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Policy of Information and Communication Technologies to Promote the Formation of Future Business Models

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Abstract—ICT industry becomes a driver of change, many sectors that can change not only from the telecommunications sector. ICT developments are spurring the digital economy enables sectors that had previously been in the safe zone, being threatened because of the presence of substitute industry that has begun to emerge. Trend to date, some companies use Internet-based applications to support the marketing of their products. Not only on the promotional activities featuring products that are known by consumers, even some companies use Internet technology to support transactions, such as the sale of products to consumers. Innovation and competition to push toward creative destruction, there is a long lost services and value added is replaced by the presence of ICT innovation. The government must be present and ready to anticipate the changes that may occur due to the development of ICT, which grew rapidly at the policy level. The study is qualitative and done through the study of literature and focused discussions involving experts and stakeholders concerned. the results of this study are as advice on policy will be taken by the government to the ICT industry sector forward in the face of the rapid innovation of ICT.

Keywords—destructive industry, digital economy, ICT innovation, internet applications

I. INTRODUCTION

The ICT sector is the most important part of the economy of a country. Without any support development and ICT infrastructure, economy society doesn't function. Can not be denied, the role of technology is very dominant for development of the company. Start for improvement sales, transactions, company performance, up to reasons of efficiency and effectiveness. Any business shape, requires sales to keep it survive. Scottish Enterprise, a consultancy management headquartered in Glasgow Scotland, in its study wrote a few tips increased trade by using electronic transactions. Refers to the definition of OECD, in the study E-Commerce defined as a business process using information and communication technology to achieve change and growth for company [1].

Based on data from the Central Bureau of Statistics, at Indonesia, this can be seen from the contribution ICTs are significant to GDP, trade international and labor. Research result previously showed that in aggregate the ICT sector has an output multiplier of 1.359. This means that every improvement the final demand for the ICT sector is IDR 1 trillion will be able to increase the output by 1.35 trillion rupiah. The data shows that the ICT sector is a driver of economic growth have an impact on improving the social community.

In all aspects of life, ICTs change the way people interact and offer efficient way in the production process as well as ways new in doing business, such as; acquisitions customers and care via social media. Almost every industry business model has been disrupted with the digital technology innovation during the last decade.

For example, retailers have shifted from a merchant who has a shop that is in the form of a shape and physical (brick-and-mortar store) to online outlets. Another example; payment cards are no longer use a card stored in the wallet but through smartphones and current publisher services have thrown away paper for printing but now by sending content in real time (e-books, e-newspapers, e-newspapers). Phenomenal change another is the replacement of PC devices with a mobile gadget device, which is a PC function that can obtained on mobile gadgets in addition to use to communicate.

In a business context, ICT developments are deep the form of the internet has a transformational impact which creates a new paradigm in the world of business in the form of digital marketing (digital marketing) at the beginning of the application of electronic commerce (e-commerce) which started in the early 1970's with its existence innovations such as electronic funds transfer (electronic fund transfer) [2]. Wrong one reason for the rapid development of online business is the development of network protocols and software and of course the most basic is increased competition and various business pressures. Thus, an electronic business includes all things to do using information and communication technology (ICT) for conduct business activities between organizations as well from organizations to consumers [3]. In doing business electronically, ICT infrastructure is used to connect with consumers, business partners and suppliers. The use of the internet leads to business processes become more efficient. In using e-business, companies need to open data on the system their information for companies to share information with consumers, business partners, and suppliers and can transact electronically with them making use of the internet.

International bandwidth users continue increases, lastly the total bandwidth of the network operator international reaches 1 Tera Bps. Enhancement mainly there is a streaming service over the network Ethernet to home or FTH (Fiber to The Home). Thus, the international bandwidth deficit just getting bigger. Besides, consumption national digital advertising to Global Applications (eg Google and Facebook) reached USD 800 million on 2015, meanwhile digital advertising is not exposed tax (VAT). This is due to

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the service applications that can run true Indonesia cross-border services that can be served from abroad. This phenomenon is happening known as border ink supplies (Cross border supply).

These conditions make the ICT ecosystem become an important factor in ICT development overall. So that ICT can be a factor strong drivers of economic growth are needed a supportive ICT ecosystem. One of them with appropriate ICT policy support and directed. Within a period of two to three years in the future, types of e-Commerce applications and social media still popular as a new application. After two up to the next three years, it is estimated service IoT-based applications are starting to emerge. After five years from now, it is predicted application service IoT-based will develop and become popular then will damage (disrupted) the business ecosystem there is. The impact of the future popularity of IoT is violates regulations, and privacy (privacy).

