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PERCEIVED BARRIERS TO INNOVATION FOR START-UP BUSINESSES

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ABSTRACT

Innovation plays important role in Entrepreneurship by creating competitive advantage and leading to firms' success in the competition. However, creating valuable innovation demands a lengthy process that has never been easy for SMEs. This paper aims to explore perceived barriers to innovation in startup businesses from the point of view of students studying Entrepreneurship at International Business Management (IBM) study program, Universitas Ciputra. Barriers to innovation are explained using qualitative descriptive approach, focusing on the internal and external barriers perceived by the students who were currently running start-up businesses as school projects. Purposive sampling was used to get clear and complete explanation of barriers to innovation, using criteria of students who are currently studying in IBM study program, have been developing innovation in their business project. Data collected from semi-structured interview then being analyzed in steps of coding, grouping, and interpreted to describe the focus of this study. The results of this study highlight perceived barrier to innovation of lacking knowledge and skills (internal), as well as unpredictable market response (external), had greatly affected the implementation of innovation in start-up businesses.

Key words: Innovation, Perceived Barriers, Start-ups, Entrepreneurship, Education.

1. INTRODUCTION

The implementation of AEC in 2016 opens new era for ASEAN countries in the fields of economy and trade. Nevertheless, the single market and production base are expected to increase production efficiency and economies of scale that could encourage the growth of trade and investment flows among ASEAN countries (Chia, 2013). These conditions open up new opportunities, such as the widespread market, abundant resources, easy access to goods, services, investment, and human resources that will benefit the supply chain of many businesses and SMEs in ASEAN. In order to extend these advantage for SMEs, AEC targets several development programs, includes entrepreneurship and innovation, to narrow economic gaps among ASEAN countries (Chia, 2013).

Entrepreneurs as driving force of SMEs are often faced with intense competition and many limitations, for example: limited access to finance and technology, weak entrepreneurial and management skills, and other difficulties in coping with AEC market standards (Chia, 2013). Not all entrepreneurs can easily adapt to take advantage from the AEC, thus some might be left behind or might not survive the competition unless they have new strategy and innovation. Entrepreneurs need to create novelties that involve knowledge and information, which will result in creating advantages and benefits to the organization (Dudin, Ljasnikov, Omel'chenko, & Shirokovskih, 2013).

Innovation is recognized as one of the important factors to win the competition (Massa & Testa, 2008), however, the process of creating innovation might not been easy. Entrepreneurs, especially those who own startup businesses are often faced with various difficulties to innovate. Barriers to innovation can be from internal sources, such as limitations of financial and human resources, high cost and risk; whereas external barriers, covers turbulence, lack of

external partners, opportunities, lack of Government support (Madrid- Guijarro, Garcia, & Van Auken, 2009).

Barriers to innovation expected to be minimized by improving the capabilities of the entrepreneurs. Empowering young people to become entrepreneurs through entrepreneurship education in higher education may foster entrepreneurs' capabilities in the future. Students who specifically learn entrepreneurship should have more improved entrepreneurial competencies, including capability to innovate. However, these students possibly face problems in creating business, implementing entrepreneurship and innovation. Thus, this research will explore perceived barriers to innovation, using case study on a student of International Business Management (IBM), Universitas Ciputra.

As pioneer in entrepreneurship education in Indonesia, Universitas Ciputra delivers intensive entrepreneurship learning program, which incorporate theories and practices. Entrepreneurship learning in IBM Study Program incorporates various managerial courses with additional practice course based on project, i.e. Entrepreneurial Project. The course objectives allow students to practice entrepreneurship and managerial skills based on live experience in creating and managing businesses. Practices are delivered through assignment in creating sustainable business projects and develop the projects for six consecutive semesters. Students are required to follow this course since their second to seventh semester. During running their business projects, students are given business and management insights, including innovative ideas and execution through lectures and seminars. Students are also required to attend mentoring sessions with lecturers as business facilitators every week, to discuss their business progress, and problems.

Developing innovation is not easy for entrepreneurs, including IBM students. Thus, the results of this study are expected to explain the perceived barriers to innovation among students who are also running startup business. Furthermore, the results will be useful to IBM Study Program to provide considerations for improvements in its curriculum, learning process and skills development in order to help students creating powerful innovation. The results of this study will also provide references in innovation, the development of startup businesses, entrepreneurship education, and other entrepreneurship study.

