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Analysis of Three Actors: Roles of Government, Private Sector, and University toward Startup Growth in Yogyakarta

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Abstract

Information, communication, and technology advancements in 21st century encourage startups to innovate and develop their business further. Because it's an ICT based business which is supported by the existence of internet, this kind of business starts to become borderless. As a result, the distributions of the products start to become unlimited. The conveniences offered by these advancements invite more ICT based product developers. The positive impact as a result of that such as more new jobs, easier way to access the markets, and also cheaper production cost with guaranteed profits. In addition to that, this of course also becomes an added value to the country because it increases Network Readiness Index and nation's income from taxes. This research aims to analyze startup's growth, in addition to its relation with related actors such as government, private sectors, and universities. Analysis on every actor will emphasize on their contribution to startup developments in Daerah Istimewa Yogyakarta directly or indirectly. In conclusion, there will be an illustration about how big the contributions and how close the actors are between startups and the three actors.

Keywords: *digital entrepreneur, startup, pattern of relationship*

INTRODUCTION

Information, communication, and technology which will be identified as ICT, has entered a new stage. Not only being used as a tool for information and communication, ICT has a very significance role in development and economy. Internet itself plays a determinant factor in ICT advancenment. At first the internet was known as ARPANET which in 1970s used for long distance communication and now we know it as e-mail. Internet development is becoming more visible in 1990s when the World Wide Web (WWW) was discovered. Not only able to connect to a lot of tools at global level, it can also be used as a search engine on the internet. A few years later in 1998, Larry Page and Sergey Brin found Google. Entering year 2000, many of application developer started to create an innovative application in a form of social media such as Facebook, Twitter, etc. Many of application developers who use the internet in the end push the number of internet users. Figure 1 illustrates the number of internet users at global level starting from 2012 until 2016.

The increasing number of internet users from 2013 to 2014 was lower than the increasing number of internet user in 2012 to 2013. In 2012 until 2013, the increasing users reached 234 billion people per year, while in the next year the number of users decline to 228 billion people per year. Even so, in 2014 until 2016 the number of internet users steadily increase up to 239 billion people per year in 2015 to early 2016.

One of many factors that led to the increasing number of world internet users is because the government's role started to realize the importance of internet access for the country economy development. Utilization of technological and information advances mainly on internet directly or not helps to develop a country's economy. Vodavone findings in Andjelkovic (2010) mention that for every 1% internet penetration in a region or country, there is a chance for the Gross Domestic Product (GDP) to increase for about 0.5% up to 0.6%. in addition, a report from the World Bank's Information and Communication for Development 2009 in Andjelkovic (2010), any 10% increase of broadband service will have an impact on the economic growth for as much as 1.3%. Because of that, the government tends to ease and simplify the internet access in their country.

In addition of easier and cheaper, the development of internet users is also supported by utility factor offered by the innovative application developers. Many applications which can be accessed via the internet are associated with social media and communication, information media, e-commerce, etc. Instagram, application which serves to share our photos or videos, is one of many successful applications with a lot of users. Instagram access throughout the world can be said quite enough with a fact that 717 photos are being uploaded every second. Another example is Google which reached 53.805 searches conducted every second, Skype with 2.093 active calls every second, and 2.482.357 emails sent for every second.

In Indonesia, the growth of application de-

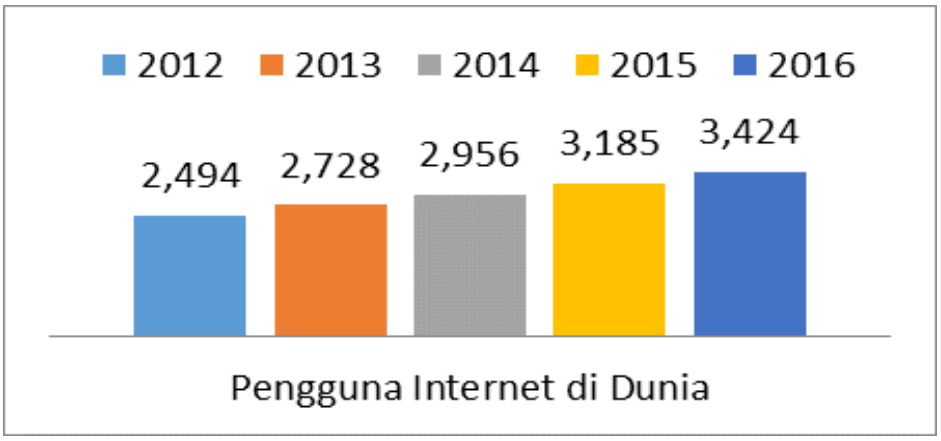

Figure 1. Percentage of internet users in the world (in billion)
Source: Internet Live Stats (Data Elaboration of International Telecommunication Union (ITU) and United Nations Statistics Division (UNSD)

veloper can also be categorized as digital based creative industry. The actors in this creative industry are called *Digitalpreneur*. Digitalpreneur who develop applications and games is often indetified as a *startup*.

