

**THE EFFECTS OF ENTREPRENEURIAL  
LEADERSHIP, INTELLECTUAL CAPITAL,  
TECHNOLOGY CAPABILITY, AND  
GOVERNMENT SUPPORT TOWARDS  
STRATEGIC AGILITY AND SMEs  
COMPETITIVENESS IN INDONESIA**

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**UNIVERSITI SAINS MALAYSIA**

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by

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**Thesis submitted in fulfillment of the requirements  
for the degree of  
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## LIST OF ABBREVIATIONS

4IR	Fourth Industrial Revolution
APEC	Asia-Pacific Economic Cooperation
APINDO	Asosiasi Pengusaha Indonesia
ASEAN	Association of Southeast Asian Nations
AVE	Average Variance Extracted
BCG	Boston Consulting Group
BKPM	Badan Koperasi Penanaman Modal (Indonesia Investor Coordinating Board)
CB-SEM	Covariance-Based SEM
EFA	Exploratory Factor Analysis
EL	Entrepreneurial Leadership
GDP	Gross Domestic Product
GPC	Global Production Chain
GSP	Government Support Programs
HC	Human Capital
HIPMI	Himpunan Pengusaha Muda Indonesia
HTMT	Heterotrait-Monotrait
IC	Intellectual Capital
ICC	International Chamber of Commerce
ICT	Information and Communication Technology
IP	Intellectual Property
IPMA	Importance-Performance Matrix
IT	Information Technology
KADIN	Kamar Dagang dan Industri Indonesia
MIKTI	Masyarakat Industri Kreatif berbasis Teknologi Informasi (Indonesian Information and Communication Technology Community)
MNC	Multi-National Company
MP3EI	Master Plan for the Acceleration and Expansion of Indonesia's Economic Growth (MP3EI)

MSME	Micro, Small, and Medium Enterprise
NGO	Non-Governmental Organization
PLS-SEM	Partial Least Square SEM
RBV	Resource-Based View
RQ	Research Question
SC	Social Capital
SEM	Structure Equation Model
SME	Small-Medium Enterprise
SPSS	Statistical Package for Social Sciences
ST	Structural Capital
TC	Technological Capabilities
TEN	The Evidence Network
TMT	Top Management Team
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Inimitable and Non-Substitutable

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- Appendix A Questionnaire
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**KESAN KEPEMIMPINAN USAHAWAN, MODAL INTELEKTUAL,  
KEUPAYAAN TEKNOLOGI, DAN SOKONGAN KERAJAAN TERHADAP  
KETANGKASAN STRATEGIK DAN DAYA SAING PKS DI INDONESIA**

**ABSTRAK**

Walaupun perusahaan kecil dan sederhana (PKS) penting, namun, ketidakpastian dan gangguan yang disebabkan oleh wabak itu memburukkan lagi cabaran dan ketangkasan perusahaan kecil dan sederhana. Kajian terdahulu menunjukkan perdebatan yang berbeza mengenai asal usul daya saing perusahaan kecil dan sederhana; namun, banyak tema masih belum diterokai, terutamanya dalam memahami ketangkasan dan tahap daya saing perusahaan kecil dan sederhana dalam industri 4.0. Kajian ini menyiasat empat pembolehubah utama, iaitu kepimpinan keusahawanan, modal intelek, keupayaan teknologi, dan sokongan kerajaan, yang diramalkan mempengaruhi ketangkasan strategik dan daya saing perusahaan kecil dan sederhana daripada lensa individu, organisasi dan institusi berdasarkan teori eselon atas dan keupayaan dinamik. teori. Sifat deskriptif tesis ini membawa kepada penggunaan metodologi penyelidikan kuantitatif, dan kaedah tinjauan telah dijalankan untuk mengumpul maklumat daripada 190 pengurusan atasan /pemilik perusahaan kecil dan sederhana. *Partial least squares-structural equation modelling* (PLS-SEM) telah digunakan untuk analisis data, dan dua penemuan utama muncul. Pertama, empat pembolehubah utama secara individu mempunyai kesan positif yang signifikan terhadap ketangkasan strategik perusahaan kecil dan sederhana. Kedua, ketangkasan strategik secara signifikan menjadi pengantara modal intelek dan sokongan kerajaan, manakala kepimpinan keusahawanan dan keupayaan teknologi tidak menjadi

pengantara daya saing perusahaan kecil dan sederhana. Walaupun terdapat beberapa dapatan berbeza daripada kajian lepas, kajian ini mempunyai sumbangan pada teori *upper-echelon* dan teori *dynamic capability* masih boleh menjelaskan kesan empat pembolehubah utama kepada daya saing perusahaan kecil dan sederhana. Selanjutnya untuk sumbangan praktikal, kajian ini menunjukkan bahawa daripada memberi latihan dan keutamaan kepada perusahaan kecil dan sederhana, adalah dicadangkan pemerintah mesti memastikan dasar mereka dibangunkan secara menyeluruh, menyokong pembangunan mereka.



