

**PEDAGOGICAL FACTORS INFLUENCING  
TRAINING AND ITS IMPACT TOWARDS  
PERFORMANCE AMONG E-COMMERCE  
ENTREPRENEURS IN MALAYSIA:  
ROLE OF COMPETENCIES AS MODERATOR**

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**UNIVERSITI SAINS MALAYSIA**

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by

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**Thesis submitted in fulfilment of the requirements  
for the degree of  
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

اللَّهُمَّ صَلِّ عَلَى مُحَمَّدٍ وَعَلَى آلِ مُحَمَّدٍ

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## **LIST OF ABBREVIATIONS**

E-commerce	Electronic Commerce
B2B	Business-to-Business
B2C	Business-to-Customer
C2B	Customer-to-Business
C2C	Customer-to-Customer
ICT	Information Communication technology
IT	Information Technology
GDP	Gross Domestic Product
HCT	Human Capital Theory
ITT	Instructional Transaction Theory
CBT	Competency Based Training
ID	Instructional Design
SEM	Structural Equation Modeling
PLS-SEM	Structural Equations with Partial Least Squares
SPSS	Statistical Package for Social Sciences
HTMT	Heterotrait-Monotrait Ratio of Correlations

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**FAKTOR-FAKTOR PEDAGOGI YANG MEMPENGARUHI LATIHAN  
DAN KESANNYA TERHADAP PRESTASI DIKALANGAN USAHAWAN-  
USAHAWAN E-DAGANG DI MALAYSIA: PERANAN KOMPETENSI  
SEBAGAI MODERASI**

**ABSTRAK**

Latihan sering dilihat sebagai alat bantu yang berkesan untuk membolehkan usahawan e-dagang mencipta, membangun, dan meningkatkan pengetahuan mahupun kemahiran mereka dalam menghasilkan prestasi yang baik dari segi pengendalian perniagaan digital. Walaupun banyak pusat latihan keusahawanan menawarkan program e-dagang di Malaysia. Namun demikian, kualiti dan kebolehgunaan program latihan yang ditawarkan masih lagi menjadi isu kritikal, yang mana perhatian yang serius perlu diberikan. Justeru, ia adalah menjadi keperluan penting untuk mengkaji faktor-faktor pedagogi yang menyumbang kepada latihan yang berkesan dan relevan dalam segmen usahawan e-dagang di Malaysia. Kajian ini adalah bersandarkan kepada Teori Transaksi Pengajaran dan Teori Modal Insan. Maka, satu model kajian yang holistik telah dibina untuk mengkaji pengaruh pedagogi terhadap latihan dalam konteks usahawan e-dagang yang menghadiri latihan di pusat-pusat latihan yang menawarkan program berkaitan e-dagang di Malaysia. Kajian ini juga mengkaji kesan kepada hubungan antara latihan dan prestasi usahawan dalam mengendalikan perniagaan e-dagang mereka. Tahap kompetensi usahawan diaplikasikan untuk memahami kesan moderasi di antara latihan dan prestasi. Data dikumpul daripada 200 usahawan e-dagang yang menghadiri sesi latihan di pusat-pusat latihan yang menawarkan program e-dagang di Malaysia melalui soalan kaji selidik sendiri dan atas talian dari lima negeri: Selangor, Kuala Lumpur, Johor, Melaka dan Pulau Pinang. Data yang

dikumpul dianalisis menggunakan SPSS (Versi 23) dan SmartPLS (Versi 3.0) untuk menguji hipotesis penyelidikan yang dicadangkan. Hasil kajian menunjukkan bahawa usahawan e-dagang di Malaysia masih lemah dalam kemahiran untuk mengenal pasti maklumat dengan baik seperti memahami konsep e-dagang dan sistem laman sesawang, di mana analisis kajian menunjukkan bahawa hubungan faktor entiti terdapat latihan tidak ditemui di dalam kajian ini. Namun, faktor-faktor lain (faktor aktiviti dan proses) mempunyai impak yang signifikan terhadap latihan. Ini menunjukkan bahawa usahawan e-dagang di Malaysia lebih cenderung untuk terus mendemonstrasikan apa yang mereka tahu dan mereka juga dilihat sebagai peneroka maklumat yang baik. Dalam pada itu, kajian juga mendapati bahawa hubungan antara latihan dan prestasi usahawan e-dagang mempunyai kesan yang positif. Ini membawa kepada kesan latihan memberikan kesan yang baik kepada prestasi usahawan e-dagang. Seterusnya, kesan moderasi kompetensi keusahawanan (kreativiti dan inovasi kompetensi) dalam hubungan antara latihan dan prestasi usahawan mempunyai kesan yang signifikan dalam kajian ini. Ini menunjukkan bahawa usahawan e-dagang di Malaysia memerlukan siri latihan bagi menggilap kemahiran pemikiran mereka (pembentukan idea) mereka untuk hasil yang kreatif dan inovasi, seterusnya meningkatkan tahap prestasi e-dagang. Akhir sekali, kelemahan kajian ini juga dijelaskan dan cadangan untuk kajian akan datang juga dibentangkan.



**PEDAGOGICAL FACTORS INFLUENCING TRAINING AND ITS  
IMPACT TOWARDS PERFORMANCE AMONG E-COMMERCE  
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MODERATOR**

**ABSTRACT**

Training is often seen as an effective tool to enable e-commerce entrepreneurs to create, develop, and enhance their knowledge or skills in creating good performance in terms of managing digital business. While many entrepreneurial training centres offer e-commerce programmes in Malaysia, however, the quality and usability of the training programmes are still a critical issue, where serious attention should be given. Hence, it is a vital need to study pedagogical factors that contribute to effective and relevant training in the segment of e-commerce entrepreneurs in Malaysia. This study is based on the Instructional Transaction Theory and Human Capital Theory. Thus, a holistic research model was built to study the pedagogical influence on training in the context of e-commerce entrepreneurs attending training at training centres offering e-commerce related programmes in Malaysia. This study also reviews the impact on the relationship between training and performance of entrepreneurs in operating their e-commerce business. Entrepreneur competency level is applied to understand the moderating effect between training and performance. Data were collected from 200 e-commerce entrepreneurs who attended training sessions in training centres offering e-commerce programmes in Malaysia through self-delivered surveys and online surveys involving five states: Selangor, Kuala Lumpur, Johor, Melaka, and Pulau Pinang. The collected data were analyzed using SPSS (Version 23) and SmartPLS (Versi 3.0) to test the proposed research hypotheses. The results showed that e-commerce

