

**OPPORTUNITY CREATION AMONG TECHNOLOGY RESEARCHERS:
THE CASE OF UTeM**

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PENGESAHAN

‘Saya akui bahawa telah membaca karya ini dan pada pandangan saya karya ini adalah memadai dari segi skop dan kualiti untuk tujuan penganugerahan Ijazah Sarjana Muda Pengurusan Teknologi (Inovasi Teknologi)’

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PENAKUAN

“Saya akui laporan ini adalah hasil kerja saya sendiri kecuali ringkasan dan petikan yang tiap-tiap satunya saya telah jelaskan sumbernya”

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DEDICATION

Alhamdulillah, with the grace and blessings of The Almighty ALLAH, I manage to complete this research. First and foremost, I dedicate this final year project to my loving parents, Che Aziz Bin Che Soh and Zainab Binti Wan Abdullah which never tired of giving spirit, encouragement and love that I able to step to this level and also for their love throughout my life and push for tenacity ring in my ears. Thank you both for giving me strength to reach for the stars and chase my dreams.

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ABSTRACT

This research paper was conducted to investigate the process of opportunity creation among technology researcher in case of University Technical Malaysia Malacca (UTeM). This paper aims to put forward a framework of opportunity creation which demonstrates that all entrepreneurial opportunities possess both objective and research questions thus helping reconcile all the themes include venture ideas, opportunity recognition, opportunity exploitation and opportunity in action. A conceptual framework is developed, based on previous literature and insights from entrepreneurship, technology creation, sources of opportunity and related disciplines. Following the development of a theoretical framework for the study, an investigation was conducted through semi-structured interviews with the six respondents major in technology research. Various result presented in previous research can be combined into a coherent framework that summarizes the components of opportunity creation. Limitation that identified from this study are involve in one cluster of study only, could not reach the target of respondent to interview and the transcribe data take a long period because of the problem of recording. For further research reviewed a better understanding of conditions of uncertainty shape in opportunity creation to reinforce the findings obtained. Need to study on wider scope which is respondents from other institution and a larger sample to further strengthen the reliability of the research.

Keyword: Entrepreneurial Opportunity, Opportunity Creation, Opportunity Recognition, Opportunity Exploitation, Opportunity in Action

ABSTRAK

Kertas penyelidikan telah dijalankan untuk mengkaji proses penciptaan peluang di kalangan penyelidik teknologi dalam kes Universiti Teknikal Malaysia Melaka (UTeM). Kajian ini bertujuan untuk mengemukakan satu rangka kerja penciptaan peluang yang mendemonstrasikan peluang-peluang keusahawanan bagi menjawab objektif dan persoalan kajian iaitu berhubungkait dengan semua tema-tema termasuklah idea-idea usaha, pengiktirafan peluang, peluang eksploitasi dan peluang dalam tindakan. Rangka kerja konseptual yang dibangunkan, berdasarkan kajian literature sebelum ini, pandangan dari keusahawanan, penciptaan teknologi, sumber peluang dan bidang yang berkaitan. Berikutan pembangunan rangka kerja teori, satu kajian telah dijalankan melalui temu bual separa berstruktur dengan enam responden utama dalam penyelidikan teknologi. Pelbagai hasil dapatan kajian sebelum ini boleh digabungkan ke dalam satu rangka kerja yang masuk akal yang meringkaskan bahagian kejadian peluang. Had yang dikenal pasti daripada kajian ini adalah melibatkan dalam satu kelompok kajian sahaja, tidak dapat mencapai sasaran responden untuk menemubual dan pinyalanan data mengambil masa yang lama kerana masalah rakaman. Untuk penyelidikan selanjutnya, pengkaji mencadangkan supaya mengkaji pemahaman dengan lebih baik tentang keadaan bentuk yang tidak menentu dalam penciptaan peluang untuk mengukuhkan lagi dapatan kajian yang diperolehi. Perlu mengkaji skop yang lebih luas yang melibatkan responden daripada institusi lain dan sampel yang lebih besar untuk terus memperkukuhkan kebolehpercayaan kajian.

Kata Kunci: Peluang Keusahawanan, Penciptaan Peluang, Peluang Pengiktirafan, Peluang Eksploitasi, Peluang dalam Tindakan

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

What do we mean by entrepreneurship? Entrepreneurship today is defined and understood in various ways. According to (Shane and Venkataraman, 2000) said that entrepreneurship is an activity that involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, ways of organizing, markets, processes, and raw material through organizing efforts that previously had not existed. In other definition, entrepreneurship is:

“the process of creating something new of value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence.”

