

SUCCESS FACTORS OF TECHNOLOGY BUSINESS INCUBATORS IN
MALAYSIA: TECHNOPRENEURS DEVELOPMENT

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This Report Submitted In Partial Fulfillment of The Requirements For The Award
Bachelor of Technology Management (Innovation Technology) With Honours

Faculty of Technology Management and Technopreneurship
Universiti Teknikal Malaysia Melaka

JUNE 2017

DECLARATION

“I admit that this report is the result of my own work except summaries and excerpts that each of them I have explained the source”

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Date : 14 JUNE 2017

DEDICATION

This Final Year Project is dedicated to my parents for their love, endless support, encouragement and prayers.

ACKNOWLEDGEMENT

Alhamdulillah. Thanks to Allah SWT, Whom with His willing giving me the opportunity to complete this Final Year Project which is title ‘Success Factors of Technology Business Incubators in Malaysia: Technopreneur Development’.

This final year project report was prepared for Faculty of Technology Management and Technopreneurship, University Technical Malaysia Melaka (UTeM), basically for student in final year to complete the undergraduate programme that leads to the degree of Bachelor of Technology Management (Innovation Technology). This report is based on the methods given by the university.

Firstly, I would like to express my deepest thanks to, Prof Associate Dr. Juhaini Binti Jabar, a senior lecturer at Faculty Technology Management and Technopreneurship, UTeM as my supervisor who had guided be a lot of task during semester’s session 2016/2017. I also want to thanks Dr. Chew Boon Cheong lecturer of Research Method subject for the cooperation during I complete the final year project that had given valuable information, suggestion and guidance in the compilation and preparation this final year project report.

Deepest thanks and appreciation to my parents, family, special mate of mine, and others for their cooperation, encouragement, constructive suggestion and full of support for the report completion, from the beginning till the end. Also thanks to all of my friends and everyone, those have been contributed by supporting my work and help myself during the final year project progress till it is fully completed

ABSTRACT

The concept of “incubator” is often used as an overall denomination for organizations that constitute or create a supportive environment that is conducive to the “hatching” and development of new firms. Hence, most of the incubators has become as a tool for policy makers on national and local levels to view them for promoting economic development, innovativeness and the emergence of new technology-based growth firms including Malaysia. However, not all Incubation Centre in Malaysia provides a good practice to enhance their incubatee to develop their Technopreneurship. Technopreneurship has been identified as imperative part of competitive advantages today’s knowledge based economy Hence, focusing on the technology-based entrepreneur will act as channels to expand and expedite the business as well as the people. This research can be as a guideline or reference to influence more start-up technopreneur to develop their technopreneur skills through Technology Incubation Centre in Malaysia. From the incubators side, this research can be as a benchmarks for them to develop more successful graduate’s technopreneur incubatee. In this study, the researcher will discuss on the good performance of Technology Incubators (TBI’s) in Malaysia which has become one of the success factors to Develop Technopreneurs in Malaysia. This research review about the services that most of technology incubators in Malaysia provides to helps their incubatee which is consist of start-up technopreneurs to move from innovation concept, though the prototype stage, and on toward probing the market, attracting the needed capital until commercializing operation. The researcher focus on Technology Incubation Centre in Malaysia. From the research, there are seven success factors that can be using by TBI’s in Malaysia to develop their technopreneur are identified. There are many problems will be faced when the venture is technology based but the incubator can help to tackle many of these problems if they refer to the success factor.

