University Environment, Entrepreneurial Interest and Entrepreneurial Networking as Predictors of Entrepreneurial Thinking: A Study of Public Higher Education Institutions in Malaysia

Armanurah Mohamad¹, Norashidah Hashim², Syahrina Abdullah³

¹²College of Business, Universiti Utara Malaysia
³College of Arts and Science, Universiti Utara Malaysia
armanurah@uum.edu.my¹, norashidah@uum.edu.my², syahrina@uum.edu.my³

Article History: Received: 10 November 2020; Revised: 12 January 2021; Accepted: 27 January 2021; Published online: 05 April 2021

Abstract: The objective of this study isto identify the contribution of university environment, entrepreneurial interest, and entrepreneurial networking among student entrepreneurial thinking. This study used a quantitative approach where data were collected via survey using questionnaire. The sample consisted of 2001 students from 20 Public Higher Learning Institutions (PHEIs) in Malaysia. Multiple regression (stepwise) analyses was used to analyze the data. The results of the study revealed that both entrepreneurial interest and university environment contributed significantly towards entrepreneurial thinking among PHEI in Malaysia. Entrepreneurial networking did not showed significant contribution to entrepreneurial thinking. The implications of this study is that PHEIs need to equip with relevant entrepreneurial environment and entrepreneurial activities or programs that can boost and enrich students of PHEIs with entrepreneurial thinking. Since this study showed no significance contribution of entrepreneurial networking towards entrepreneurial thinking, efforts have to be taken by PHEIs to build entrepreneurial networking with various entrepreneurial parties and agencies related to entrepreneurship that can give mutual benefit to students, universities and related parties.

Keywords:Entrepreneurial Thinking, Entrepreneurial Environment, Entrepreneurial Interest and Entrepreneurial Networking

1. Introduction

Entrepreneurs have a major impact on a country's economic development. This is because entrepreneurs play important role in creating new businesses and is also responsible in bringing about reforms to the existing business. Therefore, in order for Public Higher Education Institutions (PHEIs) to produce potential graduate entrepreneurs, PHEIs have to inculcate their students with entrepreneurial thinking since this element is one of the most important substances possessed by entrepreneurs. This study focused on factors namely, entrepreneurial interest, entrepreneurial networking and university environment that could contributed to entrepreneurial thinking among student’s of PHEIs.

2. A Review of the Literature

Entrepreneurial Thinking

Entrepreneurial thinking is the concept of unstructured thinking, non-traditional, not straight forward, but was a type of thinking that is focused on making the distinction from others (Clouse et al. 2003; Higdon 2005; De Bono 2006; Kuratko 2009). It is the cognitive aspect that helps entrepreneurs to identify opportunities, generate ideas, creative and able to manage and control resources (Alnait, 2018; Armanurah, Norashidah&Awanis 2019; Norashidah 2009). Those who have the entrepreneurial mindset are able to think at a high level and complex thinking. They are patient to learn something, and have the ability to handle complex and ambiguity cases effectively. Starting with a solid foundation of knowledge, they will be able to see main ideas and separate the things that are important from the trivial matters (Higdon 2005).

Individuals who have the entrepreneurial mindset is a person who accept a dynamic business environment in which the changes that occur in the business environment will create many opportunities and competition as well as borderless marketable. (Che Ani & Mohamed Amin 2002). This entrepreneurial thinking is in line with global thinking advanced by Habrizah (2002), whereby entrepreneur have skills to see the world as an arena to display capabilities, maximize their success and influence others. They are always tempted to see a more extensive way, able to move with changes and have ability to manage the company with respond to changes and ambiguity. They take those changes as an opportunities for new initiatives as they has the personal qualities such as knowledge, analytical, strategic, flexible, sensitive to changes and an open mind.

Entrepreneurial thinking will leads a person to an entrepreneurial action (Che Ani and Mohamed Amin, 2002). Entrepreneurial action is where an entrepreneur will carefully study each project and its business, make
plans based on the facts and the current situation, using all the experience, using all sources of support and expert advice, providing a formal plan, listing the strengths and weaknesses, predicts all the threats and opportunities that exist, the action always follows the planning and review all actions taken to improve it in order to avoid failure.

Based on the concept of entrepreneurial thinking from previous studies and from thinkers in the field of entrepreneurship (CheAni & Mohamad Amin 2002; Habrizah 2002; Clouse et al. 2003; Timmons & Spinelli 2004; dan Higdon 2005; De Bono 2006; Norashidah 2009), all of them almost agree on dimensions of entrepreneurial thinking, that is there was an element of opportunities recognition, creativity and innovation, a willingness to bear risk and tolerance for ambiguity.

University Environment

University environment is referred to elements in the university that can benefit university students during their period of study in the university (Norasmah, Hariyat&Armanurah 2019). Among the important elements are lecturers, curriculum, co-curriculum, supports resources and campus.