Thus, how do we respond and prepare national regulations in the face the development of ICT which is getting faster in the future? It is hoped that application progress can develop and can be adopted properly in Indonesia.

II. METHOD

Research on policy for e Commerce, one of the ICT sectors as the main driver future industry is done qualitatively and explanative. The stages of this research include research background, problem formulation, objectives and research problems, data collection, analysis and discussion and conclusions and suggestions. In the early stages of this study, a literature study was carried out studied various theories according to the research methodology framework in solve the problem. Study literature used relates to the planning case study information technology infrastructure in the object environment research, software industry and digital content. The theory and information used are taken from library materials, lecture teaching materials, sources from the internet, scientific journals and regulations, procedures as well documents/references related to the object of the study done.

Collection of Data and Information

Data collection required in This research uses several ways, namely:

1. The method of interviewing several parties related to the research;
2. Focus Group Discussion (FGD) which is involving experts, actors and industry practitioners electronic business as well as stakeholders policy and community.

III. RESULT

The New ICT Ecosystem Model

The natural living ecosystem is defined as a biological community of mutually exclusive organisms interact plus their physical environment. In the same way, a business ecosystem is "Network of buyers, suppliers and makers of related products or services" plus the socio-economic environment, including the framework institutions and regulations.

Meanwhile, the digital ecosystem is a self-organizing and digital infrastructure aims to create a digital environment for a network of organizations that support sharing knowledge, cooperation, technology development openly and adaptively and business evolution models. Thus, the ICT ecosystem is defined as an integrated perspective between markets, networks, services, applications and content and define governance manage, and the legal and regulatory framework.

The new ICT ecosystem is a relationship a key symbiosis that exists between the four groups player in the system. The four groups consists of; operator network, backbone network, content and application element providers, end consumers and provides a platform to be used to deliver content and applications [4]. This image shows a chart of the New ICT Ecosystem put forward by Martin Fransman.

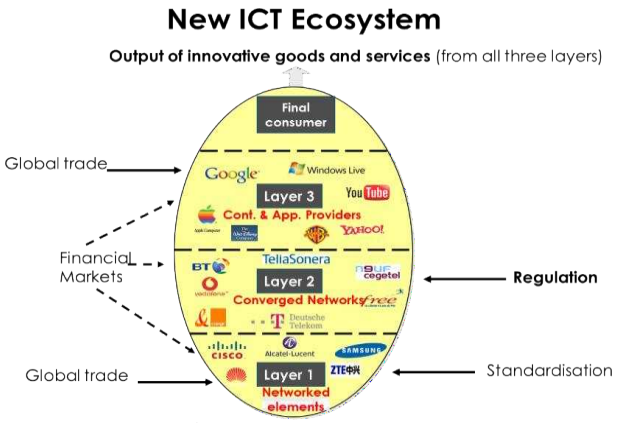

Fig. 1. New ICT Ecosystem

According to the Chart, the new ICT ecosystem consists of devices (computers, servers, routers, etc.) that are configured on a network and that provide a platform and use the Internet to deliver content and applications. A dynamic system that provides the main engine for economic and social development at the national and global levels. There are new ways and new modes of governance which are partly based on potentialities. The ICT ecosystem includes policies, strategies, processes, information, technology, applications and stakeholders that together form the technological environment for a country, government or company (Harvard University). The supply side of the ICT ecosystem has three types of players, including:

1. Layer I: network element provider (eg Cisco, Samsung, Alcatel, Ericsson, Nokia, etc.)
2. Layer II: Network operators (fixed and mobile) (eg BT, DT, Vodaphone, etc.)
3. Layer III: Platforms, content providers, applications (eg Google, Apple, You Tube, etc.)

The old ICT ecosystem (i.e. pre-internet) can be described as a closed system of innovation with the most important links between network operators and network providers (layers I & II). Meanwhile the new ICT Ecosystem (i.e. post-internet) has shifted the most important interaction locus where platform, content and application providers are more important (layer III). Another important aspect of the new ICT Ecosystem is a more open innovation system [4].

Advancement in Internet Ecosystem and Changing Trend

A growing need to meet the challenges of changing ICT and Internet ecosystems and exploring ways to improve

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the total ICT ecosystem (C-P-N-D; Contents-Platform-Network-Device). The consequence of these developments is a change in trend, namely changing the paradigm with internet usage patterns from web-based text to video consumption resulting in sudden spikes in data traffic resulting in heavy usage counts.