2. LITERATURE REVIEW

2.1. Innovation and Entrepreneurship

The meaning of innovation includes novelty, ideas and creativity, identify opportunities to create new added value for producers and consumers (Carayannis, Samara, & Bakouros, 2014; Drucker, 2014). Promising and useful invention cannot be named as innovation until accepted by the market (Carayannis, et al., 2015). Innovation has three important dimensions, consist of environment, organization, and technology (Zhu, Kraemer, & Xu, 2006). While the content of innovation can be administrative and technical innovation; product and process; technology and architecture. And according to the intensity, innovation can also be categorized as major or minor innovation and radical or incremental (Massa & Testa, 2008).

Schumpeter and Drucker explains that the entrepreneur and innovation has a very close relationship (Demirbas, 2010). An entrepreneur is an innovator, and vice versa, innovation is a tool for an entrepreneur to creatively manage resources to create prosperity. In real business practice, an entrepreneur who do not apply innovation on business core competence will continue to work on obsolete process and product, thus becomes uncompetitive (Madrid- Guijarro et al., 2009). Innovation has become one of the keys to create advantage for the entrepreneurs and win the competition (Damanpour & Schneider, 2006). In fact, innovation which is applied extensively to an organization or a nation will increase the national economy competitive ability at global level (Dudin et al., 2013).

Developing innovation through process that starts from the stage of adoption, development, creating, implementing and commercialize, is not easy (Baregheh, Rowley, & Sambrook, 2009). This effort requires tenacity that often ends in failures. A study on SMEs in Iran explained the reasons why SMEs were not introducing innovation due to constraining factors at

55.8% and market condition at 29.4% (Talegeta, 2014).

2.2. Barriers to Innovation

Previous research in the area of innovation defines the various barriers to innovation, such as government policies, information, source of ideas, access to key resources, funding and costs and the idea of innovation (Talegeta, 2014). Furthermore, from the view of owner or manager, barriers to innovation can be categorized as external and internal factors (Segarra-Blasco, Garcia-Quevedo, & Teruel-Carrizosa, 2008).

Internal Barriers.
Internal barriers to innovation can be explained as difficulties, obstacles or challenges, which are derived from the condition within an organization. Several internal barriers that commonly deter business organizations are (Kotey, 2014; Segarra-Blasco, 2008): 1) Limited internal financial resources and high cost of innovation cause difficulties in funding, 2) inadequate skilled personnel, limited technical competency and managerial skills, and difficulties in finding suitable business partner, 3) Owner's or manager's knowledge on the industry, market, technology, and 4) Risk aversion character and unaffordable risks of innovation. In addition, inadequate R&D also becomes internal factor impeding innovation related to technological innovation (Talegeta, 2014).

External Barriers
On the other hand, external barriers to innovation can be explained as obstacles or challenges, which exist from the condition outside the organization. External barriers to innovation that are common in business organizations are: 1) Insufficient technological information, inability to access new technology (Segarra-Blasco et al., 2008; Talegeta, 2014; Kotey, 2014), 2) Uncertain market response towards innovation, low demand, difficulties to entry market dominated by incumbents, (Segarra-Blasco et al., 2008; Talegeta, 2014; Kotey, 2014) 3) Government policy and regulation which might be arduous, complicated and difficult to fulfill (Talegeta, 2014; Kotey, 2014), and 4) economic climate (Kotey, 2014; Cordeiro, 2012). Eventually, the external barriers to innovation are often considered more important and more difficult to deal with (Cordeiro & Vieira, 2012).

Firm ability to overcome barriers to innovation may vary depending on the industry, technology level and size of the firms. For example, high-tech manufacturing at industrial level perceives higher barriers to innovation related to cost of innovation, than low-tech manufacturing. Meanwhile, small firms perceived higher barriers to innovation related to cost, internal financial resource compared to large firms. Furthermore, the barriers related to market are more important in small firms than innovative firms. (Segarra-Blasco et al., 2008).

3. RESEARCH METHOD

Qualitative approach is used in this study with the aim to get a complete description (J. W. Creswell, 2013) of the barriers to innovation experienced by students of IBM study program, Universitas Ciputra. Purposive sampling is used regarding the need to establish sample criteria that able to explain barriers to innovation. The number of sample in this study is 8 respondents (J. Creswell, 2012), who meet the following criteria: currently registered as active student, has more than four semesters study period and in the process of running a startup business. Respondents who met the criteria should be able to explain the barriers of innovation because they have studied innovation subject, which has been delivered by Entrepreneurial Project course and other related courses. These respondents have been implementing innovation in their business project that have been developed continuously since the second semester until the seventh semester, and they have experienced challenges in running startup business as well as developing innovation. The data collection uses semi-structured interviews, then documented as interview transcript and translated in English. Interview questions include experience in running startups, implementation of innovation and barriers to innovation that is focused on internal and external factors. The interviews are analyzed using qualitative data analysis technique to address the focus of this study.

