 2nd order constructs and endogenous constructs.

Table 4.5.4.2: Discriminant validity based on HTMT (between MIR, IC, Digitalisation and endogenous constructs)

HTMT	Digital	IC	MIR	PriceAdv	ProdAdv	Service Adv
Digital						
IC	0.726					
MIR	0.683	0.703				
PriceAdv	0.582	0.591	0.832			
ProdAdv	0.508	0.688	0.549	0.425		
ServiceAdv	0.520	0.678	0.498	0.437	0.891	

Note: Adv- Advantage; Prod-Product; IC-International capabilities; MIR-Management international resources; Digital-Digitalisation

The HTMT value between service advantage and product advantage exceeded 0.85 but is still within 0.90 threshold for constructs that are similar as both are measuring competitive advantage. The result was further confirmed by 5000 subsamples bootstrap confidence interval between these two constructs. As shown in Table 4.5.4.3, the confidence interval results of the HTMT criterion does not contain the value 1 indicates that the two distinct constructs (Hair et al., 2017, p. 120).

Table 4.5.4.3: Bootstrap Confidence Interval

Bootstrap Confidence Interval	HTMT	2.50%	97.50%
Service Adv -> Prod Adv	0.891	0.767	0.985

Note: Adv-Advantage

4.5.5 Hierarchical Component Model

In most cases, hierarchical component models (HCMs) are useful for building a parsimonious structural model, particularly in a complex model when the first-order constructs are known to have high correlation (Hair et al., 2017, p. 281).

Repeated indicators approach (Hair et al., 2017) is applied to form the HCM for management international resources (MIR) and international capabilities (IC). Both HCMs are reflective-reflective HCMs. In this setting, higher order components are seen as the common factor or cause explaining the correlations between the lower order components and there are substantial correlations between the lower order components (Becker, Klein, & Wetzels, 2012).

The measurement model assessment for HCM was calculated manually based on the formula below:

$$\text{AVE} = \frac{\sum_{i=1}^{M} li^2}{M}$$, where *i* represents a specific LOC, M represents number of lower order components (LOCs), *l* represents the loadings of LOCs. Table 4.5.5.1 shows the loadings of LOCs and manual calculation of AVE.

Table 4.5.5.1: Loadings of LOCs and manual calculation of AVE

Lower order components	Loadings	AVE	Note
Management Characteristics	0.845	0.615	Convergent validity established
International Knowledge	0.700		
Network	0.800		
Marketing Capability	0.908	0.843	
Innovative Capability	0.927		
Learning Capability	0.920		

Based on the formula (Hair, Sarstedt, Ringle, and Gudergan, 2018, p. 58), the manually calculated AVE as follows:

AVE for MIR = $(0.845^2 + 0.700^2 + 0.800^2) / 3 = 0.615$

AVE for IC = $(0.908^2 + 0.927^2 + 0.920^2) / 3 = 0.843$

Subsequently, composite reliability (CR) is calculated according to below formula (Hair et al., 2018, p. 60). Table 4.5.5.2 shows the calculated CR.

CR $= \frac{(\sum_{i=1}^{M} li)^2}{(\sum_{i=1}^{M} li)^2 + (\sum_{i=1}^{M} var(ei)}$, where i represents a specific LOC, M represents number of lower order components (LOCs), l represents the loadings of LOCs, e_i is the measurement error of LOC_i and var (e_i) denotes the variance of the measurement error, that can be obtained by 1- l_i^2. Table 4.5.5.1 shows the loadings of LOCs.

Based on above formula, the manually calculated CR as follows:

$$\text{CR for MIR} = \frac{(0.845+0.700+0.800)^2}{(0.845+0.700+0.800)^2 + (1-0.845^2) + (1-0.700^2) + (1-0.800^2)}$$

$$= 5.499025 / 6.655$$

$$= 0.8263$$

$$\text{CR for IC} = \frac{(0.908+0.927+0.920)^2}{(0.908+0.927+0.920)^2 + (1-0.908^2) + (1-0.927^2) + (1-0.920^2)}$$

$$= 7.590025 / 8.059832$$

$$= 0.9417$$

Table 4.5.5.2: Composite Reliability of HCM

Lower order components	Loadings	CR	Note
Management Characteristics	0.845	0.826	Internal consistency reliability established
International Knowledge	0.700		
Network	0.800		
Marketing Capability	0.908	0.942	
Innovative Capability	0.927		
Learning Capability	0.920		

Cronbach's alpha also calculated to provide additional reference. Formula for Cronbach's alpha as below (Hair et al., 2018, p.60):

$$Cronbach's\ \alpha = \frac{M \bullet \bar{r}}{(1 + (M - 1) \bullet \bar{r})}$$

where M represents number of lower order components (LOCs), $\bar{r}$ represents the average correlation of the LOCs.

Based on above formula, the manually calculated Cronbach's alpha as follows:

Cronbach's α for MIR = $\frac{3 \text{ x } 0.499}{(1 + 2 \text{ x } 0.499)}$

= 1.497/ 1.998= 0.749

Cronbach's α for IC = $\frac{3 \text{ x } 0.805}{(1 + 2 \text{ x } 0.805)}$

= 2.415/ 2.610= 0.925

Table 4.5.5.3: Cronbach's Alpha

HOC	LOC	Correlation	Cronbach's Alpha	Note
MIR	IK-Mgmt	0.461	0.749	Internal consistency reliability established
	IK-Netw	0.541		
	Netw-Mgmt	0.495		
	$\bar{r}$	0.499		
IC	InvCap-MktCap	0.791	0.925	
	InvCap-LearnCap	0.806		
	MktCap-LearnCap	0.819		
	$\bar{r}$	0.805		

Generally, the internal consistency reliability results for both HCMs are well above the recommended 0.7 threshold. The calculated values are updated in Table 4.5.2 and Table 4.5.3 and highlighted in bold.

4.6 Structural Model Assessment

The structural model assessment was carried out systematically according to the assessment procedure outlined in Hair et al. (2017). Firstly, the coefficient of determinant was presented to show the overall performance of the model. This is followed by the assessment of collinearity issues. Third, the significance and relevance of the relationships was assessed based on the p-Value. Next, the f square (f^2) effect size was reported. Finally, the predictive relevance Q square (Q^2) was presented.

4.6.1 Coefficient of Determination (R^2 Value)

Coefficient of determination (R^2) is commonly applied to explain the predictive power of the model. Based on the calculation of squared correlation between a specific endogenous construct's actual and predicted values, it represents the amount of variance in endogenous construct explained by all predictors in the model. Statistically, more exogenous constructs might provide higher R^2 even if the constructs are not significant. Thus, in an ideal model, researchers are favourable for parsimonious model with not exhaustive exogenous constructs, yet, obtain a high R^2 . There is no commonly agreeable threshold value for R^2, it considers the model complexity and research content. For success driver studies, R^2 value of 0.20 is considered high (Hair et al., 2017, p. 199). In Table 4.6.1, exogenous constructs explain 56.8% variance in international capabilities , 59.6% variance in price advantage, 42.6% variance in service advantage and 33.9% variance in product advantage.

Table 4.6.1: The value of R^2

	R Square
International Capabilities	0.568
Price Adv	0.596
Prod Adv	0.339
Service Adv	0.426

Note: Adv- Advantage; Prod-Product

4.6.2 Collinearity

The interaction between predictor constructs could affect the path coefficients and significance of the relationships between constructs. Hence, the extent of collinearity issues were assessed by referring to variance inflation factor (VIF) values. VIF value above 5 indicate critical level of collinearity (Hair et al., 2017, p. 194). Table 4.6.2 indicates no critical collinearity between management international resources (MIR), digitalisation and international capabilities (IC) as predictors of endogenous constructs (price advantage, product advantage and service advantage).

