

**THE EFFECT OF BUSINESS INCUBATOR  
COMPONENTS TOWARDS THE PERFORMANCE OF  
ENTREPRENEURS IN EARLY START-UP  
COMPANIES IN MALAYSIA: THE MODERATING  
EFFECT OF RISK-TAKING PROPENSITY**



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**FACULTY OF BUSINESS, ECONOMICS AND  
ACCOUNTANCY  
UNIVERSITI MALAYSIA SABAH  
2022**

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**THIS THESIS SUBMITTED IN FULFILMENT OF THE  
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PHILOSOPHY**

**FACULTY OF BUSINESS, ECONOMICS AND  
ACCOUNTANCY  
UNIVERSITI MALAYSIA SABAH  
2022**

**UNIVERSITI MALAYSIA SABAH**

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JUDUL : **THE EFFECT OF BUSINESS INCUBATOR COMPONENTS TOWARDS THE PERFORMANCE OF ENTREPRENEURS IN EARLY START-UP COMPANIES IN MALAYSIA: THE MODERATING EFFECT OF RISK-TAKING PROPENSITY**

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## DECLARATION

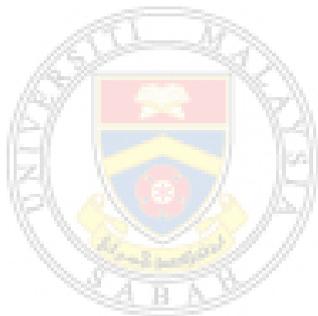
I hereby declare that the material in this thesis is my own except for quotations, equations, summaries and references, which have been duly acknowledged.

09 February 2022



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## CERTIFICATION

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EARLY START-UP COMPANIES IN MALAYSIA: THE  
MODERATING EFFECT OF RISK-TAKING PROPENSITY**  
DEGREE : **DOCTOR OF PHILOSOPHY IN BUSINESS  
MANAGEMENT**  
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## ABSTRACT

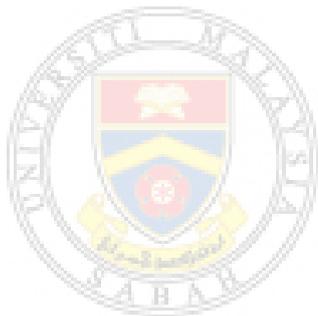
The aim of this study is to investigate the effect of business incubator components in influencing the performance of entrepreneurs in early start-up companies in Malaysia with the moderating role of risk-taking propensity. After graduating from business incubator, early start-up must survive the challenges in the first few years. The timeline to investigate the performance of early start-up is three years after graduating from business incubator. However, it was found that among early start-ups, there are those who cannot perform well and fell out of business. This is due to some components of business incubator are inadequate in promoting early start-ups performance. As a result, question arise on whether business incubator components fulfilled its mission in promoting early start-ups performance. Moreover, many components were highlighted by previous researchers, and it has inevitable need to seek the most relevant business incubator components that shall be applied for early start-up. Due to these circumstances, graduated entrepreneurs from business incubator in Malaysia becomes the respondents for this study. Hence, to better understand the situation, it is important to determine the effect of business incubator components towards the performance of entrepreneurs in early start-up companies in Malaysia. In this study, the independent variables represent the components of business incubator which are selection process, infrastructure, business support, mediation, and graduation policy while the performance of entrepreneurs in early start-up companies in Malaysia as the dependent variable. Meanwhile, the moderator of this study is the risk-taking propensity. This study adapted the Resource-based View (RBV) as the underpinning theory to investigate and understand business incubator components that influence the performance of entrepreneurs in early start-up companies in Malaysia. Samples for this study were collected from the states of Selangor, Kuala Lumpur, Penang, Johor, Sabah, and Sarawak due to most of public business incubator concentrated on these states. A total of 221 valid questionnaires were used for the analysis carried out in this study. Data were analysed using the Structural Equation Modelling (SEM) technique using Partial Least Squares (PLS). The results of this study contribute to the body of knowledge namely business incubator literature whereby the analysed data revealed that business incubator components namely business support and graduation policy positively influence the performance of entrepreneurs in early start-up companies in Malaysia. Meanwhile, risk-taking propensity acting as a moderating variable which strengthens the relationship between infrastructure and mediation towards the performance of entrepreneurs in early start-up companies in Malaysia. The results obtained can similarly be used by other scholars as guidelines in their future research for the same field of study. Moreover, the study's outputs may serve as guidelines for the Malaysian policymaker and government agencies, and business incubators to have a better picture on the entrepreneurs in business incubator.