Key Words: Technology Business Incubators, Services, Technopreneurs Development

ABSTRAK

Konsep "inkubator" sering digunakan sebagai denominasi untuk organisasi yang membentuk atau mewujudkan persekitaran yang menyokong untuk pembangunan syarikat baru yang kondusif. Oleh itu, kebanyakan inkubator merupakan alat sebagai pembuat dasar untuk menggalakkan pembangunan ekonomi, inovasi dan kemunculan pertumbuhan syarikat berasaskan teknologi baru termasuk Malaysia. Walaubagaimanapun, tidak semua pusat inkubator di Malaysia menyediakan amalan yang baik untuk meningkatkan inkubasi mereka demi pembangunan teknousahawan. Teknousahawan adalah sangat penting dan merupakan sebahagian daripada kelebihan daya saing dalam ekonomi berasaskan pengetahuan hari ini. Oleh itu, tumpuan harus diberikan kepada usahawan berasaskan teknologi agar bertindak sebagai saluran untuk memperluas dan mempercepat perniagaan. Kajian ini boleh menjadi garis panduan atau rujukan untuk mempengaruhi teknousahawan teknologi baru untuk membangunkan kemahiran mereka melalui Pusat Inkubator Teknologi di Malaysia. Dari segi pusat inkubasi, kajian ini boleh menjadi sebagai penanda aras bagi mereka untuk membangunkan usahawan teknologi inkubasi yang lebih berjaya. Pengkaji akan membincangkan prestasi baik Teknologi Inkubator (TBI) di dalam Malaysia yang menjadi salah satu faktor kejayaan untuk membangunkan usahawan teknologi di Malaysia. Kajian ini mengenai perkhidmatan inkubator teknologi di Malaysia untuk membantu inkubatee mereka yang terdiri daripada usahawan baru teknologi untuk bergerak dari konsep inovasi, walaupun peringkat prototaip, dan kearah pasaran produk, menarik ekuiti yang diperlukan hingga pengkomersilan. Dari kajian, terdapat tujuh faktor kejayaan boleh menggunakan oleh TBI's di Malaysia untuk membangunkan usahawan teknologi. Terdapat banyak masalah akan berhadapan Apabila teknologi itu usaha berasaskan tetapi inkubator boleh membantu untuk menangani banyak masalah ini jika mereka merujuk kepada faktor kejayaan.

Kata Kunci: Perniagaan Teknologi Inkubator, Servis, Pembangunan Teknousahawan

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LIST OF ACRONYMS

FRIM- Forest Research Institute Malaysia

MTDC- Malaysian Technology Development Cooperation

SPSS- Statistical Package for Social Sciences

TBI's-Technology Business Incubators

TPM-Technology Park Malaysia

UPM- Universiti Putra Malaysia

UKM- Universiti Kebangsaan Malaysia

UiTM- Universiti Teknologi Mara

UTM- Universiti Teknologi Malaysia

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

In this study, the researcher will discuss on the good performance of Technology Business Incubators (TBI's) in Malaysia which has become one of the success factors to Develop Technopreneurs in Malaysia. This research review about the services that most of Technology Business Incubators in Malaysia provides to helps their incubatee which is consist of start-up technopreneurs for their development from innovation concept to prototype stage, and on toward discerning the market, fascinate the needed capital until commercializing operation.

The concept of incubators is generally used as an organizations that establish or develop a supportive environment that is conducive to incubate and development of new firms (Chan, 2005). Nowadays, Business Incubators have become a universal phenomenon in many parts of the world. Hence, most of the incubators has become as innovativeness and the emergence of new technology-based growth firms and as a tool for policy makers on national and local levels to view them for promoting economic development. (Bergek, 2008)

Technopreneurship has been identified as imperative part of competitive advantages in today's knowledge based economy (Shankar, 2002). Hence, focusing on the technology-based entrepreneur will act as channels to expand and expedite the business as well as the people. Developing of technopreneur are most essential to apply

and use the technology in the production of products, services, business management and also for decision making on business.

Therefore, TBI's provide a chance of success to early-stages technopreneurs to develop themselves through marketing support linkage, training, management, information services, be as advisor for their incubatees, providing facilities and also to access capital. However, not all Incubation Centre in Malaysia provides a good practice to enhance their incubatee to develop their Technopreneurship.

This research can be as a guideline or reference to influence more start-up technopreneur to develop their technopreneur skills through Technology Incubation Centre in Malaysia. From the incubators side, this research can be as a benchmarks for them to develop more successful graduate's technopreneur incubatee.

