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The Role of Innovation Management Model to Improve Service Quality for Telecommunications Industry in Indonesia

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Abstract

Telecommunications industry in Indonesia has rapidly increased. An intense competition of telecommunication operators has often neglecting quality of services which must be provided but instead focussing on offering cheap telecommunications costs. Every year average revenue per unit (ARPU) tends to decline, which result innovations, increase service quality, and prevent the customers switch to another operator. This research was using Soft Systems Methodology (SSM) approach based on philosophy of Critical Systems Thinking (CST), and Strategic Assumption Surface Engineering and Testing (SAST). Data flow diagram (DFD) were used as tools for designing management model innovation for telecommunication companies in Indonesia. The result obtained an incentives to innovators which is an important factor for Analytical Hierarchy Process (AHP). The further innovation model for telecommunication in Indonesia is producing innovations which ultimately improve customer service quality.

Keywords: Quality Service, Innovation Management, Analytical Hierarchy Process, Soft Systems Methodology

1. Introduction

Over the last decade, mobile telecommunication users in Indonesia has sharply increased. With the fact Indonesia consist of thousands of Island and poorly the fixed line infrastructure is still inadequate, this condition has had users used mobile phones for communications. By the year 2010 the mobile phone has reached to 211 million numbers, this has increased to 145 million in 2011, and in 2012 were 265 million (BMI, 2013). In 2012 there were 11 active telecommunication operators in Indonesia, this has made a tight business competition on getting new customers. Every company has had developed continuous innovation, provide new and better services which surely cheaper. This study is focusing on three largest telecom operators in Indonesia by the year 2012; Telkomsel has 121.4 million subscribers with 45.8% market share, Indosat has 55.5 million subscribers with 20.9% market share, and the XL has 42.3 million subscribers with market share of 16%. Those three operators have market share of 82.7%

A high competition which occurs among telecom operators; offering cheap price of phone billing and sms has enabled customers moved to another operators who intensify promotions this could resulted a high churn rate which lead of declining ARPU in the telecom operator.

The research objective are: 1. Determine factors which can encourage innovation of telecommunication companies in Indonesia 2. Creating models of innovation management in order to improve the quality of telecommunication services company.

Telecommunications companies that wants to move forward progressively is no longer offering low cost but have to focusing on quality of services and innovations. According to Garvin (1987), (Chen and Ting, 2002), (Aga and Safakli 2007) Quality of service industry is directly dealing with customer satisfaction. The quality of products or services will eliminates repeated works or failures, disappointments, and customer claims, etc. (Juran, 1999). A good product or service are to be purchased by customers (Drucker, 1985), products and services that meet the customer called quality (Crosby, 1979), or a product or service that are suitable for customer, it can be said as a good quality ([ASQ], 2011). There are 8 dimensions of quality concerns by Garvin on the manufacturing industry, which are : Performance, Feature, Reliability, Conformance, Durability, Serviceability, Aesthetic, and Perception.

Dimensions of quality of services are differ from manufacturing industry. Dimension for service industry are: Communication, Credibility, Security, Knowing the customer, Tangibles, Reliability, Responsiveness, Competence,

Access, and Courtesy.Telecommunication customers can feel the differences between expectations and the reality experience which are technically and function (Liu, 2010). The existence differences of quality and cost can be impacted to customers satisfaction (Dutta, 2001). Customers will be more loyal if operators can create added value of the products or services (Zhu, 2011). The good innovation can contributes to the greatest income levels of economic growth over recent years according Brentani, 2001 in (Oke, 2007). Innovation which refers in producing something new adequately accepted in businesses, can be new strategies, new ideas, processes, products, or services (Garcia and Calantone 2002). The resulting innovations that meet customer needs can improve the assessment of servcice quality (Parasuraman, 2010). Innovation can also be pay more attention to what the customer wants (Leavengood, 2011)

2. Literature Review

Innovation strategy, organizational innovation, new innovation process, technology innovation, product innovation, , and marketing innovation can be innovation. Product innovation aimed on developing new products, improving product properties, improving product quality. There are five kinds of innovation; introduction of a new product– or a new quality of a good, introduction of a new method of production, opening of a new market, new source of supply of raw-materials or half-manufactured goods, carrying out of a new organization introduce by Schumpeter. Strategic innovation is a new concept which can improved values and generate high growth for the company (Liang, 2009). Organizational learning can improve capability, support innovation and creativity of employees (Cors, 2003). There are relationships between learning capability and innovations in an organization (Parvaneh, 2010). (Mudrak, Wagenberg, and Wubben, 2005) which developed models based on the theory of innovation process management by Tidd, Kemp and Teece, a consistentcy with models that has been developed by Rothwell which uses systems theory.

