The Journal of Social Sciences Research
ISSN(e): 2411-9458, ISSN(p): 2413-6670
Special Issue. 4, pp: 106-111, 2018
URL: https://arpgweb.com/journal/journal/7/special_issue
DOI: https://doi.org/10.32861/jssr.spi4.106.111

Academic Research Publishing Group

Original Research Open Access

A Review and Research Direction: Business Incubators in Malaysia

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Abstract

Researches have shown that the study on business incubator has indeed increased. The phenomenon arises since business incubator is seen as an economic development tool that can enhance the economic growth of a country. Business incubators provide a mechanism for knowledge transfer, promote the concept of growth through innovation and application of technology, support economic development strategies for startups, and encourage growth from within local economies. Business incubator is needed for startups to succeed since they suffer on the liability of their newness and the liability of smallness. Even though theoretically and practically business incubator has gained numerous attention, very limited study found in Malaysia on business incubator context. Thus, this study aims to discuss some literature review related to business incubator, present the current state of business incubators in Malaysia and lastly suggest the research direction for the business incubator study in Malaysia.

Keywords: Business incubator; Review; Malaysia.

1. Introduction

Researches have shown that the study on business incubator has indeed increased. The phenomenon arises since business incubator is seen as an economic development tool that can enhance the economic growth of a country. The concept of business incubator began to develop in early 1980's (Allen *et al.*, 1985; Mihailo, 1984; Scherer *et al.*, 1988; Smilor, 1987). Incubator is a tool to promote development and the hatching of young firms or startups, in a term that they are usually addressed. A well-known definition by Eftekhari and Bogers (2015) defined startup as a company, a partnership or temporary organization designed to search for a repeatable and scalable business model. Through the startup phase, young firms have to develop new ideas and transform it into economically sustainable enterprise. Startups play a key role in innovation process and it is important since innovation sustains economic growth and competitiveness and can generate employment (Miller and Marcel, 1987; Rosenberg, 2002).

Business incubator provide a mechanism for knowledge transfer, promote the concept of growth through innovation and application of technology, support economic development strategies for startup, and encourage growth from within local economies. It relates to the process of keeping "infant" entrepreneurial enterprises "warm and safe", through provision of appropriate assistance until they have reached the stage of maturity which allow them to graduate from the incubator and thrive (Maital *et al.*, 2008). Business incubator is an organization that systemizes the process of creating successful new startups by providing it with a comprehensive and integrated range of services (Mohd and Mohd, 2002) such as incubator space, common services and support, hands on business counselling, networking activities and after-care and outreach services.

According to National Business Incubation (NBIA), business incubation is a dynamic process of business enterprise development. Incubators nurture young firms, providing them assistance to survive and grow during the startups period when they are most vulnerable. Other than acting as a "one stop center" providing shared office servicers, access to equipment, flexible leases and expandable space under one roof, incubators also provide hands on management assistance, access to potential financing and expose startups to critical business or technical support service. The most important objective of business incubators is to ensure that startups transform to business enterprises through the commercialization of their products. Business incubator is needed for startup to succeed since they suffer on the liability of their newness and the liability of smallness (Bogers, 2011). Several studies found that startups are fragile and the failure rate of their business remain high over time (Peña, 2002). Due to startups' limitations, it is clear that the business incubators (ie: techno park, business park etc) are needed to provide a medium especially on knowledge transfer to the startups to enhance their growth and survival (Alzaghal *et al.*, 2017).

Even though theoretically and practically business incubator has gained numerous attention, most of the studies related to business incubator skewed toward United States, China, United Kingdom and Spain even though the number of study in developing country such as Malaysia is growing. Malaysia as a developing country has established few business incubators mainly set up by government-owned or government related organization. However, very limited study found in Malaysia on business incubator context. Thus, this study aims to discuss some literature review related to business incubator, present the current state of business incubators in Malaysia and lastly suggest the research direction for the business incubator study in Malaysia.

