Implementation of virtual corporation: the challenge of future business in Indonesia

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Abstract This paper presents a descriptive analysis of the development of virtual organizations in the business. Recently, many commercials activities were carried virtually. Online shops are growing everywhere; furthermore hotel reservations, ticket booking, as well as purchasing process are all done through the cyberspace. In the government, administrative process has migrated to electronic systems such as E-budgeting, E-KTP, E-procurement and online visa application. This era is not excessive if it is said as the era of E-anything. To address the issue, we employed survey based study on APJII survey and other related sources. Furthermore, the data is analysed based on the theory of development of virtual organizations and virtual corporations by using the six social sciences paradigm. This study showed that the Internet users in Indonesia have increased progressively from year to year. Therefore, the e-commerce market in Indonesia is growing rapidly as well. By looking at the growth of Internet users and the reasons for their use, it can not be denied that the internet-based business in Indonesia is a very promising (from the electronic shop, logistics and online transportation (known as online taxi) such as, Gojek, Grab, UBER, etc). One thing that should be prepared is the wise and proper government regulation. The electronic technology-based business activity of course is a necessity, and can't be inhibited its development. However, if the infrastructure such as the regulation and culture of the community are not ready yet, then it can lead to the social conflict such as a conflict between conventional taxi and online taxi players (Gojek, Grab, Uber etc). We hope this paper will open the horizon and our mind of looking at the emergence of new patterns in business.
Keywords: Virtual Corporation, Virtual Company, Virtual Organization, E-commerce

1. Introduction

1.1 Background

Nowadays, the computer has been considered not as new thing. In almost every field, all activities require a computer. An expert says that he is not afraid of the computer but he is more terrified to be left behind by the development of computers. We are at the stage where all problems can't be solved without computers. I do not fear computer. I fear the lack of them (Issac Asimov).

Computers was created originally to only act as a tool for calculating, then turned into a data processing tool, then developed further as an information processing tools, even now has functioned as a knowledge processing tool. The database has changed into a knowledge base. Especially after the discovery of a networking system, capable of connecting various computers in the worldwide. With that said, computer seemed to change its meaning from the calculator into the entrance of a virtual world. Especially after the creation of internet technology.

The virtual world has become a relatively new world for various human activities, as well as in business. As we know, Amazon.com has long been known as an electronics store. The founder of this electronics store was Jeff Bezos in 1994. Initially this store was named Cadabra and its website began to be launched under the name amazon.com in 1995. The company was named by the name of the river; Amazon, one of the largest rivers in the world. Amazon.com started as an online bookstore, then became a seller of DVDs, CDs, MP3s, software, video games, electronic goods to furniture, food, toys and jewellery [3].

Now various similar sites have mushroomed and virtual companies have sprung up everywhere. As stated by Ulrich Franke of Cranfield University England and his colleague Bernd Hickmann, of RWTH Aachen, Germany that [17]: " Due to the accelerating development of information and communication technology (ICT) our business world has been changed. It is a double sided coin. On one side, sophisticated ICT generates higher customer expectations and intense competition (market side). On the other side of the coin, ICT enables economic actors to reorganize their value adding processes (organization side) in response to the market side ".
Widespread and very rapid influence of information technology advances in the business, then almost all business activity, has now migrated from conventional media to electronic media. Now known as e-education, e-gouverment, e-budgeting, e-procurement, e-commerse etc.

1.2   Problem Definition
Besides giving positive impact, of course, internet-based business development also emerge a negative impact in some manner, especially related to people's readiness, government regulation and the availability of supporting facilities. without doubt, through the internet, the reach of the market has increased widespread. A product that was previously only known locally, or regionally, can be recognized globally. So from the aspect of marketing is became easier, but on the other hand, the level of competition will be more complicated as well. The products offered in West Java (for example), formerly only compete in West Java region, but now have to compete also with products coming from abroad, because people already know it through global trade sites. This is what needs to be explored and studied, so that Indonesian entrepreneurs are able to take advantage of the development of the internet and not otherwise become victims of the progress of the internet.