## **ABSTRAK**

### **KESAN KOMPONEN PUSAT INKUBATOR PERNIAGAAN TERHADAP PRESTASI USAHAWAN SYARIKAT 'EARLY START-UP' DI MALAYSIA: KECENDERUNGAN MENGAMBIL RISIKO SEBAGAI PENYEDERHANA**

Objektif kajian ini adalah untuk mengkaji kesan komponen pusat inkubator perniagaan terhadap prestasi usahawan syarikat 'early start-up' di Malaysia dengan kecenderungan mengambil risiko sebagai penyederhana. Setelah bergraduasi daripada pusat inkubator perniagaan, syarikat 'early-start up' perlu berusaha untuk melepasi rintangan dan cabaran yang wujud dalam tempoh beberapa tahun yang pertama. Garis masa yang digunakan untuk membuat kajian terhadap syarikat 'early start-up' adalah tiga tahun setelah bergraduasi daripada pusat inkubator perniagaan. Walau bagaimanapun, kajian mendapati bahawa di kalangan syarikat 'early start-up' ini, terdapat segelintir daripada mereka yang gagal menunjukkan prestasi yang baik seterusnya kecundang di dalam perniagaan mereka. Hal ini kerana, beberapa komponen yang wujud di dalam pusat inkubator perniagaan adalah tidak memadai untuk merangsang pertumbuhan prestasi syarikat 'early start-up'. Hasilnya, persoalan mulai timbul mengenai adakah komponen-komponen pusat inkubator perniagaan mampu mencapai misi mereka untuk merangsang pertumbuhan prestasi syarikat 'early start-up'. Selain itu, kajian terdahulu yang dilakukan oleh para penyelidik telah menemui pelbagai jenis komponen yang ada dan ini mewujudkan keperluan untuk meneruskan kajian bagi mencari komponen yang dinilai sebagai relevan kepada pusat inkubator perniagaan sebagai manfaat kepada syarikat 'early start-up'. Berdasarkan kepada keadaan tersebut, usahawan yang telah bergraduasi daripada pusat inkubator perniagaan dipilih sebagai responden untuk kajian ini. Oleh itu, untuk mencapai kefahaman keadaan semasa dengan lebih baik, adalah amat penting bagi kajian ini untuk menentukan kesan komponen pusat inkubator perniagaan terhadap prestasi usahawan syarikat 'early start-up' di Malaysia. Bagi kajian ini, pemboleh ubah tidak bersandar adalah komponen pusat inkubator perniagaan yang terdiri daripada proses pemilihan, infrastruktur, sokongan dan bantuan perniagaan, pengantara, dan polisi graduasi sementara prestasi usahawan syarikat 'early start-up' di Malaysia diambil sebagai pemboleh ubah bersandar. Seterusnya, penyederhana bagi kajian ini adalah kecenderungan untuk mengambil risiko. Kajian ini mengadaptasikan teori 'Resource-based View' (RVB) sebagai teras untuk mengkaji dan memahami komponen pusat inkubator perniagaan serta kesannya terhadap prestasi usahawan syarikat 'early start-up' di Malaysia. Dapatan sampel kajian adalah merupakan responden daripada negeri Selangor, Kuala Lumpur, Penang, Johor, Sabah, dan Sarawak kerana pusat inkubator perniagaan adalah tertumpu di dalam negeri-negeri tersebut. Sebanyak 221 borang soal kaji selidik telah diedarkan dan digunakan untuk tujuan analisis kajian. Dapatan data dianalisis menggunakan teknik 'Structural Equation Modelling' (SEM) melalui 'Partial Least Squares' (PLS). Hasil dapatan kajian ini menyumbang kepada cabang ilmu terutamanya bidang kesusasteraan pusat inkubator perniagaan yang mana analisis data kajian menunjukkan bahawa komponen pusat inkubator perniagaan khususnya sokongan dan bantuan perniagaan serta polisi graduasi memiliki kesan positif terhadap prestasi usahawan syarikat 'early start-up' di Malaysia. Manakala, kecenderungan untuk mengambil risiko sebagai penyederhana dapat mengukuhkan