Not only as a mean to communicate or a way to express a hobby, applications nowadays are also being developed to solve problems in the society. For an example is GPS based application for traffic information which is created by Uri Levine called Waze. Waze will give you information about traffic such as the level of road congestion or navigate to the place we want to be. Another example is the emergence of Gojek, Bluejek, or Ladyjek which is one of many solutions to traffic jam because these applications encourage people to use more public transportation. In addition to that, Gojek and similar applications also reduce the rate of unemployement because people are free to join and these applications ease the earnings of motorcycle taxi driver.

New Capitalism as a Form of Digitalpreneur

Capitalism emerged in 19 – 20 century where there were a phenomenon in dependency on industrial machineries, capital, and labours to build an industry. This phenomenon of industry emergence is identical with fordism. Markantonatou (2007) reveals that fordism itself is a system that describes a state of high production and is being balanced by a high consumption in a country. There are a few important aspects in fordism: (1) Job specialization; (2) time efficiency; (3) specific use of tool; (4) cheaper labour turnover; (5) replacement of skilled labour with unskilled labour to minimize the production costs.

The second evolution of fordism is reffered as post-fordism. If the main characteristic of fordism is mass production of standardized product, post-fordism is characterized with increasingly fleksible labour flows and markets, rapid shifts in consumption patterns, increasing ICT users, more responsive towards the consumer's

needs, and visible also invisible shifts on competitive value. (Jones and Saad, 2003)

In accordance with the characteristic of post-fordism that show market dynamism, rapid consumption patterns, and the use of ICT, making the consumption itself increase and the producer have to use this chance to innovate more often to answer market's demands.

New Capitalism

Technology tranfromation that occur in this age is identified as new capitalism by a few people. Zeitgeist (in Doogan, 2009) said that characteristics of new capitalism are rapid capital transfers, informations and communications flows, also global connection and networking. New capitalism itself emerged after a rapid development of ICT. ICT Growth has also changed the economic system. As we know, many entrepreneurs have been creating creative business using internet to sell their products. Internet is also one of ICT's componens that will be a main discussion in this paper.

New capitalism tries to win evolution of entrepreneurs who success in creating an innovative product in technology innovation. Knowledge about economy of course is important but new capitalism itself emphasize more on technology innovation which is basically the foundation of new capitalism's characteristic. This era is marked with technology development whererein not only mechanical and centered, but has been evolved into technology information and networked. Robert Reich (1992) said that new ccapitalism also make the by product of an industry more globalized, resulting in a broader consumer and scattered in many countries. This shows that digitalpreneurs are capable to do that because their products can easily penetrate markets abroad.

ICT advancements in a country of course involve many actors or stakeholders such as governments, private sectors, universities, or relevant actors. The following will describe technology developments in many countries which can be said succeded in the field of digitalpreneur and startup developments and also countries that still trying to maximize the full potential in this field.

America

America can be said a pioneer in technology developments around the world. After the Second World War America aggressively invest their resources into technology research and development. It is also because of the people support and interest in technology advancement and universities' role that America can successfully develop its technology.

At first, America's technological developments were meant for military purposes, but seing opportunities from other perspective, in 1960s Silicon Valley emerged as a mean to contain its member to work out many innovative technologies. Sillicon Valley was initiated by Standford University and UC Bakerly University, and got supported by the government and private sectors in technology field.

This portrait illustrates a good coordination between society, government, private sectors,

and university to develop technology innovation.

Europe

Digital technology shows much potency to enable competitiveness, entrepreneurship, and innovation became the focus of European Commission in Entrepreneuship 2020 Action Plan, where they commit to exploit the opportunities offered by digital revolution. The government also initiates political agenda in the use of digital technology:

a. *EU 2020 flagship initiatives* (Industrial policy for globalization era, digital agenda for Europe "The Innovation Union)
b. *Entrepreneurship 2020 Action Plan* (2013)
c. *Small Business Act for Europe* (2008)

In this basis, a more policy initiative has been deployed to create "Digital Single Market" which is actually a number two priority field in political guideline.

East Asia

Global economy change starting from the 21st century has been initiated by the Asia-Pacific countries or commonly known as The Pacific Century. Eastern countries have been a dominating country with China, Japan, or South Korea as its central. New industrial countries also located in ASEAN region with Singapore and Malaysia as the engine. Unfortunately, other ASEAN countries have not been able to follow the steps of Singapore and Malaysia to become a new industrial country including Indonesia.