entrepreneurs in Malaysia are still weak in terms of their skills to identify information well such as understanding the concept of e-commerce and web system, where the research analysis shows that the entity factor relationship reveals that training is not found in this study. However, other factors (activity and process factors) have a significant impact on training. This shows that e-commerce entrepreneurs in Malaysia are more likely to continue demonstrating what they know and they are also seen as good information explorers. Meanwhile, the study also found that the relationship between training and the performance of e-commerce entrepreneurs has a positive impact. This leads to a good training impact on the performance of e-commerce entrepreneurs. Subsequently, the moderating effect of entrepreneurial competencies (creativity and innovative competencies) in the relationship between training and entrepreneurs' performance has a significant impact in this study. This shows that e-commerce entrepreneurs in Malaysia require a series of training to polish their thinking skills (the formation of ideas) for creative and innovative results, thus increasing the level of e-commerce performance. Lastly, the weaknesses of this study are also explained and suggestions for future research are also presented.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

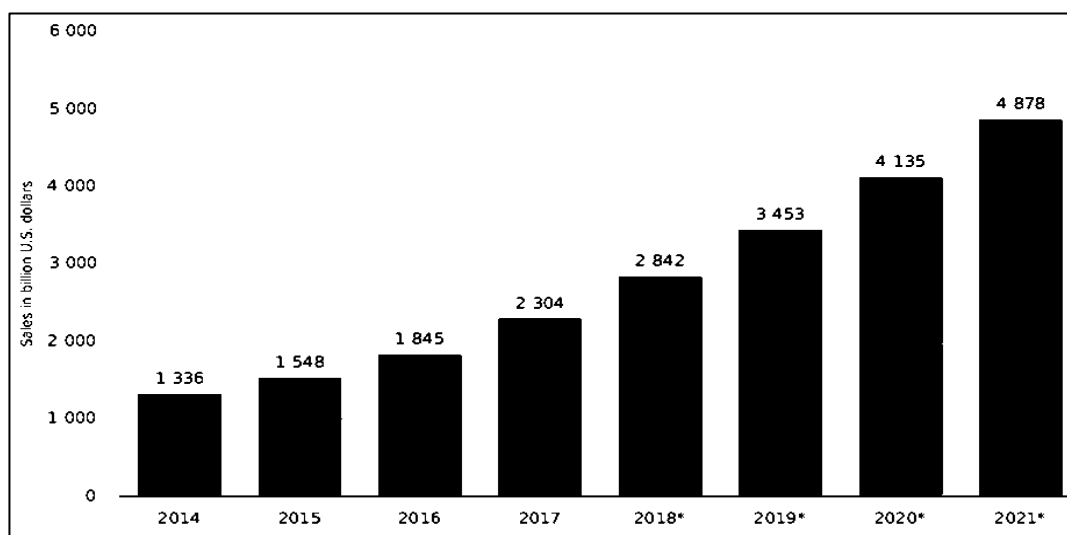
This chapter introduces an overview of the study in nine sections. The sections begin with a brief explanation of the research background and the problem statement. Next, this study highlights the research questions and followed by the research objectives. The scope and the significance of the study as well as the definition of terms used in this study are also highlighted. Finally, the main structure of the thesis is outlined in the last section.

### **1.2 Background of Study**

#### **1.2.1 E-commerce Ecosystem**

Electronic commerce (e-commerce) is a process of buying and selling products and services through computer networks (Mohtaramzadeh, 2016; Sattar, 2013), which is an emerging field based on information technology (IT) such as the internet, facing towards diversified business activities of modern economics (Wang, 2019). As such, with the emergence of the Industrial Revolution 4.0, the rapid growth of e-commerce has resulted in multiple evolving business ecosystems, which provide a valuable resource for businesses that can be leveraged to good effect (Buxton & Walton, 2014). The importance of e-commerce ecosystem for entrepreneurs has been well established in the sense that the existence of entrepreneurs and internet users have created a dynamic environment, whereby business needs to integrate millions of users through this digital integration in order for e-commerce to come to life. Based on the statistics of e-commerce sales worldwide from 2014 until 2021 (Figure 1.1), e-commerce sales

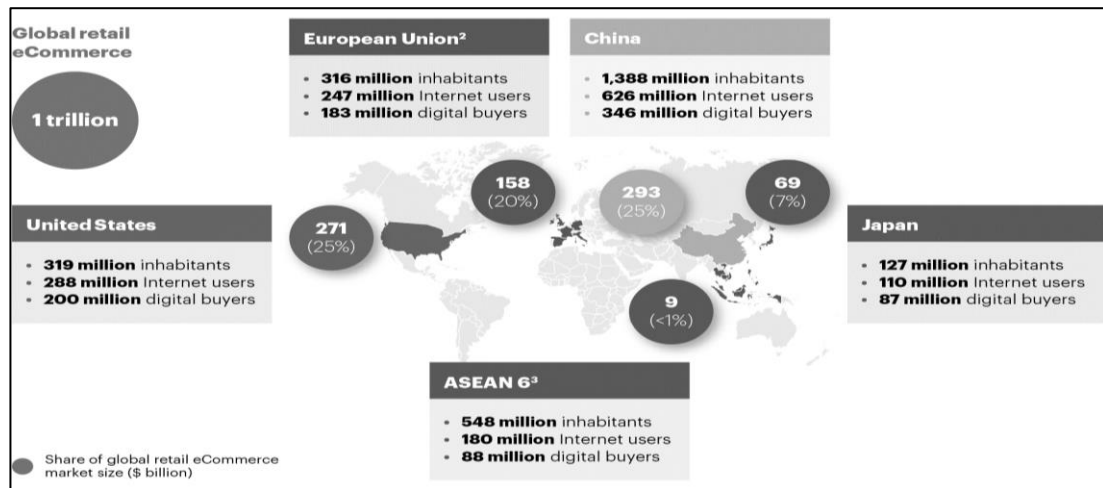
worldwide amounted to 2.3 trillion US dollars in the year 2017 and e-trade revenues are expected to grow to 4.88 trillion US dollars in 2021 (eMarketer, 2016). Despite the e-commerce transaction as one of the most popular online activities worldwide, the usage, however, varies by region.