*lagi perhubungan di antara infrastruktur dan pengantara kepada prestasi usahawan syarikat 'early start-up' di Malaysia. Hasil daripada kajian ini juga boleh digunakan sebagai garis panduan oleh para penyelidik yang akan mengendalikan kajian yang sama di masa akan datang. Seterusnya, dapatan kajian ini juga boleh dijadikan rujukan kepada agensi-agensi kerajaan, pembuat polisi di Malaysia serta dapat memberi gambaran kepada pusat inkubator perniagaan untuk lebih memahami dengan jelas usahawan yang berada di dalam pusat inkubator perniagaan.*



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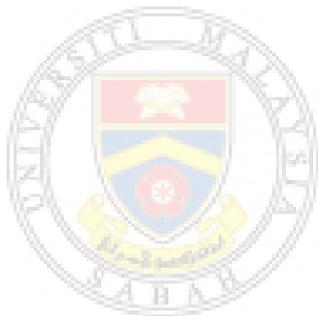
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## LIST OF SYMBOLS

$\alpha$	-	Alpha
$f^2$	-	Effect Size
<b>H</b>	-	Hypotheses
$Q^2$	-	Stone-Geisser
$R^2$	-	R-squared or known as coefficient of determination
<b>SE</b>	-	Standard Error
$\beta$	-	Standard Beta
$1-\beta$	-	The Power of
<b>%</b>	-	Percentage



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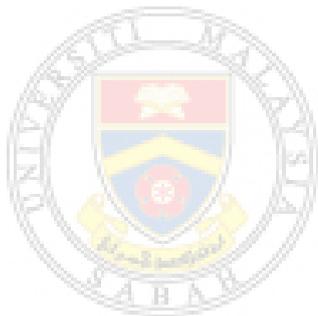
<b>AVE</b>	-	Average Variance Extracted
<b>CA</b>	-	Cronbach Alpha
<b>CB-SEM</b>	-	Covariance-Based Structural Equation Modeling
<b>CR</b>	-	Composite Reliability
<b>PLS-SEM</b>	-	Partial Least Squares Structural Equation Modeling
<b>SEM</b>	-	Structural Equation Modeling
<b>SPSS</b>	-	Statistical Package for the Social Sciences
<b>VB- SEM</b>	-	Variance-Based Structural Equation Modeling



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# CHAPTER 1

## INTRODUCTION

### 1.0 Background of Study

Nowadays, the increasing demand of customers, the rapid change of technological development and the changes in the environment, new entrance into the market is normal. According to The Ministry of Domestic Trade, Co-Operatives, and Consumerism Malaysia (2018), as of December 31, 2017, a total of 1,246,423 local companies were registered in Malaysia. Meanwhile, as of January and February 2018, a total of 4,573 and 3,635 local companies were registered in Malaysia, respectively (see Table 1.1).