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**ABSTRACT**

Although small-medium enterprises (SMEs) importance, nevertheless, the uncertainties and disruptions caused by the pandemic further exacerbated the challenges and agility of SMEs. Previous studies showed contrasting debates regarding the origins of SMEs' competitiveness; however, many themes were still unexplored, especially in understanding the agility and competitive level of SMEs in industry 4.0. This study investigated four key variables, namely entrepreneurial leadership, intellectual capital, technology capability, and government support, that are predicted to influence strategic agility and competitiveness of SMEs from an individual, organisational, and institutional lenses based on upper-echelon theory and dynamic capability theory. The descriptive nature of this thesis led to the adoption of a quantitative research methodology, and a survey method was conducted to gather information from 190 top-level management/owners of SMEs. Partial least squares-structural equation modelling (PLS-SEM) was used for data analysis, and two key findings emerged. First, the four key variables individually had a significant positive impact on SMEs' strategic agility. Secondly, strategic agility significantly mediated the intellectual capital and government support, while entrepreneurial leadership and technology capabilities did not mediate SMEs competitiveness. Although there are several contrasting findings from previous

studies, this study has theoretical contribution by showing the upper-echelon and dynamic capability theory still can explained the effect of four key variables to SMEs' competitiveness. Further for practical contribution, this study shows that rather than giving training and preferences to SMEs, it is suggested that government must ensure that their policies are developed thoroughly, supporting their development.

# **CHAPTER 1**

## **INTRODUCTION**

This thesis explores an important issue pertaining to the strategic agility and the competitiveness of SMEs in Indonesia. In order to ensure that the study captures important variables that could account for SMEs' agility and competitiveness, the effects of entrepreneurial leadership, intellectual capital, technology capability, and government support are taken into consideration based upon the scrutiny of the extant literature. This chapter starts with a rationale for this study, the study's importance in knowledge in the field, and explaining the approaches taken in the study. In the first section, a background to the study is provided to describe background information on the importance and condition of SMEs and demonstrates the relevance of the research problems and research questions for further research development in this area. Thus, based on the study background, the research problems are raised and explained in Section 2, which also identifies the gap in knowledge of Indonesian SMEs' competitiveness and briefly discusses the four factors (entrepreneurial leadership, intellectual capital, technology capabilities, and government support) related to organisational agility and competitiveness. This chapter continues with the research questions and research objectives, followed by discussing the scope of the study. The sixth section explains the significance of the study from several points of view, while the thesis outline is provided in Section 7, and a chapter summary is presented in the last section.

## **1.1 Research Backgrounds**

The small and medium enterprises (SMEs) is very crucial for many countries' economic well-being, particularly for developing countries (Sommer, 2017) because SMEs are the biggest business actors that contribute to employment, formation of GDP, exports and the creation of fixed capital/investment (Gherghina et al., 2020). The rise of new digital industrial technology in this century, also known as Industry 4.0, has pushed business actors, including SMEs, to be more flexible, fast, and efficient in their process to produce higher-quality goods at a reduced cost (Masood & Sonntag, 2020).

Boston Consulting Group (BCG) identified nine technologies that will transform production toward greater efficiency and change production relationships among suppliers, producers, and customers, namely; autonomous robots, simulation, horizontal and vertical system integration, the internet of things, cybersecurity, the cloud, additive manufacturing, augmented reality, and big data analytics (Boston Consulting Group, 2019). This transformation shifted the world economy, fostered industrial growth, increased productivity, modified the workforce and changed the competitiveness of companies and regions (Masood & Sonntag, 2020). With this realisation, governments ensured that their SMEs was agile to remain competitive for their nations' growth (Kopnina & Blewitt, 2018).

As a developing country and the fourth largest population globally, Indonesia's trade is highly dominated by MSMEs (micro, small medium enterprises); the number of MSMEs reached 62.9 million units in 2017, where 98% were dominated by micro-business, and 1.3% were from SMEs (see Table 1.1). These MSMEs contributed 60.34% to Indonesia gross domestic product (GDB) in 2018, with a projected increase of 5% to

65.34% in 2020 (Syarizka, 2019). Additionally, MSMEs are also one of the most significant contributors to Indonesia's employment rate as MSMEs contributed to 97% of Indonesia's overall employment in 2018 and 2019, as shown in Table 1.1 (Kementerian Koperasi dan Usaha Kecil dan Menengah Republik Indonesia, 2021). Thus, these significant contributions demonstrate the importance for MSMEs in Indonesia to be agile in the 4.0 revolution to boost the country's economic growth.