Unlike America which is the stem of world technology developments, China is still considered new in this kind of field. ICT developments in China which emphasize on technology and innovation growth, in addition to the emergence of skilled human resources in ICT field as a result of returning Chinese people from studying abroad (one of it is from Silicon Valley, one of American companies)**.**

ASEAN

The implementation of ASEAN Economic Community (AEC), have been an impact in technology development for each country.

Singapore's NRI itself has been ranked first in 2015 because most of the people that live there have known internet since 1996. Since then, the Singaporean has a sense of entrepreneurial spirit.

The government has been doing all sort of things that can turn the Singaporean into technopreneurial society. Some oth the policies that have been spesifically implemented to increase the number of technopreneurs are The Technopreneurship 21 (T21) Initiative. This policy applies easier link for Singaporean digitalpreneur to foreign company, stock exchange enrollment for startup is easier, and free tax incentives for startup that has been operating for five years.

Malaysian government since 1980s has been aware the important role of ICT, so that they build an incubator under the MDEC to finalize ICT SMEs. The incubators that have been initiated by the government build an International Business Incubator (IBIs) network and co-

incubator. As an example, International Business Incubator in Silicon Valley offers a service for the SMEs from other countries to build their markets in US. Similarly, IBIs also present in San Jose, California, and Ben Craig Centre in University of North Carolina (Lalkaka, 2001).

In Indonesia, digital based entrepreneurship development was not as fast as Singapore or Malaysia. Agency for the Assessment and Aplication of Technology (Badan Pengkajian dan Penerapan Teknologi) (2012) shows that the number of technopreneur in Indonesia is 0.2% which is lower than Malaysia in 3%, Singapore in 7.2%, China in 10%, and even America that reached 11.5%. From that data, we can conclude that Indonesia is still poor in ICT implementation in business sectors. Indonesia government has many programs and activities regarding the development of technopreneur here such as: (1) Creative community center; (2)SMEs transformation into E-SMEs; (3) Telematics innovation incubaton in Bandung and Yogyakarta; (4) Internet cafés in villages; (5) INAICTA; dan (6) Indonesia Open Source Award (IOSA) 2012. Unfortunately, these programs are still considered unsuccessful in making ICT implementation in business sector to thrive.

From that illustration about the dynamics of ICT progress in 3ASEAN countries, the ICT growth then led digitalpreneur to emerge as a new model of entrepreneur.

Networked Readiness Index (NRI)

Since early 2000s there were already many researches that measure how far ICT was being used in a country. In 2001, World Economic Forum published Technology Report series and the Networked Readiness Index (NRI) that became an effort to know reality about ICT Readiness in a country and identify common factors that enabled a country to use technology effectively.

NRI uses 4 main categories in determining NRI value of a country. 4 main categories can be described as follow: (1) environment subindex which consists of policy and politics and business circumstances; (2) Readiness subindex which measured from a country's infrastructures, affordability, and skills; (3). Usage subindex which consist of business usage and government usage; and (4) impact subindex which can be seen from social and economy impact.

Apparently, countries in Asia have outperformed other countries in NRI Rank such as Singapore, Jaan, Malaysia, South Korea, and China that always in the top 40. NRI Value in Asia itself tends to increase from year to year significantly.

The use of ICT in Asia has increased from 2012 up to 2014 (Figure 2). In 2012 to 2013, the NRI value in Asia increased for about 0.12 and in the next year for only 0.03. the emergence of global company that move in social media in ASIA such as Line that was created in South Korea and developed in Japan, WeChat from China, Kakao Talk from South Korea, ect, are illustrating the rise of NRI value in ASIA.

The use of technology and information system in every ASEAN countries can be said almost increase every year (Figure 3). Although Singapore and Malaysia didn't show significance

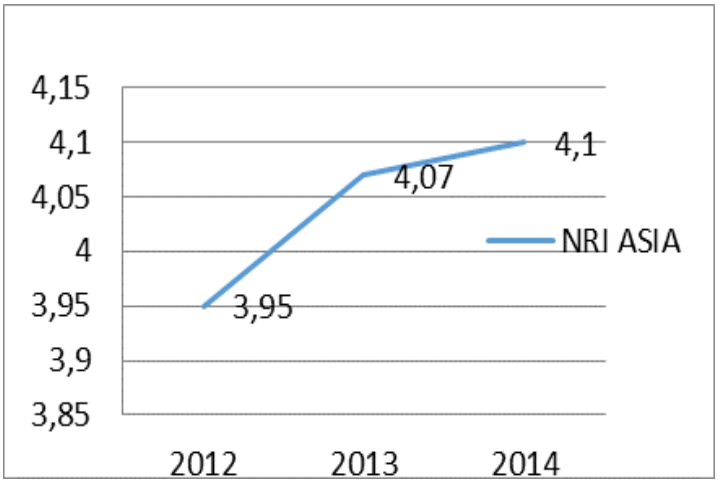

Figure 2. Network Readiness Index in Asia

Source: Global Technology and Information Report, 2012 till 2014

increase, they already at the top rank in both ASEAN region or at the world level. In 2015, Network Readiness Index in both Singapore and Malaysia successively are first and second rank. This shows that both countries already fulfilled almost every aspect in technology and information system utilization, especially on infrastructures that have been provided by the government.

