

Exploring the Internal and External Constraint of IT Business Start up in Bandung, Indonesia

Endang Chumaidiyah, Wawan Tripiawan, Rio Aurachman

Abstract: *The digital era encourages a digital transformation that brings changes in the application of digital technology in all aspects of people's lives. The digital economy becomes a business opportunity that encourages the growth of various startup of IT business especially game product, content and digital application. Nevertheless, the IT startup business with all its new creativity and ideas remains vulnerable to obstacles due to its various limitations. Business management is essential to be done by startup IT by empowering internal resources owned and by always paying attention to external factors. This research aims to explore and analyze internal and external IT business startup constraints. This study uses a descriptive qualitative method by distributing questionnaires to 40 respondents selected through convenience sampling approach. The result of the research shows that the internal factors which become obstacles for a start-up IT from the are competence, capital, technology, and innovation. As for external factors that become obstacles for start-up; IT in a sequence is the regulation, competition, market structure, and market orientation.*

Keywords: *Digital Business, Descriptive Qualitative, Digital Application, Start-Up.*

I. INTRODUCTION

Today the world is entering the digital age. Digital era is an era where information and communication technology has become an important part that cannot be separated from human life. This happens because science is constantly developing and has encouraged various technological innovations to provide various benefits for humans. This technology has provided many new facilities and new ways for people to do various activities, ranging from communicating, trading, creating products, looking for information, to find entertainment and so forth. Then digital transformation happen that refers to changes of application of digital technology in all aspects of community life.

In this development of the digital era, we cannot deny that the existence of the Internet became the key and milestone of this period.

Now the internet has become a daily necessity both for the benefit of individuals and groups/organizations. Based on survey results of the Association of Internet Service Providers Indonesia at the end of 2016 in Kompas (2016), it can be seen that the number of internet users in Indonesia has reached 132.7 million people or about 51.5% of the total population of Indonesia of 256.2 million.

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As according to research, We Are Social and Hootsuite [1] internet users in Indonesia has grown 51 percent in one year only. This number is the largest in the world, even far exceeds the global average growth just 10 percent. In the second and third positions are the Philippines and Mexico, both have growth rates of 27%.

Some conditions that occur in this era are an attractive business opportunity for various business sectors, especially IT industry with game products, content and digital applications. The gaming industry is an industry that includes mobile or desktop-based games with a variety of themes. While the content industry includes business intelligence, advertising, customer services, animation, news, education, and more. The software industry includes internet applications, web applications, business software, creative software, and science. This kind of industry has a promising prospect for the growth of national economy due to the digital transformation that has taken place in people's lives.

Based on the report of the Creative Economy Agency (Bekraf) Indonesia in 2017 [2], the game industry, content and digital applications is also a sub-sector of the creative economy that prioritized for development by the government, because its market opportunities are very high.

The market potential of this IT industry should be utilized and become a driving force for the growth of startup industry of games, content and digital applications in Indonesia. This industry will be able to absorb a large enough workforce that in the end can also be a buffer for economic growth and community welfare. According to [3] in this competitive business environment, a startup has an important role where young entrepreneur are willing to take risks with new ideas and creativity, which impact on creating new businesses that invigorate a country's economy. Therefore, stakeholders such as banks, public authorities, governments and others have high hopes for potential startup growth. The government is also working to encourage the growth of startup with various programs ranging from seminars to boot camp and the implementation of business incubators or accelerators, unfortunately not all startup managed to grow and survive well.

Basically, it's very easy to develop a startup. The biggest challenge felt by these companies is how to get to the surface or in other words can be recognized by the market as a product or service that can be used [4]. Business management is very important for companies, including startups. The chance of failure in business startup management is greater than that of medium or large-scale companies.



This is because in the critical period in the first five years of business startup must be able to balance between the management of internal factors that are still vulnerable as well as at the same time also manage external factors for products/services still accepted by the market despite not having a strong bargaining position.

Seeing these conditions, it is important to know the constraints experienced by startup business actors, both from the internal and external environment. So that business can continue to grow and survive. Based on this case, this study aims to explore internal factors and external factors that become obstacles in running a business start-up IT. The results of this study are expected to be an input for the relevant parties in conducting the development and development of beginner industry (startup).