Again it should be emphasized that business activity based on electronic technology is a necessity, and can not be inhibited its development. However, if the infrastructure and culture of the community is not ready, it can lead to social conflict. As recently, We were surprised by the conflict between conventional taxi and online taxi players (go-jeg, uber etc).

Based on the general description as mentioned above there are four major issues of this study, namely: 1). How far the development of internet usage in Indonesia 2). What are the characteristics of a virtual corporation? 3). What needs to be prepared to adapt to this new form? 4). What government policies need to be formulated to support the realization of virtual corporation.

2. Theoretical Bacground

2.1 The Concept of Virtual Coporation
An interesting question to contemplate in this digital age is "what is exactly the meaning of workplace?". Simply, workplace can be said to be just a place where people work. But if examined more closely, often the workplace has a fairly complex meaning, and have a varied understanding, but mainly physical. In this digital age, the workplace is not always interpreted strictly as a physical space or linked to a geographical location. Because with the discovery of World Wide Web technology then the space or workplace can now be digital. Currently we are doing a variety of real-life activities in digital space. Everyday we enter in to the internet and penetrate various aisles to locate the workspaces and also communicate in both directions as where it should be done in physical space [2]. This is all thanks to the growing development of internet-based technologies and applications.

The Internet itself was originally developed for military purposes in 1957. Three years later the

American military developed an increasingly sophisticated communication technology called Arpanet. This technology is basically the embryo of the birth of the internet. Having discovered TCP / IP technology, the use of computer networks is increasingly widespread and university researchers continue to work to develop this technology. This technology is then used not only for military purposes but business actors have already utilized it. Furthermore, after developed the World Wide Web application (WWW), then the use of internet widespread even has created a new world of social media (medsos).

The Internet has changed the way we communicate. Now, online media, such as email and chat rooms allow individuals to overcome time and space barriers. Everyone can interact directly with people who are far away. Through the internet, we can share information easily and quickly. We can send messages via email to many people (group) in one time.

Internet technology allows humans to interact widely. [2] With the discovery of the internet, the limits of work space become more lax. In the digital space, everything can be done, digital space is a modern workspace and not just a site, an office, a house, or a college course. This place is not an illusion. It is as real as the physical space we are now living.

Digital space or can be called also with the virtual world is very effective and efficient to serve as a business space. As we know that the main challenge facing today's companies is the increasingly complex competition. One alternative to achieving competitiveness is to adopt the principles of Virtual Corporation (VC). The concept of VC is basically like a cooperative capable of integrating various sources and competencies without having to be physically. For example a virtual travel agency offering services ranging from hotels around the world, to booking airline tickets and other tourism facilities. If carefully considered, in reality all entities involved in travel.com it does not have one company. They are only joined in a network and tied through a particular application. For consumers travelbiro.com can be considered a real company, in which incorporated various companies in a virtual corporation. Virtualness can be defined as the ability to offer a complete product or service to the customer, where the company itself has only some of its competencies [18], other competencies are supported by other companies through cooperation in a network.

2.2 Characteristics of Virtual Corporation

There are several notions about virtual which include [16] [17]:

Virtual means 'unreal, looking real'.

Virtual Reality' is a good example for this sub-concept of 'Virtual'. It simply means, that a 'Virtual Corporation' has the appearance of a real (traditional) company for externals, but in reality this company does not exist, it is only a conglomerate of independent network partners.

Virtual means 'immaterial, supported by information and communication technology (ICT)'.

This sub-concept of 'Virtual' means, that something does not physically exist, it is only created by data. For example, the 'Virtual Shopping Mall' does only exist on the Internet. The 'Virtual Office' does not exist in physical terms; employees work from home and are connected to each other by ICT.

Virtual means 'existing, but changing' The dynamic network follows this meaning of 'Virtual'.

The organizational unit is existing, but the composition of partners is temporary. This kind of organization reconfigures itself permanently; it is dynamic and progressive. On the company level such temporary networks are called 'Virtual Corporations', on the worker level such temporary networks are called 'Virtual Teams'.

In conclusion, the Virtualness is the ability of the organization to consistently obtain and co-ordinate critical competencies through its design of value-adding business processes and governance mechanisms involving external and internal constituencies to deliver differential, superior value in the market place.