Source: eMarketer (2016)

Figure 1.1 Retail E-commerce Sales Worldwide (2014-2021)

Based on Figure 1.2, global e-commerce has reached more than \$1 trillion (integrated countries with the United States, European Union, and China) with two-thirds of the global e-commerce market size., Meanwhile, in ASEAN (Indonesia, Malaysia, Singapore, Thailand, Philippines, and Vietnam), the size of internet users and digital buyers remains with <1% of global e-commerce volume (MDEC & Kearney, 2016), which in turn grants an enormous opportunity for ASEAN markets to indicate the accelerated progress.



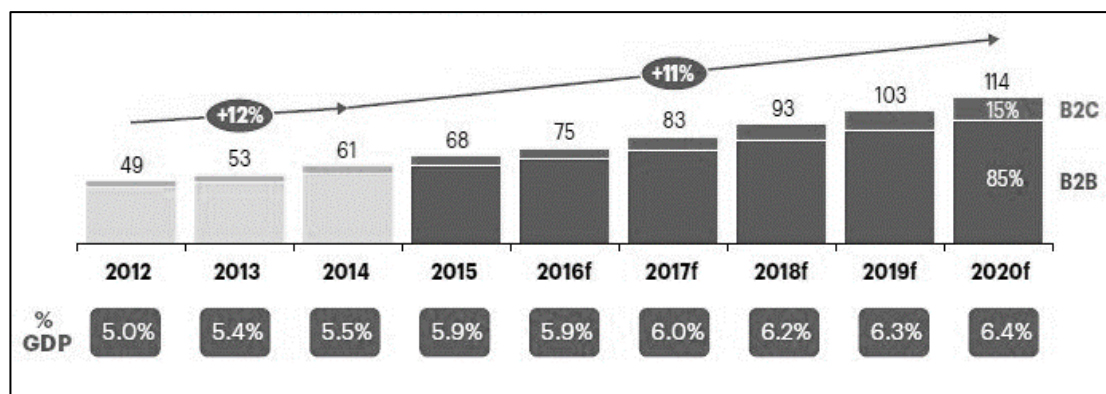
Source: MDEC et al. (2016)

Figure 1.2 Global Retail E-commerce Market Size

Malaysia is an attractive market for e-commerce in Southeast Asia due to its dynamic economy and developed infrastructure for digital technologies. As such, Malaysia has around 25.84 million active internet users, which constitute 80% of the population. Malaysia's e-commerce sector is on a growth route and is already gaining benefits from the implementation of programs under the National E-commerce Strategic Roadmap's (NeSR) six thrust areas. The National E-commerce Council (NeCC) consists of various ministries and agencies, which was established to drive the implementation of the roadmap towards doubling Malaysia's e-commerce growth rate to reach a Gross Domestic Product (GDP) contribution of up to 53 billion USD by the year 2020 (Kearney et al., 2019). Hence, the rise of the Internet and the adoption of e-commerce has provided an opportunity for entrepreneurs and has drastically changed the way enterprises run their businesses (Chong et al., 2001). Correspondingly, previous studies have documented various benefits that entrepreneurs may gain from adopting e-commerce such as cost reduction in production and how the businesses are run (Hashim & Abdullah, 2015; Kartiwi et al., 2018; Rahayu & Day, 2017; Tanewski, 2003).

### 1.2.2 E-commerce Entrepreneurs in Malaysia

In recent years, the adoption of e-commerce by entrepreneurs and the contribution of e-commerce entrepreneurship has been increasing. It has evidently become a significant component of the global sales revenue growth business. Lately, with the advance of e-commerce, many entrepreneurs today have no other option but to establish their presence in e-commerce due to its advantages (Ács et al., 2017; Fadzil et al., 2017a; Poon et al., 2014; Yung Wei et al., 2018). In Malaysia, e-commerce entrepreneurs have a significant economic contribution to the growth of the country. As can be seen in Figure 1.3, Malaysia's e-commerce contribution to GDP (RM billion) shows similar high growth in online sales, with e-commerce GDP contribution estimated to be RM 68 billion in 2015 and a target of RM 170 billion by 2020 (Kearney et al., 2019).



Source: Kearney et al. (2019)

Figure 1.3 Malaysian E-commerce Growth Track

Furthermore, nowadays online shopping has become very popular among Malaysians (Anis & Sofian, 2018; Izzah et al., 2016; Norizan & Nurain, 2017; Othman & Shahzad, 2016). Based on Kearney's (2017) statistics, online retail in Malaysia will grow at 23% per year through 2021; hence, this gives opportunities for e-commerce

entrepreneurs to introduce new business processes. Simultaneously, they are able to create profits through the usage of virtual storefronts/markets such as Lazada, eBay, Amazon, and Shopee, which are found to be the least efficient e-commerce platforms in promoting e-commerce utilisation levels and provide high margin businesses that will generate the steadiest returns for e-commerce entrepreneurs in Malaysia (Amornkitvikai & Lee, 2020; Norizan & Nurain, 2017; Zulkarnain et al., 2019).

According to Anis & Sofian (2018), the characteristics of e-commerce entrepreneurs lie upon their levels of internet knowledge and competencies. As eloquently stated by Edwards-Schachter et al. (2015), competency is a part of the creation of an idea that starts originally from an individual cognition that produces the elements of creativity and innovation. Besides, competency represents a personal characteristic that is the key factor in any entrepreneur's field of specialization (Aduol & Mwangi, 2018; Lucky, 2012; Schumpeter, 1942). Nevertheless, the utilization of e-commerce in Malaysia is still relatively modest (Anis & Sofian, 2018; Zulkarnain et al., 2019). Zulkarnain et al. (2019) and Ács et al. (2017) indicated that the degree of business digitization in terms of e-commerce usage among entrepreneurs is still moderate despite their high internet accessibility skills. As reported by Lim et al. (2017), only 28% of Malaysian entrepreneurs are involved in e-commerce activities, while 24% are planning on getting involved in the future. Subsequently, this shows that there is still room for improvement for Malaysian e-commerce. As such, the Malaysian government has been involved in organizing various training programs and other activities pertaining to e-commerce on entrepreneurial capital and performance development (Jehangir et al., 2011; Krishnan & Hussin, 2017; Nayak et al., 2018; Yusoff et al., 2014). As a result of proper training, one's understanding of the use of

technology can be improved (Duan, 2005; Madhushree & Sunayana, 2018; Tahlil & Ali, 2015; Tan et al., 2009; Xu et al., 2018).