Indonesia's NRI Value lies around 3.6 up to 4.04 and the value fluctuate every year. In 2009 till 2011, there is an increase of Indonesia's NRI value from 3.62 up to 3.92. The next year, the value decrease to 3.75. The next two year, Indonesia's NRI value increase to the highest point since the last seven years with a value of 4.04. Even with high NRI value in 2014, it is still not enough to get Indonesia at the world's top rank. In that year, Indonesia was ranked 76 because other countries had their NRI value increase more rapidly. NRI value in Indonesia at 2015 declined to 3.9.

As what has been explained before that NRI index shares several sub index that can be used to measure how far the network readiness of a nation. The government of course holds a very important role in providing infrastructures directly or not, for the tech nology development of a country. Infrastructures procurement can be from internet bandwidth provision, modern technologies, or smartphone sales permission. Indirectly, the government can provide infrastructures from supporting ICT related education, formally such as universities or informally such as incubators.

In government usage, there are two main points. First is how much the government can provide facilities for ICT growth. Second is government's role for ICT advancements and digital environment subindex based entrepreneurs' development has the political environment and permission indicators. This indicator can be measured from how are the politic circumstances that the government created, can encourage the new digital based business to grow and how easy is it to build the business. Moreover, the appraisal

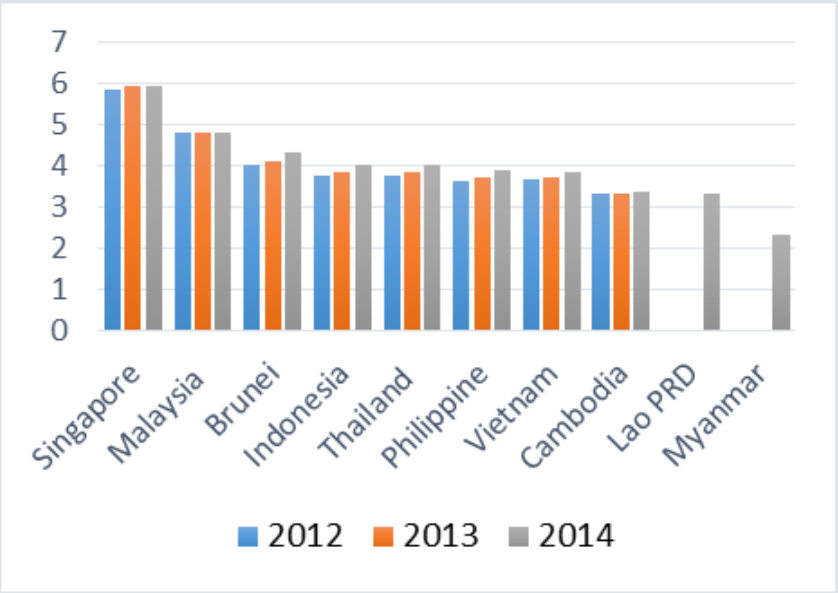

Figure 3. Network Readiness Index in ASEAN

Source: Global Technology and Information Report, 2014

can be seen from the facilities that the digitalpreneur get such as protection from foreign producer that tend to dominate the markets and a more advanced technologies. In 2009 till 2010, Indonesia has a rather high value in this subindex which is 4.17. Apparently, in the next year the number declined to 3.94 and declined further in 2012 to 3.48. Even though the value in 2013 up to 2015 tends to increase, the highest point it can reach is 3.8 which is still lower than the value in 2009 till 2010.

Pros and cons of the technology usage in a country also have social and economy impacts. NRI has entered an impact sub index in a form of technology usage to a country's economic activities. Commencing from 2012 up to 2015, technologies have been providing positive support to Indonesia. This means that Indonesia is able to apply ICT for economic activities and such is the indication that digitalpreneur's exsistence in Indonesia tend to increase.

ICT usage impact in a country can also be seen from the social impact. This also means how far ICT in a country can help to solve social problems in a community. In Indonesia itself, the social impact of ICT has been providing a good contribution. This has been proven from the social impact subindex value that the last 4 years tend to increase from 2012 at 3.71 increases in 2015 to 4.1.

Creative Industry

Based on Zumar (2008), creative economy or commonly known as creative industry is an industry that is derived from the utilization of creativity, skills, and talent of and individual people to create wealth and jobs by generating and exploiting creativity and inventiveness of the individual.