Based on various virtual concepts as mentioned above, there are four basic characters of Virtual Organization, which are: 1) Differentiation, 2) Configuration, 3) Integration and 4) Technology. Quoted by Ulrich J. Franke from Bultje R and van Wijk J [18] [7].

Differentiation: Modularity and Heterogeneity.

To meet complex customer needs, a variety of different satisfiers (i.e. modules) with specific competencies and strengths are needed. Each satisfier develops its specific core competence to optimally meet a specific requirement. The flexible and dynamic combination of core competencies to unique value chains gives firms the opportunity to achieve competitive advantages by virtually increasing their resource and know how endowment

Configuration: Temporary and Loose Coupled Network.
Although the customer perceives the VC as one entity, it consists of independent companies, which are configured dynamically in a network according to the prevailing customer requirements. The overall structure of the VC is therefore determined by the configuration of the network and changes with customer requirements.

Integration : Trust as Coordination Mechanism.
Heterogeneity and the dynamical reconfiguration of independent core competencies re-quire clear criteria and rules for the assignment of tasks. Shared organizational goals and the co-destiny of participating satisfiers provide an important integration function. Beyond that, trust between the cooperating partners has a fundamental impact on the success of VCs.

2.3 Virtual Corporation Development
In line with the development of information and communication technology, the behaviour of business and media to do business is growing. In the past, business or trade was done by physical agents in physical space through physical processes. and traded products were physically shaped as well. Examples are traditional markets and conventional stores that trade goods directly. Buyers and sellers transact directly. In line with the discovery of a means of communication then, people transact through means of communication, such as telephone, telegram, telefax, etc. Similarly, the goods traded have begun to take the form of digital like e-books, digital music and movies in digital format.

   Currently people transact using digital money digitally and goods in digital format. So it is foreseen that in the future will form a digital commerce community in cyberspace where the process, its players and also its products are all digital (see figure 1).
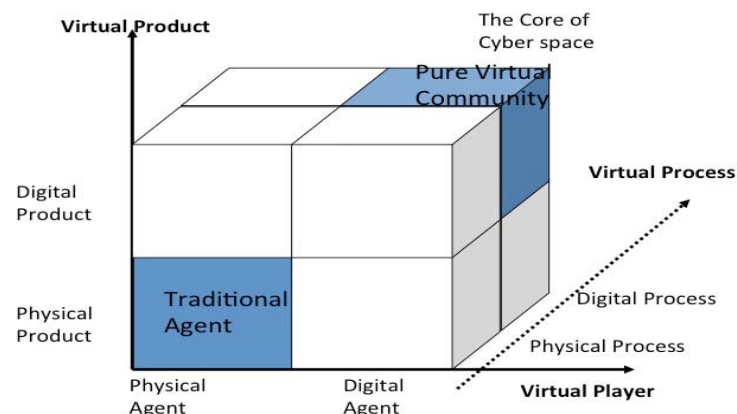
**Figure 1**. Form of business in the modern era

3. Research Method

3.1 The six Social Sciences Paradigm
The development of the social life of the community can be said as the transformation of a paradigm to the other paradigm. An American philosopher named Thomas Kuhn (1922-1996) was the first to define the concept of paradigms. In this study the approach will be based on The six social science paradigms are considered as the most important set of paradigms to understand and explain business activities. They represent the different categories of creation of knowledge about and in a given reality [3].

The six principles of social paradigms are as follows [3].

1. **Reality as concrete and conformable to law from a structure dependent of the observer** .i.e. an external, tangible and objective reality. The relations between the components are easily predictable and measurable because of their deterministic characteristic.

2. **Reality as the process of determining the concrete world.** That is a process that develops organically, is concrete but changes in detail. The relationship between components, considered "social facts", affects and is influenced by the environment.

3. **Reality as an interrelated field of information**. That is a constantly changing reality depending on the exchange of information. The relationship is dynamic, probabilistic and relative to the "relational network" component, because the individual reacts to and interprets the information received. The research method is based on gathering information about the results achieved, or "contextual dependency".