II. RELATED WORKS

In the global economy, many countries recognize the importance of creating a new business (startup). It will be making a positive contribution to a country's economy through job creation, opening up new markets and increasing people's incomes. Seeing the importance of startup, researcher do various studies that discuss it and can support our research. This information can be seen at Table 1.

III. METHODOLOGY

This research used a descriptive method with qualitative approach. According to [5] a descriptive method is a method of research that focuses on the problems or phenomena that are the same time of the research made, then describes the facts about the problem investigated as it is accompanied by a rational and accurate interpretation. Through this method, we will know the obstructions and internal moreover external constraints that occur in the business players of the game industry, content and digital applications at this time.

The data retrieval technique was done by using questionnaires to 40 respondents from few incubator business institutions namely Bandung Techno Park (BTP), Bandung Digital Valley (BDV), PT Rice Inti, Baros Information Technology Creative (BITC) and another startup which was not supervised by the institution incubator. Incubator business is institution that prepare, develop and fund the IT start up to build their business at beginning.

These respondents answer and explain the various obstacles encountered in business activities. Convenience sampling technique does the sampling.

The questionnaire asked the aspects covering the internal capabilities and external environment of the company. The internal capabilities variable consists of competence[6], technology[7], innovation [8], and research, and capital [9].As for the external environment variable consists of market structure [10], market orientation[11],regulation[12], and competition[13]. Based on those arguments, the conceptual model had been developed for framework this research as follows:

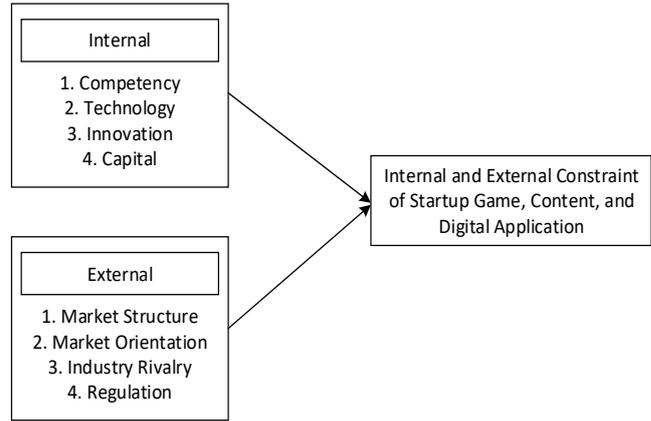


Fig. 1 The Research Model

The collected data have been analysed by simplifying the data into a more easily understood form. Besides, the data was presented to be used answering the problem posed in the research. The model used to analyze the data in this study is the flow model stage as has been submitted by [14], which consists of data collection, data reduction, data presentation and data verification running simultaneously.

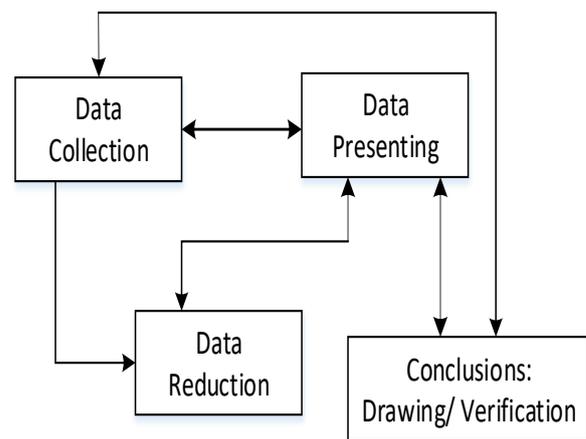


Fig. 2 Flow Model of Data Analysis

IV. RESULT AND ANALYSIS

Based on the data that has been obtained from all respondent, obtain some constraints both from internal factors and external factors of IT business startup, especially the field of games, content and digital applications which explain as below.