2. Literature Review

This section presents the current state of research related to business incubator. First, we will discuss the overview of business incubator in Malaysia and provide few studies related to business incubator in Malaysia. Lastly, we will discuss the current problem of business incubator in Malaysia

2.1. Overview of Business Incubator in Malaysia

As discussed in previous section, incubators in Malaysia are mainly set up by government-owned or government related organizations. The SIRIM industrial incubator scheme is among the earliest business incubator developed in Malaysia that provide basic facilities and a conducive environment to aid the startups especially technology based enterprise (Sufian, 2006). As the first generation of incubator scheme, it was started in 1986 and offered limited space and a small amount of startups (five startups only). The services were focusing more on entrepreneur development and enterprise creation phase involving skills development, providing facilities and services and technology transfer and consultancy services (Mohd and Mohd, 2002). However, as an important catalyst to drive growth and innovation especially for SMEs, SIRIM is now moving to provide a complete incubation process including networking and linkages medium and after-care services with the development of incubator center in Sepang.

There are several other incubator centers in Malaysia but most incubators are clustered based on the technology such as information technology, biotechnology, and high technology. Table 1 showed the summary of business incubators in Malaysia. The largest incubator in Malaysia is Technology Park Malaysia (TPM) located in Kuala Lumpur. This park has been set up in 1995 and its total land area of 750 acre comprises more than 120 firms. This park is concentrating on engineering, biotech and information technology with the missions of:

- To facilitate and nurture knowledge based enterprises by providing expertise, facilities, equipment and support services.
- To facilitate research & development, innovation and commercialization activities by providing advanced infrastructure, equipment and facilities.
- To promote and stimulate an intellectual, creative and innovative community for the development of knowledge based economy by creating a conducive Technology Park environment.
- To facilitate government and private sector smart partnership in technology development and commercialization of research results.
- To provide a platform for the establishment of strategic business and technology linkages between research institutions, academia, financial community and industry, local and global.

Table-1. List of Business Incubators in Malaysia

Name/location of business incubation	Size (acre)	Year set up	Number of firms	Technology focus/ cluster
Technology Park Malaysia, Kuala Lumpur	750	1995	120	ICT, Biotechnology
Technovation Park, UTM, Skudai Johor	130	1995	21	High Tech
Kulim Hi-Tech Park, Kulim, Kedah	630	1996	33	High Tech Manufacturing
UPM-MTDC Technology Incubator	18	1997	32	IT and Multimedia
UKM-MTDC Smart Technology Centre	6	1999	10	Biotechnology and Pharmaceutical
UTM-MTDC Technology Innovation Centre	N/A	1999	N/A	Advance Electronic and Manufacturing
MSC Central Incubator	N/A	2000	35	IT and Multimedia
Selangor Science Park	478.4	2001		

Source: (Malairaja and Zawdie, 2008)

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2.2. Business Incubator Study in Malaysia

From the review of the literature, it can be concluded that there is a concerning lack of empirically-based research about business incubator in the context of Malaysia. Even though as discussed in previous section, the incubator program started in Malaysia since 1986 and has evolved dramatically with the increasing development of business incubators, literature showed that very minimal study has been conducted in explaining the business

incubator in Malaysian context. Although several studies had been found addressing the issue, most of the studies are descriptive in nature with the aim on discussing the implementation of business incubator with the objective of enhancing the understanding on business incubator program. Sufian (2006) is among the earliest researchers who aimed to explore how incubator programs are being implemented in Malaysia and the problem faced by Malaysia in implementing the policies. He highlighted some problems such as the management issues of business incubator, funding opportunities, and also duplication and wastage (Ramli *et al.*, 2018; Shabbir *et al.*, 2018; Sufian, 2006). He lastly recommended some proposals to reform business incubator programs in Malaysia.