4. RESULT AND DISCUSSION

There were 8 respondents in this study, comprises of three students who currently at their final semester and 5 students who were at the sixth semester. All students had met the sample criteria. Six of eight respondents were running business in groups of 3 to 5 students, while the other two respondents were running individual business project. Respondents generally revealed positive impressions of running startup business and studying at the same time, because they were able to learn theory, concept, case-studies in class but at the same time, they experienced success or even challenges, obstacles, difficulties and learn how to overcome the problems in startup business.

> *"Okay ...from me, I get a lot of insight from some lecturers... So during the running my business at this university, from semester 2 to 7, a lot of new experiences that are useful in each semester..." (Respondent 4)*
>
> *"...so much to learn, where we actually have work, eventually, with the problems in our business, we got lessons...." (Respondent 5)*
>
> *"...Facilitators in UC are also very supportive to us. But it is not that easy to run a business without sufficient theory..." (Respondent 7)*

Business practices that were experienced by respondents were designed to bring learning which enable students to develop and implement innovation for the environment, organization, by using technology (Zhu, Kraemer, & Xu, 2006). Respondents revealed positive impression on the process of business mentoring, since the lecturers who act as business facilitators help, support, direct and motivate the students.

Furthermore, all respondents felt that they had made innovation in the form of product development and business processes. The intensity of innovation created by the students was categorized as minor and incremental innovation (Massa & Testa, 2008). Several notable innovations made by the respondents such as: purchase and lease modified containers modified for semi-permanent property, sell detox juice packages that can cleanse the digestive and traditional spices sold creatively.

> *"Well... we are engaged in the modified container business… We've made some office, food stalls/booths, then there was a small villas, cottages and so forth. So we changed the function of container ... "(Respondent 4)*
>
> *"... Selling ready to cook traditional seasoning, also sells food that is processed by using various seasoning of Dapoer Moestika, so that consumers can taste it after processed into various cuisines." (Respondent 8)*

Respondents implemented innovation in their business, having practice the concept of innovation given from lectures. Thus, respondents became aware of the importance of innovation to differentiate their business and be able to compete (Damanpour & Schneider, 2006).

The process of developing innovation experienced various internal constraints that come from various conditions within the company. The common internal barriers experienced by all the respondents were the factor of knowledge and skills (Kotey, 2014; Segarra-Blasco, 2008) comprehended by each individual as well as business associate. The following were explanations related to lack of knowledge of the market, consumers, technical knowledge and skills to produce goods/services, selling and marketing the products.

> *"...Not enough searching (at the internet) on how should we improve our business.. for example how to create variety of products... " (Respondent 2)*
>
> *"...important knowledge also in how people look at this market. So, what do people need?" (Respondent 3)*
>
> *"Knowledge of the use of the container itself. This should be able to follow the regulation standards of property (housing) in Indonesia... The five of us at first do not understand at all about container and no knowledge in changing container into property? If using rental system, then how's the standards, and so on and so on…" (Respondent 4)*
>
> *"Scope of knowledge… wherein the initial (development of) innovation we are as students, we are still very confused about what kind innovations..." (Respondent 5)*

Being lack of knowledge made some respondents eventually felt difficulty or

struggled in finding innovative business ideas.

> *"... Maybe the lack of creative ideas led to difficulty in innovation experienced by UC students..." (Respondent 2)*
>
> *"Well, I think my skills are still insufficient, yes mam.. It's absolutely not enough to make may business become stand out, has "WOW" effect in the eyes of the public, because my ideas it is still so-so..." (Respondent 1)*

Respondents felt that their knowledge as a student was not enough and they have to learn much from many course subjects and the problems they encountered in their business practices.

Another factor that also considered inhibits innovation was the factor of cooperation with business partners. Based on the explanation of respondents who had or currently working together in groups, collaboration and teamwork among business partners became challenge in innovation. The problems with business partners were often related to lack of motivation or focus with business projects caused by laziness, difficulty in time management and priority regarding business projects, classes, family matter and having many businesses outside the projects.