(Hisrich and Peters, 2000)

Different to (Marie and Saporito, 2006), said the entrepreneurship is inextricably linked to innovation and competitive advantage. Entrepreneurship offers a greater possibility of achieving significant financial rewards than working for someone else. It provides the ability to be involved in the total operation of the business, from concept to design and creation, from sales to business operations and customer response (Boundless, 2013).

For the past 30 years, the dominant theories of entrepreneurship have sought to explain entrepreneurship as a function of the types of people engaged in entrepreneurial activity and as result, have largely overlooked the role of opportunities, (Jonathan and Scott, 2003). The entrepreneurial activity are develop in field of entrepreneurship and defined as the new venture start-up rate, adjusted for the churning effect of business closure, initiated by educated entrepreneurs and launched because of opportunity motivations (Bosma et al., 2008) as cited in (Entrepreneurship, Stokes et al., 2010). Entrepreneurship is the phenomenon associated with entrepreneurial activity. According to (Nadim Ahmad and Richard G. Seymour, 2008) entrepreneurial activity is the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.

The term ‘opportunity’ is widely used in the theory of entrepreneurship (Casson and Wadson, 2007). From the entrepreneurial activity, most entrepreneurship wills aware of opportunities where it will be significant impact on individuals or groups of researchers.

“To have entrepreneurship, you must have opportunities”,

(Shane & Venkataraman, 2000).

An entrepreneurial opportunity exists whenever there is a need, want, problem or challenge that can be addressed, solved and or satisfied in an innovative way. Following (Casson, 1982) and (Shane and Venkataraman, 2000), they defined the entrepreneurial opportunities as situations in which new goods, services, raw material, market and organizing methods can be introduced through the formation of new means, ends, or means-ends relationships. From this characteristic of entrepreneurships, researcher can assume that the entrepreneurs are the opportunity-driven and it comes from changes in the environments.

The significant source of entrepreneurial opportunities is the activity of other entrepreneurs (Holcombe, 2003). When an entrepreneur takes advantage of a previously overlook value opportunity, this creates new value opportunities, allowing other entrepreneurs to act, and the process continues cascading through the economy

creating additional value opportunities. The process of entrepreneurship itself is the most frequent source of new entrepreneurial opportunities.

Through entrepreneurial opportunity and resources as a basis for progress in the field of entrepreneurship, many researchers are now beginning to actively implement projects especially in technology areas. Many researchers see technology in widening participation in industry and institutions. Movement of individual or team able to gain success and promotes excellence throughout Malaysia and internationally. At present, the rapid growth of development is influencing the researchers to conduct the research against the use of technology or invention. According to (Princeton review, 2013), researchers analyze and classify data in terms of responses and inclinations and compare studies on the same subject. They also investigate previous surveys to compare results. Is defined as systematized knowledge applied to alter, control, or order elements of the physical or social environment. (Roper A.T, et. al, 2011). Further, are able to produce a major component of the call as opportunity creation.

1.2 Problem Statement

Research on the opportunities has grown significantly over the past decade. Similarly, entrepreneurial opportunities, various agencies or individuals have made a study of the issues related to but not touching the question of opportunity creation. In the existing literature, the characteristics of entrepreneurial opportunities are consistently associated with opportunity. There are the probabilities of success plays a central role in the decision process whether or not to exploit an opportunity. A high probability of success increases the likelihood of engaging in entrepreneurial activity (Forlani & Mullins, 2000). This show has made in-depth studies on entrepreneurship opportunity.

Looking at the proliferation of researchers conducted a study of the results in the field of technology, is something that is stimulating to the opportunity to expand their creations. However, there are still a handful of them do not have the opportunity

to highlight their creations on the study and because of the obstacles and challenges in creating these opportunities. For example a student in the final year will study creative objectives and purposes of the invention to produce either output or other products. But, how about this opportunity can make their research as an effective career opportunity in the future?

1.3 Research Question

This is one of the creations of new technologies that have created and studied by the researchers of technology in solving the problem. The questions at the intersection of opportunity creation among technology researchers are somewhat limited. Therefore, researcher highlights some of the research questions to identify in this study.

