PROCEEDING :

SEMINAR NASIONAL KE 3

FORUM MANAJEMEN INDONESIA

"MANAGEMENT : THE NEXT OPPORTUNITY AND CHALLENGE FROM COMPETITION TO COLLABORATION"

09 - 10 November 2011

Main Organiser

INSTITUT MANAJEMEN
TELKOM

FMI 3

DAFTAR ISI

Interconnection As A Better Solution in Telecommunication Services: Gaps Between Theory and Application

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With recent technological developments of telecommunication and the liberalization of the telecommunication industry, the range of services that depend on interconnection has increased. Interconnection is an essential input to local, long distance and international fixed voice calls, mobile voice and data services, internet access, broadbanda data transmission and a wide range of multi-media services. This liberalization of telecommunications markets was motivated by various factors among other things are; to increase the innovation in technology faster and service customer better, to attract private sector capital to expand and upgrade telecommunications networks and to introduce new services, to accompany the growth of the internet which caused data traffic to overtake voice traffic in many countries and led to the introduction of many new service provider. The operator who had been monopolized (incumbent), should facilitate and provide the new operators in this level-playing field. Interconnection regulator regulates the conditions that the incumbent may take, in order to protect the new operators to expand and upgrade its networks and services. In order to protect the new operator and to increase more innovation in telecommunication field, interconnection should be a better solution in this level–playing field, but in the contrary it gives less benefit for the incumbent. These lack of benefits for the incumbent should effect the telecommunication market, and this will also effect the economic situation of a country, since the owner of the incumbent usally the goverment of the country itself.

This research is using a qualitative approach by combining the methods exploratory study. For the pupose of this jurnal, data collection is limited through documents in media and secondary data from the object study.

The purpose of this research is to review selected literatures on interconnection as a better solution for giving better services in telecommunication field and highlight differences between theory and empirical findings. To date, there has been gaps between theory and practice in applying interconnection for the incumbent point of view.

Keywords: ***interconnection, cost-based***

I. INTRODUCTION

There are unpredecented changes in the global telecommunication industry in the last 20^{th} decade. Many state owned telecommunications operators were privatized and a new wave of pro-competitive and deregulatory telecommunications polices swept the world. This new telecommunication market was motivated by various factors, including:

- Various liberalized telecommunications markets were growing, having innovation faster and serving customers better.
- The need to upgrade telecommunication networks, and to introduce new services
- Various service providers were growing in many countries, which caused by the growth of internet. Growth of internet overtake voice traffic to data traffic .
- New service providers to telecommunication markets has introduced by the growth of mobile and other wireless services
- International trade in telecommunications serviced has developed, which are increasingly provided by transnational and global service providers.

The monopolic telecommunications markets has to transformed to liberalized telecommunication markets. Privatization and market liberalization has led to a re-organization of the government institutions involved in the telecommunications sector.

The telecommunication act 1996 was a major stepping stone towards the future of telecommunications. One of its goals was to let people to connect each other. Interconnection was one of the important issue in this act. Interconnectin arrangements have become a key to the operations of an increasingly wide range of services, to facilitate these liberalized telecommunication markets.

It has to be a necessary interconnection arrangements for user of telecommunications to communicate with each other or connect with services they demand. Interconnection has to be regulated by an independent regulators. By this arrangement in order to facilitate the liberalized markets, incumbents had been "pushed" to give services to the new entrants, such as local, long distance and international fixed, mobile and satellite services providing everything from basic voice telephony to high speed internet connectivity to internet multimedia services. With this arrangements, it was assured that incumbents will safe in this new playing level field. Interconection arrangements has also broaden to the regulation for interconnection cost. International Telecommunication Unions (ITU) is a global organizations which includes public and private sector participation on telecommunication matters. Indonesia is one of the ITU's member of ITU, have to go along with the ITU.

PT Telekomunikasi Indonesia, Tbk. (Telkom) is the largest telecommunication and network services provider in Indonesia. Telkom is claimed as the biggest and oldest incumbent among Indonesian's providers. Telkom serves millions of customers nationwide and provides a strong portfolio of information and communication services, including fixed wireline and fixed wireless telephone, mobile cellular, data and internet, and network and interconnection services, directly or through their subsidiaries. In 1999, Indonesian Goverment has released new law and regulation, Telecommunication Law No.36 of 1999 (UU No. 36 tahun 1999). This law states among other thing about liberalization of the new entrants (article 8,9), ensure equal treatment to existing network for new entrants (article 25), accelerating the sector privatization (article 8,9), tariff liberalization (article 27, 28) and protect customers right (article 25).