Table 4.6.2: Collinearity Test

VIF Value	IC	Price Adv	Prod Adv	Service Adv
Digital	1.684	2.155	2.155	2.155
Mgmt International Resource	1.684	2.149	2.149	2.149
International capability		2.351	2.351	2.351

Note: Adv- Advantage; Prod-Product; Digital – Digitalisation; IC- International capabilities; Mgmt- Management

4.6.3 Hypotheses Testing

The significance of the path coefficients of hypothesized relationships was assessed based on the t-values and p-values. In this study, significance is reported with p-value. For a 5% significance level of two-tailed test, the

relationship is considered significant when the p-value is below 0.05. In addition, bootstrapping confidence interval provides value added results interpretation because of its stability (Hair et al., 2017). For a significant relationship, the lower and upper limit of the confidence interval should not include zero. After assessment of the significance of relationships, the relevance of significant relationship is discussed.

The complete bootstrapping procedure (bias-corrected and accelerated bootstrap) with SmartPLS software with 5000 subsamples, path weighing scheme, two-tailed test was performed to calculate the p-values of relationships in the model.

Evaluation of significance for path coefficients is shown in Table 4.6.3. Beta value of 0.714 for H1 indicates strong impact of management international resources in predicting price advantage. Beta values of 0.503 and 0.587 for H8 and H9 represent moderate impact of international capabilities on product and service advantage. Beta values of 0.399 and 0.434 provide support for H10 and H11 respectively. It represents a moderate impact of management international resources and digitalisation on international capabilities.

Nevertheless, p value exceeds 0.05 indicates management international resources have no impact on product and service advantages, thus H2 and H3 are not supported. Despite some studies found positive impact of resources on international performance, this result showed a mediator should be considered to ensure consistent results between resources and competitive advantages. Similarly, there is no support for the impact of digitalisation on price, product and service advantages. As shown in Table 4.6.3, H4 to H6 are not supported. This result provides important insight that a mediator exists to ensure consistency of the relationship between digitalisation and competitive advantages. Despite there are moderate influence on product and service advantages, analysis result shows that international capabilities have no influence on price advantage, hence H7 is not supported. This finding cannot be revealed if international capabilities are tested on a general competitive advantage construct or against international performance.

Table 4.6.3: Hypotheses Testing

#	Descriptions	Std error	Beta value	p Value	95% Confidence Intervals	Result
H1	MIR -> Price Adv	0.086	0.714	0.000***	[0.545, 0.877]	Supported
H2	MIR -> Prod Adv	0.097	0.115	0.233	[-0.081, 0.302]	Not supported
H3	MIR -> Service Adv	0.095	0.031	0.741	[-0.152, 0.221]	Not supported

#	Descriptions	Std error	Beta value	p Value	95% Confidence Intervals	Result
H4	Digital -> Price Adv	0.100	0.057	0.569	[-0.133, 0.260]	Not supported
H5	Digital -> Prod Adv	0.126	-0.003	0.983	[-0.251, 0.255]	Not supported
H6	Digital -> Service Adv	0.101	0.063	0.530	[-0.138, 0.262]	Not supported
H7	IC -> Price Adv	0.096	0.031	0.744	[-0.149, 0.223]	Not supported
H8	IC -> Prod Adv	0.115	0.503	0.000***	[0.258, 0.711]	Supported
H9	IC -> Service Adv	0.101	0.587	0.000***	[0.378, 0.775]	Supported
H10	MIR -> IC	0.078	0.399	0.000***	[0.248, 0.552]	Supported
H11	Digital -> IC	0.080	0.434	0.000***	[0.263, 0.573]	Supported

Note: * p<0.1, ** p<0.05, *** p<0.01 (MIR-Management International Resources; Adv- Advantage; Digital-Digitalisation; Prod-Product; IC-International Capabilities)

4.6.4 Mediating Effects

For testing of mediation effects between management international resource and competitive advantages, international capabilities are examined as a mediator variable. In PLS-SEM context, bootstrapping is the most recommended approach to test mediating effects (Hair et al., 2017, p. 239; Hayes, 2009; 2013).

Prior to mediator test, the evaluation of measurement model and structural model were carried out. Measurement model was assessed for reliability and

validity, structural model was assessed for non-existence of multicollinearity issues. Table 4.6.4 presents the mediator test results.

Following the mediation analysis procedure (Carrión et al., 2017; Zhao et al., 2010), MIR has a strong direct effect on price advantage and the indirect effect of MIR-IC-Price advantage is insignificant. This represents a direct-only (no mediation) effect, thus H12 is not supported. Next, MIR has insignificant effect on product and service advantages, but the indirect effects for MIR-IC-Product advantage or MIR-IC-Service advantage are significant. This represents an indirect-only (full mediation) effect, thus supporting H13 and H14.

Unlike MIR, digitalisation has no direct influence on price advantage, therefore, the analysis result suggests digitalisation has insignificant effect on price advantage, H15 is not supported. However, international capability is a mediator with full mediation effect between digitalisation and product or service advantage, see in Table 4.6.4, H16 and H17 are supported.

Table 4.6.4: Mediator Test (Special indirect effects)

#	Hypotheses	Beta value	Std error	p Value	95% Confidence Intervals	Result
H12	MIR -> IC -> Price Adv	0.012	0.039	0.751	[-0.061, 0.096]	Not supported
H13	MIR -> IC -> Prod Adv	0.201	0.057	0.000***	[0.099, 0.328]	Supported
H14	MIR -> IC ->Service Adv	0.234	0.062	0.000***	[0.130, 0.376]	Supported
H15	Digital -> IC -> Price Adv	0.014	0.042	0.746	[-0.065, 0.101]	Not supported
H16	Digital -> IC -> Prod Adv	0.218	0.070	0.002***	[0.103, 0.382]	Supported
H17	Digital -> IC -> >Service Adv	0.255	0.065	0.000***	[0.145, 0.402]	Supported

Note: * p<0.1, ** p<0.05, *** p<0.01 (MIR-Management International Resources; Adv- Advantage; Digital-Digitalisation; Prod-Product; IC-International Capabilities)

4.6.5 Effect Size (f^2 Value)

f^2 effect size represents the impact of a specified exogenous construct on the endogenous construct. Table 4.6.5 shows that management international resources have large effect (Cohen, 2013) on price advantage but has no effect on product and service advantages. International capabilities have medium effect on product and service advantages but have no effect (Cohen, 2013) on price advantage. Digitalisation has medium effect on international capabilities but no effect on all three competitive advantages.

Table 4.6.5: The value of effect size (f^2)

f Square	IC	Price Adv	Prod Adv	Service Adv
Digitalisation (Digital)	0.259	0.004	0.000	0.003
Mgmt International Resources (MIR)	0.219	0.587	0.009	0.001
International capabilities (IC)		0.001	0.163	0.255

Note: MIR-Management International Resources; Adv-Advantage; Digital-Digitalisation; Prod-Product; IC-International Capabilities

4.6.6 Predictive Relevance Q^2

By using the blindfolding procedure through cross-validated redundancy approach in SmartPLS software, the Stone-Geisser's Q^2 value (Hair et al., 2017, p. 202) is obtained. This value indicates the model's predictive relevance. Q^2 value above zero shows the model's predictive relevance. See Table 4.6.6.

Table 4.6.6: Predictive Relevance

	Q^2
International capabilities	0.355
Price advantage	0.491
Product advantage	0.174
Service advantage	0.266

4.6.7 Higher Order Constructs

The total effects of the relationships for correlations of first and second order constructs are summarised in Table 4.6.7 for an overview of the model.