> *"...the main focus is to build a business. Perhaps since we also have class, the focus got divided …in some classes I got overwhelmed..." (Respondent 1)*
>
> *"...someone at our age (around 20 year old), the emotions are still unstable .... if you have do something, like feeling reluctant... I think the most obstacle is feeling lazy... put off the idea, sales…" (Respondent 3)*

Moreover, respondents explained that they were unable to manage the internal dynamic within the group, such as a lack of communication, respect colleagues' opinion, debates and internal disputes. In addition, respondents mentioned the influence family and closest relative affect the group dynamics. For example, when one member's parents suggested limiting the amount of fund capital and interfere business direction, the other group members became offensive.

> *"...there are different opinions that agree and disagrees. So it's difficult to reach group agreement... "(Respondent 2)*
>
> *"…not willing to accept opinions of others... Lha, I think that become problem to do innovation...." (Respondent 3)*
>
> *When the family of "A" talk like this, the family of "B" family talk time like this... Lohh. Daddy want to like this for the business to grow. While others, oh. Mom and Dad have opinions just like this in order to advance, so it's sometimes inhibiting... "(Respondent 4)*
>
> *"...unbalanced job description and unstructured and do not want to talk if there are problems within the group itself, so that they become lazy, unmotivated." (Respondent 5)*
>
> *"...motivation of the owner himself. Sometimes, one had a very brilliant idea but it is not supported by the motivation of the team. So the idea is often wasted." (Respondent 6)*

Zhu, Kraemer, & Xu (2006) explained the dimension of organization influence the adoption of innovation. In this case, micro organization size gives advantage to the students in the process of ideation, having less birocracy and more flexiblity. However, the students still got intervened by their family. They also needed to learn profesional work ethic and management.

Furthermore, the respondents explained that the capital constraints impede innovation (Talegeta, 2014) due to the fund required for research and develop products, production needs, entering the market, promotion, market education, cost of managing license, trademark and patented product.

> *"I want to have my own apiary.... regarding the capital need, we did not dare... if we rent a place and buy seedlings... we'll need at least 50 million Rupiah..." (Respondent 7)*
>
> *"... And we don't have particular capital to finance a wide range of research, many licensing, to patent the brand, research and so forth." (Respondent 6)*
>
> *"...lack of fund capital... we have big idea thus required a lot of capital also… So if for example we are from out of town, given monthly allowance. Still have to pay a lot here and there.... "(Respondent 2)*
>
> *"... Lhaa this time I don't ask my parents any money for my business. So I use my own money... while I have only limited amount... " (Respondent 3)*

Respondents found it difficult to fund the innovation, because as students, they do not have a regular income, while financing their business simply rely on limited personal savings and loans from family. One respondent explained that the higher the capital needs, the higher the business risk become since their innovation might not be successfully accepted by the market.

> *"…uncertainty avoidance… We'd rather play safe... if it's uncertain, we'd rather not choose that decision…" (Respondent 7)*

These made the respondents chose to avoid the risk of uncertainty, not having radical innovation and inclined to choose safer option (Talegeta, 2014). Limitation also set by the Facilitators that recommended around Rp 1 million of initial investment for each student to avoid risk of failure. Eventually, learning entrepreneurship and innovation should be prioritized in the process and experiences that give insight, knowledge and build competences of the students.

Besides experiencing internal obstacles, respondents also experienced barriers to innovation from external factors. The external barrier most experienced was lacking of market response (Segarra-Blasco et al., 2008; Talegeta, 2014; Kotey, 2014).

> *"... From our community… If I make product, I automatically attach my brand to make people become familiar with my product. However, buyer wants the product without my brand logo..." (Respondent 3)*

> *"... The obstacle is that sometimes the mindset of our target market... why innovation like these. Do I need to use a product like this ... "(Respondent 8)*

> *"...so when it does not correspond in their (customers') logic, they are not willing to accept innovation. They think this is something very strange..." (Respondent 5)*

Respondents explained that the market may not necessarily welcome innovation for various reasons, such as lack of understanding of the function or feature, was not yet in need or even considered the innovation offered is a very strange.

Besides the market response, respondents also explained that access to key resources often become barrier. Some of the respondents canceled the innovation idea, as they needed to import from abroad, or there were no available supplier of the raw materials.