According to Cisco, video is predicted to consume 91% of global traffic in 2014. Multimedia traffic is becoming more dominant in fixed line and mobile services, at around 70% and 53%. The growth in mobile traffic is much faster than the increase in the number of subscribers. In fixed line services, subscribers increased by only about 25% over the last 6 years from 6.28 million to 7.82 million, while traffic increased by 550% 380Gbps-2.090Gbps. This situation is worse with mobile services. There was a slight increase in subscribers compared to 2009 (5% annual growth), but traffic increased 153 times due to the imposition of flat rates. An increase in service providers or 'Over-The-Top (OTT)', which utilize the network without sharing the investment burden, worsens operator profitability.

The benefits of OTT that are gained through using the network and generating large traffic, should also bear the costs. OTT that generates traffic on the network or anyone who is involved in profiting a business using the network should pay compensation for using their network. All interested parties are advised to promote ICT ecosystem development in a mutually beneficial fashion.

E-Business Trends

Technology is developing very rapidly at this time, causing business and sales strategies as the spearhead of all businesses to increasingly lead to the mastery and use of technology. It is undeniable that the role of technology is very dominant in the development of the company. Starting to increase sales, transactions, company performance, to reasons of efficiency and effectiveness. Any kind of business needs sales to survive. Scottish Enterprise, a management consultant headquartered in Glasgow Scotland, writes on its website some tips to increase sales using E-Business tools. E-Business itself on the website is mentioned as a business process that uses information and communication technology to achieve change and growth for the company. Thus it can be defined as the activity of doing business using internet access, which is not only purchases, sales and services, but also customer service and cooperation with business partners (individual bail or agency).

Many people assume that e-commerce and e-business are the same. The terms e-commerce and e-business may sound the same but they are technically different. Both do have the letter "e" which indicates the use of electronics including the internet and EDI (electronic data interchange) to develop business processes.

By definition e-commerce is part of e-business, although in reality not all e-business means e-commerce. E-commerce is narrower than e-business, where e-commerce is a sub-tool of e-business. Electronic commerce is a revolution in information and communication technology, which is primarily in the economic field [5].

E-business is the practice of implementing and managing key business processes such as product design, raw material supply management, manufacturing, sales, order fulfillment, and service provision through the use of computerized communication technology, computers, and data [6]. The scope of e-business is very broad, referring to the use of technology to run a business that delivers results, has a large impact on the business as a whole.

Meanwhile e-commerce refers to the use of the internet for online shopping, such as shopping for products and services. An example occurs when consumers order tickets, books or gifts, tangible or intangible products via the internet. Another sample is when an organization or individual pays some money via the internet.

The world of commerce today is no longer limited by time and space. High human mobility demands that the world of commerce be able to provide services and goods easily according to consumer desires. To anticipate this problem, transactions are now being made that use the internet to connect producers and consumers. Transactions via the internet are better known as e-commerce and e-business. In general, e-commerce is defined as all forms of trade of goods or services using electronic media / computers.

In the country of Indonesia, many people use the internet only as a user (user) which can be interpreted as a consumer, this can be seen that Facebook users from Indonesia are so many that they reach second place in the world after America, from elementary school children, to professors. Facebook account, from data obtained from http://id.ibtimes.com Facebook users in Indonesia are 33 million users. Users usually use the Internet only to send email, browse to find information, chat to chat here and there with friends, discuss through forums, mailing lists, etc. Also download music, videos, software, games, eBooks for personal or entertainment purposes. However, according to AsianBrain IMC, there are 2 interesting facts that must be known, namely:

1. Online trading business (e-commerce) is currently still controlled by developed countries. Meanwhile, developing countries such as Indonesia are used as one of their target markets or market shares.
2. A nation will be more advanced, if its people are aware that the internet can actually be used as a tool to expand their business throughout the world. Basically, an entrepreneur will use information and communication technology (internet) to expand his business around the world. Maybe we have received e-mails from them about the kinds of their products, and maybe we have visited their website which contains promotions and types of their products and sometimes provides a suggestion box (discussion forum) for their consumers.

E-Business Success Criteria and Factors

Several criteria for the success of the e-business system implementation, from these criteria, the success of the e-business system applied to a company can be measured. The following are the criteria for e-business success according to [7].