### **1.2.3 Training Environment for E-commerce Entrepreneurs**

E-commerce entrepreneurs play a major contributing role as one of the drivers of modern economic development (Fadzil et al., 2017b; Krishnan & Hussin, 2017; Tahlil & Ali, 2015; Tajpour et al., 2018). Hence, the development of training programs for e-commerce entrepreneurs is considered as a response to the "digital entrepreneurial revolution" in recent decades (Han, 2014; Lyons & Zhang, 2018; Tajpour et al., 2018; Zakaria et al., 2011). In Malaysia, the rapid growth of technologies in recent years has made learning more viable especially in entrepreneurship, in which the percentage of entrepreneurial education and training has been increasing since 2011 (Knoema, 2016) (see Table 1.1).

Evidently, the 11th Malaysian Plan (RMKe11) had made great strides in education and training of internet knowledge (Rahman et al., 2013). For example, Malaysia Digital Economy Corporation (MDEC) and the government have been organizing eUsahawan programs since 2015 to assist Malaysian youths and micro entrepreneurs and expose them to digital entrepreneurship (Kearney et al., 2019; MDEC & Kearney, 2016). In addition, Malaysia External Trade Development Corporation (MATRADE) in corporation with the Ministry of International Trade and Industry (MITI) have also organized e-Trade programs for e-commerce entrepreneurs who intend to export their products and services for listing on e-commerce platforms such as Amazon, Alibaba, and Facebook.



Table 1.1 Entrepreneurial Education and Training

	2011	2012	2013	2014	2015
Malaysia	2.73%	2.94%	3.03%	3.12%	5.15%

Source: Knoema (2016)

Despite the fact that entrepreneurial education and training in Malaysia is currently moving forward including the increase in training and courses conducted by the government, there are surely some serious issues and challenges arising (Kamaruddin et al, 2015; Lim et al, 2016) such as the main concern in the quality and applicability of the programs offered rather than the demand for entrepreneurship education and training (Huq & Gilbert, 2017; Pollock et al., 2015; Spector, 2016; Tajpour et al., 2018). As such, one of the ways to improve the quality of e-commerce entrepreneur programs is to create a learning environment where the entrepreneurs can experience the scopes of entrepreneurship lifestyle (Gibb, 2002; Krishnan & Hussin, 2017; Moate & Cox, 2015; Spector, 2016; Tajpour et al., 2018). The reason is that e-commerce entrepreneurs training needs a specialized environment to prepare them in the business challenges concerning continuous changes in the future (Kakouris, 2009; Tajpour et al., 2018). As supported by Jonassen et al. (1999), Moate & Cox (2015), and Tajpour et al. (2018), learning environment is a concept rooted in modern learning by which learners are provided with the instruction and guidance to process information actively and to build knowledge through experience in order to learn how to perform specific tasks to achieve these goals.

A good training environment is interactive and engaging, with the aid of technologies to support learning in a variety of ways (Glover et al., 2016; Krishnan & Hussin, 2017; Mohamad, Hassan, & Ariff, 2014; Spector, 2016). As a matter of fact, technology enhances the understanding of computer-based learning, which in turn

produces smart learning environments whereby the emphasis is not solely on the new learning content, but also how to produce the knowledge building process (Lorenzo & Gallon, 2019). Nevertheless, the field of smart learning environments in developing countries including Malaysia is still at its infancy level and the effectiveness of training programs is still lagging (Yaacob et al., 2016). Furthermore, recent reports and studies have found that many e-commerce entrepreneurs face difficulties in activating their understanding although many have undergone repeated training (Byrne et al., 2016; Costin et al., 2018; Fadzil et al., 2017a; Ismail, 2013; Krishnan & Hussin, 2017; Matsumoto, 2010; Moulson, 2015; Paçoet al., 2017; Yaacob et al., 2016). Technically, the essential key to training entrepreneurs is to deliver, provide relevant, timely information, and to improve the essential skills to facilitate a particular business to achieve its targets by improving the entrepreneurs' skills and productivity (Al-Akkad, 2018; Minai et al., 2018; Yaacob et al., 2016). Given these reasons, there is a need for re-evaluating the training programs for Malaysian e-commerce entrepreneurs in terms of their delivery method (Aronson & Laughter, 2016; Diaz & Bontenbal, 2000; Samuel & Rahman, 2018), which is known as pedagogy in smart learning spaces that must be able to accommodate instructional learning (Cadieux et al., 2017; Ismail, 2013). In fact, learning is promoted when learners activate relevant cognitive structures and engage in the application of their newly acquired knowledge or skills through effective pedagogical factors (Merrill, 2009; Spector, 2016). Nevertheless, recent assessments of e-commerce entrepreneurship training have been found to slightly situate the factors and impacts of pedagogy in assessing the training instruction (Gun et al., 2016). Hence, further investigation into the factors influencing training is needed to identify their influence on performance in order to give a clear evaluation of the training phenomenon in the context of e-commerce entrepreneurs in Malaysia training centres.

Thus, the current study considers training as a complex learning that implies changes in pedagogical factors. In addition, the study also aims to investigate whether competencies will enhance the relationship between training and performance.

### **1.3 Problem Statement**

The government of Malaysia has taken various initiatives to promote the use of e-commerce among entrepreneurs such as through education and training (Nayak et al., 2018). Training is intended to empower and develop e-commerce entrepreneurs' business skills and knowledge by using technology. It has also been posited as a pertinent foundation to predict the formation of quality human capital development such as related knowledge, skills, and competency (Gun et al., 2016). However, positive results derived from the implementation of entrepreneurship training programs were reported to yield a contradictory finding (Yusof et al., 2017; Yusoff et al., 2014). Based on the statistics, only 23.3% of e-commerce entrepreneurs attended formal training programs in Malaysia (Anis & Sofian, 2018; Rahman et al., 2016). Thus, it is not surprising that 70% of entrepreneurs in Malaysia still do not have a formal business website (Chee et al., 2016; Grossman & Salas, 2011; Khairuddin et al., 2018; Madhushree & Sunayana, 2018; Mstar, 2014; Mustapha, 2016). In addition, the Global Entrepreneurship Monitor (GEM) had also reported the controversy over a gradual decrease in the entrepreneurial goal among Malaysian entrepreneurs since 2012 (Sipon et al., 2015).