4. **Reality as a world of symbolic discourse.** It is an inter-subjective interpretation, based on dynamic exchange and negotiation that leads to mutual understanding and social rules. Relationships are based on culture, symbols and language, making the results of relative and specific methods of study for the immediate context.

5. **Reality as social construction.** We have no concrete status, the fact evolves through a continuous process, because of the subjective but subjective and subjective perception of reality. The research method is based on a "hermeneutic spiral"

6. **Reality as a manifestation of human intentionality**. That is, individuals create reality in their own consciousness or "transcendental consciousness". They are seen as deliberate beings, whose intentions are not conscious while creating knowledge is the main determinant for understanding.

So basically to understand a paradigm is a learning cycle process. Starting from the pre-understanding stage, then enter the stage of understanding, then to the post understanding stage. After that the process repeats, according to the context and purpose of the study. (See figure 2)
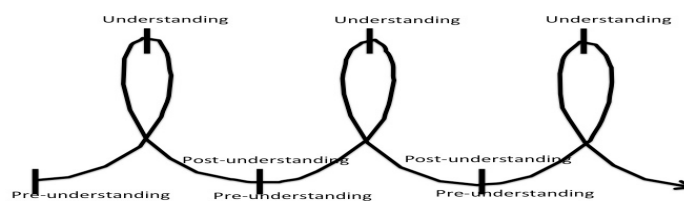
Figure 2: The hermeneutical spiral created by [11], inspired by [4]

3.2 Source of Information.
In accordance with the nature of the study is to examine the phenomenon that occurs in cyberspace, the approach used in this study is a descriptive method of analysis. The database and information used are secondary data sourced from various research documents and the results of previous studies. Further validation and valid test conducted by conducting a series of FGDs with various parties, both from academics, ministries and industry players.

4. Research Finding

4.1 The Growth of internet usage.
One of the driving force of the increasingly widespread electronic-based trading is the increasing number of people who use the internet. According to the survey conducted by the Association of Internet Service Providers Indonesia (APJII), internet service users in Indonesia from year to year increased rapidly. In 2016, internet service usage in Indonesia has reached 132.7 million people from 256, 2 million population of Indonesia or about 51.8%. Most of the internet users are the population of

Java island, which is about 86.3 million people or 65%. Whereas in 2015 the number of usage is still 88.1 million people. Thus every year there is a huge increase, as can be seen in the picture below. [1] In 2005 international users were still around 16 million, then increased sharply in 2006 to reach 20 million people, and then, ten years later had reached 132.7 million people or nearly seven times.

What is interesting to note is the reason for using the internet. If you see the reason, it is still the most related to finding information and update information related to work, entertainment. Meanwhile, the use of the internet to do business is increasing. This means that more and more people of Indonesia who use the Internet as a workspace or activity. (see table 1 below). Furthermore, the results of this survey revealed that commercial content is accessed by 123.5 million people, or about 93.1% of Internet users have accessed commercial content. Almost all internet users know that the Internet other than used for scientific problems is also used as a medium for the place of sale and purchase of goods and services. From this survey, it was revealed that there are about 130 million internet users in Indonesia who know that the internet is also used as a commercial medium, and 84, 2 million of whom have transacted on line.

Other interesting user characters to note is the age group. The most common age group of Internet users is a productive age group from the age of 25 to 55 years old. This shows that the use of the Internet as a workspace is very dominant. In detail can be seen in table 2 below

Table 1. Reasons for Internet Usage [1]

No	Reasons	Number	%
1	Updating Information	31,3	25,3
2	Related with Jobs	27,6	20,8
3	Leisure	17,9	13,5
4	Socialization	13,6	10,3
5	Education	12,2	9,2
6	Entertainment	11,7	8,8
7	Business, Trade and searching of goods/product	10,4	8,5

Table 2. Internet users viewed from the Age group [1]

No	Age Group (years)	Number	%
1	35 - 44	38,7	29,2
2	25 - 34	32,3	24,4
3	10 - 24	24,4	18,4
4	45 - 54	23,8	18
5	55 up	13,2	10