1. Can be built and remodeled quickly (short time to market)
2. Flexible, allowing adjustment to changes in business needs (agile)
3. Able to serve high transaction volume (scalable)
4. Integrated (integrated) horizontally and vertically

5. Reliable

In addition to the success criteria expressed by Wade previously, Wade [8] also revealed several factors for the success of e-business implementation, including:

1. Expectations from the company are supported by the availability of funds.
2. Adequate implementation schedule and time.
3. Knowledge of business processes, competence and experience in e-business system development.
4. Communication both functionally and cross-fuction.
5. High commitment from all parties involved.

Research shows that the increase in internet users has reached 33 percent, or around 83.6 million users throughout Indonesia. However, when compared to total online retail, the figure is still far below the total retail total, which is only around 1-2 percent in Southeast Asia. If you want to be compared to other developed countries, the United States recorded a total online retail of 12 percent. Meanwhile, the world average is at eight percent. However, e-commerce in Indonesia has been said to be at the forefront compared to e-commerce in China and India.

Prospects for e-Business in Indonesia

The collapse of a number of internet-based companies in the first quarter of 2000 and the recent world economic crisis (in Indonesia in particular) which has influenced the decline in the information technology industry has raised questions among management practitioners about the prospects for the concept of e-business in the country.

Judging from the type of e-business, it seems that the development of the use of electronic and digital devices as a medium of communication and business relations (digital relationship) is much faster than the use of the same method for trading or buying and selling transactions (eCommerce). Based on this phenomenon, business prospects or opportunities appear for companies that can assist company management in implementing various types of communication, collaboration, and digital cooperatives that occur at the back office, for example back office concepts such as eProcurement, e-Supply Chain, ERP, and others, which in principle are used by the company to improve quality of communication between divisions and between the company and its business partners.

The eBusienss opportunity is wide open for those who are engaged in providing various technology, hardware and software equipment, which are directly related to consumer needs. For example, technology based on WAP (Wireless Application Protocols) will be the prima donna in the near future; especially when looking at Indonesia's geography as the largest archipelago in the world.

1. Access Channels
   The development of information technology (computers and telecommunications) such as the internet and websites offers various benefits for companies that intend to implement these access channels.
2. Regulation (Regulation)
   By adhering to the principle that e-business is closely related to a series of wealth maximization activities, the Indonesian government will follow other developed countries in applying the principles of conducive e-business regulatory arrangements.
3. Institutional (Organization)
   An in-depth study of the e-business phenomenon in the country shows that the challenges of implementing this new concept are more due to sociological reasons than the technological aspects.
4. Change Strategy.
   The transformation from conventional business models to e-business is a matter of change methodology.
5. Business Process (Business Process)
   Of the many e-business companies that have developed in the country, it is evident that successful companies are achieved by those who are able to marry the traditional physical value chain concept (a series of conventional business processes) with a virtual value chain (a series of virtual business processes).
6. System Approach
   The last aspect that is no less important to consider is the fact that e-business can only develop if other components are in the environment the e-business system also grows and develops simultaneously.

The challenges of e-Business in Indonesia

The big challenge faced in implementing e-business is data security and its human resources. E-business is applied to share information both to consumers and to business partners. For that, data security is very important to be developed further.

To overcome these challenges, the right solution for now is choosing the right and wise vendor, Sugiarsono in Abdurrahim [1] states that the selection of consultants and outsourcers must pay attention to the following factors:

1. Consultant's understanding of the company's business.
2. Human resource experience and competence possessed by the consultant.
3. Have a cost benefit analysis tool in the form of a clear business case.
4. Providing a guaranteed service level agreement with excellent service.
5. Long term reputation and commitment.

Data security challenges and crimes in cyberspace related to cyberlaw in the country concerned, especially the laws in Indonesia, the state's readiness to tackle crimes that will occur in the future is also a challenge that must be faced by us next.

On-Demand Service

Start-up business actors are increasingly able to identify consumer needs for certain sectors. Anything can be fulfilled with on-demand services, as long as it involves technology in its business implications. As many as 38% of investors agree that on-demand service startups will be an investment trend in 2016. Not only in Jakarta, on-demand services are also rife in various regions in Indonesia.

As happened to Go-jek for less than two years. With its various business units, Go-jek does not only connect the transportation chain, but also other facilities that consumers need. In fact, Go-food claims that they now lead the food delivery service market, beating FoodPanda and KlikEat.