The researcher focus on Technology Incubation Centre in Malaysia. From the previous research, the researcher has founded and conclude seven success factors that can be using by TBI's in Malaysia to develop their technopreneurs incubatees. There are many problems will be faced when undertaking technology based but the incubator can help to encounter many of these problems if they refer to the success factor.

1.2 Problem Statement

Based on the research, the researcher has identified the problem through observation. During industrial training, the researcher as one of team members that contribute in one of TBI's in Malaysia which is Technology Park Malaysia (TPM). TPM are one of the incubation centre in Malaysia that can be a specimen for success technology incubation centre in Malaysia. Research till now has recognized that TBI's model as a worthwhile instrument for assisting the development as well as

enhancement of entrepreneurs and does this by providing the business, financial and technical supports for a new entrepreneurial venture at the early stage. In the nutshell. even though the incubator provides a good support service for their incubatee, but not all their incubatee has been graduate successfully. This is because the components of a suitable technology relates to a local condition in which a country have a clear insight on the needs as well as a strong political will to fulfil them (Obaji, N. O.Olugu, M. U. and Obiekwe, B. C., 2015). This is because to starting the new business in an industrializing country is usually a hazardous task.

From a previous research, a systematic literature review of the lack and scattered theoretical knowledge of effective business incubation, general principles are proposed to decide when a business incubators should be established and what it should do to be effective. (Tavoletti, 2012) Therefore, this research has been analyzed the success factor of Technology Incubation Centre which is suitable to develop more technopreneurs and in Malaysia.

1.3 Research Objective

The main objective of this study is to determine the success factors of Technology Business Incubators to develop technopreneur in Malaysia. To be more specific, there are three research objective that will be highlight in this study. These objective are as follows:

- i. To identify whether the survey measure different independent Success Factors or do the survey items measure a few underlying items of Success Factors of Technology Business Incubators
- ii. To uncover the success factors of Technology Business Incubators to Develop Technopreneur in Malaysia
- iii. To analyze the correlation among the Success Factors of Technology Business Incubators

1.4 Research Question

Based on the research objectives that has been develop earlier, three research questions are constructed to meet the objectives. In this study, the researcher has identified three question to be answered. Some question has to take concern to achieve better explanation of this research:

- i. Does the survey measure different independent Success Factors or do the survey items measure a few underlying items of Success Factors of Technology Business Incubators?
- ii. What are the success factors of Technology Business Incubators in Malaysia?
- iii. What is the correlation among the Success Factors?

1.5 Significance of Study

This research is important for better understanding further about the incubation centre in Malaysia. Within the Malaysia Plan, development of incubation centre were provide under Science and Technology Infrastructure. Business Incubators are one of the way to develop technopreneurship. Business incubators has start to evolve in the early 1980s from experiences with other development and the purpose are to assisting the new venture creation process (Rice, M. and Mathews, J., 1995). In Malaysia, incubators are part of a strategy to achieve rapid economic growth which is as one of strategic plan to achieve long-term vision of transforming as developed country. (Said, M. F. et al., 2012) This is because the incubators will provide all the support services needed by technopreneur to enhance their capability to run their business.

Nowadays, exponential technology development and relentless globalization, innovation and entrepreneurship have become the prime factors towards economic growth. The outlined are to measures a building of technology-based entrepreneurs. Hence, business incubators are essentials to nurture nascent ventures by providing focused counselling and facilitation services together with smart work space and

shared office facilities. By focusing on this technology-based entrepreneurs, TBI's also can be a channels to expand and accelerate the business as well as the people.

This study can help a start-up entrepreneur to get an information or idea to develop or innovate their product but facing an obstacle on financial or expertise that require a technology to fulfil their needs. This study also can help an individual who have an intention to be a technopreneur. TBI's are seen as a black box that could create supportive and entrepreneurial environments for start-up technopreneurs and helping them to increase their survival rates. (Somsuk, N. , Wonglimpiyarat, J. ,and Laosirihongthong, T., 2012) From this research, they will know more about TBI's that provide chance to them for develop their technopreneurship.