In line with such a scenario, this shows that the quality and relevance of the training programs is one of the challenges faced by the government and the agencies involved (Huq & Gilbert, 2017; Pollock et al., 2015; Tajpour et al., 2018). Consequently, the literature on digital entrepreneurship should include training re-

evaluation and further emphasise the delivery methods to fit with the current technology business environment in order to achieve training consistency as a key success of learning (Gohain et al., 2017; Gould et al., 2004; Jusoh et al., 2011; Rakib, 2017; Yusoff et al., 2019). Thus, this study addresses the main issue surrounding e-commerce entrepreneurs, which is the inconsistency of training.

Inconsistent training delivery can result in learner dissatisfaction, a decrease in knowledge and skill gaps, and untransferable cognitive skills to real tasks (Byrne et al., 2016; Ismail, 2017; Léger et al., 2011; Luff, 2017; Maniam et al., 2015; Yaacob et al., 2016). As reported by previous studies, despite the fact that entrepreneurs are computer literate, they are, however, still poor at digitalizing the business to increase profit and productivity; hence, the level of e-commerce usage is still limited (Kearney et al., 2019; Norizan & Nurain, 2017; Zulkarnain et al., 2019). These factors contribute to deficient comprehension and failure of learning among entrepreneurs in terms of current business-related technology (Darch & Lucas, 2002; Han, 2014; Parvin et al., 2019; Tajpour et al., 2018). Thus, entrepreneurship training is best developed through a modern pedagogical approach such as a delivery method (Costa et al., 2018). Besides, another essential point is that pedagogy acquires less attention whereby it leads the technology to suit the current learning (Glover et al., 2016; Marsh & Arthur, 2014; Watson, 2001).

Data from several studies in Malaysian entrepreneurial training centres have identified that less than 20% pedagogical factors have been provided to entrepreneurs by trained trainers/training organizers (Gun et al., 2016; Ismail, 2013; Rahim et al., 2015; Yusoff et al., 2014). Furthermore, given the fact that e-commerce business is still new in Malaysia, entrepreneurs need to face business uncertainties such as limited knowledge because their knowledge is closely related to cognitive development

(Fadzil et al., 2019; Fadzil et al., 2018; Imenda, 2018; Zakaria et al., 2011). As such, a smart learning environment leads to technique considerations that help identify logical characteristics of smart pedagogy to consider how technologies affect cognition interactions (Lorenzo & Gallon, 2019). However, the situation is quite alarming as entrepreneurs are unable to increase the knowledge acquired from inaccurate training (Yusoff et al., 2014). On the other hand, cognition, which is extensively related to an entrepreneur's cognitive perspective of thinking and reasoning, has a great influence on e-commerce in Malaysia (Fadzil et al., 2018; Fadzil et al., 2017a; Mensmann & Frese, 2016). Correspondingly, the smart pedagogical factors are essential to support the cognitive engagement of e-commerce entrepreneurs through effective instructional design. Hence, the focus of this study is primarily on a pedagogical approach as a factor that is expected to influence training for e-commerce entrepreneurs through instructional design.

Several studies on entrepreneurship have revealed that most e-commerce entrepreneurs in developing countries (including Malaysia) are still taught to use traditional methods to deliver learning rather than the modern ones (Ahmad, 2017; Lorenzo & Gallon, 2019; Rakib, 2017; Samuel & Rahman, 2018; Tajpour et al., 2018). A good training depends on good instructional design (Arthur et al., 2003; Khalil & Elkhider, 2016; Kraiger, 2003; Merrill et al., 2007; Spector, 2017). However, the instructions provided rarely accommodate different levels of skills (Imenda, 2018; Ngussa & Centre, 2014; Spector et al., 2005; Spector, 2017). Entrepreneurs with different learning styles learn at different rates with different bases of knowledge as well as experience and they have access to different resource networks; hence, this causes failure for some Malaysian e-commerce entrepreneurs to digest the information given (Ibrahim, 2017; Imenda, 2018; Iqbal et al., 2016; Yusof et al., 2017).

Inefficient and inappropriate instruction may not be sufficient to generate entrepreneurs' capability according to how it should be (Ismail, 2013; Khalil & Elkhider, 2016; Mullins et al., 2007). These involve interference of pedagogical factors on training that affect their cognitive building and mastery learning (Guskey, 2005; Hasril et al., 2015); nevertheless, little importance has been given to pedagogical factors (Fayolle, 2013; Annafatmawaty Ismail, 2017; Kozlinska, 2016). Such inadequate understanding of the foundational knowledge causes failure among entrepreneurs to demonstrate the information; thus, they become frustrated and disengage with this type of learning, and in turn extending the issue of complex and hard-to-interpret training design (Gagné & Merrill, 1990; Merrill, 2007; Spector, 2017). This confusion will lead to an uninteresting learning environment (Moate & Cox, 2015; Pollock et al., 2015).

Evidently, knowledge identification, demonstration, and interpretation are basically the main pedagogical factors to activate cognitive skills. The basic theoretical assumption of mastery learning is that learners must have a predetermined set of necessary skills and knowledge in order to achieve their learning objectives (Gagne, 1988; Hasril et al., 2015; Yudkowsky et al., 2015). In other words, they need to acquire a foundation of appropriate knowledge to master the next concepts (Garner et al., 2019; Shiyal et al., 2019); otherwise, they are likely to fail if they do not acquire such pre-requisite knowledge due to the absence of appropriate cognitive skills and sets of information to represent hierarchically organized levels of cognitive complexity (Khalil & Elkhider, 2016; Lorange & Thomas, 2016; Merrill, 2007a; Spector, 2017). Therefore, this study aims to investigate the previously mentioned pedagogical factors through knowledge acquisition (cognition) that involves identifying factor (entity),

demonstrating factor (activity), and interpreting factor (process) as the most preferable smart pedagogical instructions for instructional design of e-commerce entrepreneurs.