Creative industries in Indonesia started

since 1998. Global crisis is one of the factors underlying the growth of creative industries in Indonesia. Based on the data Department of Trade (Departemen Perdagangan) provided, creative industries in 2006 contributed 104.4 billion rupiah to the national GDP from 2002 until 2006.

This amount exceeded the contribution of electricity, gas, and water supply sectors. In addition, economic industry sectors also absorb 4.5 million workers with the growth rate of 17.6% in 2006. The growth rate also far exceeded the national workers growth rate which is only 0.54%. However, the creative industries can only provide export value about 7%, still far behind other countries such as United Kingdom, South Korea, and Singapore, which can reach an average of 30%.

Digitalpreneur

Digital Entrepreneur or in short digitalpreneur is entrepreneurs run their business with ICT sophistication as its basis or their by products are associated with ICT, such as hardwares, softwares, or even applications. This study will focus on digitalpreneurs who develop softwares that can be used on daily basis or on every occasion such as jobs, games, lifestyle, and applications that can be used as a problem solver in the society.

Domenio (2014) explain that digitalpreneur is an entrepreneur who uses technology as a way to increase production and company's profit. Startup is one of digitalpreneur form that will be discussed in the next theory.

Startup

When we discuss about digitalpreneur, there is a term which is known as "startup". Eric Ries (2011) define a startup as "human institution designed to create a new product or service under conditions of extreme uncertainty". Eric then explains further that the definition didn't explain about how big the company, industry, or ven the economy sector is. The word institution in term of definition connotes with bureaucracy, process and even lethargy. These then became a part of startup because successful startup is filled with activities associated with institution development such as employing creative worker, coordinate their activities, and create a corporate culture that deliver results.

Startup is also not only about product, technology breakthrough, or brilliant ideas; startup is also about a "human Enterprise". Paul Graham, founder of Y-Combinator, explains that startup is a company that has been designed to grow rapidly, although not all of the new companies can be considered a startup. The most important essence of a startup is growth because everything else associated with startup are followed with growth.

Both in developed or developing countries, in order to improve the digitalpreneur's capacity and encourage to always innovate, incubators were built to guide digitalpreneurs to be able to adapt and responsive toward changing times and still also able to create products to solve society's problems. Andjelkovic (2010) argues that incubators in developing countries will inevitably encounter many hardships such as infrastruc-

tures support or finding partnership to develop digitalpreneurs further.

In Indonesia, many innovations are being illustrated by people such as *seperti* Satya Witoelar, Fajar Budi Prasetyo dan Aryo Kresnadi, who developed social networking website called Koprol.com, which combine the functions of Facebook, Twitter, and Plurk. Another example is Andrew Darwin and his friends who established Kaskus Networks (Kaskus.com). This website functions as hobby forum up to trade forum. Its members reached 1.398.502 in February 2010 and have at least 50 companies who use kaskus to advertise their product. Beside application developers, there are entrepreneurs who focus their business online such as Brian Arfi, founder of PernikMuslim.com and PT DheZign Online Solution, a company with a focus on web development and online marketing services.

Application developers are often found to develop their application from zero till thousands or even millions of people favourite their apps. Let's take a prime example from Facebook, an international social media with millions of users. The early stage of Facebook started around 2003 when Mark Zuckerberk, its founder, starts to interact with ICT world and create Facemash.com. The site aims to assess the beauty of people in it. The evaluators of the site itself are Harvard college students. When Mark was being forced to shut own the site, instead he tried to develop a social media from the combination of his own site and a Friendster's style social media. His Recklesness is supported by his analysis that people tend to like to see pictures of someone else in the internet and get acquainted with new people. Two of the main actors behind Facebook are Mark's Professor who guided him to develop the site and private sector that fund it

At the national level, there is Tokopedia.com which is an e-commerce made in Indonesia. This e-commerce business is the most favourable here. Tokopedia itself is an internet company which helps other people do online transaction with ease and safely. Tokopedia started on 2009 with its founder named William Tanuwijaya. It is one of the largest online shops in Indonesia and in addition it managed to break the record of investment value in Southeast Asia. The contract value of tokopedia itself reached 100 million dollars or equivalent to 1.2 billion rupiah.

At local level, we have Yogyakarta that is famous for being known as "kota pelajar", has many universities, and has scored a lot of best graduates in Indonesia. Some of the graduates worked in the Technology and Information (IT) field although many of IT experts didn't have the same education background. IT experts in Yogyakarta use their skills to open up business in digital field and become a digitalpreneur or a startup. This is proved from an interview with Jogja Digital Valley's director that there are around 100 thousands digital based creative industry in Yogyakarta with digitalpreneur ranging from big to the small ones. These digitalpreneurs are mostly engaged in the field of game developer, software house, startup, agency, etc.