- Instructors

Instructors or lecturers play an important role in entrepreneurship education. Kent (1990) mentioned that one of the factors that influenced the success of entrepreneurship education was the background of lecturers in the field of entrepreneurship. Educators should not only have the knowledge of entrepreneurship but also have experience in this field in order to help them teaching effectively. Besides, entrepreneurship education should emphasize the learning process by doing that involve students actively, practical aspects in a situation similar to the circumstances faced by entrepreneurs and get feedback from experts (Jack & Anderson 1999). One of the suitable teaching approach for entrepreneurship education is through learning by action to provide potential entrepreneurs with skills in dealing with uncertainty and ambiguity in the environment (Beck 1996). The role of the instructors is to provide the atmosphere and make observations, assessments, reporting and provide mechanisms for feedback from experts in the field.

Entrepreneurship education requires innovative, smart and aspirational educators. Educators should be able to adapt the class to the needs of students, environments and opportunities. Rabbior (1990) proposed entrepreneurship to be taught by entrepreneurs in an environment that promotes creativity and innovation. Thus, the approach of teaching entrepreneurship education should be balanced between knowledge and practice.

- Curriculum

The curriculum is defined as all experiences gained by students in educational programs aimed at achieving specific general goals and objectives (Ornstein and Levine, 2000). According to Kourilski and Carlson (1997), the content of entrepreneurship education curriculum should contain topics related to identifying opportunities, generating ideas for products or services, managing and using resources at risk to seize opportunities and initiate a business organization to succeed in the idea. In addition, in the content of entrepreneurship education there should be an aspect of analysis and knowledge, creative skills, and communication skills. According to Robinson (1991), entrepreneurship education also needs to include entrepreneurial skills related to entrepreneurial characteristics.

- Support Resources of Higher Education Institutions

The support resources of Higher Education Institutions (HEIs) in various forms are very important for the success of education (Collins & Robertson 2003b). The HEIs support resources can be classified into financial and non-financial categories (Kuratko and Hodgetts 2004). Non-financial sources of funding comprised of human resources as well as physical infrastructure. According to Katz (1991) support resources of entrepreneurship are academic programs, faculty, research institutions, professional organizations, research funds as well as publications. According to Collins and Robertson (2003b), entrepreneurship education initiatives at universities require funding support, either from grants or from outside funds. Doh et al. (1996) suggested that the infrastructure that supports the involvement of students in entrepreneurship activities at the university should be developed. They suggested establishing a center for students to start a business. This can give entrepreneurial career aspirations to students as well as to provide entrepreneurial knowledge and skills to students. In addition, the research center must involved in the study of entrepreneurship and serves as an institution that helps the
faculty in connecting with the business world. According to Katz (1991) centers of entrepreneurial excellence have to play roles in public entrepreneurship, research, consulting and as teaching organizations.

- **Campus Environment**

  Campus environments are generally the physical and organizational readiness of HEIs. Organization refers to structure and culture (Charnitski 2002; Kuratko & Hodgetts 2004). Campus environments also cover the aspects of campus locations either in big cities or in rural areas and student demographics (Pinkett 2007). Pinkett wrote on the basis of his experience as an entrepreneur who starts from campus. Campus environments provide opportunities for students to use resources such as the existence of private agencies, governments or non-governmental organizations that can assist them. Campus rankings are important for the possibility of starting a business within the area and building a network with local entrepreneurs and investors who can help as a mentor or for student practicum. He also looks at student demographic factors such as gender, student financial resources, prominent academic study options, ease of purchasing student needs as well as ease of technology such as the internet. All of the above factors can shape the campus’s environment for the suitability of providing business opportunities on campus.

- **Entrepreneurial Interest**

  Entrepreneurship interest or intentions are defined as individual tendencies towards entrepreneurship that are described as motivational factors that influenced individuals to engage in entrepreneurial activity (Hirsch et al., 2008; Armanurah 2014). This entrepreneur's intention or tendency encourages a person to engage in entrepreneurial activity or open his own business after being influenced by several factors such as entrepreneurship courses and entrepreneurial ecosystems. Those with an entrepreneurial interest are willing to prepare themselves with various aspects of knowledge and skills (Norashidah 2009; Armanurah 2014). They enjoy learning to acquire the necessary knowledge and skills. Interest in entrepreneurship can be nurtured and formed in individual (Salmah 2009) with a conducive environment (Norashidah 2009).

  A study by Armanurah (2014) on ex-participants of the Program Siswaania (PS) of Universiti Utara Malaysia (UUM) found that entrepreneurial interest before participating in PS contributed significantly to the total variance of participants’ entrepreneurial thinking. This study revealed that participants with an interest in entrepreneurship before joining PS showed higher levels of entrepreneurial thinking than participants who were less interested in entrepreneurship before joining PS. The entrepreneurial interest was found as one of the highest predictor of entrepreneurial thinking among ex-participants of PS (Armanurah 2014).

- **Entrepreneurial Networking**

  Networking is a process of building and managing productive relationships (Baker, 1994). Networking is a relationships of a group of individuals whether they recognize or not to each other to contribute something passively, reactive or proactive. Contribution can be either voluntary or mandatory “(Gilmore & Carson, 1999). Entrepreneurial networking also include networking through reading material, seminar, and others, where entrepreneurs obtain knowledge and business ideas from those resources. Study found that information obtained from networking can increase entrepreneurial thinking (Armanurah 2014).