Moreover, inconsistency training also decreases entrepreneur capital assets. According to human capital theorists (Becker, 2002; Hsieh et al., 2017; Nayak et al., 2018), individuals with greater levels of knowledge, skills, and other competencies will achieve better results than those who have lower levels of skills (Fitzsimons, 2015; Holden & Biddle, 2016). Notwithstanding, the relationship between training and performance are still ambiguous and inconsistent (Alasadi & Al Sabbagh, 2015; Botha et al., 2015; Bryan, 2006; Patton et al., 2000). Other studies have indicated that the relationship between training and performance may depend on some causal relationships in the middle of training-performance effects (Alasadi & Al Sabbagh, 2015; Patton et al., 2000). Additionally, previous findings also found that nowadays, business training in Malaysia is being criticized for its lack of competencies to generate ideas for a digital business environment such as creativity and innovation (Dessie & Ademe, 2017; Olokundun et al., 2017; Racela, 2014). It is, therefore, within the interest of this study to explore competencies as a crucial personal trait that is likely to influence the willingness to attend training and contribute to better performance (Ahmad, 2007; Barazandeh et al., 2015; Chimucheka, 2015; Man et al., 2002). Hence, this study introduces and examines the role of competencies as a moderator in strengthening training-performance relationships and enhance e-commerce entrepreneur capital.

#### **1.4 Research Objectives**

Based on prior discussion, the main objectives of the study are addressed as follows:

- 1) To investigate the pedagogical factors (entity, activity, and process factors) that influence training among e-commerce entrepreneurs.
- 2) To examine the relationship between training and performance among e-commerce entrepreneurs.
- 3) To test the moderating role of entrepreneurial competencies (creativity and innovation competencies), training, and performance.

#### **1.5 Research Questions**

In general, this study is driven by several questions as follows:

- 1) Do pedagogical factors (entity, activity, and process factors) influence training among e-commerce entrepreneurs?
- 2) What is the relationship between training and performance among e-commerce entrepreneurs?
- 3) Do entrepreneurial competencies (creativity and innovation competencies) moderate the relationship between training and performance among e-commerce entrepreneurs?



## **1.6 Scope of the Study**

This study focuses on the empirical examination of entrepreneurial training and performance among e-commerce entrepreneurs in Malaysia and aims to understand the pedagogical factors that may influence training on entrepreneurs who run online businesses and their impact on the entrepreneurs' performance. In addition, this study will also examine the role of entrepreneurial competencies in enhancing entrepreneurial training and performance relationship. Hence, the current study is targeted towards e-commerce entrepreneurs who attend training programmes in Malaysian training centres. Specifically, the subjects of the study are as follows:

- a) E-commerce entrepreneurs who attend the training.
- b) Entrepreneurs who have previously actively attended related e-commerce programmes in Malaysia's public-private training centres.
- c) Entrepreneurs who have attended a short-term training session.

The list of the subjects was gathered from the Department of Statistics Malaysia and Registrar of Companies (ROC/SSM). The data was collected from the questionnaire surveys that were distributed to entrepreneurs in the training centres in Malaysia, which is also the unit analysis of this study. As such, the findings and the conclusion drawn from this research represent e-commerce entrepreneurs in Malaysia only.

## **1.7 Significance of the Study**

This study provides significant theoretical and practical contributions in the area of training and performance among e-commerce entrepreneurs.

### **1.7.1 Theoretical Contributions**

Firstly, entrepreneurial training requires a thorough analysis and improvement in line with the advance of technology such as e-commerce as the business engine (Enache & An, 2015; Jusoh et al., 2011). Correspondingly, entrepreneurial capital needs a skilled and tech-savvy entrepreneur in handling the technological aspects (Alasadi & Al Sabbagh, 2015; Ganotakis & Lindsay, 2016; Sokół et al., 2015). Thus, this study contributes to pedagogical training (Mendenhall et al., 2006) by providing useful insights into the factors that influence an effective learning process with knowledge such as identifying, discovering, and processing the cognitive skills of the e-commerce entrepreneurs.

Secondly, instructional learning theory such as the instructional transaction theory (ITT), which was developed and applied to digital entrepreneurs in the Western countries (A. Mendenhall et al., 2006) is able to support the design and development of training activity in the smart learning environment (Merrill et al., 1991a). The rate of e-commerce usage is driven by an individual's human capital, particularly the human capital of entrepreneurs; thus, the human capital theory (HCT) is captured as the concept that stresses the significance of training as the key for growth performance (Ganotakis & Lindsay, 2016). This study, therefore, extends these theories with the hope to increase its predictive ability, magnify the understanding of learning theory,

and contribute to the pedagogical literature of entrepreneurship mainly in the area of e-commerce.

Finally, an investment in training is expected to pay returns in terms of improved performance (Alasadi & Al Sabbagh, 2015; Pollock et al., 2015) and it is positively related to business performance (Krishnan & Hussin, 2017; McKenzie & Woodruff, 2013). Several findings have shown that training does not necessarily translate into performance; hence, this creates a serious gap in entrepreneurial training models and theories. This study, therefore, will attempt to bridge the gap by expanding the investigation of entrepreneurs' performance in e-commerce businesses by investigating individual entrepreneurs as the analytical units. Besides, the focus on entrepreneurial competencies as moderators to enhance the training-performance relationship also contributes to the theory that suggests the existence of impediments along with the training-performance relationship (Eikebrokk & Olsen, 2009; Patton et al., 2000).

### **1.7.2 Practical Contributions**

Firstly, this study benefits not only the e-commerce entrepreneurs who attend the training but also the government and the agencies as a whole. The pedagogical factors highlighted are in the form of instruction that acts as a backbone in upgrading the syllabus of e-commerce entrepreneurial training based on the current situation and produces an effective learning process (Omerzel & Antoncic, 2008). Furthermore, mindful of the end goal of upgrading an entrepreneur's knowledge and skill level, it is thus necessary to comprehend the ways to improve competencies. Besides, the pedagogy that reacts as the training aid would be able to contribute to effective training

needs. It will not only shift a change in the business training landscape, but it will also be more relevant rather than being too academic and inflexible (Darch & Lucas, 2002). In addition, this study contributes to entrepreneurs' capital in terms of strengthening human capital through their e-commerce performance in order to survive in the global market.