Table. 1 Related Works

Reference	Theory Used	Major Findings
[15]	Quantitative descriptive, questionnaire and interview, 60 respondents	In the development of startup in Surakarta city, there are internal constraints consisting of motivation, management capacity, funding, and marketing as well as external barriers consisting of government policy and labor market. There are eight important things and stages in the company's growth from startup to stable and established companies, among others, to set clear direction; offering products formulate product positioning to always meet market needs; develop internal processes; build a reliable working team; take decisions appropriate to the stage of company growth; build a finance-focused shelf; maintaining corporate values that support business objectives; as well as build sensitivity to the vulnerability of the company's growing failures by proactively managing risk.
[16]	Literature review	The success of start-up business in Surabaya City depends on education and experience, also supported by business training and age of business, whereas gender does not affect the success of start-up business in Surabaya. The startup accelerator has an essential role in bridging innovation between startup and company. Accelerators need to be efficiently designed to add value to startup and create innovative benefits for the company. To take advantage of startup innovation and to make accelerator as an effective part of corporate innovation strategy, managers need to consider the design dimensions of the proposition, process, person, and place.
[17]	Qualitative descriptive, interview, 3 respondents	
[18]	Interview, 40 respondents	

Internal Factors

Competency

Based on Figure 3, it can be seen that in the aspect of competence, there are six obstacles faced by IT startup in the field of games, content and digital applications. Constraints of lack of motivation of labor, weakness of knowledge management system and lack of labor development program each delivered by one respondent. The 4 respondents stated that they have difficulty in working load, where in this case the workers need to do various things in order to run the business activity in startup company and mastering various programming languages for the manufacture of products along with the number of labor is little because the company is still at the startup level.

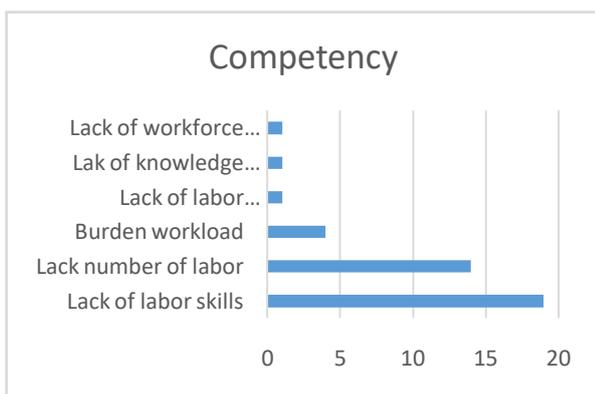


Fig. 3 Competency Constrain

As much as 14 people or equivalent to 35% of the total respondents answered the minimum number of workers as the constraint in the second most-faced. Furthermore, the most common constraints faced by this type of startup is the lack of manpower skills, where the skill of labor is still very needed to be developed for the workforce skilled in performing various tasks to run the business. This constraint is expressed by 19 people or 47.5% of the total respondents.

Technology

Figure 4 shows some constraints on aspects of technology, where there are five constraints faced by respondents. Each of the four respondents expressed the expensive technology costs and the needs of the latest software. Furthermore, each of the seven respondents expressed constraints on the needs of the internet infrastructure and sophisticated hardware requirements, where reliable internet infrastructure became the primary requirement for every IT business startup, as well as sophisticated hardware became an essential requirement to create games products, content and digital applications. The most problem faced by respondents is the ability of technology adaptation with the number of respondents who answered as much as 30% of the total respondents, or equivalent to 12 people.

This is because the technology is developing very fast, so the startup company should try to continue to adapt to the developments that occur.

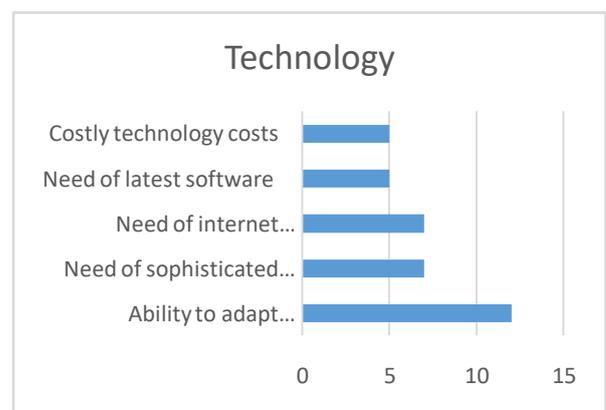


Fig. 4 Technology Constrain



Innovation

In the innovation aspect, there are six obstacles faced by respondents as shown in Figure 5. Limitations of ideas and length of innovation process become the main obstacles faced by respondents, where this constraint is expressed by four respondents. Further followed by; changing market trends, the level of difficulty in executing innovation, lack of information and the lack of time allocation. It becomes another obstacle faced by startup companies in this innovation aspect.