**Table 1.1: Number of Registered Companies for Year 2018**

No.	Months	Local Companies
01.	As at 31 December 2017	1,246,423
02.	2018	
03.	January	4,573
04.	February	3,635
<b>Total</b>		<b>8,208</b>

Source: The Ministry of Domestic Trade, Co-Operatives, and Consumerism Malaysia (2018)

However, the failure rate of early start-up companies within the first few years is high (Patel, 2015). A study by Shepherd, Douglas, and Shanley, (2000) shows that almost half of early start-ups fail within the first year. Furthermore, in 2002, the Organisation for Economic Co-Operation and Development (OECD) reported a trend

for European businesses that more than 30 percent of early start-ups fail in the second year (Aerts, Matthyssens, and Vandenbempt, 2007). Moreover, 30 percent of early start-ups fail in the market by the third year (Mittelstädt and Cerri, 2008). Previous studies have found that more than 50 percent of early start-ups fail within four to five years (Dunne, Roberts, and Samuelson, 1989; Mata and Portugal, 1994). Research conducted by Pena, (2004) also shows that 50 percent from 19,500 early start-ups do not survive to enter their fifth year in the industry.

In Malaysia, on the other hand, the failure rate of early start-ups in the first five years is worrying (Ahmad and Seet, 2009). According to Nordin, Hamid and Woon (2011); and Husin and Ibrahim (2014), the percentage of failure reached up to 60 percent and needs to be taken seriously by the government. Considering the statistics from earlier studies, the failure rate for early start-ups continues to increase over time. Moreover, various studies have shown that early start-up are fragile, and a small mistake can prevent them from succeeding, which in turn increases the failure rate over time (Pena, 2004). Consequently, the first five years of business operation are the crucial period and become the main concern for early start-ups (Komi, Still, Wallin, and Jaring, 2015; Blazenko, Pavlov, and Eddy-Sumeke, 2012; and Pena, 2004).

Due to these circumstances, a modern form of support for early start-up is business incubator (Hackett and Dilts, 2004). According to the National Business Incubation Association (2007), 87 percent of early start-ups that graduated from a business incubator are still in business, which is a positive indication for an early start-up. In addition, more than 80 percent of entrepreneurs supported with the resources provided by business incubator manage to survive which suggests the existence of business incubators is relevant for early start-up (Abetti, 2004). The survival rate of early start-ups, which is considered high, is 81 to 90 percent, reflecting the performance of early start-up business in the market (Al-Mubarak, Busler, and Aruna, 2013). Some of the success stories of entrepreneurs in early start-ups that graduated from business incubator in Malaysia are REDtone International Berhad, Green Packet Berhad, IRIS Corporation Berhad, and Tricubes Berhad (Santoso, 2019). From the previous research, a business incubator is deemed

important as a guide for early start-ups to increase their survival rate in parallel with their performance in the market.

A business incubator is thought to improve the survival rate of early start-ups by providing them with support that enables them to survive in the market (Roberts, 1991). Moreover, business incubators can reduce the failure rate of early start-ups and are an important element in start-up survival (Atherton and Hannon, 2006). Unfortunately, among the graduates of these early start-ups, there are also those that do not perform well and go out of business (Saffar, 2007). There are many components that have been highlighted by previous researchers in their study and it has become inevitable to look for the most important components of business incubators that can be applied to early start-ups to ensure their success and survival in the future (Bergek and Norrman, 2008). Moreover, the impact of the components of business incubators in fostering early start-ups in Malaysia remains unclear (Khalid, Gilbert, and Huq, 2014). Therefore, the objective of this study is to examine the influence of business incubator components on the performance of early start-ups in the first three years after they graduated from public business incubator in Malaysia.

### **1.1 Problem Statement**

The development of early start-up is unstable, full of hurdles and complex stages to be overcome by the early start-up companies in the industry (Pena, 2004). Consequently, early start-up phase becomes one of the crucial phases for entrepreneurs as the failure rate increases over the years (Pena, 2004). In the Malaysian context, the first five years show a worrying trend in failure rates in the early start-up stage (Ahmad and Seet, 2009). The percentage of failure rate in early start-ups is 60 percent and needs serious attention from the government (Nordin, Hamid, and Woon, 2011; Chong, 2012; and Husin and Ibrahim, 2014).