Table 4.6.7: Relationships between 1st and 2nd order constructs

Description	Beta value	Std error	p Value	f^2
MIR->Mgmt	0.845	0.031	0.000***	2.497
MIR->IK	0.700	0.057	0.000***	0.962
MIR->Netw	0.800	0.033	0.000***	1.784
IC-> MktCap	0.908	0.014	0.000***	4.674
IC-> InvCap	0.927	0.017	0.000***	6.072
IC -> LearnCap	0.920	0.017	0.000***	5.475

Note: * p<0.1, ** p<0.05, *** p<0.01 (MIR-Management International Resources; Mgmt-Management; IK-International Knowledge; Netw-Network; MktCap-Marketing capability; InvCap-Innovation capability; LearnCap-Learning capability; Adv- Advantage; Prod-Product; IC-International Capabilities)

4.6.8 Control Variable

Two control variables and their relationships with competitive advantages are shown in Table 4.6.8.

Table 4.6.8: Relationships between control variables and competitive advantages

Description	Beta value	Std error	p Value
Firmsize--> PriceAdv	-0.015	0.048	0.748
Firmsize--> ProdAdv	0.007	0.064	0.911
Firmsize--> ServiceAdv	0.014	0.063	0.829

Description	Beta value	Std error	p Value
Firmage--> PriceAdv	0.032	0.045	0.473
Firmage--> ProdAdv	0.075	0.063	0.231
Firmage--> ServiceAdv	0.148	0.056	***0.009

Note: * p<0.1, ** p<0.05, *** p<0.01 (Adv- Advantage; Prod-Product)

Most of the relationships are not significant except for firm age. Firm age has a positive relationship with service advantage.

4.7 Chapter Summary

Table 4.7 summarises the analysis results for 17 hypotheses.

#	Hypotheses	Beta value	p-Value	Results
H1	Management international resources are positively related to price advantage	0.714	0.000***	Supported
H2	Management international resources are positively related to product advantage	0.115	0.233	Not supported
H3	Management international resources are positively related to service advantage	0.031	0.741	Not supported
H4	Digitalisation is positively related to price advantage	0.057	0.569	Not supported
H5	Digitalisation is positively related to product advantage	-0.003	0.983	Not supported
H6	Digitalisation is positively related to service advantage	0.063	0.530	Not supported
H7	International capabilities are positively related to price advantage	0.031	0.744	Not supported
H8	International capabilities are positively related to product advantage	0.503	0.000***	Supported
H9	International capabilities are positively related to service advantage	0.587	0.000***	Supported
H10	Management international resources are positively related to international capabilities	0.399	0.000***	Supported

#	Hypotheses	Beta value	p-Value	Results
H11	Digitalisation is positively related to international capabilities	0.434	0.000***	Supported
H12	International capabilities mediate the proposed relationship between management international resources and price advantage	0.012	0.751	Not supported
H13	International capabilities mediate the proposed relationship between management international resources and product advantage	0.201	0.001***	Supported
H14	International capabilities mediate the proposed relationship between management international resources and service advantage	0.234	0.000***	Supported
H15	International capabilities mediate the proposed relationship between digitalisation and price advantage	0.014	0.746	Not supported
H16	International capabilities mediate the proposed relationship between digitalisation and product advantage	0.218	0.002***	Supported
H17	International capabilities mediate the proposed relationship between digitalisation and service advantage	0.255	0.000***	Supported

CHAPTER 5

DISCUSSION OF RESULTS, IMPLICATIONS, LIMITATIONS AND CONCLUSIONS

5.1 Overview

Firstly, the interpretation of the hypotheses findings and key implications are discussed. The discussion starts with a review of research questions, then discusses the roles of resources, capabilities and digitalisation. Further, it continues with research implications, limitations and future research recommendations. At the end of the chapter, a conclusion is presented.

5.2 Review of Research Questions

The first research question asked what resources and capabilities are associated with firm's competitive advantages for Malaysian SMEs internationalisation. From a review of SME internationalization and born global literature, the study has summarised the resources and capabilities that associated with firm's competitive advantages or international performance. Among the resources, three essential resources are management characteristics, international

knowledge and network. Among the capabilities, three critical one are marketing, innovation and learning capabilities. Subsequently, the study has examined the relationships between these constructs and competitive advantages.

The second research question asked whether resources, capabilities and digitalisation associated with firm's competitive advantages to boost Malaysian SMEs internationalization. Based on the data analysis from a pool of exporting SME manufacturers, the relationships and interactions between resources, capabilities, digitalisation and firm's competitive advantages in international markets have been examined. The results showed that resources are positively associated with price advantage, capabilities are positively associated with product and service advantages, but digitalisation is not directly associated with any of the advantages.

The third research question asked if international capabilities act as a mediator (a) between resources and competitive advantages? (b) between digitalisation and competitive advantages? By using bootstrapping method with PLS-SEM, the results showed that international capabilities mediate the relationship (a) between resources with product and service advantages; (b) between digitalisation with product and service advantages.

5.3 Roles of Resources

The first research objective aims to examine the resources that are associated with competitive advantages for Malaysian SMEs internationalisation. Literature review on SME internationalisation studies reveals several important resources that could directly contribute to international performance. These works study the relationships between network and international performance (Falahat et al., 2018; Zhou et al., 2007), international knowledge and international performance (Monteiro et al., 2017; Oura et al., 2016), management characteristics and international performance (Gerschewski et al., 2015). Yet, there is limited discussion on roles of resource on different types of competitive advantages (price, service, product). Thus, this study extends the knowledge on relationships of resources with specific type of competitive advantages.

In addition, prior studies on management international resources are fragmented. Unlike international orientation (Knight & Cavusgil, 2004) that is commonly recognised as orientation towards internationalisation, the concept of international resource as resources needed towards internationalisation is not widely discussed. For example, Madsen and Servais (1997) have focused on founder, organization and motivation to explain born global development but the model does not explicitly emphasise the role of knowledge and

network. Likewise, studies which emphasize on network and strategic alliances (Freeman et al., 2006; Gabrielsson & Kirpalani, 2004) only have limited discussion about the influence of management characteristics.

This study argues that management international resources consist of three key components, namely management characteristics, international knowledge and network. Despite these resources are viewed as important determinants for internationalisation, only limited empirical studies have compiled them together to examine their effects on SME internationalisation. Among the few, Stoian, Rialp, and Dimitratos (2017) considered network and international knowledge in their empirical model for international performance. Falahat et al. (2018) tested network capability and entrepreneurial orientation on international performance. To the best of knowledge, current studies which compile three resources on internationalisation are mostly conceptual papers such as Kor and Mesko (2013), Sultan and Wong (2011), or qualitative studies such as Hagen and Zucchella (2014), Lin, Mercier-Suissa and Salloum (2016), Thai and Chong (2008) or review papers such as Knight and Liesch (2016).

Sultan and Wong (2011) propose that entrepreneurial resource, knowledge and network contribute to born globals' financial and strategic performance in a conceptual model. Lin et al. (2016) observed from their case study in China

that management characteristics and networks are vital factors for SME internationalisation. Conceptually, Thai and Chong (2008) highlighted the importance of international knowledge, network and founder or manager characteristics for formation of born global firms. However, their assumptions were not supported by their case study of four Vietnamese SMEs. In contrast, the present empirical study provides evidence showing the three elements are essential for internationalisation in Malaysia context. Specifically, this study reveals the impacts of these resources on competitive advantages in International markets for Malaysian SMEs.

Hypothesis 1 to 3 provide an insight that resource is insufficient to yield product and service advantage, but possibly to assist exporting SME manufacturers to gain a better position in International markets with their price advantage. Hypothesis 7 shows that international capabilities are not a predictor for price advantage. To further support this notion, Hypothesis 12 poses that international capabilities do not mediate the relationship between management international resource and price advantage. Instead, there is only direct relationship between management international resources and price advantage. This implies SMEs without strong international capabilities could explore international markets through lower price advantage among competitors. These SMEs strive to compete with lower cost and sell with more

attractive pricing to gain market attention and the internationalisation approaches are supported by the firm's management international resources. Firstly, management characteristics support the firm's commitment for internationalisation. Further, the close relationships within business and institutional networks assist cost-oriented firms to gain better control over material cost and distribution cost. Next, sufficient international knowledge allows these firms to set a competitive yet profitable price. Generally, management international resource is a strong predictor of price advantage with path coefficient of 0.714 and effect size of 0.587.