**Table 1.1 Data of MSMEs and Big Enterprises Year 2018 & 2019**

Business Category	Business Units				Employment Rate				GDP Contribution			
	2018		2019		2018		2019		2018		2019	
	Qty	%	Qty	%	Qty	%	Qty	%	Qty	%	Qty	%
Micro Business	63.350.222	98,68	64.601.352	98,67	107.376.540	89,04	109.842.384	96,92	5.603.334,90	37,77	5.913.246,70	37,35
Small Enterprises	783.132	1,22	798.679	1,22	5.831.256	4,84	5.930.317	89,04	1.423.885,10	9,6	1.508.970,10	9,53
Medium Enterprises	60.702	0,09	65.465	0,1	3.770.835	3,13	3.790.142	4,81	2.033.361,30	13,7	2.158.545,80	13,63
Big Enterprises	5.550	0,01	5.637	0,01	3.619.507	3	3.805.829	3,07	5.776.174,70	38,93	6.251.772,70	39,49

However, the understanding of micro-business in Indonesia is dissimilar to other countries; micro-businesses in Indonesia comprise small-scale, people-centred, traditional, and informal economic activities because they do not possess a business license and other requirements lack the business' legal status. The characteristics of a micro-business based on (Kementrian Koperasi dan Usaha Kecil dan Menengah Republik Tahun 2015-2019, 2015) are:

1. The types of goods or commodities are not always fixed and can be changed at any given time.
2. The place of business is not fixed as businesses can move at any given time.

3. Businesses do not necessarily possess a simple financial administration, and separate personal and business finances may not be practised.
4. Human resources (entrepreneurs) do not have sufficient entrepreneurial spirit and leadership.
5. The average level of education of entrepreneurs is relatively very low.
6. Businesses do not have access to banking.
7. Businesses do not have a business license or other legal requirements, including tax identification number.

Therefore, micro-businesses are excluded in this study as their characteristics do not meet the requirements of enterprises and will solely focus on SMEs to represent the research object.

Among the Southeast Asian Nations (ASEAN) countries (i.e. Indonesia, Malaysia, Thailand, Singapore, Philippines, Brunei Darussalam, Laos, Cambodia, Vietnam, and Myanmar), Indonesia has the most significant total number of SMEs. The Indonesia Investment Coordinating Board (BKPM) mentioned that Indonesia could become the largest digital economy in Southeast Asia, both in manufacturing and in the retail industry. This prediction was also strengthened by Google and Temasek, which estimated that internet users in Indonesia would increase 19% to 215 million in 2020. Similarly, McKinsey research in 2016 also predicted that Indonesia's future annual economy might rise to \$150 billion by digitisation (Anestia, 2018).

Hence, Indonesian policymakers have focused on empowering, increasing competitiveness, and independence of SMEs in industry 4.0 since 2015. The

empowerment and independence of SMEs are one of the efforts following Indonesia's constitution to promote public welfare, while Indonesia's SMEs is expected to develop as economic actors based on information and technology and be able to compete with other foreign (imported) products on providing goods and services to the national community (Kementerian Koperasi, 2015). Based on the strategic plan of the Ministry of Cooperatives and SMEs (2015-2019), the empowerment of SMEs is directed to build independence and competitiveness through the creation of a conducive business climate, the application of science and technology, and the strengthening of economies of scale to face dynamic market conditions (Kementerian Koperasi, 2015). This idea is in line with (Zott & Amit, 2017) study, which stated the increase in digitalisation of various aspects of consumers' daily lives shifted expectations on enterprises as consumers experience the convenience of emerging technologies, including the inclusion of big data analytics in product or service innovation.

In April 2018, President Joko Widodo prepared a roadmap of Making Indonesia 4.0, hoping that Indonesia can become more globally competitive and open employment opportunities and attract more technology-based investments. Aspects such as dominate national trading, empower, and adapt to the digital economy for SMEs were part of the roadmap's focus on creating a clear path toward national economic prosperity. However, despite government plans on empowering and increasing SMEs' competitiveness, the 2020 Global Competitiveness Index 4.0 report showed that Indonesia only scored 64.6 out of 100 points on the index, which ranked Indonesia in the 40<sup>th</sup> position (down eight places from 2019) out of 141 countries (Schwab, 2020). The index is based on several factors, including innovation system, markets competitiveness, enabling environment, and human

capital. Among those index factors, Indonesia scored lowest in innovation capability, product market, and labour market competitiveness and ranked 65 out of 141 countries on human skill. Fontana and Musa (2017) found that innovation and competitiveness were hard to achieve due to a lack of necessary leadership, institutional support, and the organisation's capital to develop the business. Similar to those findings, there are several common problems of SMEs in Indonesia which negatively impacts its competitiveness in the market, such as lack of working capital, difficulties in marketing, limited access to productive and financial resources, minimum technological skills and management, low productivity, low quality of governmental and institutional support, and lack of business networks (Tambunan, 2008).

Furthermore, the President of the International Chamber of Commerce (ICC) Indonesia, Ilham Akbar Habibie, argued that industry 4.0 presented its challenges and opportunities for Indonesian SMEs (Aco, 2019). He further elaborated that not all industries were able to adapt to industry 4.0, while initiatives were implemented in stages and under the character of the industry itself. For example, while some SMEs adopted the digital economy, many SMEs relied on mechanisation or industry 1.0. (implementation with a manual system) or only used electricity or industry-based 2.0 networks. Similarly, some SMEs were also new to using computers or industry 3.0, with only very few SMEs use data or industry 4.0. While determinants for organisations' competitiveness in the digital economy era include faster adoption, response to customer changes and demands, dynamic process, and adopt new technologies (Khan et al., 2020). Martinez-Caro et. al (2018) argued that a lack of competitiveness among SMEs is the constrain in organisation agility.