Innovation can be part of innovation strategy by an organizations. The activity can be said as part of the overall management strategy (Najamaei, 2010). By using strategic management, organizations can finally be understood that the competing forces developed a sustainable competitive advantages in a systematic and consistent. Competitive advantage is a main idea to most of the strategic management literatures (Porter and Kramer, 2006; Liao and Hu, 2007). Strategic management deals with characters and company's direction, they are related to basic decisions of company today, and what it means in the future (Morden, 2007). Operational effectiveness is not limited to the issue of efficiency. The company can do other activities which can rise product quality and perform quick floating product with the better results (Porter, 1996). Furthermore Porter had stated, companies which rely only for quality without making it as part of the strategy, sooner or later the competiter would do the same thing. Quality also referred as activities strategy at operational level, or at the micro level of a company's operations (Parast, 2005).

3. Methodology

Soft Systems Methodology (SSM) approach has been used as a method in this research. To get the basic thinking correctly, we have used the philosophy of Critical Systems Thinking (CST), and to get a common view of experts on issues of innovation in telecommunications we have also used Strategic Assumption Surfacing and Testing (SAST) and subsequently administered questionnaire and experts will be processed by the assistance of Analytical Hierarchy Process (AHP) to get a wide selection of the best innovation strategy for telecommunications companies. In 1996 Midgey have done a resume of the theory of Critical Systems Thinking (CST) which was previously introduced by Jackson, which consist of three interrelated principles; critical awareness, emancipation, and plural methodologies (Luckett, 2003).

The way of solving problems can be done with a critical thinking approach. The method used in this study is Strategic Assumption Surfacing and Testing (SAST) is a process that uses assumptions in policy making or planning that helps decision makers made better decisions. Another method were used in this study is the Analytic Hierarchy Process (AHP), which was developed by Thomas L Saaty in 1970, is a structured technique which organized and expert judgments informations. AHP can perform analyzing complex decisions based on mathematics and selecting the preferred alternatives (Marimin, 2010). AHP structured in three stages: 1) create a hierarchy of decisions, 2) make a priority element in the model of P, 3) calculation results (Partovi, 1994). Building hierarchy of decision making problem is a creative activity and requires its own expertise and able generate a good results (Saaty, 2008). The AHP calculation results quite accuracy, and human perceptions regarding assessment with long-term outcomes (Bhushan and Kanwal, 2004). AHP can be used for various problems, ranging from simple to very complex, (Steiguer, Duberstein, & Lopes, 2003) and produced many research including issues of Project Management, TQM,

BPR, QFD, and Balanced Scorecard (Forman & Gass , 2001).

Developing model of managerial innovation of the system as an initial model were urge to be verified to experts in the field of telecommunications. The models shows innovation and quality of services to be part of the telecommunication company's strategy succeed competitions. Increase the capability and capacity of human resources are required to support the team's ability to generate innovation and improve ability of Research and Development (R & D) which will be able to contribute to the development of business and unit operations, became the parent of the development of innovation activities and the activities of the quality of services, which can also supports corporate strategies to improve performances.

The decision to implement innovation by organizations, continued on implementing plans and strategic innovation processes in order to attain improvement of company performance. Innovation industry in Indonesia is urgently needed, by improving the functioning of R & D, so the competitiveness of national industry will grown from the bottom and eventually led to a competitiveness of science and technology-based industries (Zuhal, 2010). From previous studies (Lee, 2008) have noticed that the quality and innovation turned out to a direct impact to improving customer satisfaction.

Secondary data is obtained from official reports telecommunication companies in Indonesia and reports made by the telecom ministry and other institutions. Primary Data were collected and obtained from Individual depth interviews (IDI) and conduct surveys using a questionnaire to experts.Using AHP there are 3 stages of activity, namely; make an existing problems arranged in the correct hierarchy, make a priority element in the models,doing the calculation results. Criteria required for an expert:1. A person who has had experience working and the same competence in age of 10 years 2. An Academician who conduct research on the field and have a minimum educational background doctorates and professors 3. An official with the General Manager or the structural equivalent to the Vice President on telecommunications companies, who can be called as an expert roomates work everyday for the company.