Secondly, this research provides new insight into the evolution of training activities among e-commerce entrepreneurs, which could gain some policy attention. First of all, effective training by designing a set of instructions suited for e-commerce entrepreneurs is strongly needed especially in this global era. It addresses the current issues in business and will be the base in structuring a suitable yet time-appropriate training guideline, for example, a computer-based business simulation for improving an entrepreneur's analytic abilities. Correspondingly, the development of business simulations is in line with the trend of today's information technology. In addition, there are still no business simulation systems in Malaysia (Hassan et al., 2015); thus, the policy makers should play an important role in effectively disseminating information related to e-commerce programs across all training centres in Malaysia, whereby most of the information will be provided by the involved agencies (private or public). This might result in an interactive training manual based on the current issues related to e-commerce training for entrepreneurs (Darch & Lucas, 2002; Duan et al., 2002; WU, 2011).

Finally, based upon the fact that almost all studies on e-commerce training were carried out in the western countries (N. E. Daniel, 2011; Duan, 2005; Eikebrokk & Olsen, 2009; Heydenrych, 2007; Hu, 2018; WU, 2011), this study will investigate the pedagogy of training activities for e-commerce entrepreneurs in a non-western country, namely, Malaysia. Findings from the previous studies are based on the data

from the western countries; therefore, they might not be transferable or applicable to the Malaysian society, which is based on collectivist (i.e. large groups/communities) and high power distance values (i.e. different countries have varying levels of accepting the distribution of unequal power) (Hofstede et al., 1997). To date, there has been little agreement on training antecedents and outcomes within the Malaysian context. Hence, this study also aims to provide new findings that reflect the non-western values, which might increase the generalizability of the entrepreneurs' e-commerce performance.

### **1.8 Definition of Key Terms**

In order to avoid any potential misperception, this section provides an explanation of the terminologies used in this research.

**E-commerce entrepreneurs:** E-commerce entrepreneurs, also known with various terms such as Internet entrepreneurs, e-entrepreneurs, digital entrepreneurs, cyber entrepreneurs, and online entrepreneurs (Anis & Sofian, 2018), are referred to as the individuals who establish and manage business activities for products and services through a computer-mediated network (online). They usually conduct any transactions of buying and selling over the Internet (Fadzil et al., 2017b; Ganotakis & Lindsay, 2016; Sattar, 2013). In the context of this study, e-commerce entrepreneurs are those who are found in small trading and manufacturing businesses in which they have virtual storefronts on websites with online catalogs, which are sometimes gathered into a digital mall e.g. Lazada, Shopee, Zalora, and Alibaba (Digital News Asia, 2018; Sattar, 2013). Besides, they may also set up a big enterprise or a small scale business. As entrepreneurs who generate and establish an idea for a product or service, such entrepreneurs are particularly important in the developing countries because they

contribute significantly to the development of such economies (Herzallah & Mukhtar, 2015; Mohamed et al., 2013; Niebel, 2018; Rahayu & Day, 2017).

**Training:** Training is defined as a planned and systematic effort to modify or develop knowledge, skills, or attitude through learning experience as well as to achieve effective performance in a range of activities. The purpose of training is to enable an individual to acquire abilities to adequately perform a given task or job and realize their potential (Buckley & Caple, 2009). Training is a cognitive principle, which is one of the pedagogical factors that could help individuals develop their practical skills (Sipon et al., 2015) through systematic planning of instruction. As indicated by Merrill et al. (1991) and Spector (2016), by adapting the definition of an instructional transaction, this study defines training as smart learning environments and technologies designed to allow both learner and system controlled interactions that elaborate their cognitive structure, which comprises entity, activity, and process factors.

**Entity:** Entity, also known as knowledge identification (Merrill, 1992; Spector, 2016), refers to a component of knowledge called entity (e.g. devices, objects, persons, symbols, things) that an individual learns to identify the definition and function of the entities as the first step of learning.

**Activity:** Activity refers to individual actions in manipulating the entity by demonstrating it. The situation involves an intellectual skill to recognize, list, and execute the steps (Merrill, 1992; Spector, 2016).

**Process:** Process refers to an interpretation of a situation that expands an individual's cognitive sense to identify a new process from the basic process after understanding

the whole scene of the circumstances. This involves the act of solving some problems (Merrill, 1992; Spector, 2016).

**Performance:** Performance is defined as the degree of technical and administrative skills of e-commerce system in business activities that increase sales, improve customer service, increase the productivity, and decrease the ineffectiveness and inefficiency of online transactions (Ajagbe, 2016; Herzallah & Mukhtar, 2015; Sonnentag & Frese, 2005). In this study, the measures of performance will be utilized for e-commerce entrepreneurs who have attended the training.

**Competencies:** Competencies refer to the attributes of underpinning behaviour such as knowledge, skills, and attitudes (Korsakiene & Diskiene, 2012). Correspondingly, this study terms entrepreneurial competencies as the specific individual characteristics required to successfully perform the e-commerce activities. Two dimensions of entrepreneurial competencies applied in this study are creativity and innovation:

**Creativity:** Creativity competency in this study is defined as specific individual characteristics that refer to the ability to develop idea via knowledge and acquiring it from various sources at the entrepreneur level in novel ways (Kimeu, 2017; Sokół, Figurska, & Blašková, 2015).

**Innovation:** Innovation competency is referred to as a function of creativity through conscientiousness and openness to a new experience in unique ways on the implementation of new ideas from various sources (Edwards-Schachter et al., 2015; Epstein et al., 2008).

## **1.9 Structure of the Thesis**

The thesis is structured into five chapters. Firstly, Chapter 1 provides an overview of e-commerce entrepreneur training and performance, which is the background of the study. Additionally, Chapter 1 outlines the problem statement, presents the formulated research questions and research objectives, and defines the significance of the study as well as the definition of terms. Next, Chapter 2 provides the main literature review that explains the background in the context of entrepreneurs' critical learning while identifying the research gaps, which formulate the theoretical framework and hypotheses of this study. Subsequently, Chapter 3 explains the research design and methodological structure, which describes the measurement, data collection, data analysis, and the statistical measures used for hypotheses testing. This is followed by Chapter 4, which elaborates on the research findings and the explanation of the validity and reliability of all constructs used in the study as well as further reporting the hypotheses test results. Finally, Chapter 5 elaborates or concludes the entire study by highlighting the research constraints and suggestions for future research as well as summarizing the contributions of the study for entrepreneurs, government bodies, and policy makers in detail.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews literatures on pedagogy training and other selected variables relevant to this research. This chapter begins with a detail explanation of underlying theories of instructional transaction theory (ITT), human capital theory (HCT), and competency based training (CBT) in order to provide a clear understanding of the main theory underpinning this research. The second section provide explanation of potential antecedent's variable and outcome variable. Followed by highlighting research gaps in the literature including an illustration of the conceptual framework of this research. Then, a theoretical framework and hypotheses of this research were explained, ending with a short summary which concludes this chapter.

