

The Exploration of Influential Factors toward Competitive Advantage on Digital Application Startup: Case Study on Indigo Incubator Program of Telkom

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Abstract. The rapid growth of Information, Communication and Telecommunication (ICT) in this digital era has been able to connect the resources that exist among humans, service offering, device, network and application to build a business ecosystem that makes the world becomes convergence and borderless. The domination of various research and development activities of ICT in Asia include Indonesia, shows that all of stakeholders in this industry have to continually indentifying the innovatiove solution either technology, business or product and services to have a significant role in the formation of end-to-end ICT ecosystem. TIMES service, especially IMES is a new business developed by Telkom in the New Economy Business area in the form of New Digital Services. Telkom performs the principles of creating, choosing, composing, channelling and commercing to create the innovations of Digital Startups that will be managed to achieve maximum result in the Incubation Program of Telkom Group (Indigo). Through that stages, the management process is carried out to achieve the success of innovation. This study tries to identify the success of Startup in Incubation Program of Telkom Group (Indigo) to produce the successful digital product. The approach used in this study is a Qualitative Method that the researcher previously carried out several literature study on Startup and Innovation in general and tried to explore more detail together with the Expert and Starups that was assessed to have sucessfully producing digital product in the Pasar on Telkom's Incubation Program. The group of factor is examined by Sustainable Competitive Advantage Model on the service industry as resource and skill variables that affects Sustainable Competitive Advantage including Synergy, Product, Process, Innovaton Management, Communication, Culture, Experience, Information of Technology, Innovation Skill, Functional Skill and Implementation Skill.

Keywords. Innovation; startup ; competitive; factors.

I. INTRODUCTION

Innovation is expected to give prospects to grow new business, new work, the growth of productivity and more important is as a driver of economic growth and development. Inovation has been recognized long ago as the main driver of economic growth in developed countries. According to OECD reports as quoted by Declan Carroll (2016) in a Research Report of The EU-Indonesia Trade Cooperation Facility that for more than 50% of world economic growth, Innovation has driven economic growth and will be continue in the future. The transition process will occur and developed country need to increase their ability to compete in global economy and knowledge.

Table 1. Level of Competitiveness Several Countries

Indicators	Indonesia	Malaysia	UK	USA
Population	252.81m	30.1m	64.51m	318.86m
GDP	2,553bn	711.79bn	2,426.46bn	16,618.12bn
Competitiveness	37th	18th	10th	3rd
Innovation	97th	32nd	2nd	5th
New Start-ups	47,549	49,203	537,658	988,486
Start-up Rate A	18	163	833	310

As the previous table shows, the more innovative a country, the more competitive it is. The UK, for example, as innovative and competitive country has produced significant amount of Startup. Innovation needs to develop and have a highly educated human resources to create innovation culture and entrepreneurship that will drive the future growth and prosperity. The reports also stated that the economic and social growth through innovation in the creation of new growth are also important for Indonesia which has the fourth largest population in the world and the third highest in terms of youth, after India and China and as it is recognized nowadays that the younger generation is becoming key actors in innovative sectors such as Information and Communication Technology (ICT)

II. INNOVATION MANAGEMENT IN TELKOM

As a company engaged in ICT, Telkom responds with a strategy to develop end-to-end integrated ecosystem ICT in Indonesia completed by business case for the holistic solution development of TIMES Convergence (Telecommunication, Information, Media, Edutainment Services) such as advertising, mobile applications, content, big data analytic, cloud, payment system in every ecosystem which is being developed by TELKOM , among others, mobile, home, small medium enterprises, and smart city.

To be the King of Digital is one of strategic business Telkom in realizing end-to-end integrated ecosystem ICT in Indonesia, where digital business is a TELKOM's hope to be able to competitively and sustainably grow (sustainable competitive growth) through Build Coherence Digital Innovative Ecosystem.

In the implementation, nowadays, TELKOM carries out business services investment of Telecommunication, Information, Media & Edutainment Service (TIMES) in Business Ecosystem convergent. The investment carried out in the business services of TIMES is by creating the innovation of digital products of TIMES services, especially IMES, which is a New business developed by Telkom in the area of New Economy Business in the form of New Digital Services. Hereafter, Telkom formed a Unit of Digital Services Division to manage Telkom's Innovation (Group) performing the principles of creating, choosing, composing, channelling and commercing to realize innovation that will be managed in order to achieve maximum results. Management process is carried out through those phases to achieve a benchmark of the success of an innovation.

As obtained from several reference that about 90% (Ninty percent) of all Startup businesses ended or can be said having a failure, and the first failure is in the first 120 days (one hundred and twenty days). Avoiding the problems of innovation management, Telkom has designed services and digital product innovation management that aims to keep it grows facing the business competition by developing Creativity to Commerce (C2C) Startup Model in the form of Open Innovation with several programs as follows:

A. Program Selection

Selection Program for Startup that has innovative idea/product/business to enter the Incubation program. Roadshow is performed in several major cities to promote program and also gather creative digital Startup in the location of roadshow so that they can participate in Indigo Incubator Program. Mostly, Startup/ Startup candidate has just started the digital business after they finished their education with less than two years of experience in an average with the unformed digital business skills. The quality of Startup and talent source have not been formed. The desire to try to become Startup is another form of seeking job so that their commitment to develop the Startup becomes unfocused. Each team of Startup has not have the same motivation to grow together with the Startup that their managed with the

possibility ignoring big salary offered by the major companies. Most of them come with ideas that have not yet showing digital product market needs because it has not supported yet by the understanding of good digital business. The early condition causes many ideas cannot be continued.