4.2 The development of E_Commerce.

By looking at the growth of internet users and the reasons for their use, it can not be denied that the internet-based business sector is a very promising business sector. Therefore, the e-commerce market is growing rapidly as well. With the number of internet users who reach 132 million people more or about 51.2% of the population in Indonesia, then the e-commerce market becomes a potential gold mine. Therefore, it is not surprising that the number of online stores from day to day is increasing. According to the Ministry of Communications and Information, in 2013, e-commerce transactions have reached Rp130 trillion . With reference to data from ICD, Rhein Mahatma predicts that e-commerce market in Indonesia in the period 2012-2015 will grow by 42%. This growth rate is estimated to be larger than other ASEAN countries such as Malaysia (14%), Thailand (22%), and Philippines (28%). This large growth rate has attracted many big investors both from within and abroad. Even VC (Venture Capital) such as Rocket Internet, Cyber Agent, East Ventures and Ideo Source have invested in several e-commerce companies based in Indonesia, such as LAZADA, ZALORA BERRYBENKA, TOKOPEDIA, BILNA, SAQINA, VIP PLAZA, RALI DLL. The world's e-commerce players are able to take advantage of a fairly large Indonesian market of 132.7 million internet usage.

The future of internet-based business is very promising, especially when associated with the number of middle class in Indonesia whose number is increasing from year to year. In 2015, the number of middle class Indonesia has reached 170 million people. This amount is a huge domestic

market potential. The middle class is defined as a group with a daily expenditure of about US $ 2 - 20. This middle class, in Indonesia grew very rapidly from 45 million (25% of the population) in the early 2000s, then 10 years later reached 134 million people and now In 2015 reached 170 million people or 70% of the population.

Besides the domestic market, with the opening of AEC (ASEAN Economic Community) then e_commerce market will be more widespread. Currently it is estimated that the market potential in AEC reaches the number of 600 million consumers. What a huge market. If in the conventional era, ASEAN market must be reached physically by opening branch or cooperating with destination country, now just design electronic store, then the whole world will get to know national product.

4.3 The development of logistic and transport services based on Internet
The impact of the growing e_comerce, has now opened a variety of new jobs, including web designers. At the past, to open the store required physical land and strategic location, but now enough to design the site in cyberspace and then uploaded to the Internet network, then realized the electronic store. Besides business web designer, also developing transportation business and now also has penetrated the field of logistics (delivery of goods etc.). The delivery of goods business is growing not only to deliver goods from the electronic store only but has evolved into the purchase of goods from conventional stores as well. This business activity is now evolving from the application-based shuttle business, such as Uber, GoJek, Grab, etc. In Indonesia, the presence of transportation services creates a conflict between business-based transport apps (online) with conventional business people.

By using the application, online taxi players are able to provide many services and benefits for the customers. Some of the benefits that customers get are very easy way of booking, pick up direct from the customer's place of domicile, travel time is measurable well and most importantly the cost is relatively cheaper than conventional taxi.

To understand the development of this business, let us first note the early development of the emergence of online taxi named Uber. This field of business began with the establishment of 'Uber Cab' by Travis Kalanick and Garrett Camp in 2009 [8]. Travis stated that the idea of Uber's establishment emerged from his own experience. As he was going to attend LeWeb conference in Paris, Travis had trouble getting a taxi. Based on this experience, Travis then think it would be nice if there is a Taxi company that can be contacted anytime and anywhere.

From his experience, Travis founded UberCab in San Francisco. Apparently the company is growing rapidly and began to be established in various other cities (in 2011) including in New York City, Chicago and Washington, DC. Then developed also in Paris as the city of the birth of the idea. Uber Paris is the first city outside America and opened ahead of the Le Web International Conference in December 2011. Further expanded to Canada in 2012. Then In July 2012, the company launched its application in London in order to welcome the Olympics. At the beginning of its establishment there are already 90 partners who register themselves into drivers.

UberCab continues to expand almost everywhere in the world such as Australia, Singapore, South Korea, India, South Africa, China, Mexico, Poland, Denmark, Germany, Thailand and Nigeria. In its development, Indonesia began to bring up UberTaxi in 2014. In August 2015 this service has been available in 59 countries and more than 200 cities around the world.

As a new business, Uber is very successful worldwide, and is very helpful to Taxi users. Likewise investors are trying to invest in this business. Uber itself has absorbed about $ 49 million in 2011 business funds [7].