Interconnection has been burdened for incumbents, they have to share their facilities to the new entrants and yet they have to compete them too. The incumbents in all over the world, have suffered from its less revenue from this policy, including Indonesia.

II. THEORY

A. Competitive Market

According to Johnson and Lans (2004) in Dewar (2010:71), the characteristics of perfect competition are many sellers possessing tiny market share, a homogeneous product, no barriers to entry and perfect consumer information. There is substantial actual competition because there are many substitute firms offering identical products.

The potential for competition also exists because nothing prevents new firms from entering the assumption is violated, firms, and markets are behave as the perfectly compeititve market model predicts. A competitive market have three characteristics (Mankiw, 2008:280)

- There are many buyers and sellers in the market
- The goods offered by the various sellers are largely the same
- Firms can freely enter or exit the market

A competitive market is a market where no single buyer or seller is able to influence the price or control any other aspect of the market. The competition among buyers forces buyers to pay their maximum demand price and the competition among sellers forces sellers to five their price with minimum supply price for given quantity exchanged.

Competition will stimulate innovation, in this case it will innovate many new product, bring valuable products, make products or services more affordable. It also creates the right condition for newcomer to enter the market. While the concequence is that the old player will be forced to bring prices down to costs and will enhance efficiency.

B. Effective Competition Market

In the Information and Communication Technology (ICT) Toolkit, which provided by ITU, is mentioned that effective competition occurs in economic markets when four major market conditions are present:

- Buyers have access to alternative sellers for the products they desire (or for reasonable substitutes) at prices they are willing to pay
- Sellers have access to buyers for their products without undue hindrance or restraint from other firms, interest groups, government agencies, or existing laws or regulations
- The market price of a product is determined by the interaction of consumers and firms. No single consumer or firm (or group of consumers or firms) can determine, or unduly influence, the level of the price
- Differences in prices charged by different firms (and paid by different consumers) reflect only differences in cost or product quality/attributes

In effective competition market, the consumers and the firms will be protected. The consumers are protected from the explotative price which firms could charge. The Firms are protected from interference from other firms.

C. Telecommunication Market

Telecommunications markets from the world economy point of view are characterized by throughout the world economy are characterized by economic and technological dynamics. The liberalization in Fixed Line Telecommunication and Global System for Mobil Communication (GSM) in 1998, gave a boost to economic dynamic, while technological dynamics caused by the acceleration of digital technology, such as cable TV, fixed-line telecommunications and broadcasting. Modern digital technologies have created larger markets such as data, voice, video and audio which are transmitted in the form of compressed digital signals (Intven et.al, 2000).

This new telecommunication market was motivated by various factors (Intven et.al: 2000), including:

- Various liberalized telecommunications markets were growing, having innovation faster and serving customers better.
- The need to upgrade telecommunication networks, and to introduce new services
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The monopolic telecommunications markets has to transform to liberalized telecommunication markets. Privatization and market liberalization has led to a re-organization of the government institutions involved in the telecommunications sector.

D. Interconnection

According to the World Trade Organization (www.wto.org), interconnection is linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.

Courcoubetics and Weber (2003:278) said that interconnection is connection between two parties from different networks and able to communicate with one another. The positive network externalities that result when networks are connected an economic force driving interconnectin between network providers. Interconnection is important if networks are to offer truly global services.

From long time ago, incumbents and governent had a power to regulate the telecommunication market. They can charge excessive rates for interconnection, refuse to build or make interconnection capacity and refuse to unbundle network elements, so that the new entrants have little to offer in negotiations to remove these barriers to competition.

Today, the emergence of competition has changed it. Incumbents have to give their acces to the new entrants so that the effective competition could run well.