B. Product Development

Provision of initial capital for Creative Digital Startup to carry out the validation of Idea, Product, and Business Model. The average of selected idea is about 3-4 % or about 20 products each year. After finding the idea of product which is considered required by the market, Startup have to focus in carrying out various specific role to develop product to achieve some metrics in each stage as a measure to pass to the next stage. Metric defined at each stage is a metric that describes Digital Product Performance suitable to the each of market condition, so that it is expected that Startup completes their knowledge about digital business from both market and technology aspects.

C. Program Management

The management/operation activity covering the organizing event to community development and assistance program/mentorship for Startup incubated. In general condition as the Startup has focused on developing product, they can no longer be directly involved in all things that it takes resources who have digital business ability or a management team which is required to help manage the growth stage of a Startup. Mentorship activity in Indigo Incubator itself involves the Business Digital Players consist of Permanent Mentor and Guest Mentor both from domestic and abroad. The mentors will review the progress of product and provide knowledge and experience to the Startups..

D. Mentoring Programs

The activities to increase the value of Indigo Incubator in terms of knowledge, incubation concept, market access, through cooperation with Global Incubator and obtain guidance from Global Mentor to the development of Startup competency.

Considering the great expectation towards the growth of Digital Services to Telkom's business in the future, it is required some efforts to maintain the success of Digital Innovation of Startups in Indigo Incubator Program.

III. STARTUP

With the development of the business through online media which is supported by a very fast internet penetration, many new companies with a platform website (web-based) have sprung up. These companies are called Startup. Some experts defined that Startup as a early company that is still looking for forms that full of uncertainty with the passion to grow. Startup as a business unit is an information technology-based company that provides their services or products via offline or online, and also mentioned that the development of today's condition, Startup is more known as a small company that has hosting or domain in the form of website or blog. (Arjanti and Mosal, 2012). Startup is a company that is still looking for the form of business (profit) that can be enlarged continuously. (Blank, 2014). Startup is Company which is designed to grow, its essence is growing and everything related to the company is growing. (Graham, 2014)

Startup is an institution designed to develop new product or services and it is in the condition that is full of uncertainty, a condition that is hard to model and it is not important how much the risk is but it certainly is a risk of uncertainty itself. (Ries, 2014).

The development of technology brings many new opportunities to grow the national economy. However, these opportunities are directly proportional to the challenges that still impeding the movement of digital creative industry. The Agency of Creative Economy in 2015 presented the results of research as Indonesia Startup Opportunities as follows:

- The high adoption of mobile application by users of mobile devices (smartphones and tablets) with a user penetration of smartphones and tablet itself reached 97.5%.
- The users in average open online application for 60 minutes per day. The most accessible application is Chat application, later, marketplace application. Meanwhile, social media application such as Instagram, Facebook and Path is in the third position (76 %).
- The age range of the most actively accessing digital applications is 18 to 21 years.
- The contribution of digital applications is still very small at only 1.6%

With the opportunities as described previously, the Startups in Indonesia have the opportunity to develop and grow great but in line with the company which is still looking for its form, then, Startup need to find the conditions that helped to successfully run the digital business.

IV. THE SUCCESS FACTORS EXPLORATION OF INNOVATION

Becoming the successful Startup, Startup could follow the path of previous Startup. The identified critical success factors are not much different from the factors that are found when examining the success of entrepreneurs in general. Several factors are specific enough for the innovative entrepreneurs. The two groups of important factors identified: organization and entrepreneur itself. (Groenewegen and Langen, 2012). Even it is less known about how they failed and our understanding of Digital Startup as the unit of entrepreneurial will not be complete until we have a clear understanding of what makes them to be successful. Liao(2008). It is important to consider this issue in order to help Startup build a digital business effectively and efficiently, which in turn stimulate the innovation. Startup can learn from the successful and unsuccessful startups to find out what factors are most important for the success, and so the startup can gain benefit by focusing on such factors as their path to success.

There are several identified factors that influence the success of innovation, specifically on digital services innovation. The Sappho-study followed by Cooper New Product Development Project (1980) stated that survival is determined by three factors. The first factor is the extent to which a unique and winning product compared to existing alternatives. The second factor is the understanding of innovation on the development of (future) market and the third factor is the product synergies with the resources company's overall in technology and manufacturing, these factors determine the half of product feasibility. Research from Maidique and Zirger (1984) stated that the success of innovation is not the success of a single factor but it is an achievement of the various activities of the company and project-related factors. Lowson and Sampson (2001) provided a model of organizational capability which consists of seven elements: vision and strategy, competence, Organizational intelligences, creativity and idea management, organization and systems, culture and climate, and technology management. The success factors of innovation are usually grouped on the source of those factors. Panne et.al (2003) divided the factors grouped in the classification of the four main areas (Firm related factors, Project related factors, Product related factors, and Market related factors, which include the corporate culture, experience with innovation, Research and Development teams (R&D) and the company's strategy towards innovation,

complementary projects with the company's resources and innovation management, Relative price and Quality, Market Potential and Market Communication. Nybakken, E and Jenssen, J.I (2012) conveyed Innovation Strategy and Working Climate affects the performance of Innovation. Nylen and Holmstrom (2015) identified the factors that influence the Digital Innovation which includes user experience; value proposition, scanning the digital environment; digital innovation, new skills; Team and dynamic digital innovation processes. Menkveld (2012) identified the factors that influence the success of Startup Digital consisting of Capital, Resources, Networking, Knowledge, Competence, commitment and motivation, Vision, Experience, Decision Making, Technical Background, adaptation to change, knowhow of Startup of how digital business run a business, business Models, Market Knowledge, colaboration / Synergy team and Monetization.