> *"... The raw materials are available, but there is no local supplier who could provide the materials... "(Respondent 8)*

> *"I want to buy bees of different genes. Definitely the benefits of honey are also different, the beekeeping are different. To get the bees in Indonesia was extraordinarily difficult... "(Respondent 7)*

Because the respondents were having startups with limited capital, they often burdened with minimum purchase requirement from suppliers. Respondents often received uneven quality standards of materials from suppliers, more expensive price and less prioritized by their supplier.

> *".. the factory seems overload... production takes so long.. so sometimes when I ordered 20 pieces, the supplier only sent 10 pieces. "(Respondent 3)*

> *"Sometimes the fish that I ordered is partially rotten and the remaining is in good condition. So what to call… it inhibits my production." (Respondent 2)*

Other external barrier to innovation was the regulation and economic conditions in Indonesia. Regulatory factors obstruct innovation because new product or services often collide with third-party or government regulations, for example, in the form of licensing, patents, trademark, and safety (Talegeta, 2014; Kotey, 2014).

> *"Rules or regulations in an area.... our consumers want to build a small container house in the some real-estate area... they do not allow semi-permanent buildings..." (Respondent 4)*

> *"...(for container), electrical installation regulations and other are very different than those who made (exhibition) booth at the mall.." (Respondent 5)*

> *"...the existing bureaucracy or licensing. For example, to create innovation in food and beverage, it turns out we have to research a variety of licensing for mass production. "(Respondent 6)*

Else, the economic conditions could affect the process of innovation (Kotey, 2014; Cordeiro, 2012). For example, the inflation

caused an increase in cost, affected the market and consumption, currency exchange rate affected imported materials.

> *"...The decline of Rupiah exchange rate... influences our container price... we are forced to lower our margins. Or leasing the container could be unprofitable" (Respondent 4)*

Several references mention technology as barriers to innovation (Segarra-Blasco et al., 2008; Talegeta, 2014; Kotey, 2014), but in this case, technology was considered to be supporting or inhibiting, depending on the condition of each business. The technological factors described by the respondents were mainly related to the use of the Internet and social media as information and promotion media.

> *"...very influential... Nowadays we get information from the technology... so the technology is very helpful" (Respondent 2)*
>
> *"... If in our business is not really matter... we still use the traditional production, still use human labor, painting manually…" (Respondent 4)*
>
> *"It helped sometimes ...they (customers) can find information our products using google" (Respondent 5)*
>
> *"If we do not follow the footsteps of technologies, our business can be far behind." (Respondent 7)*

The respondents also explained that the company should continuously be updated with the technology and e-commerce development to avoid of being lagged behind the competitors. The above explanation about the use of technology were limited to the Internet and e-commerce without mentioning specific view about technology, should become concern, since it shows the students' limitation of knowledge and views associated with technology.

Considering the internal and external barriers to innovation, several steps are suggested to improve the quality of teaching entrepreneurship and innovation. 1) Related to knowledge barrier, students need to be encourage to gain more insight and skills, through seminars, workshops and other development programs. The knowledge should be very applicable for start-up businesses. It is also important to provide more variety of entrepreneurship newspaper or magazines, which are not limited to physical copy but also in electronic form. 2) Related to the process of innovation development, students need assistance and motivation from lecturers and experienced practitioners. Business mentors must understand the internal group dynamics, such as communication problems, the division of labor. Mentors must understand that the process of innovation requires different process, time and effort for each business, then give different approach of encouragement and direction. 3) Furthermore, innovations that have been successfully developed needs to be supported through publication in social media, websites, newspapers, and other media event, to introduce innovation to the market. 4) Besides the support from institutions or external parties, the most important are the independent initiative from startup owners, strong will to leave the comfort zone, ongoing search of new things, learning from more experienced practitioners. Finally, the student must have a long-term vision, since the development of innovation requires process and tenacious effort, yet may not immediately become successful.

5. CONCLUSION

This study reveals several perceived barriers to innovation that experienced by the IBM Students. Almost all respondents experienced barriers related to lack of knowledge and unpredicted market responses. In addition, some respondents also experienced barriers related to resource fund and third party regulations. However, technology is considered as supporting as well as barrier to innovation, depending on each business condition.

This study has limitation regarding the subjectivity of the respondents and scope of study. Thus, the findings in this study cannot be generalized. Further research is strongly required to explore at different and broader scope, or else, to confirm the barriers to innovation using statistical data analysis. There are also possibilities to study the barriers to innovation experienced by SMEs

as well as large enterprises; supporting factors to foster innovation; and other area of innovation management.

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