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Impact and Potential Development of ICT on E-Business in Indonesia

The development of On Demand Applications provides a positive signal for the development of the startups industry and provides convenience for the community. In line with the development of e-commerce prospects in Indonesia, currently there are many applications that can connect business players and prospective consumers according to their respective needs. But on the other hand, this phenomenon gives a negative signal for other sectors (competition): Transportation, Telecommunications, Custodian Services and so on. This is due to the on demand applications, such as; Uber, Gojek and Grab Car and similar services are disruptive innovation or a technological innovation that can damage existing business patterns.

In the case of Uber and similar services such as Gojek and Grab, many countries have opposed it, even some countries have banned it, but Uber's business pattern will still exist and cannot be stopped. Uber technology uses a decentralized model with cellphones as the medium, while the existing business patterns use a centralized model.

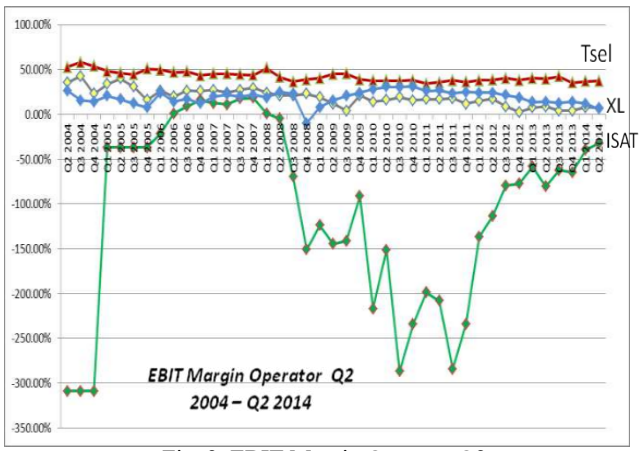

Fig. 2. EBIT Margin Operator Q2

In a phenomenal case in Indonesia and several countries in other parts of the world, the existence of on demand Applications can create new markets and change or destroy existing markets. Thus, the ICT technology innovation that presents On Demand Applications can change basic assumptions and existing systems. This is because the products resulting from the innovation are different from existing products, namely with several advantages, among others; easier, cheaper, more accessible, more flexible.

Based on this illustration, with a decentralized pattern, consumers will find it easier to get the mode of transportation needed. Through the help of applications on consumers' smart phones, they will be helped to connect to the nearest transportation operator. The basic idea of this innovation is not a business concept but a sharing concept. According to the results of a survey from the US Cencus Berau Population 2014, this concept was quickly adopted due to the dominance of the younger generation, with an age range between 18 - 34 years of age who had high expectations for ease of access and sharing.

The development of on demand applications also had an impact on the business sector in the telecommunications industry. With so many people using on demand applications, large bandwidth is required. Thus, an infrastructure that is capable of serving a large bandwidth is needed. As a consequence, the telecommunications industry must incur high investment and operational costs. This condition is shown in this figure [9].

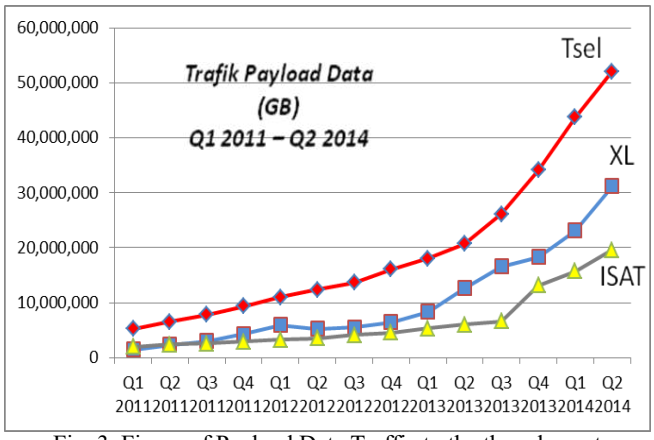

Fig. 3. Figure of Payload Data Traffic to the three largest operators in Indonesia

In this graph, it can be seen that there is currently an increase in data traffic due to a surge in application users via smart phone devices at the three largest cellular operators in Indonesia in the 2011-2014 period. With the high investment and operational costs, the consequence that must be faced by the telecommunication industry is the reduction in the amount of profit / profit (profit) from their business. An increase in revenue (revenue) in the telecommunications industry through an increase in data traffic does not guarantee an increase in profit. In this business ecosystem condition, telecommunication operators only act as a data communication channel like a pipe and do not get any other significant benefits. This is shown in the income graph for the three largest telecommunication operators in Indonesia through the EBITDA Margin Graph (Earnings Before Interest, Tax, Depreciation and Amortization) of telecommunication operators for the period 2004-2014 shown earlier [9].