From the literature review following a number of factors that are considered as factors that affect the success of innovation as follows:

Table 2. Innovation Success Factors

AUTHOR	GROUP FACTOR	SIGNIFICANT FACTOR
Lowson and Samson (2001)	Organisational Capability	vision and strategy, competence base, organizational intelligence, creativity and idea management, organizational structures and systems, culture and climate, management of technology
Gerben et.al (2003)	Firm related factors; Project related factors; Product related factors; and Market related factors.	Experience, Organisasi, Strategi Inovasi, Inovation Management, Complementarity, Inovativeness dan Uniques, Skill Teknologi Marketing
Nybakk, E & Jenssen, J.I. (2012)	Innovation strategy Innovation Working Climate	products, processes, business systems, expenditure in R&D. team cohesion, encouragement, resources, autonomy, challenge, and openness to innovation
Daniel Nylén dan Jonny Holmström (2015)	Produk, Environment, Organisation	User Experience Value Proposition Digital evolution scanning Skill Improvisation

V. Research Variable

This study will take an approach of Sustainable competitive advantage model in service industries: A Conceptual Model and Research Proposition Bharadwaj et.al (1993) stated that the Resources and skills is one of Resources elements influencing Sustainable Competitive Advantage. Resources and Skill Synergy herein include, among others, Product, Process and Managerial Innovation, Culture, expertises / Learning / Experience, Information Technology, Innovation Skills, Functional Skills and Implementation skill. These variables will be studied

more deeply as variables that is estimated to contribute to the success of digital Startup to produce good products.

Potential Sources Of Competitive Advantage (Resources & Skill)
▪ Synergy ▪ Product ▪ Process ▪ Managerial Innovation ▪ Relationship ▪ Communication ▪ Culture ▪ Experience ▪ Information Technology ▪ Innovation Skill ▪ Functional Skill ▪ Implementation Skill

Figure 1 The proposed Research Variable.

VI. DEFINING VARIABLE AND RESEARCH ITEM

From the results of the literature and initial study, researcher defined several research variables and indicators as follows:

A. Synergy

Digital business has led Startup enter the business world. Research reports of The EU-Indonesia Trade Cooperation Facility stated that there is more than forty thousand new companies that emerge each year in Indonesia alone. Almost all industries are filled with new players who want to find out a niche for them, which means speed is essential. It is usually synonymous with the early stages when startup attempted to stand with minimal resources and should be able to do many things in a short time.

Behind all the facilities that will be acquired by the Startup in Indigo Incubator Program, the work results especially in the early stages is determined by the team that lies behind. Besides they must have a high ability to deliver maximum results, those who are on this team often have to handle more than one task at a time.

Synergy variables that will be studied more deeply is how each member of the Startup trying to improve their capability, share knowledge and skill among them so that they can accelerate the existing development process and ultimately have an impact also on the efficiency of resource used. According to the existing challenges in the Startup and literature then some of the items that will be more examined for synergy variables are as follows:

- 1) Sharing knowledge and interpersonal skills.
- 2) Sharing knowledge and skills to accelerate the work.
- 3) Sharing knowledge and skills for resource possible

B. Products

In a digital product, the design is something very important. Good design is able to help the company to achieve its business goals. A design is successful when the User involvement is getting better. Products must be easily accessible to everyone, really easy to use by user

according to their priority needs and not make the User burdened with other disruptive elements.

Consistent of the design should also be considered related to the layout, design elements, typography and interactions to reduce the burden to the user. The consistent could have a positive impact on the consistency of the user experience, so it is very necessary. Digital products and services should be able to provide a meaningful experience for the user, have a design that concern about aesthetics and raise the involvement of users (Nylen and Holmstrom, 2015). These things will become a challenge when Startup starts the development of digital products.

Product variables that will be studied more deeply is how Startup is able to produce products that are easily accessible, easy to use and in accordance with the aesthetics of a service of digital products so that users feel the ease and convenience of using the product. According to the existing challenges in the Startup and references then some of the items that will be more examined for variable products are as follows:

- 1) Ease of use Digital Product (User Experience)
- 2) Ease to interact with the Digital Product (User Interface)
- 3) Product aesthetic in Digital Products and Services Designs
- 4) Engagement : Digital Products and Services have been produced to provide a meaningful experience to the user

C. Authors and Affiliations

After finding the idea of a product, the Startup should be able to make a product or service that is preferred, desirable and of course, required by the customer. Startup must be absolutely sure that they are making the right product for Users. The Startup must explore the market, look for assumptions or opinions of people, and discover new opportunities that are potentially more profitable. The digital product development process involves information about the user, digital product components, information about new hardware and services as well as knowledge of the channel being used. (Nylen and Holmstrom, 2015)

The process variables that will be studied more deeply is how Startup can run the product development process so that it can produce a product which is preferred by customers and provide solutions needed by customers. According to the existing challenges in the Startup and references then some of the items that will be more examined for variable products are as follows:

- 1) Exploring information about User Behavior
- 2) Exploring information about User Needs
- 3) Exploring information about Digital Product's Component
- 4) Exploring information about new hardware & services including those that are still in development phase
- 5) Exploring information about the development of digital technology information channel (eg, software platforms, operating systems, and web services)

D. Innovation Managements

Once want to establish a business or Startup, Startup must have an explicit purpose. It is found that many of them that newly set up a Startup, dive directly into ideas that are very brilliant for the development of their Startup, without thinking about why they do that.