E. Cost Based

It is essential for the new entrants to obtain its ability in competition with incumbent operators. For the incumbent, the interconnection price is importaint to obtain its return on investment from its construction of telecommunications facilities. Interconnection price is not only a technical issue, but also politically. In determing the criteria to make an appropriate interconnection rates are a bit difficult to do. There are several methods to make interconnection price such as: Forward Looking Incremental Cost, Historical Accounting Cost, Sender Keep All (SKA), Revenue Sharing,Interconnect Charge based on Retail Price and Cost Based (Intvent, et.al, 2000:31-34)

ITU has set that Cost Based is the best choice. Cost bast is claimed to reflect the economic costand encourage investments that are economically more efficient to support the interests of end users in the long run. Avoid dominant operators to set charge too expensive efficient use of existing infrastructure.

III. RESEARCH METHOD

This study aims to describe the impact of implementing interconnection on the incumbent in telecommunication level playing field. The object as the incumbent in this study is PT Telekomunikasi Indonesia, Tbk. The method used is qualitative research with the perspective of exploratory study techniques.

An exploratory study is undertaken when not much is known about the situation at hand, or no information available on how similar problems or research issues have been solved in the past (Sekaran 2003:119). But also exploratory studies are also necessary when some facts are known, but more information is needed for developing a viable theoretical framework (Sekaran 2003: 120).

Purposive sampling technique will be used in this research, i.e., a sampling technique that has been planned and already had a specific purpose, with a pre-definition afainst certain groups who have unique specificity of the criteria sought. The criteria set is the news about Telkom in every media since 1996-2010, that has connection to the interconnection impact on its organization.

The results on this research is comparing the gaps between theory and practice in implementing interconnection in Indonesia.

IV. ANALYSIS

A. Telkom in 2009

Telecommunication Interconnection Clearing Association (ASKITEL), recorded that interconnection call interoperator has been decreased by 5,5% per year, from 2008 to 2010. In 2010 interconnection call has been decreased by 6.3 % compared to 18,9 billion call in

2009. Rachmat Junaid, the secretary of Askitel said that the decrease in the number of calls would decrease the number of conversation and also the revenue. The interconnection revenues in 2010 has decreased by 0,01% to Rp 2.825 trillion, compared to Rp 2.851 trillion in 2009 amounting to. (www.askitel.com, August 19, 2011).

According to Annual Repport of Telkom 2009, on December 31, 2009, there were approximately 105.1 million lines in service, comprising 8.4 million lines on fixed wireline network, 15.1 million lines on fixed wireless network and Telkomsel had approximately 81.6 million mobile cellular subscribers.

Revenue on interconnection accounted for approximately 11.9% of their consolidated operating revenues for the year ended December 31, 2009, compared to 14.5% for the year ended December 31, 2008 and 16.2% for the year ended December 31, 2007. Net revenues from interconnection services decreased by 13.3% from Rp 8,790.8 billion in 2008 to Rp7,621.9 billion in 2009 and decreased by 8.9% from Rp9,651.3 billion in 2007 to Rp8,790.8 billion in 2008. This declining has started on January 1, 2007, when the Government adopted a new cost-based interconnection scheme for all telecommunications network and service operators.

Under the new scheme, there are three things that Telkom has faced

1. The operator of the network on which calls terminate will determine the interconnection charge to be received by its based on a formula to be mandated by the Government, which will require the operators to charge for calls based on the costs of carrying such calls. Such interconnection charges must be calculated and submitted to the DGPT annually for approval in the form of a Reference Interconnection Offer (Annual Repport of Telkom 2009). Telkomsel have to make tariff adjustments downwards in December 2007 and April 2008. The tariffs tend to go downwards.
2. This new scheme provide also transparency in interconnection charges, which allows operators to route calls through the most cost-efficeint route through software, this cause the reduction of interconnection fees.
3. This gives possibilities for new entrants to offer aggressive promotions with very low tariffs for calls made on net to other subscribers of the same provider. It has begun even before this new scheme of interconnection made. By this new scheme, the more aggresive promotions has occured.

Telkom has less revenue from the interconnection income, as those calls do not transit through their network. Telkom claimed that these are the reasons for the declining of their interconnection revenues, and they said also generally for the telecommunication industry in Indonesia.