Table 1.2 below shows the number of businesses terminated in each state in Malaysia. The table shows that the number of businesses terminated in Malaysia decreased by 15.11 percent between 2015 and 2016. However, in 2017, there was an increase in the number of businesses terminated in Malaysia. As compared to

2015, there is an increase of approximately 37 percent, and an increase of 62 percent in 2016. In addition, it is shown that Selangor tops the list as the state with the most terminated business and Wilayah Persekutuan Putrajaya is the state with the least number of terminated businesses. All states show a decrease in the number of terminated businesses between 2015 and 2016, with the exception of Wilayah Persekutuan Labuan and Wilayah Persekutuan Putrajaya, which showed an increasing trend through 2017. In Kelantan, although the number of terminated businesses decreased between 2015 and 2016, it increased by more than 140 percent in 2017. A similar trend can also be seen in Terengganu, where the number increased by more than 230 percent in 2017 compared to previous years. Hence, the worrying trend in terminated business in all states shown in the table indicates that business incubators are important for early start-up companies.

**Table 1.2: Number of Businesses Terminated Based on States in Malaysia**

No.	States	2015	2016	2017
01.	Johor	6,326	5,074	7,298
02.	Kedah	1,888	1,725	3,576
03.	Kelantan	974	905	2,425
04.	Melaka	1,651	1,613	2,995
05.	Negeri Sembilan	1,772	1,404	2,734
06.	Pahang	1,717	1,426	3,034
07.	Perak	3,736	3,186	4,739
08.	Perlis	278	246	589
09.	Pulau Pinang	3,679	2,916	3,997
10.	Selangor	8,018	6,903	9,433
11.	Terengganu	769	680	2,554
12.	W.P. Labuan	74	88	195
13.	W.P. Putrajaya	17	24	51
14.	Wilayah Persekutuan	4,254	3,651	4,834
<b>Total</b>		<b>35,153</b>	<b>29,841</b>	<b>48,454</b>

Source: The Companies Commission of Malaysia (2021)

To reduce the high failure rate, early start-ups receive support from business incubators (Lai and Lin, 2015). Overcoming the high failure rate among early start-ups has become possible thanks to the emergence of business incubators (Chrisman, 1999). Hackett and Dilts (2004) also mention business incubators in their study as a modern form of support for early start-ups. The resources provided by public or private business incubator are able to meet the needs of early start-up throughout their development phase and fully utilise the available resources to ensure that early start-up survive in the industry (AlMakenzi et al., 2015).

There are several advantages of business incubators for early start-ups, such as a place where entrepreneurs are supported and encouraged in the development stage when they are most fragile (Pena, 2004). This is achieved because a business incubator has the advantage of providing physical resources, such as space and equipment as well as intangible resources, such as networking, technical support, programs development and ensuring cohesive relationships between entrepreneurs, which are essential components for early start-ups (Mian, 1997). Business incubator helps early start-ups build a solid foundation to launch in the market and survive in the future. This suggests that business incubator is one of the mechanisms to improve the performance of early start-ups. In addition, business incubator provides affordable office space, guidance in terms of counselling and coaching, and other services related to early start-ups (AlMakenzi et al., 2015).

As stated by Pena (2004), one of the most important components that a business incubator should have been the provision of tangible and intangible resources for early start-ups. These types of resources can help to promote the performance of early start-ups, which ultimately contributes to their survival and expansion in the market. The research results show that a total of 218 out of 364 start-ups identified as registered firms in the industries survived after utilizing resources offered by business incubators (Pena, 2004). Al-Mubarak and Busler (2010) pointed out that business incubators can assist early start-ups to grow and survive in the early years. Business incubators aim to increase the probability of survival of early start-ups during the gestation period of their business (Allen and Rahman, 1985). Therefore, the above study shows that the survival probability of early start-ups is high after availing the resources of business incubators.