Without an explicit purpose, a startup will have very difficult path to follow. Likewise, when they face a problem, it will make them harder to resolve problems

Only establish without having a plan for growth, of course, it would be useless. Because Startup certainly want a business that he started continues to grow and develop as long as possible. Startup must have a plan for each process of growth that will be passed and be realistic in planning future business. Startup is a unit that is designed to create new products or services in the middle of high uncertainty.

The variable of innovation management that will be more examined is how Startup is able to manage innovations so that it can run the development process fast and reduce the uncertainty that will occur as a characteristic of digital products. According to the existing challenges in the Startup and references then some of the items that will be more examined for variables of innovation management are as follows:

- 1) The speed of decision making – (Cozijnsen (2000))
- 2) The use of a gradual process (Crawfor (1991: 27)) (Maidique and Zirger (1985); Pinto and Slevin, (1989)).
- 3) Planning detailed activities and well defined.
- 4) The speed and depth of evaluation thereby minimizing the inherent uncertainty projects
- 5) The certainty of human resources availability
- 6) The certainty of funds availability

E. Communications

Startup of digital products in general will face the market situation which is not yet or have recently established so that the efforts are required to introduce startups to the industry. In general, an incubation program gives special attention to the media to introduce the products made by the participants. Communication Variable that will be studied more deeply is how Startup is able to publish the presence of Startup, mainly products value offered to users so they can accelerate product acceptance in the market. According to the existing challenges in the Startup and references then some of the items that will be more examined for Communication Variables are as follows:

- 1) Publication of Startup digital product value (Connor and Rumelt, 1991) at Bharadwaj, et al,(1993)
- 2) Publication of Startup achievement to become standard industry. (Connor and Rumelt, 1991) at Bharadwaj, et al,(1993)

F. Cultures

After finding ideas and make products needed by the market, each member of Startup should focus on performing various specific roles of product development with targets as outlined in several metric. This can only be performed by the best people. Initial discussion together with Startup said that it was not as easy as expected. Startup must be motivated constantly to face difficult times, especially in the growth stage. Digital startup that is building its business should make the organization as a comfortable place to work, the cultural aspects of labor must be kept. Especially when the people who work inside are from a variety of different backgrounds. Startup, certainly do not want if each person feel not belong to each other and indifferent to their partners, all team members must always know what the company is doing, why, and what to do next and why.

Variable of Organizational culture that will be more examined is how Startup is able to create a comfortable working atmosphere and conducive and can support them to interact and communicate to make the Startup become Solid Team as a team formed of young people from several different backgrounds . Culture is also expected to continue to grow motivation and dedication of each team member to raise Startup. According to the existing challenges in the Startup and references then some of the items that will be studied more deeply for Variables of Organizational culture are as follows :

- 1) Management of flexible working ((Avital and Te'eni (2009)).
- 2) Allocation of special time for improvisation efforts (Lawson and Samson (2001)
- 3) Effective communication between the Operator and Startup
- 4) Startup motivation to become Entrepreneur in Digital World

G. Experience

Referring to the Wall Street Journal published by Scott Austin on February 18, 2015 on the website: [//graphics.wsj.com/billion-dollar-club](http://graphics.wsj.com/billion-dollar-club) it is stated that 80% of the Startup founders that are worth billions dollar have ever established one or several Startups previously, so their success mostly are not from their firsts establishing Startup. Further indicated only a few startup that had never had the experience of working in the area of technology, almost all the major Startup have had experience in the technology sector. From these data it appears that the experience is indeed a significant effect, especially if we want to establish a digital startup that focuses on technology as a key component of our product.

Variable of Organizational experience that will be more examined is how Startup is able to maximize previous experience to manage organization or produce better product. According to the existing challenges in the Startup and references then some of the items that will be studied more deeply for Variables of Organizational Experience are as follows:

- 1) Experience in developing previous product is allowing the company to fix the next innovation (Panne, Beers and Kleinknecht, 2003)
- 2) Experience in previous product accelerate time to market (Maidique & Zirger, 1985; Zirger, 1997).
- 3) Experience in previous product increase efficiency. (Maidique & Zirger, 1985; Zirger, 1997).
- 4) Startup provides higher priority to engage in similar products (Stuart and Abetti, 1987; Bessant, 1993)

H. Information Technology

Startup in the development of the business will use, exploit, and develop information technology as a support or even become a business startup itself. The challenge for Startup is how to use existing technology to become a success Startup.