Several empirical studies found both quantitative and qualitative in nature in the context of business incubator in Malaysia. However most of the studies milled on the elements of the business incubation process following the findings of Hackett *et al.* (2004) who proposed the model of business incubation process includes selection performance, monitoring and business assistance intensity, resource allocation and professional management services. Abdul *et al.* (2010) as an example studied the practice of the four elements in six ICT incubators in Malaysia by using in depth interviews and confirmed that the four elements in the business incubation process being practiced in ICT incubators was modest at best Abdul *et al.* (2010). They further performed exploratory factor analysis to identify the underlying components and found total of eleven components in the business incubation process (Abdul *et al.*, 2011). The team keep moving on studying on the context of business incubator (Abdul *et al.*, 2012; Abdul *et al.*, 2014; Abdul *et al.*, 2017) but unfortunately it is limited on the four elements of business incubation process. Other than above mentioned studies, several studies are also found and the list of research of business incubator in Malaysia is shown in Table 2.

Table-2. List of Business Incubators studies in Malaysia

Author/s	Title	Year	Objective	Focus
Sufian Jusoh	Incubators as Catalysts in Developing High Technology Business: Malaysia's Experience	2006	Explore how incubator programs are being implemented in Malaysia	-
Abdul Khalid, Gilbert, and Huq	Current Practice of Business Incubation Process Elements in Malaysian ICT Incubators	2010	Examines the practice of four core elements in business incubation in six ICT incubators in Malaysia through in-depth interview.	ICT Incubators
Mohd Yunos	Building an Innovation-based Economy: The Malaysian Technology Business Incubator Experience	2010	Explain SIRIM's incubator as an innovative tools in facilitating technology transfer and commercialization.	SIRIM
Abdul Khalid, Gilbert, and Huq	Investigating the Underlying Components in Business Incubation Process in Malaysian ICT Incubators	2012	Exploratory Factor Analysis to identify the underlying components in the business incubation process in the Malaysian ICT incubators.	ICT
Said, Adham, Abdullah, Hanninen and T. Walsh	Incubators and Government Policy for Developing IT Industry and Region in Emerging Economies	2012	Longitudinal study on the implementation of three incubators located in cyber cities.	ICT/MSC
Abdul Khalid, Gilbert, and Huq	Thrid-generation Business Incubation Practices in Malaysian ICT Incubators – A Bridge Too Far?	2012	Exploring the four components in the business incubation by quantitative method.	ICT
Abdul Khalid, Gilbert, and Huq	The Way Forward For Business Incubation Process in ICT Incubators in Malaysia	2014	Examine the four components of business incubator by interviewing sic ICT business incubator managers.	ICT
Jamil, Ismail, Siddique, Khan, Kazi and Qureshi	Business Incubator in Asian Developing Countries	2015	Review literature of business incubator in developing countries context.	-
Abdul Khalid, Jabar, Ahmad Kayani, Gilbert	Business Incubation Performance in the Malaysian ICT Sector	2017	Exploring the four components of business incubation on impacting the ICT incubation performance in Malaysia.	ICT
Alzaghal and Mukhtar	Factors Affecting the Success of Incubators and the Moderating Role of Information and Communication Technologies	2017	Propose the conceptual model related to the important factor in success of incubators and the moderating effect of ICT tools	-

2.3. Improving Malaysian Business Incubators

Several problems have been highlighted in the previous study on the weaknesses of Malaysia incubators. First, one of the main problems is the management of the business incubators where most of the business incubators are not properly managed, with many startups going out of business (Sufian, 2006). This could be due to the lack of experience by the management team and lack of support towards the startups. An experienced and well trained incubator management team is needed to render continuous support, coaching, mentoring and motivation to startup companies. Secondly, the management of business incubators need to establish a well defined target and policies in managing the business incubators (Mohd and Mohd, 2002). How the business incubator selects the firms it wishes to incubate for example, will determine the success of both parties. Thus, business incubator should design proper strategic plan, target and policies in operating business incubators. This would ensure that the business incubator perform their intended roles and avoid them to just function as landlord or as property management (Asad *et al.*, 2018; Asad *et al.*, 2018a).