1. Why does a particular individual come up with particular venture idea (out of many possible ideas)?
2. Why are some individuals more likely to come up with venture ideas (any ideas, not particular ideas)?
3. What are the challenges of identifying the sources of opportunity?
4. What consequence entrepreneurial opportunity exploitation results in future opportunity?
5. How conditions of uncertainty shape the entrepreneurial action that underlies opportunity creation in the case of UTeM?

1.4 Research Objectives

In general this study was to examine in greater depth the opportunity creation among technology researcher. In particular, the study was conducted to achieve the following objectives:

1. To investigate whether the researchers does a particular individual come up with particular venture idea (out of many possible ideas).
2. To investigate whether there are some individuals more likely to come up with venture ideas (any ideas, not particular ideas).
3. To study the challenges of identifying the sources of opportunity.
4. To identify the consequence entrepreneurial opportunity exploitation results in future opportunity.
5. To examine conditions of uncertainty shape the entrepreneurial action that underlies opportunity creation in the case of UTeM.

1.5 Scope

The scope of this study is to investigate the process of opportunity creation among technology researcher in case of UTeM. This scope are include the objectives that researcher should investigate such as whether the researchers does a particular individual come up with particular venture idea (out of many possible ideas) or there are some individuals more likely to come up with venture ideas (any ideas, not particular ideas). Besides that, researcher has to study the challenges of identifying the sources of opportunity for relating identification of the consequence entrepreneurial opportunity exploitation results in future opportunity. Then, examine conditions of uncertainty shape the entrepreneurial action that underlies opportunity creation in the case of UTeM.

1.6 Importance of the Study

Seen the importance of this study is necessary in the formation of the technology world today. With the birth of a new creation, and also highlight this invention provides an opportunity for creators to continue to compete in their respective fields. Additionally, environmental factors also play an important role in providing opportunities for creation. Observations and remarks on the environment will inspire researchers to create a new product or service that aims to provide better satisfaction to the users.

The study also gains a better understanding of the main values of opportunity creation for a technology startup as a key focus of exploration to identify the benefits for individual researchers or their communities and the government. Furthermore, this research also to understand the opportunity creation, survival, and growth of new venture, legitimacy plays a key role.

1.7 Summary

In the Introduction chapter, has explained the study to be carried out to ensure that this study is on track to set and objectives are achieved. Introduction to Technology Opportunity Creation among Researchers: In Case of UTeM is a research topic that has been described a little bit to understand it thoroughly. Elements such as the research problem, research questions, research objectives, scope, and importance of the study are included as guidelines for the direction of this study to be carried out and not strayed far from its intended objectives.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This research study outlines a model which attempts to clarify the opportunity creation among technology researchers. The term ‘opportunity’ is widely used in the theory of entrepreneurship (Casson and Wadeson, 2007). Opportunity creation is the projection of present problems into future solutions. At one level both problem solving and opportunity creation addresses a current problem or defect (Shane, 2003). The opportunity creation are involved the process of the promoting creativity and idea development (Freshman and Sophomores, 2012), idea incubation, building a prototype (Monosoff, 2010), competitions and expos, intellectual property and licensing of the innovation, design collaborative, and last but not least the additional resources.

2.1 Entrepreneurial Opportunity

Entrepreneurial opportunities exist because different agents have differing ideas on the relative value of resources or when resources are turned from inputs into outputs. The theory of the entrepreneur focuses on the heterogeneity of beliefs about the value of resources (Alvarez and Busenitz, 2001). The nature and source of entrepreneurial opportunity are important issues for understanding how markets function and come into being. (Shane and Venkataraman, 2000) define the field of

entrepreneurship as the study of “how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited”. Researchers have focused on the discovery, exploitation, and consequences thereof without much attention to the nature and source of opportunity itself. Entrepreneurial opportunities exist and individuals just need to recognize them. (Shane, 2003) describes an entrepreneurial opportunity as:

“...a situation in which a person can create a new means-end framework for recombining resources that the entrepreneur believes will yield a profit.”

The process of generating opportunities involves individuals, firms, universities, and other research institutions. Their research and development activities not only create new knowledge, they are also the precondition for the ability to identify, absorb, and exploit knowledge (Cohen and Levinthal, 1989). This knowledge may have also been created by other actors in the same or different industry. Entrepreneurial opportunities uniquely arise if existing organizations do not take advantage of knowledge to the full dimensions. Therefore, firms engaged in R&D activities that do not exploit their created knowledge to the full extent may serve as seedbed for new ventures (Agarwal et al., 2004; Franco and Filson, 2000; Klepper and Sleeper, 2005).