  **3. Results of Research and Discussion**

  This part will discuss the extend independent variables, namely entrepreneurial interest, entrepreneurial networking and university environment contribute to entrepreneurial thinking among PHEIs in Malaysia.

  **Independent Variables Contributing to Entrepreneurial Thinking**

  This section is to examine to what extend the independent variables, namely entrepreneurial interest, entrepreneurial networking and university environment contribute to entrepreneurial thinking among student of Public Higher Education Institution (PHEI) in Malaysia. Thus, the alternative hypotheses (Ha) below was built to test the contribution of entrepreneurial interest, entrepreneurial networking and university environment towards entrepreneurial thinking.

  **Ha** Entrepreneurial interest, entrepreneurial networking and university environment contribute to entrepreneurial thinking among PHEI
To test these hypotheses a stepwise multiple regression analysis was used to analyzed the data. Table 1.0 showed the result of stepwise multiple regression analysis that involved three independent variables, namely, entrepreneurial interest, entrepreneurial networking and university environment towards entrepreneurial thinking.

Table 1. Results of multiple regression (stepwise) for independent variables contributing to entrepreneurial thinking

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>B</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
<th>R²</th>
<th>R² Adjusted</th>
<th>Contribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Environment</td>
<td>0.491</td>
<td>0.472</td>
<td>25.000</td>
<td>0.000</td>
<td>0.416</td>
<td>0.415</td>
<td>41.5</td>
</tr>
<tr>
<td>Interest Networking</td>
<td>0.237</td>
<td>0.324</td>
<td>17.144</td>
<td>0.000</td>
<td>0.490</td>
<td>0.490</td>
<td>7.5</td>
</tr>
<tr>
<td>Constant</td>
<td>1.208</td>
<td>18.938</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1.0 revealed that only entrepreneurial interest and internal university environment had a relationship and contributed (49%) significantly (p < 0.05) towards entrepreneurial thinking among PHEIs. This study supported Norashidah (2009) where university readiness is important to prepare student with graduates’ entrepreneur. The contribution of entrepreneurial interest towards entrepreneurial thinking for this study is also aligned with the study of Armanurah (2014) on ex-participants of PS UUM.

Meanwhile, the result of entrepreneurial networking did not showed significant relationship with entrepreneurial thinking (p = 0.905 > 0.05). This study is consistent with the previous study done by Norria (2016) on entrepreneur networking.

The predictor that have the highest beta value is university environment, with a beta value of 0.472, t = 25.000, p = 0.000 and a variance explained of Adjusted R²= 0.415 or a contribution of 41.5% of university environment toward entrepreneurial thinking. The beta value of university environment showed that when university environment is increased by one unit, entrepreneurial thinking will increase by 0.472. The beta value of entrepreneurial interest is 0.324 with t = 17.144 and p = 0.000. This showed that when entrepreneurial interest is increased by one unit, entrepreneurial thinking will increased by 0.324.

The B value, which is an unstandardized coefficient was used in building regression equation for this study. Regression equation that was built from contribution of two significant independent variables towards entrepreneurial thinking was as follow:

\[ Y = 1.208 + 0.491X_1 + 0.237X_2 + 0.338 \]

Where;

- Y = Entrepreneurial thinking
- X₁ = University environment
- X₂ = Entrepreneurial interest
- Constant = 1.208
- Standard Error = 0.338

Based on the above regression equation showed that two independent variables have an influence and contributed to entrepreneurial thinking among students of PHEIs in Malaysia.

4. Conclusions and Suggestions

Nurturing entrepreneurial thinking is a good preparation to encourage students of higher education institution in choosing the field of entrepreneur as a career choice after their graduation. Nurturing entrepreneurial thinking is very important since this element is one of the most important substances possessed by entrepreneurs. This study found that university environment, comprising of lecturers, curriculum, non-curriculum, and supporting resources and campus readiness have an influence and contributed to entrepreneurial thinking among students of PHEI in Malaysia. This study is aligned with Norashidah (2009) where university readiness is important to prepare student with graduates’ entrepreneur. Besides, this study also revealed that entrepreneurial interest is another predictor of entrepreneurial thinking among students of PHEIs. This result supported the study of Armanurah (2014) on ex-participants of PS UUM, where entrepreneurial interest have contributed toward the variance explained of entrepreneurial thinking among ex-participants of the program.
The implication of this study, PHEIs need to equip with relevant entrepreneurial environment and entrepreneurial activities or programs that can enrich students of PHEIs with entrepreneurial thinking. This is because students with entrepreneurial thinking has potential to explore the initial stages of business on campus and become student entrepreneurs while studying and become entrepreneurs after graduation (Armanurah 2014). Since this study showed no significance contribution of entrepreneurial networking towards entrepreneurial thinking, efforts have to be taken by PHEIs to build entrepreneurial networking with various entrepreneurial parties and agencies related to entrepreneurship that can give mutual benefit to students, universities and related parties.

5. Acknowledgement

We would like to express our deepest appreciation to Ministry of Education Malaysia (Higher Education) who provided the funding for this research through the Exploratory Research Grant Scheme (ERGS).

References