Technological resources such as architecture, standardization of information technology systems as well as hardware and software units of information technology (Rockart & Short (1993) and Goodhue (1996)

Variable Information Technology that will be studied more deeply is how Startup can take advantage of information technology to support business success either as principal or as a support and how the ownership of the Information Technology.

According to the existing challenges in the Startup and references then some of the items that will be studied more deeply for Variables of Information Technology are as follows:

- 1) Architecture (manage units in IT system)
- 2) Standardization of IT system
- 3) Hardware and software used in IT system (for

I. Innovation Skill

The most common initial obstacle for Startup in building Startup is of course ideas, capital, and resources. It is required unique and valuable ideas to the user in order to make ideas become competitive and attractive to Financiers to provide start-up capital in order to grow further Startup. Startup will start business with minimal resources and it is hard work and requires high commitment. By running Startup business, it is required to think as an entrepreneur. By starting a business/ Startup businesses will find a wide range of parties with different views, different businesses which could possibly open up new opportunities for Startup. Building relationship among entrepreneur even customer, sharing various ideas are able to increase the ability towards new things to support business is something that must be carried out by Startup to run their business.

Variable of Innovation Skill that will be more examined is a basic capability that supports Startup to grow digital business which has high uncertainty with newly formed market and also the team condition that still new formed with business ability which still have to be increased. According to the existing challenges in the Startup and references then some of the items that will be studied more deeply for Variables of Basic Skill are as follows:

- 1) The need for basic skills, knowledge, abilities and personal qualities to support the success of managerial and entrepreneurial innovation (OECD, 2011) (Hawkins, Julia A. Rudy, Wallace, 2012)
- 2) The sustainable learning from the unique nature of digital products.(Nylen , Holmstrom; 2015) (for

J. Functional Skill

Startup in its business development will use information technology as a support or even become a business startup itself. The challenge for Startup is how to use existing technology to become successful Startup.

Variable of Information Technology that will be studied more deeply is how Startup can take advantage of information technology to support business success either as principal or as a support product (Hawkins, Julia A. Rudy and Wallace; 2012) as follows:

- 1) Ability to use software and hardware
- 2) Understanding of internet technology
- 3) Understanding hardware / system architecture
- 4) Troubleshooting software and hardware problems

K. Implementations Skill

Startup is a kind of new business in the earliest stages of development with a relatively new industry or unformed. Startup is usually formed because of the problems to be solved such as the case of VenueKita which is one of Startup that fostered by Indigo that they felt it was so hard to find room to conduct meetings, parties or anything in big city like Jakarta so that they developed an application to bring the owner of the room and the user together.

Another example is the Transport Booking Online such as Gojek and Uber for instance, started from the problem of how difficult to get vehicles in major cities, especially in Rush Hour so they tried to make the application solution for ordering vehicles. By unformed industry then some elements of industry do not exist as well. Seeing some cases of the digital products implementation such as Uber Gojek, regulatory elements is one of the important factors that must be anticipated for the implementation of digital products..

Variable of Implementation Skill that will be more examined is Startup ability to anticipate and prepare regulations related to the implementation of the product to the user. According to the existing constraints on Startup and references then some of the items that will be examined further for Variable of Implementation Skill is as follows:

- 1) Knowledge of Government Regulations regarding the implementation of Digital Products.
- 2) Knowledge of the legal aspects of digital products commitment

VII. MODEL AND RESEARCH VARIABLE REVIEW

Reviewing models and variables in this study, researcher conducted discussions with four personnels that the author assumes having capacity and supported by direct assignment to manage Innovation and Incubation Program of Telkom from the Startup. The personnel composed of the same level of Manager and GM as well as Director of Telkom Subsidiary.

VIII. EXTRACTING DATA

Interview is the primary data collection techniques to collect data from informants / participants in the qualitative methodology. Interview varies based on the number of people involved during the interview, the level of the structure, proximity interviewers to participants, and the number of interviews conducted during the study. The requirements in the determination of the informants was based on the breadth of information owned by the informant and activity related to the problems used as a focus of research.

As according to the requirement that there are criteria. First, participants are those who must have the necessary information. Secondly, those who have the ability to recount their experiences or provide needed information. Third, those who are really involved with phenomenon, events, problem, in the sense that they experienced it directly. Fourth, participated to be interviewed. Fifth, they must be not under pressure, but full of compliance and awareness of the involvement.

In accordance with the topic of study then the selected informant is Startup believed to have been successfully developed products and has reached Market Acceleration Stage in the incubation process stage. Startups selected as a Participant / Information of Interview are as follows:

Table 3. List of Informant .

NAME	AREA	STAGE	RESPONDENT
AMRSE	Energi	Market Acceleration	Founder/CEO
SONAR	Data Analytic	Market Commercial	Founder/CEO
INFOKES	ehealth	Market Commercial	Founder/CEO
XIGENT	Security	Market Acceleration	Founder/CEO
KAKATU	Family	Market Acceleration	Founder/CEO

IX. ANALYSIS OF INTERVIEW RESULTS

Interview is the primary data collection techniques to collect data from informants / participants in the qualitative methodology. Interview varies based on the number of people involved during the interview, the level of the structure, proximity interviewers to participants, and the number of interviews conducted during the study. The requirements in the determination of the informants was based on the breadth of information owned by the informant and activity related to the problems used as a focus of research.