In other hand, the crucial of this research are the researcher will know the factors of successful incubators from the studies of previous research. Internationally, incubators have been proven to be an extremely successful model in economic development and employment growth. (Al-Mubarak and Busler, 2014) . This factors can be used to any incubators in Malaysia as benchmarks to develop their incubatees especially in technology incubators.

1.6 Summary

This chapter provides an overview of the objectives of the study to ensure that it is appropriately aligned with the objectives of the research. It includes basic information about the research encompassing introduction to incubation centre in Malaysia and describes the support services given by incubation centre to develop technopreneurship. In addition, this chapter addresses the importance of the research. This chapter also explained the research direction. The scope and limitation of research are providing narrow scope of research and provide direction for further process as well as the important of this research was explained in order to identify the main success factor of technopreneur development through incubation centre in Malaysia. (Lal kaka, 2002)

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, the researcher will review in detail about the context of technopreneur, technopreneur development, business incubation centre in Malaysia, TBI's and the success factor of incubators that have developed good practices. The research is about technopreneur development through incubation centre, hence, the researcher will review on business incubators which is focusing on technology incubator in Malaysia. This research will be focused on enhancing the value-adding services that the TBI's provides to help technopreneurs businesses move from the innovation-concept, through the prototype stage, and on toward probing the market, attracting the needed capital, and commercializing operations. The seven critical success factors which can enhance technopreneurs development from the technology incubation system are identified.

2.2 Definition Technopreneur

From the context of researcher, technopreneurs are refers to entrepreneurs who are into the core businesses involving technology-based industries. They make use of technology to come out with their products through a process of commercialization. Emmanuel defines that technopreneur is entrepreneur who's applied and used technological expertise in their business. Technopreneurs is a combination of "technology" and "entrepreneur". It is a "technology innovator and business man rolled into one"; or better still "an entrepreneur whose business involve technology related activities". (Emmanuel, 2013). Furthermore, technopreneur are who has a spirit same as entrepreneur but at the same time applied high technology on their businesses. A technopreneurs are technological entrepreneur and a business man all combined in one individual (Ogundele, 2007). Technopreneurs must be applied with both technical and business skills to run their business.

2.3 Importance of Technopreneur Development

Nowadays, advances in technology and science are continue in the blink of an eye, and technological knowledge is identified as a prime driver in accumulating wealth. (Lalkaka, 2002). Competitive markets, technological progress and entrepreneurship interrelated forces are dramatically changing the global economic landscape today. These are correlate by democratization, social and economic changes, concerns for the human condition, focus on knowledge-based business creation and national/international fluctuations to stimulate growth. (Lalkaka, 2002). This means that development of entrepreneur towards technological based are very essential to ensure that Malaysia can compete into global economic landscape.

In Malaysian perspective, roles played by technopreneurs, could contribute substantially to the economic growth such as new wealth and job opportunities. Technology-based entrepreneur is a process and formation of a new business that involves technology and these “technopreneurs” use technological innovations and translate such technology into successful products or services. (Abdullah Jusoh and Abdul Halim, H., 2002). Hence, technopreneur development are importance for economic growth in Malaysia.

2.4 Business Incubation Centre in Malaysia

2.4.1 Definition

Business incubators was act as an economic strategy for commercialization of new products, new processes and new business models or to develop new and emerging social and economic, opportunities in the growth. (Al-Mubaraki, H. M. , Muhammad, A. H. and Busler, M., 2015). Business Incubator has been describing in various ways by many researchers (Phan, P. H., Donald, S. Mike, W., 2005; Voisey, 2006) from previous research. Business incubation can be describing as business support process to accelerate the successful development of start-up entrepreneurs. This is supported by (Bruneel, Ratinho, Clarysse and Cock, 2010) who added that the continuous growth in business incubation and the ongoing diversification of configurations has led to increased difficulty in defining business incubators precisely.

Aernoudt defines that there are five types of business incubators and can be categorize according to their sponsors/stakeholders or according to their objectives. The different types of incubators reflect the history of the concept. (Aernoudt, 2004). The type can be categorizing as table 2.1.