B. Telkom in 2011

In 2011, interconnection charge in Indonesia is very low. Indonesia has become a country where the interconnection charge is below the average charge of Asia-Pacific and all over the world (www.bisnis.com)

In Januari 2011, government has released a new price of interconnection. For every category, the price has decreased for about 6%. Head of Public Relationship and Information in Ministry Departmentof Communication and Information, Mr. Gatot S. Dewa

Broto said that interoperator is still more expensive than among the operator itself. To accomodeer that "high price" , interconnection price should be lowered. To facilitate network opportunities, the price between interoperator and the operator itself should have no difference. In fact, the interconnection price still use an existing interconnections tariff for PSTN Network from Telkom and interconnection price lokar from PSTN to FWA to hinder the retailprice going up, said Gatot. Also, unchargable SMS interoperator is still remain like that, cause there are still intensive research doing for finding a pattern implementation for chargable SMS (www.suaramedia.com, Januari 1, 2011)

Mr. Gatot S. Broto had also said in suaramedia (www.suaramedia.com Januari 1, 2011) that the cost of the new interconnection regime which applied in 2011 are still making Indonesia the country with a relatively interconnection costs, under the average cost of interconnection in the Asia Pacific region and the world. In the ITU publication states that the average Indonesian cost is Rp313,. This cost can be compared with other countries such as: Singapore Rp 60, India Rp 21, Malaysia Rp 235, Thailand Rp 49, Philippine Rp 368, Pakistan Rp 92, England Rp 552, Sweden Rp 340, Poland Rp 396, and Austria Rp 524. Among the Asian, it can be seen that Indonesia is still the highest.

As a member of ITU, Indonesia has to follow ITU, which is to make an affordable price for all operators. In order to facilitate it, incumbent such as Telkom has to share its network for the new entrants. In other side, the new entrants can reduce their retail price to its new customer, in order to attract their customers attention. Also the new entrants can afford the new interoperability technology rather than the incumbent, because they can put their investment, thanks to the new regulation of interconnection. Telkom as the one who have to provide its network capacity to new entrants, they also have to adjust tariff rates which are issued by its competitors.

It's been now a dilema for Telkom. They state in their annual repport in 2009, that their interconnection revenue has decreased. There were some actions made by Telkom, according to Mr. Tanri Abeng as Telkom 's President Commisioners and Rinaldi Firmansyah as Telkom's CEO, such as:

- expanding their portfolio from voice services to include information, media & edutainmont or 'IME",
- the reduction of the employee by putting a program named Early Retirement Program where there were 1,336 employes chose voluntary termination in 2009 by this for the first time the personnel costs for Telkom has been decreased. Firmansyah said that the result is an efficient, highly competent workforce that is fully aligned with TELKOM's vision.
- Putting structural reorganization of the company to increase flexibility and maximize the potential of their key revenue generators.

Eventhough Telkom realized that they get the impact from what the liberalized market of telecommunication has done, and had already put some strategies to reduce its losses, yet it also stated in annual report of 2009, that their average revenue per user (ARPU) was the lowest in Asia, while three to four years ago,Telkom sat on the highest position for having the best ARPU in Asia.

With this facts, Telkom has to prepare for the next years. The reduction of the interconnection price will be continue going down, the tariff war will accelerate, and the interconnection charge for SMS will be implemented. It will impact the organization as a whole. Telkom has to make strategies to hinder from this situation.

V. CONCLUSION

Telkom as the oldest and the biggest incumbent in Indonesia has been struggling to fight for their highest position in telecommunication market in Indonesia since the interfention of the interconnection regulation. The interconnection was set a few times to the lower value, so that Telkom have to cut their tariff, while their also have to compensate the retail price together with their competitors.

This new era of interconnection is not only implemented in Indonesia, but also for the whole countries whose members of ITU. There are many facts that Telkom has to fight hard for their revenue. It is not possible that Telkom could going down like AT&T had been through, if Telkom does not have a good planning for the next future.

Facts had said that the income of interconnection revenue for Telkom had decreased, and impacting its ARPU. Further research needed to see the effect of interconnection thoroughly by finding more data about the financial statement of the incumbents compare with data of the new entrants. This research can also be extended to make some strategies on how Telkom could compensate the situation using the theory of Change Management , Balance Score Card.

The other element that Telkom has to think is that the acceleration of data technology, which might be defeated product of using voice traffic. It can be seen nowadays that peopole instead of using normal voice calls through the lines, they prefer to use data services such as blackberry, sms, email, and other social networking.

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