A. Sinergy

On the way raising the company, the Startup requires some aspects of skill that in general consists of technical, business and marketing skills. The founders of Startup can be formed from one or a few people and they will try to form such skills by sharing and collaborating with each other to complement those skills. The forms of sharing performed namely in the form of direct discussions, sharing knowledge, review and provide input in any activities performed regularly as needed.

The Startup personnels should also be committed to share and open to learn new things outside of the scientific background and set aside time for sharing. The level of knowledge learned is not deeply but just to know globally. Sharing activities can be performed regularly in accordance with the needs of the program and the theme taken can be adjusted to the program needs such as the operational program issues while the other personnels would provide the solution to overcome those problems. The sharing activities should indeed be followed by three mandatory expertises for startup so that it can form discussion and complete each other.

The benefit of sharing or collaboration that is felt by Startup is work processes and decision-making become faster because each team member has had the same and more comprehensive understandings about the Startup capabilities. Another thing that is revealed from the Startup is that the benefit of sharing and collaboration is also to establish a togetherness and mutually spread the spirit to be more advanced on all the team members and create strong as a family to grow and succeed together.

From the interviews, Synergy becomes an important things to do for Startup as kind of complementary expertise needed by Startup covering technic, business and marketing skills. The form of synergy that is carried out include direct discussion, delivery of best practises, review and provide input in every activity and can be carried out at anytime in accordance with the program needs. The perceived benefit is more towards accelerating the work process and decision-making.

B. Products

To provide a meaningful experience for the user, the product must provide direct benefit to users. Startup must provide special attention that the product will be developed should depart from the existing problems in the Users and deliver products in accordance with the User needs.

Other things beyond the product functionality such as ease of use and convenience to interact with the product are something that can be the next priority. It is also reinforced by Sonar, the informant Startup, which stated that the User Interface is part of an application that we should put something beneficial for the users first and then the ease of application will follow automatically.

The ease of interaction is also depend on the users. The forms of B2B pattern services with the users is the company. The form of ease and convinience can be made in the simple

form such as a color display and simple graphics. The ease and convenience factors as well as aesthetics application can be placed as the other advantages factors facing the competition after the aspect of product functional is accomplished.

From the interviews, all of Startups are giving equal emphasis that the products developed must depart from the existing problems in the Users and provide benefits to users. Startup must explore the problems perceived by the customer either by direct discussions or always ask the customer.

C. Process

The initial process in developing product is how they have to understand what becomes the user's problems and what kind of product is needed. It must be carried out as a first step of development. Several things can be carried out to find out the problems and needs of customers are regular discussion either through direct meetings or via online and or visiting and making discussions with the holders of the process.

Extracting information about technology support for the product must be carried out by Startups themselves. For Startup as it is strongly influenced by the role of Hardware and Devices gives special attention to aspects of monitoring technology by forming special teams

The Startup emphasizes that technology factor is not something that should be discussed as top priority, but the technology allows Startup to produce the innovation of better, nice, easier and simpler product in accordance with user and market needs.

From the interviews, Startup said that the development process of digital product is started from how they have to understand what becomes the user's problems and what kind of product is needed. Several things can be carried out to find out the problems and needs of customers such as an interview, regular discussion through direct meeting or via online. For Startup as it is strongly influenced by the role of hardware and devices have to take special attention to the monitoring aspect of technology by forming special teams or allocating specific time for iteration and monitoring. Extracting information about technology support for the product must be carried out by the Startup itself. The factor of technology is not something that should be discussed as top priority, nevertheless, technology allows Startup to produce the innovation of better, nice, easier, and simpler as well as faster product.

D. Process

The establishment of Startup usually starts from the ideas that emerged from one or several personnel then they try to make the idea into a product. So that the existence of Startup can be initiated from the availability of idea and personnel of the idea owner.

In the early stages of development, Startup usually do not generate revenue therefore funds are required so that the team can be more focus. Unavailability of funds makes Startup personnel will tend to do a side job (bootstrap) and it will make the team out of focus that causing work to be longer. Once an idea is formed and Startup convinced of the idea, they will focus and sometimes the personnel of Startup decided to resign from their previous work that is why funds are required in order to make Startup focuses on developing product.

Startup is performing product development by phased process using an approach to Project Management or Lean Process which the development process made in the stage-phases and each target made in the detailed form.

The review process carried out at each stage based on the targets that have been prepared and agreed with the involvement of the founder or the CEO as the holder of a dominant

decision. To facilitate the evaluation, some of the targets are made in the form of Matrix targets

For a startup that have already grown and have a great team then evaluation mechanism is carried out hierarchical. Preparation of targets is carried out by team or division then the review and evaluation carried out until the level of BOD

In the Development Process, Startup also makes the process of communication and review with the Mentor facilitated by the management of Indigo Incubator Program. Mentorship activities carried out regularly which is a means for the Startup to find the reference of product development process. The mentorship programs are considered effective for reference and sharing of experience in application development.

E. Communications

As a new emerging company, Startups need to communicate and introduce Startup to the industry in the form of publications in accordance with the market pattern of each Startup. As it is presented, As it is said, Startup with the pattern of B2B products tends to make a direct approach to the user and do not use social media channels

The Startup feels the benefits of this publication as the number of downloads increased, the number of active users increased or the emergence of several new cooperation opportunities from multiple enterprise users.