4. Result

This research used Soft Systems Methodology approach (SSM) based on philosophy of Critical Systems Thinking (CST), Strategic Assumption Surfacing and Testing (SAST), and used the tools of Analytical Hierarchy Process (AHP) to rank the most influential factors in telecommunications company strategy, through a series of in depth interviews with experts. Experts are from various backgrounds representing stakeholders in the telecommunications industry in Indonesia. They were 9 persons with their telecommunications experts; which were in the level of General Manager, Vice President, and Managing Director, telecommunications experts in the field of telecommunications regulation and expert from the University. Having conducted in-depth interviews to telecommunications experts and through the focus group discussion, followed by filling the questionnaire, then obtained acquired the main criteria and important factors set forth in the AHP method as shown below. The aim of using AHP method is to get the best choice of innovation strategy, best quality services in telecommunication. Calculations obtained from questionnaire using AHP resulted some main criterions which are Technology, Market, Human Resource, Capital, and Information. There are 4 innovation elements are founded which are Innovation Technology, Innovation Process, Innovation Organization, and Innovation Finance . Lastly the are 4 optional innovation strategy which has to be chosen, there are Incentive to Innovator, Increasing R&D Budget, Remuneration & Recruit best worker, and Outsourcing Technology & Worker.

Result from questionaire and AHP calculation, there are four major factors of innovation strategy choices. Factors that earns the best score is the choice of experts provides intensive activity to the innovator (38.60%) is a preferred factor over others that can ultimate goals of companies through innovation and served best quality of services to mobile telecommunication users. Providing remuneration and recruitment the best people (31%) is the second important factor. Improving research and development cost (21.7%) is the third important factor. Technology outsourcing (8.7%) is the fourth important factor.

Telecommunications development are quite drastic has happened all over the world with the main driving factor are communication, communication technology, and privatization (Welch, 1999). Telecom- munications companies in the is moving fast. New services are created every day with the help of the latest technology which then became competitive (Hwang, 2000).

Prepaid phone users is much higher than post-paid phone users in Indonesia, mobile phone users are 97.70% of

prepaid using Telkomsel, Indosat 99.30%, and XL Axiata 97.70% which resulted a low level of operator revenues due to a fairly low price offers amongs operators. Operators began to looking for the latest technology that is reliable and inexpensive which then can be sold quite cheaply, replacing old technology. Integrating a new technology called modular, whereas new technology is easily replaced at any time if there is technological change (Vaishnav,2010). Selection of best creations is resulted from qualified human resources which can gain operational performances. Limited qualifications of human resources in operators, can make them much depends on to a third party in terms of technology, operations, and business development for the future. The innovation expected is within the organization will increasingly less likely, since most innovations comes from the third party. The existence incentives to innovators will make research & development activity becoming better in order to achieve sustain innovations which can gain income to telecommunication company.

Models have been developed in accordance with the institution innovation strategy selection through AHP, which provide incentives to innovators. Institutional model was developed with the method using Data Flow Diagrams (DFD), where all components of institutions associated with innovators portrayed, how the relationship between the institutions of the innovators were created one by one (McLeod, 1995), to be seen in the picture below. In order to make this model, we have performed a review of laws relating to innovation, presidential decisions related to innovation, state policies related to innovation, national innovation committee, innovation in state-owned enterprises, innovation in private companies in Indonesia. Once the model is completed, a validation to the expert in the field of telecommunications are made.

Recommendation

Telecommunications company has grown rapidly in Indoensia, which also has increased the number of customers in the last 10 years, but on the otherhand there are decline in Average Revenue Per Unit (ARPU) due to the low cost of communication set, which can lower profits. Level of user switching to another operators is quite high, due to very low applied cost during the promotion period by a single operator, which can increased Churn Rate. Telecommunications company have making new strategy for innovation for better quality services in order to maintain number of customers, number of prepaid subscribers because are still above 95% of total customers, who no ties whatsoever with any of the operators. The good innovations are can continuously generate customers satisfaction and high loyalty customers, good innovators must designed earns incentives from the company. The support of policy from the government of Indonesia to the telecommunication company such as; making annual assessment of the best performance in innovation for telecommunications companies, will spur companies to seriously undertake research and produce innovations which provide benefits to telecom customers.