The Numbers of digitalpreneur in Daerah Istimewa Yogyakarta, hereinafter referred as

Yogyakarta, should be able to be optimized in order to boost employment and economy growth in this area. Sadly, the government seems haven't put maximum effort and attention in this field while the private sectors seem to be more inclined to put more attention in this field. This research will have a focus in startup development with its interaction with government, private sector, and university as the three main actors in Yogyakarta. How are the development of startups in Yogyakarta, and their pattern of relationship with relevant actors?

a. How are the government roles towards startup's growth in Yogyakarta?
b. How are the private sectors roles towards startup's growth in Yogyakarta?
c. How are the university roles towards startup's growth in Yogyakarta?

RESEARCH METHODS

This research adopts a qualitative approach with interview as the primary mean to collect datas and study of literature as the secondary mean to collect the datas. The interview instruments that is being used developed based on the research theme and also from study of literature. The research then takes up its subjects who include individuals, groups, private organizations, and government instantion in Daerah Istimewa Yogyakarta. The units of analysis used in our research are in the form of startup and actors who have interrelation in startup's growth with the description as follows: (1) Owner of CallJack (individual); (2) Creacle Studio (Kelompok); (3) Jogja Digital Valley and Gamatechno (private organizations); 4) The Department of Industry, Trade, Cooperatives and SMEs/ PERINDAGKOP (government).

RESULT AND DISCUSSION

Department of Industrial, Trade, and Cooperative (Dinas Perindustrian, Perdagangan dan Koperasi)

Development of digitalpreneur, especially startup, have already started since United States of America established Sillicon Valley which obtain a lot of succsessful digital entrepreneur, for example Yahoo and Google. Startup's development between Yogyakarta and America has some differences on some issues such as the development of startup in America which was supported by government unlike in Yogyakarta where digitalpreneur evolved independently without any attention or intervention from the goverment. After a long period without any intervention, in 2010 government of Yogyakarta, through Depertment of Industrial, Trade and Cooperative (Dinas Perindustrian, Perdagangan dan Koperasi) took their first step to give more attention in startup area by establishing startup association named Jogja IT. This association aimed to facilitate and accommodate startups in Yogyakarta. The startup developer or "startuper" could gain new information and knowledge from another developer so they were expected to get a new insight to make more innovative products.

However, Jogja IT did not exist for a long time due to the lack of local government knowledge about digitalpreneur. Government could not give services good enough for the

member of Jogja IT which already reached 200 members. After Jogja IT disbanded, the government tried to develop another association called Jogja Creative. The purpose of this association did not have any different from Jogja IT, but this is aimed for only startup who work out in multimedia and animation field. Same as Jogja IT, Jogja creative could not survive for a long time because of the same reason.

Secondly, government's lack of knowledge about digitalpreneur brought negative effect. The lack of knowledge from the government about the development of startups of course can obstruct creation of new jobs. As what has been explained before, startup's income can not be considered little because it can also contribute to nation economic growth. For an example, in Ireland, there is an organization named #StartupIreland which is a non profit organization that connect startup communities in the country. They believe that high tech companies in Ireland can bring this nation into high value employment and wealth. When the developmental strategy for startups is successful, there will be a good ecosystem to create "virtuous circle" wehere thousands of successful entrepreneur can re-invest their wealth to the new generation of startups that will in addition create new wealth and distribute it through the worker's investation or paid taxes.

The important things for startup development is not only about the space for interaction and knowledge transfers, but startup need more support from the infrastructures such as availability of adequate internet broadband and protection policies for local startup so they could compete with international product. There are three things of Government action for startup development in a country according to the G-20 Young Entrepreneurs' Alliance (2013), first is that the government provide support by make a relevant policy and real action; second, governments support the develompent of startup but the policies and actions taken by the government are not relevant to what is required by digital entrepreneur; and the last government does not intervene on digitalpreneurs developments in the country.

The deficient of facilities and infrastructures that support the development of startup provided by the government, startup developers in Yogyakarta prefer shaded by private organization. One of private organization who accommodates and develops startup in Yogyakarta is Jogja DIY Digital Valley (JDV).

Jogja Digital Valley

Digital businesses that could grow and survive in the dynamics of technological sophistication is digitalpreneur with business based on Open the Top (OTT) like Yahoo, Google and Facebook. These types of digital business ensure the sustainability of business than digitalpreneur who work in project base. When digitalpreneur work by project and provide it to a big company, the sustainabillity of their business are not secured. Meanwhile, the mindset of digital - based company in Indonesia (not multinational company) still on the project way. That mindset should be changed by setting up an incubator that could create good ecosystem for startup's development

with OTT based business.

Establishment of an incubator requires substantial funds. Therefore, PT Telkom as State - owned Entreprises (Badan Usaha Milik Negara/ BUMN) starts forming digital incubation in Bandung and Yogyakarta. In Yogyakarta it is known as the incubation Jogja Digital Valley.