The recent COVID-19 pandemic at the end of 2019 brought greater challenges to businesses as most countries imposed physical restrictions to control the expansion of the pandemic. In other words, SMEs were not only required to change their business strategy based on customer demands but SMEs were also forced to adopt new technology to provide service and ensure sustainability.

On the academic front, these constraints, and recent pandemic accelerated SMEs challenges; thus, posed an urgent need to understand how SMEs are dealing with Industry 4.0. However, research of SMEs in Industry 4.0 is still underdeveloped as several studies conducted primarily focused on large companies and only several studies focused on SMEs and Industry 4.0 (Lakbir & Chihab, 2019). Furthermore, collaborations between large companies and SMEs have increased as many large companies act as suppliers to SMEs and/or have SMEs as suppliers. In other words, larger companies may influence SMEs as partners, such as in the supply chain and increasing the requirements for product quality standards. Overall, these influences may affect the position of SMEs towards technological developments originating from Industry 4.0.

Thus, exploration in how SMEs' agility and competitiveness in Industry 4.0 are necessary to provide a more holistic and comprehensive understanding of the "what" and the "how" elements that could build or deter the development and subsequently the competitiveness of SMEs Indonesia.

## **1.2 Research Problem**

Many Indonesian SMEs suffers limited competitiveness and adaptability in the era of Industry 4.0 (Hutahayan & Yufra, 2019). In Indonesia, SMEs seem to require more

financial support, market access, and regulations to boost their performance and gain the necessary capability for the global competitive market (Qosasi et al., 2019). Several strategic plans for SMEs were established in 2015 by the Ministry of Cooperatives and SMEs and Ministry of Trade and other agencies in which the issue of SMEs competitiveness and business growth are widely debated. Having noted that, Yudi Candra, a digital economy observer, reported that only 1% of these young SMEs succeeded (Yosi, 2019) and other evidence showed that many SMEs are still slow in reacting to the market and environmental change, including robust competition (APF Canada, 2019; Tulasi et al., 2019).

Pratono et. al. (2018) also mentioned that several constraints hamper the viability and efficiency of Indonesian SMEs: lack of capital, business information, technology capabilities, skilled worker, procuring raw materials, marketing and distribution, and government support, policies and regulations. The 2018 survey of entrepreneurs and SMEs in Indonesia by (Asia Pacific Foundation of Canada, 2019) also revealed barriers to achieve revenue growth; lack of access financing, marketing, physical infrastructure, domestic government, human capital, technical, access to inputs, technical infrastructure, intellectual property, and linguistic (see Figure 1). Furthermore, the recent survey conducted by the Indonesian information and communication technology community showed several factors that challenged the sustainability of young small enterprises in Indonesia, namely financial capital, human resources, facilities, regulations, and markets, including fast response to market changes and adaption capabilities for new Industry 4.0 (Badan Ekonomi Kreatif, 2019).

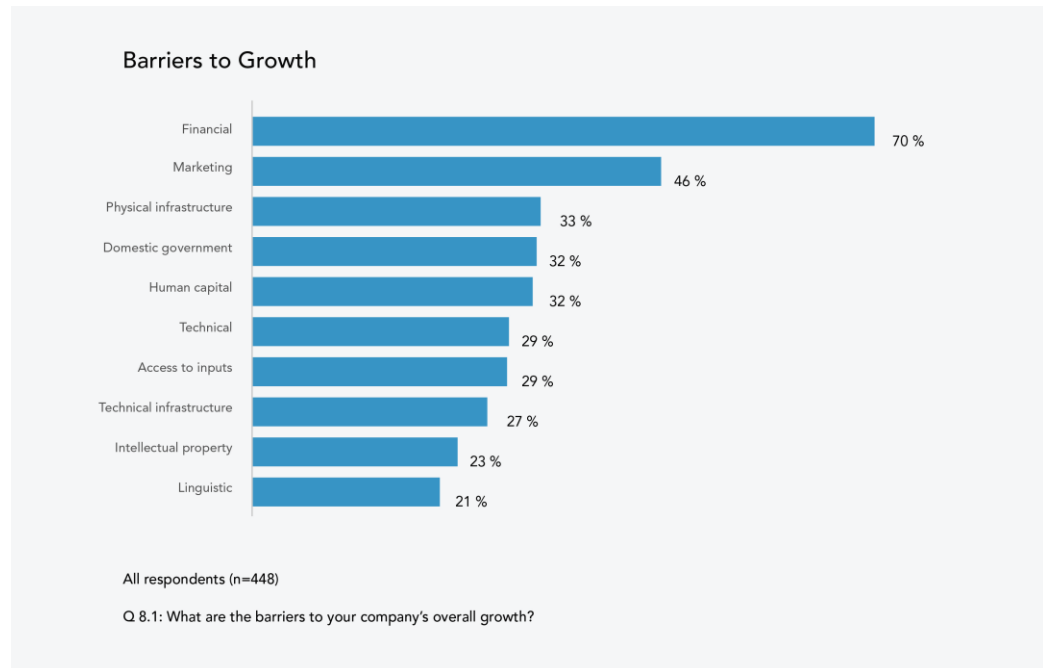


Figure 1.1 Barrier to Growth of SMEs in Indonesia

(Source: 2018 Survey of Entrepreneurs and SMEs in Indonesia, The Evidence Network, 2019)

