

IMPLICATION OF RELATIONAL CAPITAL AND STRUCTURAL CAPITAL ON PRODUCT INNOVATION

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ABSTRACT

Intellectual capital is the source of innovation. Structural Capital and Relational Capital, two of the intellectual capital components, play an important role in influencing the process of product innovation. This study is based on underlying idea to evaluate the role of Structural Capital and Relational Capital in supporting innovation process. Based on a review of related literature, a conceptual framework was developed as a guideline for communicating ideas, theories and explanations. Structural Capital consists of the documentation of research and development (R&D) which included aspects such as databases, patent and procedures related to product development, while, Relational Capital composes good relationships between company and customers, suppliers, government agencies and allied partners. It is expected that Structural Capital and Relational Capital contribute to the outburst of better innovation opportunities. This aids the end product become more quality and value added so that companies can improve their business and focus on how they can become competitive.

Keywords: *Intellectual Capital, Structural Capital, Relational Capital, Product Innovation*

1. Introduction

There is no doubt that innovation today has become very critical in all aspects of the businesses. With the challenges of globalization, today, every business needs to have complete knowledge about product innovation so that they can compete locally and internationally. Innovation is driven by the ability to use relationships as good opportunities to develop something new. Idea inside structural capital and relational capital has the ability to stimulate assets in creating innovative product. So both structural capital and relational capital were most large influenced suitable with this research which focus on product innovation.

Structural Capital (SC) can contribute to the creation of competitive advantage because it consolidates knowledge in the form of policies and procedures, processes and documentation technologies such as databases, records and documents of knowledge in various forms. Companies get a competitive advantage when they have specific assets that cannot be imitated by competitors (Collins and Montgomery, 1995). Moreover, companies can add value if SC contributes to cost reduction or service improvement or characteristics of the product to the customers.

Relational Capital (RC) is a part of organization consisting of environment agent and industry such as customers, suppliers, partners and shareholders. Those are keep on exist and use along the value chain of business processes such acquiring raw material and production of input into output (Crown Investment Corporation (CIC), 2003). Organizations interact with the external environment and create wealth potential out of human capital and structural capital. It requires resources associated with external factors such as good relationships with customers, suppliers, partners, and local communities as well as the knowledge that underlies this relationship (Sveiby, 1997; Edvinsson and Malone, 1997; Bontis, 1998).

The objective of this study is to evaluate the role of Structural Capital and Relational Capital in supporting the process of product innovation. Therefore this paper aims to provide an overview of the background of the topic. It also discusses the problems raised that worth studying.

The use of idea and information always result in structural and physical products and it is hard to ensure that it sustained (Roos *et al.*, 1997). Information that is not documented always has the possibilities of being disclosed to outsiders. A database is needed to record and to keep the information regarding all the formulation and process in developing certain products. The information has to be safeguarded to avoid it being initiated by competitors. Patent is an issue because if a product is not patented by the company, it might be imitated by competitors. Product development process consists of several procedures, starting from planning and developing prototype, until product is ready to be launched. Certain process takes longer than the given timeframe which leads to the extra cost that the company needs to bear up. This problem is due to the failure of following the correct procedures during the process.

Most of companies in Malaysia are still left behind in the aspect of fulfilling customer's demand on their product. They create new products that lack market orientation (Bergfors and Larsson, 2009). They do not include the characteristic that can solve customer's problem and improve their daily life. The relationship between customers and companies has to be strengthened to help improve and maintain the business. Good relationship with suppliers is also important in order to ensure that materials supplied do meet the standards as required. In addition, good relationship with government agencies should be maintained in order to get government technical support and product innovation guideline

2. Literature Review

A) Intellectual Capital (IC)

IC has become important to organization in managing its overall operation. In recent years, organizations started to realize that they have to invest in IC as much as their investment in

visible capital. IC is a term used to refer to intangible assets. IC is very important for the organization to compete in the world of commerce and global economics. IC consists of Human Capital, Relational Capital, Structural Capital and Spiritual Capital. IC is source of knowledge, information, intellectual property and experience that can be used for wealth creation.

B) Structural Capital

Structural Capital of an organization is defined as knowledge that remains in the firm when the employee is no longer a member of the firm (Roos *et al.*, 1998). It is related to the structure and information system, which can lead to intellectual business. Human Capital is the primary factor for the development of the Structural Capital. Therefore, Structural Capital depends on human capital. Structural capital is all intangible items that differ from human tacit knowledge. Examples of structural capital are patent, trademarks and license, database that are related to customers, procedures and software (Bounfour, 2003).