Despite firms able to gain a position with better price advantage, prior studies suggest differentiation strategy leads to a better satisfaction in performance (Knight & Cavusgil, 2005). Hypothesis 2 and 3 indicate that management international resources are insufficient to achieve product and service advantage. Firms with strong management international resources are unable to guarantee their product uniqueness or to manage their timely delivery. Hypothesis 13 and 14 suggest international capabilities interact with the relationship between management international resources and product or service advantage through a full mediation effect. In other words, firms need to leverage their resources with international capabilities to achieve better service or product advantages. As shown in hypothesis 10, management

international resources are associated with international capabilities. This implies strong possibilities of firms with management international resources to develop international capabilities.

In brief, hypotheses findings demonstrate the important roles of management international resources in developing the necessary capabilities for product and service advantage, and its critical role for achievement in price advantage. Firms are likely to accelerate their internationalisation through fostering management international resources such as gathering management team with internationalisation characteristics, acquiring international knowledge and building international network. Firms that intend to compete with lower price should be aware that developing of international capabilities are insufficient for this purpose. Instead, management international resources play important role in this agenda.

5.4 Roles of Capabilities

The second research objective aims to examine the capabilities that are associated with competitive advantages for Malaysian SMEs internationalisation. Further to that, the fourth research objective intends to test whether international capabilities mediate the relationship between resources and competitive advantages. The fifth research objective is to test

whether international capabilities mediate the relationship between digitalisation and competitive advantages.

Literature review on SME internationalisation studies reveals several important capabilities that could directly contribute to competitive advantages or international performance. Similar to resources, the roles of capabilities on different types of competitive advantages are rarely investigated (Falahat et al., 2020). Thus, this study provides important insights on the direct and mediating roles of capabilities on price, product and service advantages.

Discussion of international capability in internationalisation literature is scarce compared with discussion of international orientation. Capability studies propose different types of capabilities that are essential for internationalisation but seldom compile these capabilities as international capabilities that are required for internationalisation. For example, the role of marketing capability for internationalisation is discussed in Kamboj et al. (2015); Morgan et al. (2012); Pham et al. (2017). The role of innovation capability is stressed in several internationalisation literature (Fernandez-Mesa & Alegre, 2015; Oura et al., 2016; Raymond et al., 2013). On the other side, some scholars argue that learning capability is paramount for adaptation with ever changing environment (Evangelista & Mac, 2016; Gassmann & Keupp, 2007). Similar

to management international resources, it is hard to find empirical study that has tested of all these three capabilities on internationalisation. Thus, the present study contributes to some insights in this area. A similar study which compile a few capabilities is an empirical study by Zhang, Tansuhaj and McCullough (2009) that argues international entrepreneurial capability consists of five dimensions such as "international learning capability", "international networking capability", "international marketing capability", "innovative and risk taking capability" and "international experience".

Consistent with conceptual papers (Roudini & Osman, 2012; Weerawardena et el., 2007) and review papers (Knight & Liesch, 2016; Øyna & Alon, 2018), this study provides empirical evidence that marketing, innovation and learning capability are important components of international capabilities. Firms should develop all these capabilities for their competitive advantages in International markets. Further to that, the analysis also shed light on the direct and mediating role of capabilities for different types of competitive advantages.

Hypothesis 7 reveals that international capabilities are not a predictor for price advantage. Firms with strong international capabilities may not be competitive in term of their pricing. Yet, they can compete in international markets through better product and service advantages. This finding is in line with

born global studies that suggest resource-scarce SMEs mostly compete with niche strategy instead of cost leadership strategy (Knight & Liesch, 2016). Hypothesis 8 and 9 support this notion by showing evidence that international capabilities are positively related to product and service advantages.

Apart from its direct relationship, international capabilities also act as a mediator in 'management international resources-competitive advantages' and 'digitalisation- competitive advantages' relationships. Both management international resources and digitalisation explain 56.8% variance in international capabilities (R^2: 0.568). This implies one who wishes to develop international capabilities must not ignore the importance of management international resources and digitalisation. Hypothesis 13, 14, 16 and 17 validate the resource-capability-competitive advantage relationship, consistent with other studies (Lu et al., 2010).

In brief, hypotheses findings demonstrate the important roles of international capabilities, particularly in achieving the product and service advantages. Firms are likely to accelerate their internationalisation through product and service advantages by developing international capabilities.

5.5 Roles of Digitalisation

The third research objective aims to examine the roles of digitalisation in achieving competitive advantages for Malaysian SMEs internationalisation. Literature on SME internationalisation studies rarely investigates the roles of digitalisation (Knight & Liesch, 2016; Lee et el., 2019). On the other side, digitalisation studies propose that a firm's digitalisation could enhance its capabilities in pursuing better business performance. With the similar thought, this study investigates the role of digitalisation on competitive advantages in international markets. Digitalisation is also being considered as an antecedent to international capabilities (Neubert, 2018).

As shown in Table 4.6.5, the effect size of digitalisation (0.259) on international capabilities are stronger than the effect size of management international resources (f2: 0.219). The finding demonstrates firm's digitalisation which will lead to better international capabilities. A firm can utilise digital technologies to enhance their international capabilities. In this context, international capabilities fully mediate digitalisation for better product and service advantages.

The study also provides an important insight that digitalisation has no direct influence on either price, product or service advantage. A firm should not

expect positive outcome on its international competitive advantages through digitalisation. The findings are consistent with Ueasangkomsate (2015) which found that adoption of e-commerce has not contributed to export intensity among SMEs in Thailand. Instead, a firm should aim for developing international capabilities through digitalisation (Neubert, 2018), which eventually will lead them to better product and service advantages. Despite digitalisation is expected to improve productivity for cost saving, the evidence shows that there is no effect of digitalisation on price advantage. This may be due to digitalisation is costly and unable to yield short term financial gain (Choshin & Ghaffari, 2017).

Overall, impact of digitalisation may not be directly reflected on competitive advantages in International markets. Notwithstanding, firms should not ignore the indirect effect of digitalisation as an antecedent of international capabilities.

5.6 Theoretical Implications / Implications on Knowledge Gaps

This study has empirically tested a model that developed on the ground of a few well recognised theories for SME internationalisation, thus extends the understanding of network theory, resource-based theory, organisational learning theory and new venture internationalisation theory. Before this, there

are only limited quantitative studies for drivers of SME internationalisation (Gerschewski et al., 2015), especially empirical studies related to Malaysian SMEs (Chelliah et al., 2010; Che Senik et al., 2014). Hence, this research contributes to further understanding in International Entrepreneurship. Precisely, it builds on the understanding of international capabilities as mediator that capitalises the management international resources for competitive advantages in international markets. It compiles the fundamental resources in a second order management international resources construct and tested three fundamental capabilities in a second order international capabilities construct. Further to that, it connects resources and capabilities to three types of common competitive advantages in international markets. These competitive advantages are often part of a firm's competitive strategies. This study was inspired by Kaleka (2002) which attempts to identify sources of different positional advantages. It closes the gap between resources, capabilities and international performance through a better understanding of the outcomes of resources and capabilities in term of price, product and service advantages, which complements earlier works on international performance.

Besides that, the study has discussed the role of digitalisation for SME internationalisation. Although researchers always highlight the importance of

digitalisation in current digital economy, the digitalisation construct is rarely been tested in SME internationalisation research model. Therefore, this research provides important insight about the role of digitalisation, extends the understanding of resource-based view in digital economy.