In addition, previous studies identified perspectives that must be considered in the empowerment, competitiveness, and agility of SMEs were individuals, organisations, and institutions (Aco, 2019; Asia Pacific Foundation of Canada, 2019; Badan Ekonomi Kreatif, 2019; Yosi, 2019). Previous scholars showed a lack of awareness in individual factors, such as entrepreneurial leadership, that led to SMEs' difficulties recognising and exploiting entrepreneurial opportunities, such as fulfilling new market demands and collaboration with larger companies (Zainol et al., 2018). Since SMEs commonly had a simple organisational structure and employed few people, SMEs usually have greater discretion than larger businesses; thus, SMEs leadership style is likely to have a direct and more significant impact on business and goals (Sow & Aborbie, 2018). Alrowwad and Abualoush (2020) found that entrepreneurial leadership demonstrated a reciprocal

relationship to SMEs' organisational resources, including financial resources, social capital, human capital, and intellectual property and knowledge.

Other studies indicated that entrepreneurial leadership is required and it reflects the leadership role performed by the key decision makers in the business ventures that are related to systematic identification, exploitation of opportunities, processes that nurture innovation, and generate and secure resources for continuous exploration and idea generation (Leitch & Volery, 2017). In a 2018 survey of entrepreneur and SMEs conducted by (Asia Pacific Foundation of Canada, 2019), Indonesian SMEs showed lack of leadership capability to identify and exploit new opportunities, nurture innovation, and skills to generate resources for continuous exploration and idea generation on product, service, and labour market. Similarly, Rahayu and Day (2017) also reported that many SMEs were not developing themselves in exploiting opportunities, innovation, and idea generation by doing something different, such as creating unique products. It would appear that Indonesian SMEs' leaders are unable to anticipate future problems, change in the environment, and disruptive economies; thus, many leaders fail to plan on projects, explore opportunities, and ensure innovation, consequently toward a lack of competitiveness (Tulasi et al., 2019)

Studies exploring the role of organisational factors, the interaction between the organisation level, and the external environment were illustrated through organisational resources and strategies to exploit technological capabilities (Allameh, 2018) . Severe resource constraints and unpredictable market conditions create significant challenges for an organisation's growth through technological capabilities and innovation. Likewise, some experts also highlighted intellectual capital as part of the organisation level that

comprised human capital, structure capital, and social capital dimensions (Suciu & Năsulea, 2019) have a positive impact to business competitiveness and react to the market demands (Zin et al., 2018). Bennet (2016) showed that more than 50% of new SMEs collapses in the first five years because of a lack of those capitals due to the inability to access information systems and management skills. Aligned with these studies, AlQershi et al. (2021) highlighted that SMEs slow decision-making was regularly caused by limited information (structural capital); thus, impacted SMEs competitiveness. Other studies also stated SMEs' problems due to inability to maintain appropriate interactions within stakeholders and possess good networks with strategic partners (social capital) (Khalique et al., 2018).

Related to an organisation, current studies found that interactions between the individual and technology provided vital insight into how human capital affects enterprises' development and performance (Ling, 2017). In other words, technology is considered as capabilities for organisations, while several empirical studies postulated that most SMEs failed to obtain 4.0 revolution challenges due to a lack of human skill and technological capabilities (Ibarra et al., 2018). Similarly, Hutahayan and Yufra (2019) mentioned it was difficult for Indonesian SMEs to compete globally as most SMEs lacked innovative technological capabilities. Ilham Habibie also added that SMEs must be literate with Industry 4.0, such as optimising computerised data management through collaboration innovative to increase their performance and compete with the global market (Aco, 2019). However, the ACO data showed that the number of Indonesian SMEs that could utilise technology in Industry 4.0 was limited (Aco, 2019).

However, Keep abreast with IR 4.0 could be done with corporation and asking financial support from government. Ahmad et. al (2020) also highlighted the relative influence of institutional support measure (i.e. higher education institutions, government agencies, private organisations) on the generation of talent and the experience of the entrepreneurs for SMEs' agility. In exploring the role of institutional factors, the investigation conducted towards understanding how government agencies, government-link companies, private institutions, and society could intervene to foster SMEs and enhance their competitiveness in era IR 4.0.