From a business point of view, players and the global e-commerce or online trade market have huge potential. Indonesia has a large market for e-commerce. Thus this nation must be able to get the benefits (benefits) from the market and business. The target of e-commerce players and market is how to make the transaction value reach USD 130 billion by 2020. In 2014, Indonesian e-commerce could reach USD 12 billion, then in 2015 it would reach USD 18 billion. Do not let foreign countries use Indonesia as a market only. Indonesian SMEs must grow and also be able to transform into digital marketing.

The Role of the Government as Regulator for the ICT Sector

The rapid development of ICT when it is associated with the development of e-business in a country will have many obstacles that will confront you. In terms of ICT development in Indonesia related to the development of e-business, the government as the regulator must be ready to face it by developing human resources, providing

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infrastructure, preparing for governance, regulation and ecosystem, analyzing the suitability of potential external environments, and carefully monitoring the implementation process.

In this regard, the government is committed to supporting the growth of Indonesia's e-commerce and digital economy, through the desire to create 1,000 digital technopreneurs by 2020, with a projection of more than USD 10 billion of business value. The Indonesian government has developed a National E-Commerce Roadmap which is the result of the collaboration of more than 8 ministers and related institutions/stakeholders. Furthermore, the Indonesian government through the Coordinating Ministry for Economic Affairs finally determined:

1. Formalizing the e-commerce roadmap and establishing it as a national program that will be launched at the end of January 2016.
2. Appointment of PMU (Program Management Unit) which will coordinate ministries/agencies in implementing exploration and monitoring the progress of each initiative in the relevant Ministries / Institutions.
3. Plans for the official launch of the Roadmap for e-Commerce Indonesia as a National program at the end of January 2016.

President Joko Widodo adopted the Digital Economy Vision, which was made up to 2020, so that the President of the Republic of Indonesia, Joko Widodo established a policy pattern that is closely related to the position of **"Indonesia: Asian digital energy"**, namely:

1. A strategic plan to focus on SMEs and as much as possible involve SMEs in national economic development.
2. E-commerce explorations combining 31 initiatives from 8 ministries and government agencies to ensure the growth of the technopreneur sector with a target of achieving e-commerce transactions of USD 130 billion by 2020.
3. Foreign investment friendly policies to attract investment and venture capital investment.
4. Facilitating access to funding for digitizing SMEs and startup companies through People's Business Credit (KUR) and also making regulations that are more attractive to venture capital.
5. Provide an easy and attractive exit strategy by deepening capital market liquidity for technology company listings.
6. Adopt pro-innovation policies such as: a national program to create 1000 national digital technopreneurs and safe harbor regulations to protect electronic commerce players.

In addition, there are six problem areas that are functionally cross-cutting (cross-stakeholder), namely: funding, taxation, consumer protection, communication infrastructure, logistics, education and resources. human power.

The six strategic issues were identified through intensive consultations with cross-cutting stakeholders. The message that was built was that Indonesia has enormous potential to become a large e-commerce market and player in the next few years. This message can be drawn from two approaches, namely; The first is that the players and the e-commerce market will be very large and the second is that Indonesia is not only a market, but the industrial platform must also develop and advance. The goal is for Indonesia to become the country with the largest digital economy in Southeast Asia. In addition, e-commerce development applies five basic principles in implementing e-commerce, namely:

1. All Indonesian citizens must be given the opportunity to access and conduct e-commerce transactions.
2. All Indonesian citizens must be equipped with the skills and abilities to take advantage of the benefits of the information economy.
3. Termination of employment (PHK) must be minimized during the transition process to an internet economy and additional net jobs must be positive after being reduced by the impact of creative destruction.
4. A clear legal framework must be implemented to ensure a safe and open E-Commerce industry, including technology neutrality, transparency and international consistency.
5. National players, especially start-ups and SMEs, must be properly protected. Local business and national industrial growth must be the top priority.