F. Cultures

The Startup tries to establish a culture and working mechanism and adapted to the stage of existing form of the company. The Startup that have started to grow and expand with the increasing number of employees began to apply more formal work mechanism. It is characterized by the more formal of working days and hours.

For the newly formed of Startup with the few number of personnel is still forming the more flexible of work mechanism characterized by unregulated working hours but for facilitating coordination could still be made to work in the same.

To support the creative atmosphere and continue to improvise, some of the activities carried out by a certain time allocation and regular includes book review, discussion and freshing ideas. Communication is also a matter that is trying to be built by Startup

The startup is also trying to bring the values outside the digital development process to strengthen organizational values. As performed by Infokes and Kakatu, they tried to bring Islamic values within the organization, activities such as reading the Koran and praying together become things that they practice in working time. Those values are perceived can bring them into a more balanced life and lead them to the same purpose in life.

From the results of the interviews, Startup tries to establish a culture and working mechanism adapted to the stage of existing form of the company. The startup is also trying to bring the values outside of digital development process to strengthen the organization values such as bringing such as bringing Islamic values within the organization, activities such as reading the Koran, praying together become things that they practice in working time. To support the creative atmosphere and the willingness to keep learning, the Startup also do some regular activities included joint discussions, book review and freshing ideas.

G. Experiences

Experience in the previous development program considered highly affect the management of next program. Some influence experience perceived is acceleration time and

increasing the efficiency of work. Experience becomes the reference for the Startup to choose products that are similar to the next products.

In addition to the experience, there are other things that must be considered, namely Startup must also have a passion for problem areas / issues so that it can provide encouragement and strength to the Startup to keep doing the process of developing and producing products that provide solutions to the problems of the users.

Experience affects the next innovation management. Some things that can be used from experience, Startup could take the best practices so that it can facilitate and speed up the work process. Experience has also become a reference for the selection of the next program, but at the next development, when implementation time is not a major focus so that Startup may do the development with different types of previous products by the consideration that there is time availability to learn new things.

In addition to the experience, there are other things that must be considered, namely Startup must also have a passion for the developed product so that it can provide encouragement to the Startup to produce the best result and to provide solution to the perceived problems by the users.

H. Information Technology

In the development process of Digital product by Startups, the needs of information technology is highly depend on the specification of Startup product. The needs of information technology for Startup includes software, hardware, access, interface and server.

The needs of information technology for the Startup should be made as simple and cheap as possible in accordance with the development process which is carried out. With the advances of information technology nowadays, some completeness of IT and other Support Systems such as access, infrastructure, Storage Server, Application Interface have been able to be met by several enterprise platforms with lease patterns by the mechanism of Hosting / Collocation which is a relatively low cost..

The needs of information technology is highly depend on the specific product of Startup and the needs of information technology has to be made as simple and cheap as possible. With the advances of information technology and other support system such as access, infrastructure, storage server, interface application have been able to be met by several enterprise platforms with lease pattern by the mechanism of Hosting/Collocation that is relatively low cost so that Startup can more focus to the development of devices and software. With the condition, information technology becomes something easy and does not become a barrier for the Startup anymore.

I. Innovation Skill

The Startup said that the primary capital to innovate is how the personnel of Startup has the willingness to work. Startup personnel must open themselves to keep learning according to the digital technology that continues to evolve and ready to work together as a team.

For the skill level required at this early stage is moderate skill level that is available on product development.

J. Functional Skill

The composition of functional skill in the development of digital products is highly dependent on the products developed and generally consists of technical covering Design, Development, Programming, Testing and trouble shooting, business and marketing as well as support and administrative.

For supporting products such as access, network and storage can be outsourced to a third party as a rental package for Information Technology, as it is already presented in the previous discussion on Information Technology variables, so that the startup can focus on software and hardware for development of products.

K. Implementation Skill

Product implementation process and the preparation of all aspects of the product such as product-related rules and regulations are very important and must be performed by Startup itself. The Startup must know which ecosystem that will be addressed where he will fight and not merely technical product knowledge.

The aspects associated with the success of products such as legal and regulatory aspects are also presented by several Startup and also added that it should be done by Startup themselves and can not be delegated to a third party

X. ANALYSIS OF INTERVIEW RESULTS

This study aims to determine kind of factors that affect the success of Startup to create innovation Digital Services at Startup comprehensively associated to the factors relating to the Organization, Company, Product and the Environment with variables that will be examined include synergy, product, process, innovation management, communication, organizational culture, experience, information technology, basic skill, functional skill and implementation skill.

Based on the discussion results in the previous chapter associated with the discussion of interview results, it can be summarized as follows:

- 1) Variables of synergy, product, process, innovation management, communication, organizational culture, experience, information technology, innovation skill, functional skill and implementation skill are all factors considered influential towards the success of Startup to produce innovation of Digital Services.
- 2) Variable of Information Technology is factor that considered to influence on the success of Startup to produce Innovation Digital Services, but the completeness of the Information Technology and other Support System such as access, infrastructure, storage server, application interface have been able to be met by several enterprise platform with the lease pattern then the coverage of Information Technology only includes devices and software for the development.
- 3) The addition of a new variable in the form of interest and passion of Startup in a particular issue, it can encourage the Startup to provide solutions to those problems.