International entrepreneurship studies have been focused mainly in developed economies, and this study contributes to empirical evidence of drivers for SME internationalisation in an emerging economy context (Lu et al., 2010; Pham et al., 2017).

5.7 Managerial Implications

This study reveals the role of resource, capability and digitalisation for SME internationalisation. Despite better product performance such as product differentiation advantage is recognised as a favourable market positioning, in real business world, a firm may need to achieve price advantage, product or service advantage depending on their operating context. Based on the research findings, managers can better understand the relationships between resources and capabilities with different types of competitive advantages. The critical resources for development of international capabilities consist of management characteristic, international knowledge and network. Managers could assess their company resources for their potential to achieve price advantage. On the

other hand, managers who plan to pursue product and service advantages should enhance their international capabilities, specifically focus on three aspects: marketing capability, innovative capability and learning capability. They may cultivate suitable management characteristic, build up network orientation, acquire more international knowledge and adopt digitalisation to achieve superior international capabilities. The use of digital tool is eventually going to accelerate this process.

The model also assists top management to diagnose their human capital and competencies. A firm with strong marketing capability but weaker innovation and learning capability may plan to take necessary actions to improve their weaker area through hiring of new talent or purposive capability building.

Generally, this study discusses the success factors of exporting manufacturers. SMEs who wish to explore International markets can evaluate their readiness through examining the extent of their resources and capabilities. Subsequently, they can focus their investment by developing the resources and capabilities that best suit their business strategy. Apart from resources, firm may also consider digitalisation as a mean to enhance their international capability. The research findings contribute to a justification of the needs to develop both

resources and capabilities for internationalisation, especially for business owners and managers who do not have prior experience in exporting.

5.8 Policy Implications

SME manufacturers are facing fierce competition from other developing countries such as China and Vietnam (Chelliah, Sulaiman, & Pandian, 2010). Besides, SMEs also lack of innovativeness to exploit the opportunity through product advantages (Che Senik et al., 2011; Kaur & Sandhu, 2014). As a result, Malaysian SME export contribution has been maintained between 16 to 18% since year 2011 (SME Annual Report 2016/2017). Despite government has initiated several initiatives such as Industry 4.0 funding, Industry 4.0 seminars, Digital Free Trade Zone (DFTZ) and others to encourage digitalisation, the fundamental questions would be whether adoption of digitalisation can contribute to tangible results. Failure to demonstrate success stories will eventually de-motivate SMEs' propensity to embrace digitalisation despite they are struggling to survive in highly competitive international markets.

The research findings highlight the important assortments of resources and capabilities for internationalisation. Instead of viewing digitalisation as a focal point, government should disseminate awareness about resources, capabilities

and digitalisation as an assortments of competencies for internationalisation. Firms should not be misunderstood or disappointed even if they unable to see the immediate results of digitalisation. They must also evaluate other aspects of their organisation, like international capabilities, as well as their management international resources.

Government should provide informative seminar and training, together with valuable business and market information to exporting SMEs regularly. For instance, United States exporters are easily accessible to market intelligence, industry information, trade leads, trade data and analysis through government maintained website. Furthermore, government may also organise more networking activities where SMEs can build network relationships with different stakeholders. Through regular meeting, sharing and entrepreneur development programme, business owners can be enlighten with characteristics of successful entrepreneurs. For example, Enterprise Singapore, the government agency that is responsible for enterprise development, has developed a networking platform for start-up enterprises with the objectives to ease the sourcing of supports and facilitate collaborative partnerships.

While encouraging more SMEs to consider exporting, government should also promote the awareness of the importance to build international capability

through investment in competencies and skills development. Government should establish more capability building programmes that help SMEs to enhance their marketing, learning and innovation capability through agencies such as MATRADE, SME Corporation and Malaysia Productivity Corporation (MPC). This may also be achieved through provision of assistance programmes to SMEs for leveraging digitalisation in development of international capabilities. Awareness and financial assistance programme are likely to boost SME digitalisation.

5.9 Research Limitations

This study has some limitations. First, cross-sectional data was used for analysis of findings. According to dynamic capability view, firm's competitive advantages is sustainable only if it is capable to improvise as its environment changes. Conceptually, a firm's international capabilities are dynamic, thus allows it to sustain its business performance over the years. Despite learning capability is included to assess the firm's ability in responding to changes, cross-sectional data does not provide convincing evidence about the sustainability of international performance. For this purpose, longitudinal empirical research and system dynamics approach to modelling are possible approach to demonstrate the dynamic relationship of resource, capability and performance.

Second, this research intends to focus on internal factors as determinants of international performance. Firm's external environment that may intervene with firm's internal factors and the performance has not been studied. For example, does export market infrastructure (Gregory, Karavdic, & Zou, 2007) affect the relationship between digitalisation and capability? A research model with external factors may offer more insights on this subject. A few SME internationalisation studies have shown evidence of the significance of external factors (Fan & Phan, 2007; Knight & Liesch, 2016).

Third, the findings are restricted to exporting SME manufacturers from a small open emerging economy, Malaysia. The single country and single industry context are necessary to minimise heterogeneity of data and to ease interpretation of results. However, it limits generalizability of research findings to other industries and countries, especially developed countries. Owing to the differences in term of the economy status, average wages and operating environments, it is hard to assume management international resource could produce similar impact on price advantage in developed countries. Nevertheless, other emerging economies with similar context with Malaysia are likely to find that this research model is applicable in their countries.

5.10 Recommendations for Future Research

This study explains the mechanism between resources, capabilities and digitalisation on competitive advantages in International markets related to price, product and service. It shows that management international resources are directly related to price advantage while international capabilities are directly related to product and service advantage. Future studies may extend the research model by investigating which competitive advantages lead to better financial or strategic international performance. Despite studies from developed countries that suggest differentiation strategy outperforms low cost strategy (Knight & Cavusgil, 2005), there is limited understanding of which competitive advantage leads to superior international performance in emerging market. Fragmented evidence from emerging market shows that firms from developing countries tend to compete with low cost strategy (Kiss, Danis, & Cavusgil, 2012).

Another interesting research direction is the comparative study between achievement of firms that are implementing either one strategy and firms that are implementing both strategies simultaneously. Kaleka and Morgan (2017) proposes that close distance in term of price, product and service advantage is beneficial to customer satisfaction. This understanding indicates managers

should focus on all three constructs: management international resources, digitalisation and international capabilities to achieve balancing of price, product or service performance. However, similar comparative study from emerging market has yet to be seen.

Further, researchers may also extend the research model to exporters from other industries such as service industry which currently receives increasing attention from the government of Malaysia.

5.11 Conclusion

This study aims to provide insightful knowledge on the drivers for SME internationalisation. The research examines resources, capabilities and digitalisation and reveals their important roles for a firm's competitive advantages in international markets. Particularly, the findings demonstrate distinctive role of resource and capability for different types of competitive advantages in international markets. It has also investigated the mediating role of international capabilities for relationships between resources and competitive advantages. Management international resources contribute to price advantage, international capabilities contribute to product and service advantage, while digitalisation has no direct effect to any of these competitive advantages. Nevertheless, the indirect effects of management international resources and

digitalisation on product and service advantage make these two constructs remain important for SME internationalisation. Based on the results, it suggests exporting SMEs should match their competitive strategies with their resources and capabilities for better outcomes. A company with sufficient stocks of resources is more likely to succeed if they would like to outperform their rivals in term of pricing. On the other side, a company with limited resources should consider product or service advantage and closely monitor their international capabilities. They may want to improve international capabilities through some investments in resource development or digitalisation. The results also explain why some firms fail to see improvement for international performance despite spending on digitalisation. They should better focus the outcome of digitalisation on improved capabilities, instead of directly use international performance as a key performance indicator for their digitalisation investment.