In another study, Khoshnood and Nematizadeh (2017) defined agility as a diverse range of capabilities required by the firms to identify and comprehend the critical forces of environmental change. Accordingly, after sensing environmental changes, firms must take the proper action by establishing efficient strategies. In the context of strategic agility, it is defined as the firms' ability to plan innovative projects and transform existing business, physically acting on changing their competitors' strategy and customers' tastes and preferences. In other words, it is necessary for the management to capable, sensitive, and continuously maintain its flexibility, perception, prediction and strategic sensitivity regarding its internal and external environments (Kale et al., 2019; Kumkale, 2016). In their framework, Khan et al (2020) and Perera et al. (2019) mentioned that organisational agility is related to its ability to adapt rapidly, sense, and respond to changes based on various factors. These factors comprised customer's taste and preferences, competitor's action, government regulation, dynamic process, and new technology adaptation, which are considered essential factors for SMEs' competitiveness. Lastly, they asserted that agility is a continuous process of change with regards to the environment.

In this case, there is still room for improvement for Indonesian SMEs, including the strategic development in response to industry 4.0. Additionally, this idea is critical to the change in the customers' aggregate needs, reaction to new products, technology, and service launches by global competitors (Interactive Crew, 2019). Finally, empirical studies have related organisation agility with competitiveness (Kale et al., 2019), and thus, this study perceived strategic agility as a crucial variable. Essentially, this idea should be considered to develop the Indonesian government's plan, which provides a solution for SMEs' competitiveness.

In the case of SMEs in Indonesia, since 2015, the government and other institutions such as banking, independent association or agency, and NGOs have given substantial support for their competitiveness and growth. The SMEs strategic plan was employed by the ministry of cooperatives between 2015 and 2019, which centered on SMEs' independence and competitiveness. This plan was initiated by the Nawa Cita program, prioritising MSME's economic independence (Wedhaswary, 2014a), which eventually launched a roadmap of Making Indonesia 4.0. Accordingly, this move is conducted to empower SMEs as part of the ten priorities of the national "Making Indonesia 4.0" initiative (Kementerian Perindustrian, 2019). Incidentally, the development of the Indonesian SMEs is inseparable from other agency supports such as financial assistance from banks (Tissor Indonesia, 2016). This support includes independent NGOs such as The Employers' Association of Indonesia (APINDO), which provides fundamental training for SMEs to increase their bargaining power and competitiveness (Asosiasi Pengusaha Indonesia, 2018). Nevertheless, various programmes, plans, and support are

given to Indonesian SMEs by the government, national, and international institutions. According to the 2020 global competitiveness Index 4.0, Indonesia's competitiveness index is far below Singapore, Malaysia, and Thailand (Schwab, 2020).

Thus, the main question of this study is how Indonesia SMEs remain competitive in the industry 4.0 era? The purpose of this study was to identify possible factors that could enhance SMEs' competitiveness by exploring SMEs' strategic agility from three different levels, namely from the individual perspective, represented by the entrepreneurial leadership factor. The second level was the organisations' viewpoint, depicted by the intellectual capital and technology capabilities. Lastly, this study examined the concept via the institutional level, exhibited by the government support. These factors may encourage, create, and hinder the growth of Indonesian SMEs' agility, ultimately impacting their competitiveness. Hence, understanding the elements at three different levels allow a more holistic and comprehensive grasp of the factors.

### **1.3 Research Questions**

To achieve the purpose of the study, the following are the research questions that were answered in this study:

1. To what extent does entrepreneurial leadership positively influence strategic agility and competitiveness in Indonesian SMEs?
2. To what extent does intellectual capital positively influence strategic agility and competitiveness in Indonesian SMEs?
3. To what extent does the technology capability positively influence strategic agility and competitiveness in Indonesian SMEs?



4. To what extent does the government support positively influence strategic agility and competitiveness in Indonesian SMEs?
5. To what extent does strategic agility positively influence competitiveness in Indonesian SMEs?
6. Does strategic agility mediate the relationships between entrepreneurial leadership, intellectual capital, technology capability, government support and Indonesian SMEs competitiveness?

#### **1.4 Research Objectives**

This research investigated the relationship of the four factors with the Indonesian SMEs' competitiveness. These factors comprise entrepreneurial leadership, intellectual capital, technology capabilities, and government support, in which strategic agility was a mediating factor. Thus, this study addressed the following research objectives:

1. To investigate the effect of entrepreneurial leadership on strategic agility and competitiveness of Indonesian SMEs.
2. To investigate the effect of intellectual capital on strategic agility and competitiveness of Indonesian SMEs.
3. To investigate the effect of technology capabilities on strategic agility and competitiveness of Indonesian SMEs.
4. To investigate the effect of government support on strategic agility and competitiveness of Indonesian SMEs.
5. To assess the effect of strategic agility influence competitiveness in Indonesian SMEs.

6. To assess the role of strategic agility as the mediating variable in the relationships between entrepreneurial leadership, intellectual capital, technology capabilities, government support and competitiveness of Indonesian SMEs.

### **1.5 Scope of the Study**

This study was conducted to understand SMEs' strategic agility and competitiveness from the individuals, organisations, and institutional level; thus, the study scope was confined to a macro view, namely between organisations, utilising cross-section empirical investigation. Furthermore, the unit analysis of this study was at the organisational level, where data from organisations were obtained from SMEs in various Javanese Islands, registered on the Ministry of Cooperative and SMEs, and/or in local government. These islands include the province of West Java, Central Java, East Java, the Special Region of Jakarta, the Special Region of Jogjakarta, and Banten.