Jogja Digital Valley was established in Yogyakarta because Telkom saw the opportunities youth massiveness here in mastering and doing activities in digital world. These companies then carry out the startup digitalpreneur especially with two major programs: business incubation and holding space. The incubation program is the selection made by Telkom to filter digitalpreneur who compete with another so they could affiliate as a team and will be supported, facilitated, and given curriculum with mentor system. The criterias to be included in this team is digitalpreneur have to create a product that is in accordance with the vision of PT Telkom and the product have also able to provide solutions for social problems in Yogyakarta. Holding space is a program where digital business developer gets the facility of Jogja Digital Valley by registering themselves to JDV. Facilities that are given by JDV are physical facility for working called coworking space. In this working space, members could use the meeting room, locker, and informal discussion space like canteen which has designed particularly for digitalpreneur. The different thing between incubator and holding space is, the incubator using mentor to help digitalpreneur develop their skill and analyze what kind of product that appropriate with the market's demands. However, holding space still has to try to find a way to develop their own business independently. The positive thing become member of JDV, digitalpreneur non incubator also have opportunity to understand how digital business work by discuss with digitalpreneur in incubator and the expert people in JDV.

To reach a wider target, JDV also organize workshops, seminars and regular discussion. According to Permadi (2015), this discussion reffered to #TechTalk, which discuss about various thing that have a connection with digitalpreneur such as application maker, games developer, and coding. #TechTalk is always uploaded in JDV's youtube channel and invite the expert person in digital word to share their knowledge and experience to sharpen the skill of JDV members.

Gamatechno

Gamatechno is a company focused on the field of ICT, including software, hardware, consulting, and training on IT. This company can be said as one of the successful actor to support the development of digitalpreneur in Yogyakarta. Not only as an actor, Gamatechno also classified as digitalpreneur. Gamatechno officially established on January 4, 2005 in Yogyakarta and has two branches in Jakarta and bali. This company focused on four business segments; (i). University, (ii). government, (iii). Logistic and transportation company, dan (iv). industry lifestyle. These segments is then defined as gtSmartCity Solution, which is an ICT-based solutions systems in order to realize an intelligent city with the characteristics of less paper, less time, less

cash and less complexity to improve people's living arrangements.

Gamatechno also provides consultancy services for Smart City development planning to the local governments. Before the development and implementation of products, gamatechno will draft a master plan or IT blueprint made under discussion. In addition, Gamatechno also provide audit services to network and information technology which is a systematic and objective evaluation conducted by the Auditor Technology for technology assets to achieve the goal of providing added value and improves the performance of the auditee or stakeholder. Of course, with a variety of products and services offered by Gamatechno, we can see that Gamatechno itself is an IT company that has a large market share.

Gamatechno itself has an important role in creating jobs for students who have expertise in digital. Making cooperation with many universities, Gamatechno recruits its employees using testbridge or by using a program called ITCC (IT Career Clinic). ITCC is a form of coorperation between Gamatechno and universities by organizing seminars and also recruit new resources of colleges element directly addressed to final year students, fresh graduates, and professionals in the IT field. The seminar is aimed to give an illustration about career or business opportunities, and also skills needed spesificaly in IT industries. Hubungan Gamatechno dengan perguruan tinggi selain mencari sumber daya juga menawarkan jasa mereka. Gamatechno telah bekerja sama dengan beberapa universitas di Indonesia guna membangun sistem TI untuk memaksimalkan pelayanan kepada mahasiswa. Recruitment explain specifically about standards that have to be fulfilled to join gamatechno such as recruitees are from appropriate departments (IT Related) or finish the test that has been provided. This aim to fulfill the framework that gamatechno has made called GTFW (Gamatechno Frame Work).

As an ICT based company, Gamatechno also encourage the development of startups around it. Eric Ries (2011) explained that startup grow and develop under environment with extremely high uncertainty. With that, existency of startup however must be escorted and assisted by few actors. One of the few actors that can help develop and keeping the existence of a startup is a company that can be considered successfully established, such as Gamatechno. In this case, Gamatechno offers to help startup by entrusting their projects. In addition, Gamatechno also holds competition for their workers, which can be considered a digitalpreneur, to cultivate their creativity and innovation that will be profitable for the gamatechno and the worker because of the offered big prizes.