#### **2.2 E-commerce**

Information communication technology (ICT) have tremendous impact on society, particularly on organizations, businesses and customers. ICT-related businesses are involves direct and or indirect usage of ICT products and services through online, such as computer sales, internet services and digital printing (McCubbrey et al., 2005; Vashishtha, 2016; Zulkifli et al., 2014) which has allowed electronic commerce (e-commerce) to be increasingly diffused globally, bringing countries together into a global networked economy (Aljifri, Pons, & Collins, 2003; Bingi et al., 2002; Buxton & Walton, 2014; Kartiwi et al., 2018; Tan et al., 2009; Tiessen et al., 2001). From the internet network, digital business have great potential in reducing transaction costs and increasing the speed and reliability of transactions (OECD, 2004; Omar et al., 2018; Tan et al., 2009). Thus, this digital business or

electric commerce (e-commerce) replace from brick-and-mortar (traditional) to brick-and-click (digital) business (Herzallah & Mukhtar, 2015; Ihlstrom & Nilsson, 2003b; Zwass, 1996). Thus, e-commerce bring an opportunity for entrepreneurs and has drastically changed their business activity (Chong et al., 2001; Kartiwi et al., 2018; Puri, 2014). There are four major types of e-commerce (see Table 2.1). Each transaction involves two distinct parties, one at each end of the transaction i.e. business-to-business (B2B); business-to-customer (B2C); customer-to-business (C2B); customer-to-customer (C2C) (Sattar, 2013).

Table 2.1 Type of E-commerce

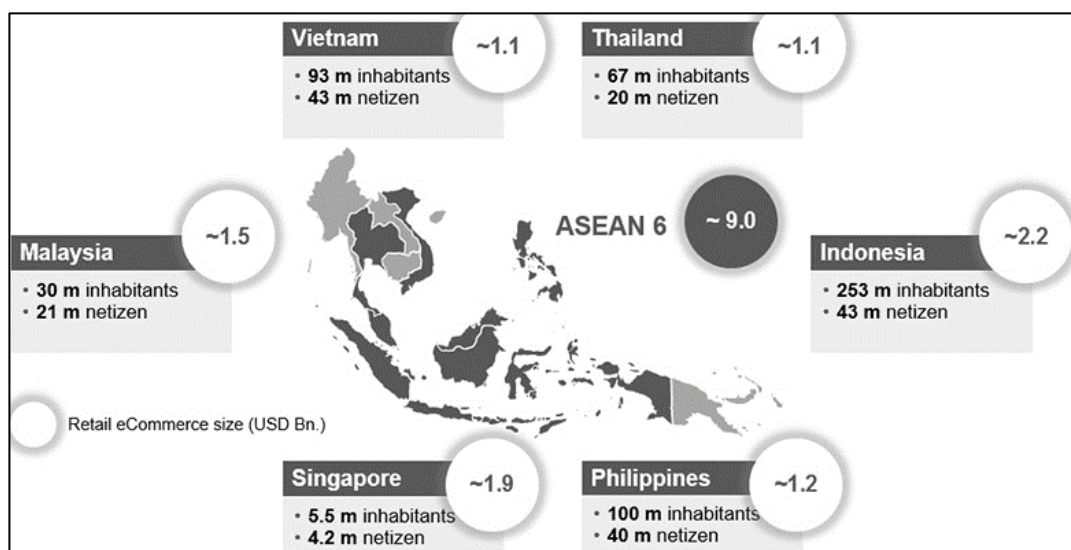
Type	Name	Description
B2B	Business-to-Business	Transaction between business to other businesses
B2C	Business-to-Customer	Transaction between business to individual customers
C2B	Customer-to-Business	Transaction between customers to other businesses
C2C	Customer-to-Customer	Transaction between customers to each other

Source: Sattar (2013)

B2B is focusing on the transaction that deals with relationships between and among businesses. B2B is the most prevalent transaction which about 80% of e-commerce is of this type (Andam, 2003). Additionally, according to Herzallah and Mukhtar (2015), one of the subset in B2B is Business-to-Government (B2G). B2G is generally defined as business between companies and the public sector. B2C is a transaction between companies and customers, involves customers purchasing physical products (e.g. books or foods) or information products (e.g. software or e-books). C2B refers to exchanges between a consumer and a business (Aljifri et al., 2003; Wang et al., 2015). C2B enables buyers to obtain volume discounts and helps sellers to effectively sell a considerable number of items (e.g. airline tickets or Grab Car). C2C is business transaction between private individuals or consumers. C2C is

characterized by the growth of online auctions (e.g. e-bay portal), where businesses can bid for what they want from among multiple suppliers. Therefore, all these types of e-commerce (B2B, B2C, C2B and C2C) transforming a business process into small but efficient business steps.

Within ASEAN countries, Malaysian e-commerce market size is in thirth ranks behind Indonesia and Singapore (Figure 2.1). It can be seen that e-commerce in Malaysia is still considered as a new medium but on track to achieve 21% of e-commerce growth by 2020 (Digital News Asia, 2018). According to Malaysia Digital Economy Corporation (MDEC) and Ministry of Commerce and Industry (MITI), this factor contributed to the favourable demographics, ready infrastructure and ecosystem, which is more than 67% of the population are internet users and 80% of the citizens have made online transactions as well as government interventions (supported by well-developed regulations) (Kearney et al., 2019). Therefore, e-commerce is has become a modern way of doing business globally and useful for entrepreneurs to dealing with a commercial transaction change for economic growth (Zvavahera et al., 2018).



Source: Kearney et al. (2019) and MDEC (2014)

Figure 2.1 ASEAN E-commerce Market Size