The inclusion of digitalisation in the study answers the call to consider the role of digitalisation in a research model. This attempt provides an initial guide that digitalisation characteristic is more similar to management international resource that influences international capabilities for success ventures in international markets.

While achieving price, product and service advantages simultaneously is likely to yield better export satisfaction, managers could formulate their strategies according to the favourable approaches that are determined by individual business context. The findings shed light on unique mechanisms and antecedents of different types of choices for managers who aim to focus on specific aspects.

In conclusion, the country's economic growth is sustainable if more SMEs are motivated to explore international markets. Developing the right set of resources and capabilities with effective use of digital technology is paramount to encourage export propensity among SMEs (Serra, Pointon, & Abdou, 2012), thus accelerate SMEs internationalisation.

5.12 Chapter Summary

Summary of key findings and implications are tabulated as below.

Table 5.12: Key findings and implications

No	Construct	Key findings	Key implications
1	Management international resources (MIR)	H1: MIR-Price advantage (+ve) H2: MIR-Product advantage (NS) H3: MIR-Service advantage (NS) H10: MIR-IC (+ve)	This study extends the knowledge on relationships of resources with specific type of competitive advantages. This study argues that

No	Construct	Key findings	Key implications
		H12: MIR-IC-Price advantage (NS) H13: MIR-IC-Product advantage (+ve) H14: MIR-IC-Service advantage (+ve)	management international resources consist of three key components, namely management characteristics, international knowledge and network. Firms with management international resources are likely to develop international capabilities. Management international resources are insufficient to gain product and service advantage but possibly to achieve price advantage. Firms must leverage their resources with international capabilities to gain product and service advantage.
2	International capabilities (IC)	H7: IC-Price advantage (N.S.) H8: IC-Product advantage (+ve) H9: IC-Service advantage (+ve) H12: MIR-IC-Price advantage (NS) H13: MIR-IC-Product advantage (+ve) H14: MIR-IC-Service advantage (+ve) H15: Digital-IC-Price advantage (NS) H16: Digital-IC-Product advantage (+ve) H17: Digital-IC-Service advantage (+ve)	This study provides important insights on the direct and mediating roles of capabilities on price, product and service advantages. This study provides empirical evidence that marketing, innovation and learning capability are important components of international capabilities. Firms should develop all these capabilities for their competitive advantages in international markets. Firms with strong international capabilities

No	Construct	Key findings	Key implications
			may not be competitive in term of their pricing. Yet, they can compete in international markets through better product and service advantages. Firms intend to develop capabilities may consider to enhance their resources and use digitalisation as source of international capabilities.
3	Digitalisation	H4: Digital -Price advantage (NS) H5: Digital -Product advantage (NS) H6: Digital -Service advantage (NS) H11: Digital -IC (+ve) H15: Digital-IC-Price advantage (NS) H16: Digital-IC-Product advantage (+ve) H17: Digital-IC-Service advantage (+ve)	This study investigates the role of digitalisation on competitive advantages in International markets. A firm can utilise digital technologies to enhance their international capabilities. International capabilities fully mediate digitalisation for better product and service advantages. Digitalisation has no direct influence on either price, product or service advantage. However, its contribution for competitive advantages should not be ignored. A firm should aim for developing international capabilities through digitalisation for product and service advantage in international markets.

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Appendix 2.1: Drivers for SME internationalisation

a. Study on Management Characteristics and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Madsen & Servais (1997)	Founder's characteristics	Born Global: Propensity and future development	9 cases of BG case studies reviewed	It summarizes the empirical evidence reported about born globals
Knight & Cavusgil (2004)	International entrepreneurial orientation	Global Technological Competence	US / 33 interviews & 203 surveys	Positive relationship. Global technological competence positively related to performance in international markets
		Unique products development		Positive relationship. Unique products development positively related to performance in international markets
		Quality focus		Positive relationship. Quality focus positively related to performance in international markets
		Leveraging foreign distributor competences		Not significant. Leveraging foreign distributor competences positively related to performance in international markets.
Cao & Ma (2009)	Entrepreneur-specific factor	Rapid internationalization of born global firms	74 born global firms in the Yangtze Delta (China)	Positive relationship
		Network-specific factor		Positive relationship
		Business-specific factor		Positive relationship
Hagen & Zucchella (2014)	Entrepreneurs' characteristics	Firm's internationalisation behaviour	6 case companies of diff. industries and minimum 10 year from born to present in Italy, Switzerland and Austria	Conceptual framework

Author	IV	DV	Respondent	Findings
Kaur & Sandhu (2014)	Individual founder/manager specific characteristics	BG Firms	Malaysia / 10 BG SMEs	Individual founder/manager specific characteristics is one of the factors that influence born global internationalisation
Fernandez-Mesa & Alegre (2015)	Entrepreneurial orientation	Export intensity	150 SMEs from ceramic tile industry	Positive relationship through innovation performance and organisational learning capability.
Gerschewski et al.(2015)	Entrepreneurial Orientation: Global vision & perseverance	Born global financial performance	310 Australian and New Zealand young firms from ICT, manufacturing, food and education	Positive relationship
		Born global operational performance		Positive relationship
		Born global perceived success		Not significant
		Non-born global financial performance		Not significant
		Non-born global operational performance		Positive relationship
		Non-born global perceived success		Positive relationship
	Entrepreneurial orientation: Innovativeness & proactiveness	Born global financial performance		Positive relationship
		Born global operational performance		Positive relationship
		Born global perceived success		Not significant
		Non-born global financial performance		Not significant
		Non-born global operational performance		Not significant
		Non-born global perceived success		Not significant

b. Study on International Knowledge and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Kaleka (2002)	Informational capabilities	Competitive advantage (cost, product, service)	202 exporting manufacturers from U.K.	Service advantage – positive relationship Cost and product advantage – not significant
Morgan et al.(2004)	Informational capabilities	Positional advantage	287 export ventures from U.K in manufacturing industries	Positive relationship. Positional advantage is positively related to export venture performance.
Noroozi et al. (2010)	Market knowledge	Direct exporting	96 SMEs from Malaysia and 123 SMEs from Iran	The more market knowledge obtained, the lower the perceived environmental uncertainty of foreign market, thus encourage direct exporting
Oura et al. (2016)	International experience	Export performance	112 SMEs from Brazil	Positive relationship
Monteiro et al. (2017)	Informational resources	Export performance	265 firms in Portugal	Informational resources affect dynamic capabilities and subsequently dynamic capabilities affect export performance.

c. Study on Network and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Kaleka (2002)	Supplier relationship capabilities	Competitive advantage (cost, product, service)	202 exporting manufacturers from U.K.	Cost advantage – positive relationship Service and product advantage – not significant
	Customer relationship capabilities			Cost, service and product advantage – positive relationship
Freeman, Edwards, & Schroder (2006)	1. Personal networks 2. Collaborative partnerships 3. Client followership	Early and rapid foreign market entry	3 high-tech born global SMEs in Australia	Networks are one of the strategies for SMEs to overcome constraints to early and rapid internationalisation

Author	IV	DV	Respondent	Findings
Zhou, Wu, & Luo (2007)	Guanxi networks	Export performance	129 manufacturing born global firms from China	Positive relationship. Guanxi networks mediate the performance impact of outward internationalisation on export and profitability performance, but not on sales performance.
Cao & Ma (2009)	Network-specific factor	Rapid internationalization of BGF	74 born global firms in the Yangtze Delta (China)	Positive relationship
Ellis (2011)	Social ties	a) Exchanges that are rated more importantly b) Greater sales volumes	665 international exchange ventures set up in four Chinese cities	The use of social ties as a mean for identifying international opportunities will lead to exchanges that (a) are rated more importantly and (b) account for greater sales volumes relative to opportunities identified via other means.
Gerschewski et al.(2015)	Important of management's personal contacts for internationalisation	Born global financial performance	310 Australian and New Zealand young firms from ICT, manufacturing, food and education	Not significant
		Born global operational performance		
		Born global perceived success		
		Non-born global financial performance		
		Non-born global operational performance		
		Non-born global perceived success		
Gerschewski et al.(2015)	Amount of pre-existing personal networks for internationalisation	Born global financial performance	310 Australian and New Zealand young firms	Not significant
		Born global operational		Not significant