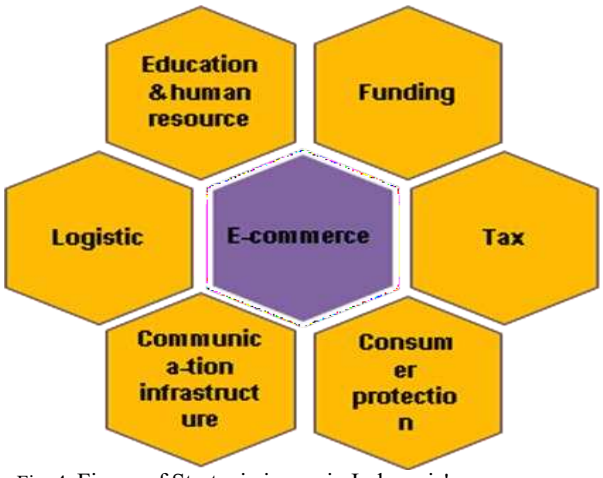

Fig. 4. Figure of Strategic issues in Indonesia's e-commerce roadmap

Further steps that need to be taken by the relevant government are making policies / regulations to support the growth of startups and telecommunications and other industries through healthy competition and ensuring consumer protection. Figure 5 is a regulatory framework for the e-business ecosystem in Indonesia.

There are several challenges for regulators, among others; a better understanding of the business model New competencies are emerging new technologies, such as; supervision and certification, as well as coordination between sectors whose business model is disrupted (disruptive industry) by the development and innovation of ICT. This condition can be assessed as an opportunity or a threat depending on how the industrial sector in the country reacts to it. Therefore, it is necessary to support the Government through the issuance of regulations to create fair competition.

As for the steps on how to create 1000 technopreneurs, namely by creating new comers and also encouraging existing technopreneurs to continue to grow and be able to sustainably grow through the ideation stage in the form of incubation & acceleration, namely by increasing activities such as:

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1. Talks: raise issues and motivate and inspire to come up with ideas
2. Workshop: Deepening how to mix ideas into creativity or develop entrepreneurial values with curriculum materials. The workshop can be 3-4 days.
3. Hackaton: A place for executing ideas into reality with the guidance of mentors and experts from Industry Player.
4. Bootchamp: The process for initial scale up of a product that has been produced so that it is ready to operate.
5. Incubation/Seed: A program to help new Startups to successfully grow their business.

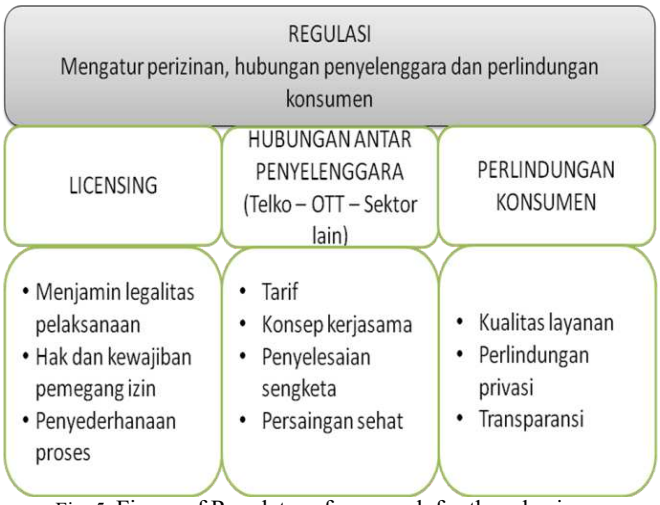

Fig. 5. Figure of Regulatory framework for the e-business ecosystem

The next stage is through the Commercialization phase, which is to encourage startups to grow until they get capital to become large. In this stage, regulations are needed that encourage the e-commerce technopreneur ecosystem to grow bigger. The target of creating 1000 technopreneurs is by 2020, so that assuming 200 technopreneurs are created each year, it takes gradual and continuous activities from talks, workshops, hackatons, booth camps to incubations. The target location is expected in 40 major cities throughout Indonesia

To create 200 technopreneurs, starting from talks about 8000 participants, then given a workshop to provide provision and practice how to start ideas, creative processes, to become the seed. Every year it is expected that these technology actors will grow and increase starting from the seed / start-up level which then grows with the presence of capital / capital entering to become a Small Medium Enterprise (SME) level and continues to grow to a large level. It can even grow to be a unicorn level.

IV. CONCLUSION

The application of this technology can expand the company's market share, especially the cost of advertising which is cheap compared to advertising on the street and the mass media. There is a need for in-depth socialization and learning as well as careful preparation before implementing an e-business application. Weaknesses in e-business and e-commerce can be handled carefully, but it takes more than just a careful plan, as well as experts to handle it.