References

- [1] Arjanti, Restituta Ajeng dan Mosal, Reney Lendy. (2012). Startup Indonesia. Buku Kompas
- [2] Avital, M. Dan D. Te'eni. (2009). From generative fit to generative capacity: Exploring an emerging dimension of information systems design and task performance .Information Systems Journal, 19 (4).
- [3] Barney, Jay. (1991). Firm Resources and Sustained Competitive Advantage. Jurnal Of Management,17(1),99-120.
- [4] Barlian, Jeihan Kahfi. (2015.). Lanskap Start-up Indonesia Semakin Menarik Investor dan Konsumen .<http://swa.co.id/swa/trends/technology/lanskap-start-indonesia-semakin-menarik-investor-dan-konsumen>,16 Maret 2016.
- [5] Bharadwaj,Sundar G., Varadarajan,P Rajan dan Fahy, John (1993). Sustainable Competitive Advantage in Service Industries: A Conceptual Model and Research Propositions. Journal of Marketing.57(4)

- [6] Blank, Steve. (2014). Corporate Acquisitions of Startups: Why Do They Fail? <https://steveblank.com/2014/04/23/corporate-acquisitions-of-startups-why-do-they-fail/>
- [7] Bessant, J. (1993). The lessons of failure: learning to manage new manufacturing technology. *International Journal of Technology Management*, 8(2).
- [8] Burhan, Bungin. (2007). *Penelitian Kualitatif: Komunikasi, Ekonomi, Kebijakan*
- [9] Carroll, Declan. (2016) . Why Innovation is Important to Indonesia. EUIND TCF. <http://www.euind-tcf.com/why-innovation-is-important-to-indonesia/>.
- [10] Cozijnsen, A.J., Vrakking, W.J. & van IJzerloo, M. (2000). Success and failure of 50 innovation projects in Dutch companies. *European Journal of Innovation Management*, 3.
- [11] Crawford, C.M. (1991). *New Products Management*. Boston, MA.
- [12] Dougherty, D. (1992). Interpretive barriers to successful product innovation in large firms. *Organization Science*, 3(2).
- [13] Godhue, DaleL, Beath,Cynthia Mathis & Ross, Jean W.(1996). Develop Long-Term Competitiveness through IT Assets
- [14] Graham, Paul. (2014). Shares Lessons Learned From 630+ YC Startups, But Don't Expect Him To Launch His Own. <https://techcrunch.com/2014/02/24/paul-graham-steps-back-at-yc-but-dont-expect-him-to-launch-a-startup/>
- [15] Groenewegen1, Gerard and Langen, Frank de Critical.(2012). Success Factors of the Survival of Start-Ups with a Radical Innovation. *Journal of Applied Economics and Business Research JAEBR*, 2(3): 155-171 (2012)
- [16] Hawkins, Brian L , Rudy, Julia A. Wallace,William H. e, Jr. (2002). *Educause Leadership Strategies, Volume 6, Technology Everywhere: A Campus Agenda for Educating and Managing Workers in the Digital Age*.
- [17] Lawson, Benn dan Samson, Danny (2001). Developing innovation capability in organisations: a dynamic capabilities approach. *International Journal of Innovation Management*
- [18] Lester, D.H. (1998). Critical success factors for new product development. *Research Technology Management*, 41(1).
- [19] Liao, J., Welsch, H., Moutray, Ch. (2008/2009). Start-up Resources and Entrepreneurial Discontinuance: The Case of Nascent Entrepreneurs. *Journal of Small Business Strategy*
- [20] Madique, M.A. dan Zirger, B.J. (1984). A study of success and failure in product innovation: The case of the U.S. electronics industry. *IEEE Transactions on Engineering Management*, 31(4)
- [21] Menkveld, Dirk Jan. (2012). Determinants among the Internet Startup Life Cycle. Master Thesis. Faculty of Science, Department of Information and Computing Sciences, Utrecht University, Utrecht, The Netherlands
- [22] Nybakk, E dan Jenssen, J.I. (2012). Innovation strategy, working climate, and financial performance in traditional manufacturing firms: An empirical analysis. *International Journal of innovation management*. 16 (2) April 2012
- [23] Nylén, Daniel dan Holmström, Jonny. (2015). Digital innovation strategy: A framework for diagnosing and improving digital product and service innovation. *Business Horizon*.
- [24] OECD. (2011), *Skill For Innovation And Research*
- [25] Pinto, J.K. & Slevin, D.P. (1989). Critical success factors in R&D projects. *Research Technology Management*
- [26] Panne, van der, Gerben, van Beers, Cees dan Alfred Kleninknecht .(2003). *Succes and Failure of Innovation*
- [27] Ries, Erick.(2011), *How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*. New York: Crown Business.
- [28] Rockart, John F. Earl, Michael J., dan Ross, Jeanne W. (1996) , *The New IT Organization : Eight Imperatives*
- [29] Saleh, S.D. and Wang, C.K. (1993), The management of innovation: strategy, structure and organizational climate", *IEEE Transactions on Engineering Management*, Vol. 40 No. 1, pp. 497-510
- [30] Stephen P. Robbins (1996). *Organizational Behaviour*
- [31] Panne, Van de, Gerben, van Beers, Cees dan Alfred Kleninknecht .(2003). *Succes and Failure of Innovation*
- [32] Stuart, R. & Abetti, P.A. (1987). Start-up ventures: Towards the prediction of initial success. *Journal of Business Venturing*, 2.