Digital world right now has also entered the governmental field to maximize the public services, especially in President Jokowi’s era. This can be seen through the implementation of e – government in Bandung or Surabaya that is considered successful in implementing the concept of e – government itself. In Yogyakarta, a digital based government is still can not be seen clearly and this is where Gamatechno tried to enter. Gamatechno has been trying to develop cooperation with the government by proposing a

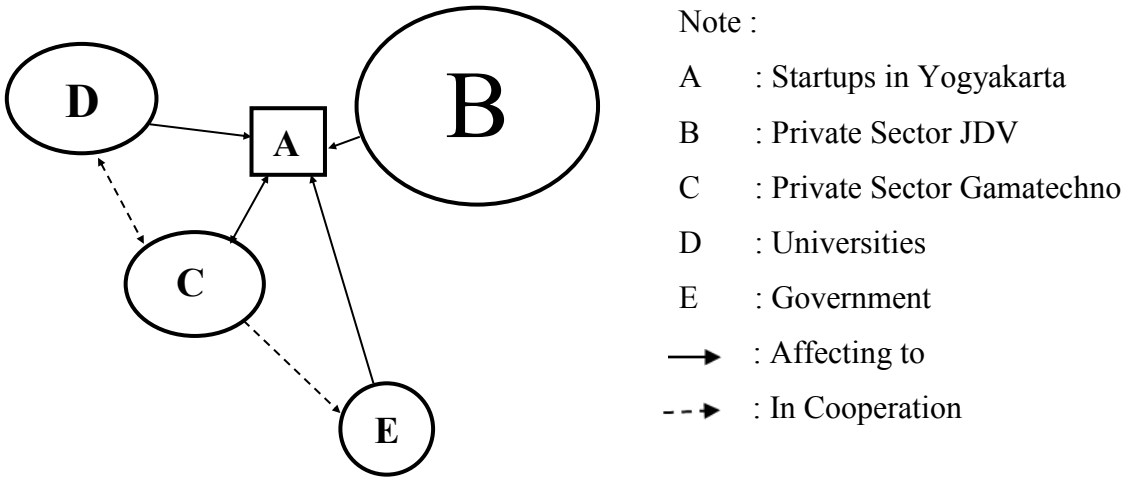

Figure 4. Startups in Yogyakarta

masterplan and e – government supportive applications and smart city optimalization. However, the government didn't give a good enough response towards the Gamatechno's proposal, and with that the realization of smart city in Yogyakarta still can not be an agenda setting. This failure is also caused by Yogyakarta's bureaucracy who still considered ICT as a less important agenda. As a result, ICT usage still can not maximize the public services. This of course is very unfortunate considering Gamatechno is the one who proposed smart city concept in Indonesia and very capable in creating applications that will help to ease many public services or the work of governmental agencies with ICT.

Startup

Case 1: Creacle Studio

Creacle Studio is a startup that was started in 2011 by five computer science college students of University Gadjah Mada. At first, five of them were joined in a group who often joined projects and competition until they decided to build a startup. One of their reasons is because they see that game has opportunities to grow rapidly. Creacle Studio then officialy became a CV in Oktober 2012 with the product that they offered in a form of non-smartphone games as a starting point. As time flies by, they finally splits their products into mobile games for smartphones and applications.

Up until now Creacle Studio collaborate with many stakeholders. This studio got orders several times to make a game for a bank who aims to promote itself. The relationship between Creacle and bank is all about business relation between consumer and producer. Government didn't play a significance role in Creacle Studio's development because they only build an association which did not exist for long and that's all.

Case 2: CallJack the Taxi Motorcycle

CallJack is a mobile application to order a taxi motorcycle from "O'Jack" as a public service in transportation and delivery field. It works

just the same as Gojek and the similar services. Calljack was developed by the founder of O'jack Taxi Motor, Nanang Kuswoyo, in collaboration with Gamatechno which aiming to create a standardized taxi motorcycle service from the brand, motorcycle, tariff, and easy access to this service. CallJack developed independently without the government support in it.

CONCLUSION

Figure 4 illustrates how big and how often an actor supports the growth of a startup in Yogyakarta. The bigger the circle is the bigger the actor's role in startup's growth. The closer the circle is the more an actor interacts with startup to establish cooperation or do other activities in order to support a startup's growth.

The biggest role and the most interaction are performed by the JDV (private sector), and the smallest role and the less interaction are performed by the local government. In addition, universities also have a role even though it is not as big as JDV. Universities also collaborate with Gamatechno which Gamatechno itself is a company who provide startups with projects and jobs.

From the analysis of both cases in the discussion, the government's role in startup growth is very little even though successful startups open up jobs and support the local economy growth. The government's role was only limited to creating a container for startupers to gather with no further sustainable actions. Startups' growth in Yogyakarta is more dominated by the JDV which not only facilitate a place to gather but also is an incubator and a place to learn informally as well. Universities has a big role in providing quality human resources which able to create a startups and develop it further. Although, university's role which more sustainable and tend to develop startup is still not visible, especially in Creacle Studio's case. Gamatechno, as a private sector has a relationship which is close at the effort of developing startups to keep creating innovative products that can be used in solving social problems.

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