Finally, data was collected from a survey questionnaire of Individuals actively participating in the SMEs' management comprise the owner, director, general manager, managers, and senior executives. Each respondent represented their enterprises when answering the questions. Experts from government officers who were actively involved in the development of SMEs and Officers from agencies or NGOs that acquired an interest in the SMEs' competitiveness and growth are involved in establishment of questionnaire.

## **1.6 Contribution of the Study**

The current study presented several contributions categorised into practical and theoretical contributions. In the next section, the theoretical contribution is firstly discussed, followed by the practical contribution.

### **1.6.1 Theoretical Contributions**

There were six theoretical contributions which are seek to be achieved in this study. Firstly, the empirical research will demonstrate the effect of the individual (leader) trait and behaviour concerning SMEs' strategic agility and competitiveness process. As opposed to the previous researchers which emphasized more on the leadership' style and leaders' action to the organization.

Secondly, this research will provide a richer analysis of how intellectual capital, technological capabilities, and government support directly influence SMEs' strategic agility and competitiveness. According to the literature review, these variables alongside with entrepreneurial leadership are expected to have positive impacts on SME's strategic agility and competitiveness

The third contribution of this study will prove that strategic agility, enhanced by the four variables namely, entrepreneurial leadership, intellectual capital, technology capabilities, and government support will have positive effects on SMEs' competitiveness. Previous studies investigated entrepreneurial leadership, strategic agility, and competitiveness in large firms; hence, for the fourth contribution, this study will utilize SMEs as a research object and serve as a base for the methodological scope of entrepreneurial research. Furthermore, strategic agility will be investigated further

whether it is able to influence competitiveness, contributing to the literature of strategic agility and competitiveness in developing nations.

Fifth, this study will investigate whether the pandemic situation impacted the relationship of the four independent factors with the dependent variable (competitiveness). In this case, strategic agility acts as the mediating variable. Incidentally, few studies focused on the economic crisis and the experience of SME entrepreneur during a crisis, and the implication for entrepreneurship. Therefore, there is a need to investigate SMEs' performance during this unfortunate period.

Finally, this study will provide additional and significant theoretical contributions to the two theories that can explain the link between SMEs' agility and the factors which affect their competitiveness, namely Resource-Based View (RBV) and Upper Echelon theory. By examining the dynamic link between the four factors and their influence on the strategic agility, it will prove that company's internal resources such as intellectual capital and technological capabilities need to be utilized effectively as stated by the Resource-Based View and the qualities of the entrepreneurs also contributed to the success of a business as suggested by the Upper Echelon theory.

### **1.6.2 Practical Contributions**

This research is expected to have several practical implications, especially to the business owners and government. Firstly, this study will demonstrate the unique nature of Indonesian SMEs as eastern-developing nations, differing from the western context. The study's findings are expected to become a beneficial tool for economic researchers, business owners, stakeholders, and governments as policymakers in the future. Secondly,

government support, being the only external factor outside the SMEs' internal resources is suggested to contribute the most substantial effect on SMEs strategic agility and competitiveness.

## **1.7 Significance of the Study**

This study is critical from several points of view:

### **1. Large Companies Versus SMEs' Perspective.**

Most studies concerning the competitiveness of enterprises are exclusively confined to large companies. Accordingly, SMEs exhibit different conditions and set of challenges relative to large enterprises. Hence, having these additional conditions, resources, shareholders, and objectives impacts how enterprises handle their business process and decision-making. Thus, the results from this study contribute to SMEs literature. Specifically, this study can become a reference for SMEs' competitiveness issues for governments in developing countries.

### **2. Developing Enhanced SMEs' Competitiveness.**

Certain studies view individual factor exclusively from the entrepreneurial orientation perspective. Meanwhile, this study observes entrepreneurial leadership as an exceptionally essential factor for organisational strategic agility. Nevertheless, there are divergent opinions regarding the effect of corporate and institutional factors determining SMEs' competitiveness through organisational strategic agility. Several empirical studies show organisational capital and institutional support positive affect strategic agility, albeit other studies exhibit differing results. Therefore, the results

gained from the current study add and strengthen the literature. This idea is especially vital concerning the link between entrepreneurial leadership, intellectual capital, technology capabilities, institutional support, and SMEs' competitiveness.

### 3. The Strategic Agility in Determining the Competitiveness of SMEs.

SMEs are essential for most developing countries because they contribute to more than 50 per cent of GDP and 90 per cent of the workforce. Thus, it is imperative to understand what and how the four factors at the three levels nexus encourage and enhance SMEs' agility. Given these points, this understanding will leverage the competitiveness of SMEs in industry 4.0.

### 4. Government Policy Relevance.

This study is significant for the government, especially for the ministry of cooperative and SMEs. Additionally, it can be a crucial tool for agencies that govern the development and growth of Indonesian SMEs in formulating the right policies, which provide the proper support mechanism to prepare SMEs for industry 4.0. In essence, SMEs are considered as the catalyst to change towards industry 4.0. However, various SMEs suffered during the pandemic, and thus, government policy should focus on empowering SMEs and provide essential support during critical periods to develop their strategic agility. Ultimately, this crucial support may enhance SMEs' connection with their ecosystem partners, which lead to a global competitive advantage.