In Indonesia this online-based taxi has also developed rapidly. According to KOMPAS.com [11], just one year stands, Uber claims to have experienced a significant growth of 30 times, as asserted by Head of Communication Uber Southeast Asia Karun Arya. This "30-fold" growth figure refers to the number of Uber app downloads, though the data details are hard to tell. The number of partners (drivers) who joined Uber Indonesia has now reached 12 thousand. Besides, the area of operation has been spread to various major cities such as Bandung and Bali.
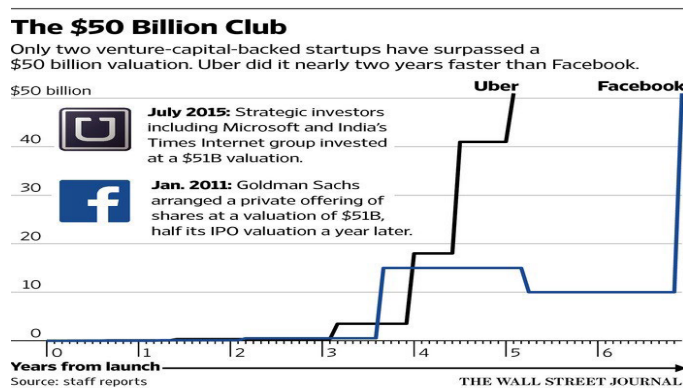
Figure 3 : Comparative value of Investment between Uber and Facebook [7]

There are several obstacles which are now faced by online-based businesses, such as regulatory readiness to adopt this technology. Until now for example, Uber itself is still operating "illegally" in the city of Jakarta, because it has not met the four conditions proposed by the Provincial Government of DKI Jakarta. The four requirements are: having legal existence in the form of Foreign Investment (PMA), paying tax according to the regulation, having adequate insurance, and ensuring that the rental vehicle that become partner follow the motor vehicle eligibility test or KIR.

In the era of ICT, it is difficult not to adopt the power of crowd share technology. Various logistic activities are perceived to be more efficient and effective as well as productive when run by utilizing the various features and conveniences offered by this technology. Even in the field of health now can be served through the facility on line doctor. For example known service "Heal", namely - a service in Los Angeles and San Francisco that provides the facility to ask a trained doctor visiting a user's home or wherever they are needed immediately [7]. This service charges a flat rate of $ 99 per house per call. Through this service open a new business opportunity, no need to establish a building as a consultation place for doctors, because the doctor directly to visit the patient. This service program has attracted many investors to join it. Similarly, the application on Uber, the patient will be notified when the doctor would arrive at a place with a map and application contacts.

5. Conclusion

From various findings of this study there are some interesting conclusions are as follow :

1. In the past, business or trade was done by physical agents in physical space through physical processes and traded products were physically shaped as well. Due to the development of ICT, nowadays business has adopted the principles of Virtual Corporation (VC). The concept of VC is basically like a cooperative capable of integrating various sources and competencies without having to be physically. The are four main characters of Virtual Corporation that are : 1) Differentiation, 2) Configuration, 3) Integration and 4) Technology. Some forms of virtual corporation among them are E-Business, E-commerce, E-government.

2. E-Business, E-Commerce, has been highly developed in the world. The use of ICT is not only limited to administrative processes and product sales (E-Mall), but also in the service industry (Taxi online, logistic services, food delivery). By using internet, the reach of the market is increasingly widespread. A product that was previously only known locally or regionally now can be recognized globally.

3. The internet users in Indonesia are increased progressively from year to year. In 2016, internet service usage in Indonesia has reached 132.7 million people from 256, 2 million population of Indonesia or about 51.8%. The real sector of trade in goods and services industry has adopted many principles of virtual corporation in term of E-business or E-commerce. Therefore, the e-commerce

in Indonesia is growing rapidly as well, but is often hampered because the available regulations have not been able to touch this world. Information technology can't be dammed, therefore the capabilities and convenience offered by ICT technology should be utilized.

4. In order to develop business based on ICT we have to prepare a certain prerequisite related to people's readiness, government regulation and the availability of supporting facilities.

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