Author	IV	DV	Respondent	Findings
		performance	from ICT, manufacturing, food and education	
		Born global perceived success		Not significant
		Non-born global financial performance		Positive relationship
		Non-born global operational performance		Not significant
		Non-born global perceived success		Not significant

d. Study on Digitalisation and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Zhu (2004)	E-commerce capability	Firm performance	114 firms in retail industry from U.S.	Positive relationship
Zhang & Tansuhaj (2007)	IT capability	International performance	3 case in U.S.	International performance is positively influenced by IT capability (conceptual model)
Gregory, Karavdic, & Zou (2007)	E-commerce drivers	Export venture marketing strategy	15 interviews and 340 quantitative surveys from Australia	E-commerce drivers act as moderator between environmental factors and elements of export venture marketing strategy, and also act as direct antecedents.
Gabrielsson & Gabrielsson (2011)	Internet-based channel	Degree of globalisation	35 born global firms in Finland from high-tech, high-service and high-know-how firms	Application of internet-based channel together with conventional channels tend to achieve higher degree of globalisation.
Hao & Song (2016)	Information technology capabilities	Firm performance	146 new ventures from U.S.	Positive relationship

Author	IV	DV	Respondent	Findings
Eggers et al. (2017)	Social network	Firm growth	411 samples from European countries (Austria, Germany, Liechtenstein, Switzerland)	Social network mediates the relationship between entrepreneurial orientation and firm growth.
Gregory, Ngo, & Karavdic (2019)	E-commerce marketing capabilities	Export venture e-commerce performance	15 interviews and 340 quantitative surveys from Australia	Relationship between e-commerce marketing capabilities and export venture e-commerce performance is mediated by distribution and promotion efficiency.

e. Study on Marketing Capability and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Weerawardena (2003)	Marketing capability	Sustained competitive advantage	324 manufacturing firms from Australia	Positive relationship
Knight & Cavusgil (2004)	Market orientation	Performance in international markets	US / 33 interviews & 203 surveys	
Morgan et al.(2004)	Capabilities available to the export venture	Positional advantage	287 export ventures from U.K in manufacturing industries	Positive relationship. Positional advantage is positively related to export venture performance.
Kamboj et al. (2015)	Marketing capabilities	Firm's financial performance	127 firms from India	Competitive advantage fully mediates marketing capabilities to the financial performance relationship.
Hao & Song (2016)	Marketing capabilities and Market-linking capabilities	Firm performance	146 new ventures from U.S.	Positive relationship
Pham et al. (2017)	Marketing capabilities	Export performance	333 exporting firms from Vietnam	Positive relationship

f. Study on Innovation Capability and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Knight & Cavusgil (2004)	Innovation	Performance in international markets	US / 33 interviews & 203 surveys	Performance in international markets is a function of innovation such as global technological competence, unique product development, quality focus and leveraging foreign distributor competences
Morgan et al.(2004)	Product development capabilities	Positional advantage	287 export ventures from U.K in manufacturing industries	Positive relationship. Positional advantage is positively related to export venture performance.
Sok & Cass (2011)	Innovation Resource-Capability complementarity	Innovation-based performance	171 SMEs from Cambodia	Positive relationship
Raymond et al. (2013)	Innovation capability	Growth and productivity	309 manufacturing SMEs from Canada	Positive relationship
Fernandez-Mesa et al. (2015)	Innovation	Export intensity	150 SMEs from ceramic tile industry	Positive relationship
Hao & Song (2016)	Technology capabilities	Firm performance	146 new ventures from U.S.	Positive relationship
Oura et al. (2016)	Innovation capacity	Export performance	112 SMEs from Brazil	Positive relationship
Silva, Styles, & Lages (2017)	Tech-innovation	Economic and strategic export performance	112 Portuguese manu-facturing exporting firms	Positive relationship
Efrat, Gilboa, & Yonatany (2018)	Product adaptability	Born global innovativeness	127 born global firms from Israel, from high-tech, bio-tech and clean-tech industries	Positive relationship when technological development is high

g. Study on Learning Capability and Competitive Advantages/International Performance

Author	IV	DV	Respondent	Findings
Zahra et al. (2000)	Technological learning	New venture performance	321 new ventures from high technology industries in U.S.	Positive relationship
Kaleka (2002)	Informational capabilities	Competitive advantage (cost, product, service)	202 exporting manufacturers from U.K.	Service advantage – positive relationship Cost and product advantage – not significant
Sok & Cass (2011)	Learning capability	Innovation-based performance	171 SMEs from Cambodia	Learning capability moderates the relationship between innovation resource-capability complementarity and innovation based performance.
Fernandez-Mesa & Alegre (2015)	Organisational learning capability	Export intensity	150 SMEs from ceramic tile industry	Positive relationship
Gerschewski et al.(2015)	Learning orientation	Born global financial performance	310 Australian and New Zealand young firms from ICT, manufacturing, food and education	Not significant
		Born global operational performance		
		Born global perceived success		
		Non-born global financial performance		
		Non-born global operational performance		
		Non-born global perceived success		

h. Study on Resources, Capabilities, and Competitive Advantages/International Performance

Author	IV	IV/DV/MeV	DV	Respondent	Findings
Weerawardena (2003)	Entrepreneurial intensity	Marketing capability	Sustained competitive advantage	324 manufacturing firms from Australia	Entrepreneurial intensity positively related to Marketing capability. Marketing capability positively related to Sustained competitive advantage.
Lu et al. (2010)	1) Institutional capital 2) Managerial ties	Adaptive capability	International performance	775 manufacturing firms from China	Adaptive capability mediates the relationships between both institutional capital / managerial ties and international performance.
Fernandez-Mesa & Alegre (2015)	Entrepreneurial orientation	1) Innovation 2) Organisational learning capability	Export intensity	150 SMEs from ceramic tile industry	Both innovation and learning capability mediate the relationship between entrepreneurial orientation and export intensity.
Monteiro et al. (2017)	Intangible resources (Informational resources and Relational resources)	Dynamic capabilities	Export performance	265 firms in Portugal	Dynamic capabilities mediate the relationship between intangible resources and export performance.

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

Part 1: Internal determinants

i	To what extent do you agree with the following statements, in term of your company's **top management / owner's characteristics?**	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
A1	See the **world as our company's marketplace**	1	2	3	4	5
A2	**Active exploration of new business opportunities abroad**	1	2	3	4	5
A3	Continuously **communicates mission of success in International markets** with employees	1	2	3	4	5
A4	**Experienced in export market**	1	2	3	4	5
A5	**Ambitious vision** on company's growth	1	2	3	4	5
A6	**Acts aggressively** to pursue opportunity	1	2	3	4	5
A7	**Actively involves** in business operations	1	2	3	4	5
A8	**Hardworking and energetic**	1	2	3	4	5
A9	**Good business sense** to recognise market opportunity	1	2	3	4	5

ii	To what extent do you agree with the following statements?	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
B1	Our company has sufficient **knowledge about our customers and/or competitors**	1	2	3	4	5
B2	Our company has sufficient **knowledge about law, regulations and standards in export markets**	1	2	3	4	5
B3	Our company has sufficient **knowledge on international trade**	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