## **1.8 Outline of the Thesis**

This chapter introduces the research topic by providing the background, research question, research objectives, research approaches, and importance.

In Chapter 2, a review of the literature on strategic agility and competitiveness is presented. The first section reviews Indonesian SMEs to provide a practical context, which provides a general picture of the condition of Indonesian SMEs. Furthermore, the section presents the government regulation, resources, and the current challenges Indonesian SMEs face. Hence, this idea provides a detailed description of the competitiveness conditions of Indonesian SMEs, followed by relevant theories for the issue. In this part, the theoretical approach employed for answering the research questions is depicted. The next part involves the discussion on the four factors, which are identified in this study, namely, the individual (entrepreneurial leadership), organisation (intellectual capital and technology capabilities), and institutional (government support). Essentially, the section explains how these factors contribute to organisational agility. The discussion continues to another critical term, which is organisation agility and competitiveness of SMEs. This discussion is followed by the debate on the link between the four factors and organisation agility, then organisation agility to SMEs' competitiveness. Finally, a theoretical framework and hypothesis synthesising the four-factor that impact SMEs competitiveness through organisation agility are established. Later, this framework is used to test the hypothesis and to analyse the research questions.

The methodology applied is depicted in Chapter 3 of the study. This study tested the hypotheses and analysed the four factors' systemic impact of organisation agility on Indonesian SMEs' competitiveness. Given these points, the quantitative methodology

approach was selected for the study. Moreover, a comprehensive explanation of the study investigation design is presented in this chapter. Next, the chapter describes the data collection procedure and method used to analyse the data. Finally, data collected from the SMEs' respondents are subjected to generate the research findings.

The findings from the data collected are presented in Chapter 4 through questioner and written documents, providing answers to the research questions at the end of each section. Using the theoretical framework described in Chapter 2, statistical analysis in this research is obtainable. Finally, the last section summarises the result of the hypothesis. In Chapter 5, the study's discussion and analysis are featured, primarily on how the four factors influence Indonesian SMEs' strategic agility and competitiveness. The second section reveals how individual, organisational, and institutional factors show the systemic impact on the agility and competitiveness of Indonesian SMEs. The third section exhibits the implications of the study's findings for theory, policy, and practice, concluding with suggestions for further research.

## **1.9 Operationalization of Key Terms**

- Small and Medium Enterprises (SMEs).

A self-independence productive economic business. This business is conducted by an individual or business entity that is not a subsidiary or a branch of the owned, controlled or is a part either directly or indirectly of a large business. These businesses have an annual sales turnover IDR 300.000.000- IDR 50.000.000.000 annually, and operating in Indonesia with more than 5 and maximum 100 employees (Indris &



Primiana, 2015). All the SMEs must meet the prescribed criteria such as an; and/or the sales turnover.

- Entrepreneurial Leadership (EL).

Entrepreneurial leadership entails influencing and directing the performance of group members towards the achievement of organisational goals, which involve recognising and exploiting entrepreneurial opportunities (Renko et al., 2015).

- Intellectual Capital (IC).

Intellectual capital is the term given to the sum of knowledge-related resources, representing the wealth of ideas, abilities, infrastructures, and relations that determine an organisation's competitiveness (Sharabati et al., 2010). The components of IC are human capital, structural capital, social capital, and technology capital (Colombo et al., 2004; Marvel & Lumpkin, 2007; Suciu & Năsulea, 2019; Wright et al., 2007).

- Human Capital (IHC).

Human capital is defined as the knowledge, expertise or individual abilities and experience regarding the organisation's workforce (Mosey & Wright, 2007; Nakhata, 2007).

- Structural Capital (ICST).

Structure capital refers to the mechanism and structure of an enterprise that can support the employee in their quest for optimum intellectual capital performance and the overall business performance (Chen et al., 2004).

- Social Capital (ICSC).

Social Capital refers to the relationship between individuals and organisations that facilitate action and create value (Hitt & Duane, 2002).

- Technology Capabilities (TC).

Technology capabilities refers to the ability of SMEs to use its managerial technology capabilities and technical technology capabilities to respond to market changes, shorten their product cycle, reshape, or reorientate their customers' demands in the market (Tallon, 2008).

- Government Support.

Government support is regarded as external support or assistance from various governmental institutions to develop SMEs (Zindiye et al., 2012).

- Strategic Agility.

Strategic agility is defined as the management's capability to be sensitive and continuously maintain its flexibility, perception, prediction and strategic sensitivity regarding its internal and external environments (Kale et al., 2019; Kumkale, 2016).

- Competitiveness.

Competitiveness is defined as the degree to which a firm performs in a marketplace compared to its major competitors, which is characterized by quality of products, speed to recognize market changes, and speed to respond to market opportunities and demands (Jiang et al., 2016)