Lack of funding also causes a big problem among startups and business incubators. Even though the situation is not unique only for Malaysia but most of the business incubators in the world, the problem can be minimized by properly managing the fund provided by the government (Sufian, 2006). Government of Malaysia has sponsored some venture capital funds such as the Malaysian Venture Capital Limited (MAVCAP), Malaysian Super Corridor Venture Fund (MSCVF) and few others funds. The challenge is to ensure that the various funds set up by government are properly disburse. Lastly, in order to enhance the effectiveness and the efficiency of business incubators in Malaysia, government need to address the issue of duplication and wastage (Sufian, 2006) in term of location, functions and also cluster. By looking at the data on the business incubations in Malaysia as discussed in previous section, there are some redundancy especially on location (close to each other) and cluster of the incubators. By addressing on this issue, it can provide better and conducive environment for all parties involved since it brings the right resources and experts close to the right parties.

3. Future Research Direction

From the discussion in previous section, it can be concluded that research on business incubators in the context of Malaysia is still in the early stage. There is an urgency of empirical research in various perspective on business incubators as this can improve our knowledge in understanding the business incubators and it can boost the business incubator performance. Paramount area can be explored since most of business incubators in Malaysia set-up by government owned and government related organization. This would provide different insights from the various literature available especially from the developed countries. But the question arises whether the area that will be explored would help practically on business incubation performance or more towards building our knowledge on this issue. Since the development of business incubator in Malaysia is very fast forward, future research direction should focus more on studying the theoretical basis that can enhance the practically the performance of business incubators in Malaysia.

Among the potential area of exploration are in the perspective of open innovation and knowledge management in enhancing the performance of business incubators in Malaysia. In order for startups to survive they need to be innovative and recent views of innovation has emerged from closed innovation to open innovation where they started to realize that innovation is the result of interfirm interactions with several parties (Chesbrough, 2006). The concept of open innovation is basically similar with business incubation concept where among the function of business incubators is to facilitate and provide a platform for the establishment of strategic business and technology linkages between research institutions, academia, financial community and industry, local and global. Thus both views leverage the power of networking.

Various studies have proven that innovation-based competitiveness such as business incubators does not result from a single economic agent but from a complex process in which several agents interact (Powell *et al.*, 1996). Silicon Valley as an example of remarkable business incubator has shown that at least twelve agents interact with each other during the startups life-cycle. This include, universities, media, research laboratories, large firms, public relation agencies, law firms, venture capital firms, recruitment agencies, consulting group, investment bank, commercial bank and certified public accountant (CPA) (Ferrary *et al.*, 2009). However, these agents have different contribution on the network and the availability of resources owned by agent and their ability to transform and exchange their resources contribute significantly on the network outcome (Dodds *et al.*, 2003).

Therefore, future research on business incubator in Malaysia should focus on the agents or parties involve in business incubators. Based on the past research present in previous section, most of the studies in Malaysia are concentrated on the business incubation itself and neglected the important contribution of parties surrounding the startups in business incubators. Since business incubators in Malaysia are government related, agents involve in incubation process may differ from the literature. A lot of questions arise such as who are the agents involve in business incubation process in Malaysia? Who are the most important agents in incubation process? What capabilities that these agents provide for startups?. By understanding the agents involved in business incubation, we can help government and the management of business incubation by concentrating effort towards the most important agents and enhancing the others agents contribution on business incubations.

4. Conclusion

This study discussed some literature review related to business incubator, present the current state of business incubators in Malaysia and lastly suggest the research direction for the business incubator study in Malaysia. This

would help future researchers to know the current state of research related to business incubation in Malaysia. From the literature review, it is found that very minimal empirical study available that open up a future exploration on this issue. This study suggested that the future effort on this context should be focused on the open innovation and knowledge management by exploring the contribution of different agents involved in business incubation process.

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