A cross functional system that is integrated in a company or organization is very much needed in Indonesia today. This is useful for increasing competitiveness. The development of e-business is related to the development of ICT (information and communication technology) in a country, the many obstacles that will confront the development of ICT in Indonesia must be ready to face by developing human resources, providing infrastructure, preparing company management, analyzing the suitability of potential external environments, and careful monitoring of the implementation process.

When viewed from the above discussion, Indonesia is still not ready to face the increasingly rapid development of ICT, both in terms of law (cyberlaw) and its resources. Therefore, e-commerce in Indonesia is a potential market to work on because of the fast growth of internet users.

Based on the results of the analysis and discussion in this study, suggestions and recommendations that can be taken by regulators and other policy makers, that the government needs to consider three aspects, namely: facilitation of national platform providers, support for national connectivity and anticipating several obstacles and challenges in the development of the national digital economy. The following is a description of the three recommended aspects:

Facilitate National platform providers

1. Encouraging the availability of a strong national data center
2. Provide data center facilitation for National platform developers:
   a. To encourage the placement of data centers in Indonesia
   b. Giving the opportunity for national data center providers to provide services on an ongoing basis.
   c. Strengthening Indonesia's position in services data center
   d. Reducing bandwidth requirements abroad
3. Provision of platform protection regulations, namely how to maintain the sustainability of the platform by providing platform protection regulations (for example from merchants who are illegal), known as safeharbor.
4. How can there be equal treatment of national platform providers from global providers in terms of taxes and Permanent Establishments (permanent business entities)
5. The start-up industry needs funding support through national venture capitalists. Venture investors can take advantage of the KUR scheme to get their initial capital.
6. Encouraging an exit strategy model through going public by providing a Technology Board on the Indonesia Stock Exchange (IDX), where the IDX has prepared support infrastructure for national platform providers to go public.

Support for national connectivity

1. It is necessary to build accessibility that is evenly distributed to the last mile to rural areas
2. Encouraging the use of ICT in all areas from service access
3. Current Government Programs that will be and have been running include:
   a. Palapa Ring
   b. Drive Fiber Ethernet and FTTH (Fiber to The Home)

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c. 4G LTE
d. USO: LOON, Broadband Village
e. Spectrum Structuring: Refarming, Digital Dividend

Anticipating several things that become obstacles, including:

1. The development of ICT applications is so fast
2. Keep in mind, especially IoT-based applications, possibly:
   a. Disrupt regulation
   b. Disrupt Privacy
   c. Disrupts the business as usual process
3. Progress in connectivity needs to be directed towards the economic benefits of rural and domestic areas, rather than increasing the flow of goods from abroad to domestic and even to rural areas.

This study is a starting point to illustrate the role of policies in dealing with changes in business models as a result of the rapid development of digital technology. In the future, it is hoped that there will be a more specific study on the business model of each business sector and also how the policies should be applied to that business model.

REFERENCES

[1] SQW Group. (2012). Scottish e-Commerce Study-Final Report to Scottish Enterprise. UK

[2] Abdurrahim, M. Fauzanul Hakim., (2011), Implementasi e- Business di Indonesia, Magister Manajemen Agribisnis Institut Pertanian Bogor, Bogor

[3] Huff, Sid L., dkk. (2000). Cases in Electronic Commerce. McGraw-Hil

[4] Martin Fransman, 2010, The New ICT Ecosystem: Implications for Policy and Regulation

[5] Nanehkaran, Y. Ahangari. An Introduction To electronic Commerce, International Journal of Scientific & Technology Research Vol. 2, Issued 4, April 2013

[6] Alter, Steven. (2002), Information System: Foundation of E-Business. Prentice Hall.

[7] Yuwono, Budi, (2005), Manajemen Pengembangan E- Commerce, bahan kuliah softcopy Manajemen Pengembangan ECommerce.

[8] Wade, Michael R. and Saggi Nevo (2005), "Development and Validation of a Perceptual Instrument to Measure E-Commerce Performance," International Journal of Electronic Commerce International J1 - International Journal of Electronic Commerce, 10 (2), 123-46.

[9] Direktorat Jenderal SDPPI. (2015). Data Statistik Direktorat Jenderal Sumber Daya Pos dan Informatika Semester 1 Tahun 2015. Ditjen SDPPI Kementerian Komunikasi dan Informatika, Jakarta, Indonesia.