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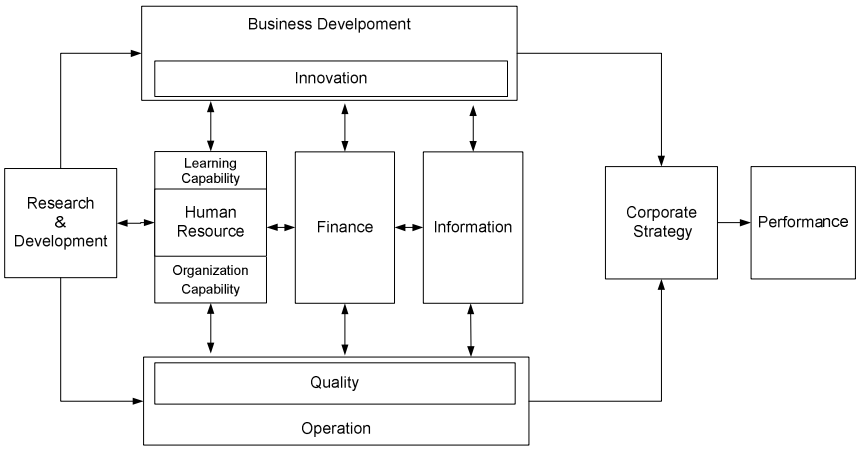

Figure 1. A Proposed Model of Managerial Strategy Telecommunication Enterprise for Innovation and Quality of Services

Developing model of managerial innovation of the system as an initial model has been verified to experts in the field of telecommunications. The models shows innovation and quality of services to be part of the telecommunication company's strategy succeed competitions.

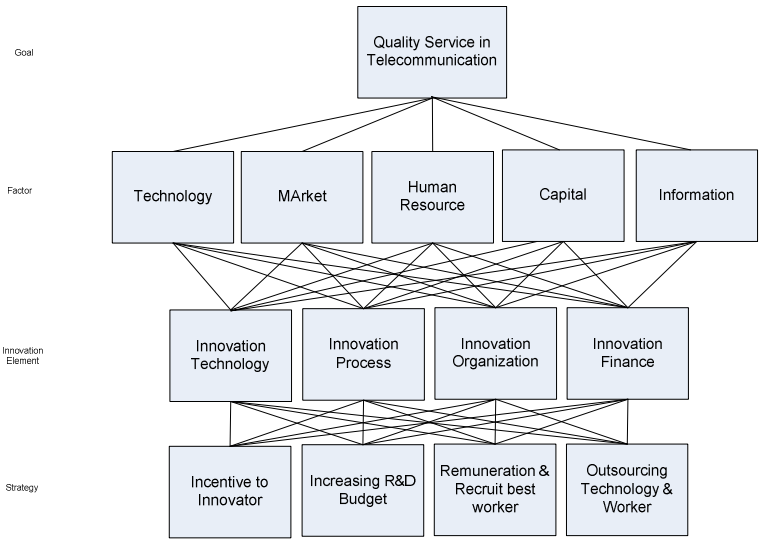

Figure 2. Strategy of Innovation Hierarchy with AHP method

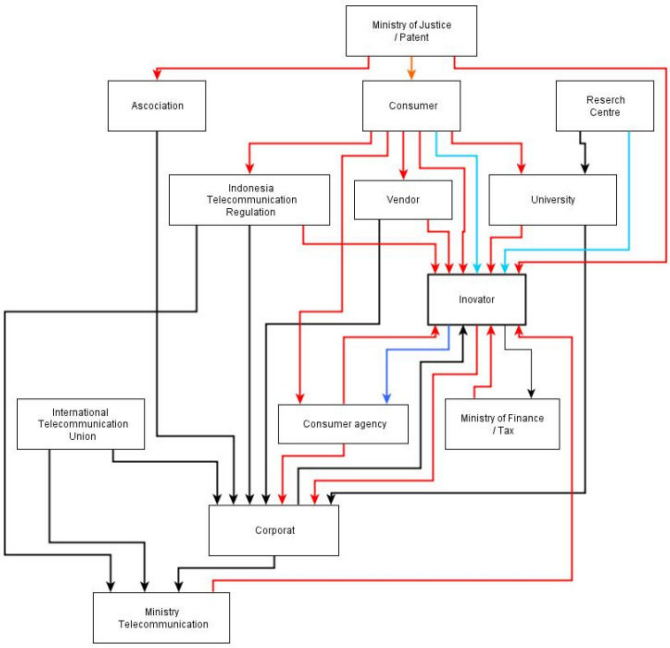

Figure 3. Model of management innovation in telecommunication company

Models have been developed in accordance with the institution innovation strategy selection through AHP, which provide incentives to innovators

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