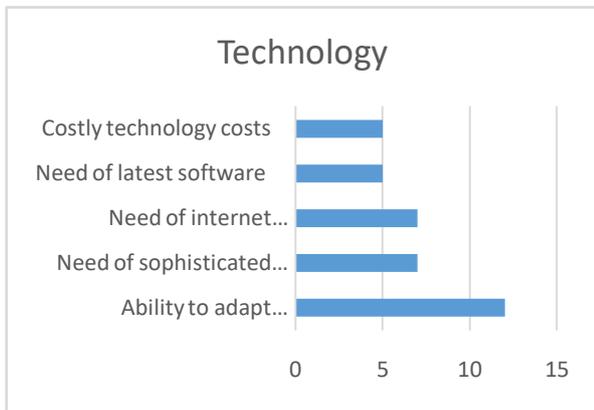


Fig. 5. Innovation Constrain

Capital

In the capital aspect, note five obstacles faced by respondents, where the limitations of capital became the most faced by startup companies with the number of respondents who answered are 18 people or equivalent to 45% of the total respondents. Generally, capital was obtained with a minimal amount from the business founder. The next obstacle; the lack of investors, answered from three respondents. Two respondents answered that they face difficult requirement to accessing capital. And the last is the unstable cash flow and unavailability of capital scheme, answered by one respondent.

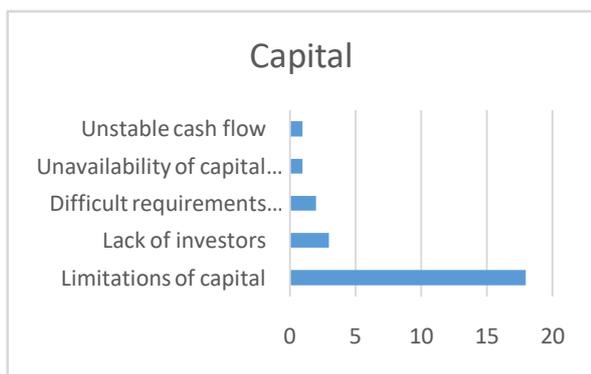


Fig. 6 Capital Constrain

External Factors

Market Structure

Based on Figure 7 it can be seen that in the market structure aspect, there are four obstacles faced by respondents, where the readiness of the prospect becomes the main obstacle faced by startup companies. This prospect readiness constraint is expressed by 37.5% of the total respondents. This constraint occurs because IT startup products are technology-based products, in this case, the

respondents argue that not all people are educated and understand the technology created. Furthermore, five respondents answered the constraints of market segmentation, where the market has not been mapped by the startup companies so well. Then there is still low level of market penetration, answered by 3 respondents, and different market characteristic answered by one respondents.

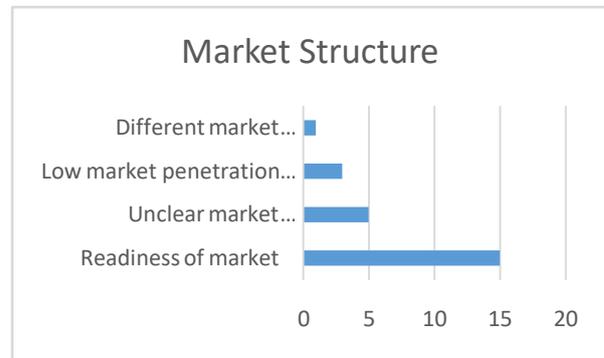


Fig. 7 Market Structure Constrain

Market Orientation

In the aspect of market orientation, there are three obstacles faced by startup companies such as the lack of knowledge about global market and unable to meet the needs of global market demand. The most common obstacle faced is the limited market access, which is answered by five respondents.