According to previous studies, there are several components of a business incubator. Smilor (1987) pointed out that the selection process is crucial for building an early start-up, as a business incubator must evaluate, recommend, and finally select potential early start-ups. Meanwhile, Albort-Morant and Ribeiro-Soriano (2016) suggested that the use of infrastructure, access to supplier or customer networks, public image, access to databases and internal relationships can be among the components of a business incubator. In addition, various types of business-related resources are developed by business incubator to support new, small-scale entrance in the hope of preparing them for business activities by providing networks, tools, and guidance from experts to achieve success (Pena, 2004). Furthermore, it is enticing to examine an entrepreneur's networking orientation and how it relates to their performance, as it is assumed that although unrelated, there is a positive effect among early start-up entrepreneurs (Ebbbers, 2014).

In addition, it is important to examine the activity of early start-up after graduating from business incubator. After graduating from business incubator, early start-up has to survive the challenges and hurdles of the first few years, as this will be the indicator of success for their survival in the future (Ucar and Koch, 2016). According to Rogova (2014), the time indicator used to study the success and survival of early start-ups is three years after graduating from business incubator. Therefore, this study attempts to examine the essential components of business incubator that affect the performance of early start-up companies that have graduated three years from business incubator.

Pena (2004) noted that there is a lack of literature studies examining the characteristics of entrepreneurs in business incubators that correlate with business performance. Other study has mentioned that the lack of research on early start-ups has stimulated an investigation into the characteristics of entrepreneurs who have received help from business incubator (Albort-Morant and Ribeiro-Soriano, 2016). The resources offered by business incubator are important for early start-ups (Lai and Lin, 2015) as it can foster entrepreneurial characteristics and nourish start-ups (Dee et al., 2011; Lewis et al., 2011; McAdam and Marlow, 2007; Smilor and Gill, 1986). One of the entrepreneurial characteristics is risk-taking, especially in decision-making and effective planning to achieve goals in the market (Ridzwan, Muhammad,

and Rahman, 2017). Risk-taking propensity varies among different individuals as there are risk takers and non-risk takers (Salleh and Ibrahim, 2011). Entrepreneurs' risk-taking propensity can be distinguished when they are faced with different types of situations (Begley, 1995). Based on the above study, business incubator components help entrepreneurs to develop better judgement in risk taking, which can increase their survival rate reflecting their performance.

Although most of early start-ups have enrolled in business incubators, it has been noted that there are some that do not do well and go out of business (Saffar, 2007). This could be due to the fact that some of the components present in these business incubators are insufficient or not relevant to promote the performance of the early start-up enterprises (Bergek and Norrman, 2008). As a result, the question arises as to whether the components of incubators are fulfilling the mission to nourish the performance of entrepreneurs in early start-up (Hong and Lu, 2016). Consequently, graduated entrepreneurs from business incubator in Malaysia become the respondents of this study. Therefore, to better understand the situation, it is important to identify the impact of business incubator components on the performance of entrepreneurs in early start-ups in Malaysia. In addition, the moderating effect of risk-taking propensity was also tested to examine the strength of the relationship between the components of business incubators and the performance of entrepreneurs in early start-ups in Malaysia. Finally, the development of business incubator components that are essential to the performance of entrepreneurs in early start-up companies can be achieved and are conducive to the business environment in Malaysia.

## **1.2 Research Questions**

The objective of this study is to examine the effect of business incubator components on the performance of entrepreneurs in early start-up companies who graduated from public business incubator in Malaysia. In addition, risk-taking propensity plays a moderating role for this study. The components of business incubator consist of selection process, infrastructure, business support, mediation and graduation policy that affect the performance of entrepreneurs in early start-up companies in Malaysia.