Cited by (Jeffery S. McMullen, Lawrence A. Plummer and Zoltan J. Acs, 2007) in the journal of *“What is an Entrepreneurial Opportunity?”* said that the objectivity of entrepreneurial opportunities is therefore a matter of arbitrage (exploitation) rather than the creation of new knowledge. Consequently, entrepreneurial opportunities are objective and the recognition and exploitation of them is subjective. Moreover, opportunities (in terms of commercialize able new knowledge) need not be created, but merely discovered, according to the predominant Austrian view (Kirzner, 1997; Shane 2003).

2.1.1 *The Opportunity Discovery View*

Entrepreneurial discovery is the perception of a new means-ends framework to incorporate information, incompletely or partially neglected by prices, that has the potential to be incorporated in prices and thereby efficiently guide the resource allocation decisions of others (Eckhardt and Shane, 2003).

The discovery theory, as defined by (Ilidio Barreto, 2012) opportunities are typically assumed to arise from exogenous shocks that disrupt competitive equilibrium conditions. Several kinds of exogenous shocks can be considered, including technological, regulatory, political, social, and demographic changes (Shane, 2003). Within the discovery theory, opportunities were initially characterized as potentially profitable situations that are ‘readily available’ but ‘hitherto overlooked’ (Kirzner, 1997). They *exist* in the external world waiting to be discovered (Baron, 2007; Casson and Wadeson, 2007). The situations that originate opportunities are considered as real and objective phenomena irrespective of actors’ efforts (Shane, 2003; Shane and Venkataraman, 2000), and are recognized as opportunities based on their expected value (Casson and Wadeson, 2007; Shane and Venkataraman, 2000).

(Israel Kirzner, 2009) considered an alertness ‘the entrepreneurial element in the economic behavior’. He defined alertness as;

“The ability to notice without search opportunities that have hitherto been overlooked”.

This conceptualization of alertness has been largely used in the discovery literature (Shane, 2003; Shane and Venkataraman, 2000). For instance, (Shane, 2000) expressed that entrepreneurs can discover opportunities without searching as long as those opportunities are related to actor’s prior experience and education.

Moreover, this view is constant with the early association between competition and discovery processes advanced by Friedrich von Hayek, whose works strongly influenced Kirzner’s ideas, in his ‘Competition as a discovery

procedure' article: 'competition is important primarily as a discovery procedure whereby entrepreneurs constantly search for unexploited opportunities that can also be taken advantage of by others' (von Hayek, 2002 [1968]).

The discovery perspective suggesting the importance of different types of undirected search, such as broad scanning (Kaish and Gilad, 1991), general information search (Ucbasaran et al., 2008), active search (Ozgen and Baron, 2007), and systematic search (Fiet, 2007). In precis, a significant research from the discovery perspective suggests that opportunities can emerge either from processes without search or from undirected search.

2.1.2 *The Opportunity Creation View*

The creation view opportunities are endogenously constructed through entrepreneurs' actions and reactions, making possible their detachment from existing markets or industries (Alvarez and Barney, 2007). Opportunities are created (rather than discovered) as part of the entrepreneurial process (Sarasvathy, 2001): actors create something from nothing (Baker and Nelson, 2005). As the opportunity does not exist prior to the entrepreneur's actions, decision makers cannot anticipate the opportunity's possible outcomes or the probabilities associated with those outcomes (Alvarez and Barney, 2007): they are in a situation of 'complete ignorance' (Ellsberg, 1961; McMullen and Shepherd, 2006).

It is important to note that at the moment when the formation process begins, actors typically do not have any idea whether they are (or not) on a path towards an opportunity (Aldrich and Kenworthy, 1999; Alvarez and Barney, 2007; Shah and Tripsas, 2007) according to the creation approach. Actors iteratively attempt to build ways to combine what they have at hand (Baker and Nelson, 2005), trying possible effects that can be created with a given set of means (Sarasvathy, 2001), testing conventional limitations (Baker and Nelson, 2005), or refusing the constraints of existing logics (Shah and Tripsas, 2007). Then, reaction succeeds to action. At each iteration, the entrepreneurs listen to their customers and other strategic partners'