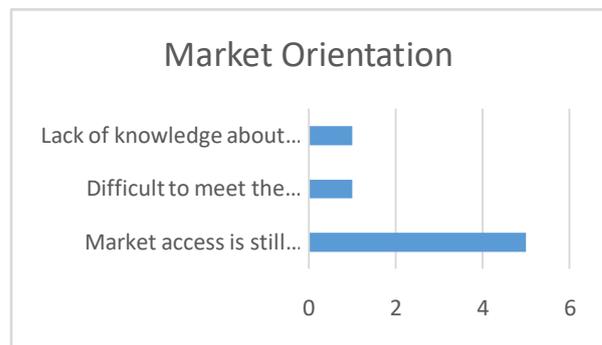


Fig. 8 Market Orientation Constrain

Industry Rivalry

Figure 9 shows some obstacles in the competition aspect, where the most common constraint is the number of competitors. This constraint is expressed by 16 people or equivalent to 40% of the total respondents. This constraint occurs because today, there is a lot of startup companies with diverse products but have similarities in the business model, so it rises the competition more and more. The next obstacle is that competitors have better capacities, for example capital, technology, innovation, brand and so on. The next constraint is the price of competitor products are very competitive and low product differentiation with competitors. The last obstacle is the cheating that conducted by competitors, which is answered by one respondent.





Fig. 9 Industry Rivalry Constrain

Regulation

In the regulatory aspect, there are three obstacles faced by startup companies as shown in Figure 10. Most respondents, as many as 50% of the total respondents answered the absence of clear regulation about how the organize, supervise and assist various things in IT business startup activities. Furthermore, ten respondents answered that the existing regulations had not supported business activities. While the last obstacle is the low involvement of the government to support IT business startup activities.

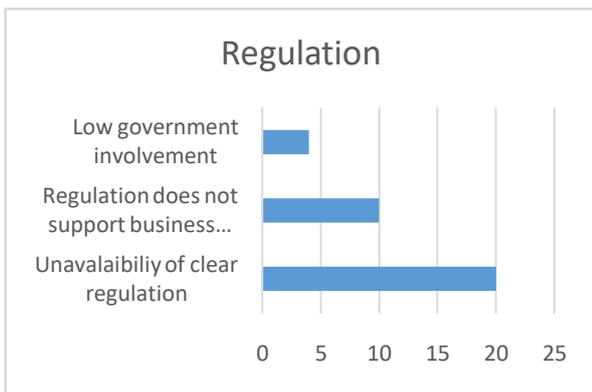


Fig. 10 Regulation Constrain

V. CONCLUSION

Based on those research result, there are various internal and external constraints of IT startup business, especially in the field of games, content and digital applications. In the internal factors reviewed from four (4) aspects, there are constraints as follows:

1. Competence. The existence of limited skills of labor expressed by 47.7% of respondents, followed by the limited availability of the number of skilled labor.
2. Technology. The constraint of technological adaptability is expressed by 30% of respondents, as well as obstacles of internet infrastructure needs, as well as in the lack of sophistication of hardware devices.
3. Innovation. Limitations of ideas, length of the innovation process, changing market trends, the difficulty level in executing innovation, lack of information and lack of time allocation.
4. Capital. Capital constraints is expressed by 45% of respondents.

From the four internal aspects, the sequence of the biggest obstacles perceived are successively is competence, capital, technology, and innovation.

In the external factor constraints, with 4 aspects, these are constraints as follows:

1. Market structure. The presence customer readiness by 37.5% where startup company need a time to communicate their products to consumers.
2. Market orientation. Lack of knowledge about global markets and high difficulty in fulfill the needs of global markets.
3. Competition. "Many of its competitors are offering products and services that are similar" perceived by 40% respondent.
4. Regulation. "The absence of clear regulation to govern, supervise and assist various things in IT business startup activities" is felt by 50% of the respondents.

From the four aspects of the external factors, the obstacles perceived by start-up IT from the highest voter are regulation, competition, market structure, and market orientation.

For qualitative methods, there are limitations because not all respondent's answers can be grouped in a statement or multiple statements. This is because the answers from the respondents are very varied and different so it will be difficult to be grouped. For further research, this qualitative descriptive research needs to be continued into quantitative research to provide more valid results to be used as a reference in decision making in coaching and developing start-up IT business.

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