Structural Capital of the company can be renewed for the future by investing in research and development (Bontis, 2004). The process of developing new products needs improvement from time to time so that the organization can use organizational resources more effectively (Moon and Kym, 2006). Technology is a competitive advantage for the business in the long run. Therefore, productions companies need to focus on further develop the technology in terms of the machinery used for the production of the company by investing in a system which is able to upgrade the engine technology. In terms of product patents, companies need to establish a system of patent protection which can prevent the counterfeit of the products in the market (Carroll and Tansey, 2001).

C) Relational Capital

Relational Capital refers to the firm's relationships with the internal and external stakeholders (Roos *et al.*, 1998) and comprises all alliances and the relationship with customers, partners, suppliers, investors, franchiser, distribution network, government agencies and communities. It includes all assets accumulated knowledge by enterprises as a result of its relationship with other agents in the same environment. This concept is derived from the basic concepts of

customer capital that considers the knowledge obtained through all kinds of relationships with competitors, suppliers, associations, government and other organizations that interact in an organization.

It is also understood as social capital that focuses on linkages established by the organization (Nahapiet and Ghoshal, 1998). Capital inherent in the partnership relationship established by the organization and covering relations with customers as well as business, industry and community relations (Moon and Kym, 2006). Members of the organization are responsible for creating this partnership and relationship.

There are good relationships with customers which come with the positive response from them and support that have been received in terms of customer engagement for a program to promote the company's products. Long standing relationship that is not just a business based solely on government agencies and allied partners, but it is also social responsibility to the community to show the company is emphasizing the importance of building good relationships because companies are interdependent and interact with each other in an organizational setting (Bontis, 1998). With this interaction, user requirements can be realized in the form of the product. Input from the user as the purpose of the product used, easy usage, and its impact on the daily lives of consumers will be translated in the product creation process and as a result, the characteristics that required by users exist in the product.

D) Product Innovation

Product innovation can be defined as development that is driven by a desire to improve the performance of the final product. The objective of product innovation is to create new products or improve the quality of the existing product (Lager and Horte, 2002). Its focus is on changes in the product characteristic in which creativity is needed and it has to be translated into value. The product innovation outcomes are influenced by customers and market requirements. Therefore, it is focused on effectiveness. Innovation of a new product and business innovation capability is important to create business opportunities in terms of growth and expansion into new areas and enable businesses acquire a competitive advantage.

These two components of structural capital and relational capital are important sources in the creation of innovation. It is also seen as a resource that can be used by firms to respond to threats and opportunities to ensure that it remains intact. This largely depends on innovation which is heart of the firm. The organizations are supposed to use the information and knowledge which become the most important strategic resource for competitive advantage. Product innovation refers to a product or service designed to benefit existing customers or trigger new markets and is customer oriented. It is important because it develops new idea and creation that affect changes in the final product or service offered by the organization (Skandia, 1994). In the process of innovation, knowledge is needed, shared and consolidated in order to create new knowledge by using products and services.

E) Research Model

Based on the above literature review, the research model as shown in Figure 1 was developed. The figure shows the implications of structural capital and relational capital on product innovation.

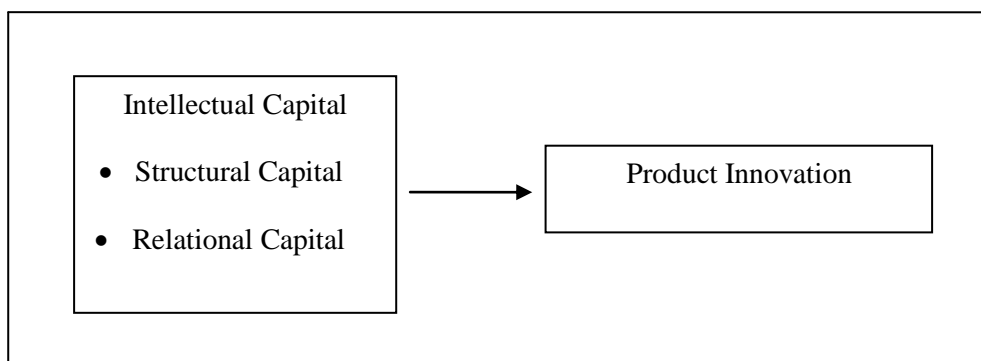


Figure 1: Research Model

3. Methodology and Discussion

3.1 Methodology

This study was based on qualitative methodology which used interview as main instrument. It was a case study on a company that has innovations. The company is a manufacturer of health supplements based on goat's milk. As normally known, goat's milk is liquid. The company has been successful in producing goat's milk tablet, the first of its kind, which has