iii	To what extent do you agree with the following statements, regarding your **company's relationships** with these parties? We maintain close relationship with:	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Institutional Network					
C1	**Government agencies** (e.g, MITI, MATRADE, MICCI, FMM, SME Corp etc.)	1	2	3	4	5
C2	Key member(s) in government, industry or policy makers	1	2	3	4	5
C3	**Business association** of export market (e.g,industry related association, SME association, Chambers of Commerce….)	1	2	3	4	5

iii-cont.	To what extent do you agree with the following statements, regarding your **company's relationships** with these parties? **We maintain close relationship with:**	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Business Network					
C4	Our **key customer(s)** in export / local market	1	2	3	4	5
C5	Our **key supplier(s)** in export / local market	1	2	3	4	5
C6	Our **key competitor (s)** in export / local market	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

iv	Please rate your company's **competitive advantages** in comparison with your **main competitors**.	Please circle the most appropriate answer				
		Much worse	Worse	Neither worse or better	Better	Much better
	Price advantage					
D1	**Our cost**	1	2	3	4	5
D2	**Our selling price**	1	2	3	4	5
	Product advantage					
D3	Product **quality**	1	2	3	4	5
D4	**Uniqueness in term of packaging / branding / product design**	1	2	3	4	5
D5	Make / modify product **according to customer requirements / needs**	1	2	3	4	5
	Service advantage					
D6	Product **accessibility**	1	2	3	4	5
D7	Technical support and after-sales **service**	1	2	3	4	5
D8	Delivery **speed** and **reliability**	1	2	3	4	5
D9	**End-customer rating** of **service quality**	1	2	3	4	5
D10	Overall **end-customer satisfaction** with service offering	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

v	To what extent do you agree with the following statements? (Company's digitalisation)	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
E1	We use IT / digital technology for **facilitating technical knowledge** creation ***Example (but not limited to):*** Video / virtual reality for training / YouTube for information and knowledge sourcing / international webinar etc. to improve technical knowledge	1	2	3	4	5
E2	We use IT/ digital technology for **facilitating market knowledge** creation ***Example (but not limited to):*** Big data analytics / Google keywords / website information etc. to improve market knowledge	1	2	3	4	5
E3	We use IT/ digital technology for **communication** (e.g. inter-departments, suppliers, customers, channel members, etc.) ***Example (but not limited to):*** CRM system / e-Commerce for online transaction / video conference / Live Chat for customer service etc to facilitate communication	1	2	3	4	5
E4	We use IT/ digital technology for **marketing and promotion purposes** ***Example (but not limited to):*** Social media marketing (Facebook, Whatsapp, Wechat, Instagram etc.) / online advertisement / Search Engine Optimization (SEO) etc to improve marketing performance	1	2	3	4	5
E5	We are moving towards **automation or digitalisation** of processes ***Example (but not limited to):*** Automation / Internet of Things / artificial intelligence / ERP system / automated-warehousing etc to improve process efficiency	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

v	To what extent do you agree with the following statements? (Company's digitalisation)	Please circle the most appropriate answer				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
E6	We use IT / digital technology to **develop new product or service** ***Example (but not limited to):*** Integrate digital tools to enhance product functionality / using IT to introduce new service / 3D printing / any digital technology in R&D to improve product features	1	2	3	4	5

vi	Please rate your company's **<u>competitive capabilities</u>** in the following areas**.**	Please circle the most appropriate answer				
		Very poor	Poor	Average	Good	Very good
	Learning capability					
F1	The ability to learn quickly about **changes in regulations** of export markets	1	2	3	4	5
F2	The ability to learn quickly about **changes in export customers' preferences**	1	2	3	4	5
F3	The ability to learn quickly about **changes in competitors' strategies**	1	2	3	4	5
F4	The ability to learn quickly about **changes in distribution channels**	1	2	3	4	5
F5	The ability to learn quickly about **changes in demand and tastes in export markets**	1	2	3	4	5
	Innovation capability					
F6	The ability to **modify products** to fit export markets' demands and tastes	1	2	3	4	5
F7	The ability to **develop new products / services** for export markets	1	2	3	4	5
F8	The ability to **successfully manage** new product development for export markets.	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

	Innovation capability					
		Very poor	Poor	Average	Good	Very good
F9	The ability to **adjust the prices** in export markets	1	2	3	4	5
F10	The ability to **respond quickly to export competitors' pricing** actions	1	2	3	4	5
F11	The ability to **respond quickly to customers' demands in terms of price considerations**	1	2	3	4	5
F12	The ability to **effectively communicate pricing information** to customers	1	2	3	4	5
	Marketing capability					
F13	The ability to **develop** effective export promotion programs	1	2	3	4	5
F14	The ability to **launch** export marketing communication programs	1	2	3	4	5
F15	The ability to **manage** export marketing communication programs	1	2	3	4	5
F16	The ability to **skillfully use** marketing communication programs	1	2	3	4	5

Appendix 3.4 Survey Questionnaire

Survey questionnaire

ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

Internationalisation process

G1. How fast did your company start exporting after establishment?

( )	Immediately after establishment	( )	Between 3 to 4 years
( )	Less than 1 year	( )	Between 4 to 5 years
( )	Between 1 to 2 years	( )	5 years or above
( )	Between 2 to 3 years		

G2. How many countries are you currently exporting to?

( )	1 – 3 countries	( )	31-40 countries
( )	4 – 10 countries	( )	41-50 countries
( )	11-20 countries	( )	Over 50 countries
( )	21-30 countries		

G3. Overall **export %** to total sales revenue

( )	0- 5%	( )	36-55%
( )	6- 15%	( )	56-75%
( )	16-25%	( )	over 75%
( )	26-35%		

Appendix 3.4 Survey Questionnaire

Survey questionnaire ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

Part 2: General questions

1. Please specify your job position

( ) CEO / MD / GM / Owner

( ) Export manager / sales manager

( ) Others: _____

2. Please specify your industry sector

( )	Manufacturing	( )	Trading / Retail
( )	Service / Warehousing	( )	Construction
( )	Agriculture	( )	Others: _____

3. Please provide a brief description of the nature of business.

4. When was your company established? Year ___ ___ ___ ___

Appendix 3.4 Survey Questionnaire

Survey questionnaire ID Number: 2018_____

Please answer the following questionnaire based on the **product in main export market.**

5. Approximately, what is the number of employees? _____

6. What is the year of first exporting? Year ___ ___ ___ ___

7. Please specify the top 3 export markets (countries).

a. _____ b. _____

c. _____

8. Please estimate the <u>total annual sales turnover</u>

( ) Below RM300K

( ) Over RM300K – RM3 million

( ) Over RM3 million- RM15 million

( ) Over RM15 million – RM20 million

( ) Over RM20 million- RM50 million

( ) Over RM50 million

9. How did you enter to your first market (mode of entry) (please tick where appropriate)

( )	Exporting	( )	Joint venture
( )	Licensing	( )	Set up subsidiary or sales office
( )	Franchising	( )	Others: _____
( )	Strategic alliance		

End of questions. Thank you very much for your participation.

Appendix: List of Publications

List of Publications

Title	Journal / Conference
The Impact of Digitalization and Resources on gaining Competitive Advantage in International Markets: Mediating Role of Marketing, Innovation and Learning capabilities	Technology Innovation Management Review, Year 2019, Volume 9 No. 11, page 26-38
SMEs internationalization: The role of product innovation, market intelligence, pricing and marketing communication capabilities as drivers of SMEs' international performance in an emerging market	Technological Forecasting and Social Change, Volume 152, 119908, page 1-7.
SME Digitalization - The accelerator to international business	International Business Information Management Conference (33rd IBIMA) Granada, Spain 10-11 April, 2019 Conference proceedings (ISBN: 978-0-9998551-2-6)
Impact of Digitalization on the Speed of Internationalization	International Business Research, Year 2019, Volume 12 No. 4, page 1-11.