never been produced by any other company. The company is located in the north part of Malaysia. The company has many research and developments conducted through a joint venture with local and foreign organizations. Traditionally, goat's milk is for drink; however, this company takes the challenge to create something new so that the goat's milk can be commercialized in many forms such as tablet and cosmetics products.

In this case study, interviews were conducted as the tool to gather data. According to Cresswell (1994), interviews create descriptive data in a form of written words and verbal from respondents. In this study, a complex description was made, checking on words and details report from respondent's opinion. The interviewees of this study were marketing department managers, operation, financial, product development and human resource, staff, and customers who were engaged directly and indirectly with the company. They were chosen because they were directly related to internal and external organizational activities and have vast information about the company.

The interviews were tape recorded with the respondent's permission. This procedure was important in assisting the analyzing process. This is because when recorded, the interviews could listen to many times for transcribing (Schostak, 2006). Then the data were analyzed by doing the open coding process. This process revealed the data patent as data were analyzed sentence by sentence to identify the theme and categories.

3.2 Discussion

The findings of the interview analysis indicate that everybody in the company, including those who are involved in production has to follow all the policies and procedures of the company. The procedures and policies are structured outcome from human capital. A human capital knowledge, experience and idea are intangible assets and if they are transformed into tangible form, this kind of asset will disappear. A manual book is one of the examples of Structural Capital and existing and future employees can use it as a guide. Apart from that, the technological process for product creation must be documented, kept safe, and recorded in a database so that it can also be maintained as a company's structural capital (Andriessen, 2001).

Collins and Montgomery (1995) stated that structural capital is related to competitive advantage. When a company has assets that cannot be imitated by competitors, they will have a competitive advantage. This is likely related to the patents and trademarks (Stewart, 1999; and Bounfour, 2003). By having patents and trademarks, competitors cannot simply imitate the products created by the company. Moon and Kym (2006) emphasized that most patents and trademarks of the intellectual property are important assets of a company. This kind of assets is very suitable for manufacturing companies.

Product innovation as done in the goat's milk company adds value to their existing products to meet its customers demand. Most of the products produced by the company are designed to meet the needs of its market. Customers are asked to find out all the deficiencies that exist in each product. Each of their comments and views will be recorded and analyzed based on the extent of truth and rationality. Process improvement and product innovation are technical knowledge resulting from research and development conducted in the company (Pablos, 2004). This is the reason why research and development is always conducted on a continuous basis in the company. The ability to improve the product from all aspects ensures high opportunity to maintain their competitive advantage.

Product innovation also enables diversification strategies used by the goat's milk company. The strategy needs the product come with the quality and for that reason, it has to be followed by quality control such as inspection process (Shariq, 1997). All products of the company must go through a phase of product development including pilot project. It will be tested before it reaches the consumers. At this stage, all aspects such as product usage, durability, and level of damage will be considered. Many documents and assets of the companies have been patented and have their own trademarks. According to the production manager, more systematic procedures and software that have complete information about the structure of company will be created. This is the role played by structural capital in contributing to a better product innovation.

Government has allocated certain budget for research innovations to encourage local companies in Malaysia to be more competitive in the spark of innovation itself. This will indirectly pave the way for Malaysian companies to explore new fields of knowledge in business. Through innovation as well, many companies like the goat's milk company can keep on changing and developing new products. Many product developments have been implemented through new exploration of innovation. It gives a positive impact to customers and suppliers because there will be a wider choice of products on the market that provide value to customers and more opportunities for cooperation can be established with the suppliers. Indirectly, the relationships will be strengthened and the company can become more competitive.

4. Conclusion, Limitations and Recommendations

This study contributes to the understanding on how innovation is crucial for products creation. Innovation is influenced by structural capital and relational capital in the companies. It makes the companies more focused on how they can defeat the competitors. The limitation of this study is that only one company was studied. A comparison could be made if more companies were studied. It is suggested future use survey data to reach high number of respondents.

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