



STRUCTURAL CAPITAL AS A BUSINESS MODEL: AN ANALYSIS IN THE CONTEXT OF IT COMPANIES.

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Abstract: The origin of terms business models and structural capital plays a critical role in the value creation and higher returns for companies. In the knowledge-based economy, competitive companies focus not only on the physical assets, but concentrate on the improvement in structural capital. Structural capital refers to all those assets which are owned by the organization which includes hardware and software, systems, structures, strategies, procedures and culture that improves the productivity of organization. The main objective of this paper is to examine the impact of various Structural Capital components on the Performance of Companies. The components of structural capital used for the study were organizational process & systems, organizational culture and information & knowledge management system. The primary data for the study was collected from 80 top level executives of various IT companies in Technopark, Thiruvananthapuram. The hypothesis was tested using regression analysis with the help of SPSS. The result of the study shows that, except organizational culture, organizational process & systems and information & knowledge management system has a positive impact on company performance. The study provides contributions to managers of any types of companies in understanding the role of structural capital in increasing the survival capacity of companies.

Keywords: structural capital, business models, value creation.

1. Introduction

In the present fast-paced technological and interconnected global economy, businesses are finding innovative ways to become successful and be competitive. To be in a competitive position, organizations are adopting different approaches and practices. Among these structural capital plays a significant role. Structural capital is an important area in the intellectual capital field which refers to all those intangibles assets that helps in the smooth functioning of the organization. Structural capital represents coded and non-coded company knowledge, technology, inventions, formal and informal company procedures, best practices, patents, databases and intranet networks (Evangelista et al., 2015). Structural capital are non-human resources of an organization, which is unique and specific in terms of strategy, structure, culture, values and knowledge. It encompasses organizations infrastructure, processes, systems, innovation, Research and Development, IPRs, Information Technologies that supports them in the performance of business in the most efficient way. Structural capital components can be divided into tangible and intangible assets. Tangible assets include those results of human activity that can be codified, documented and legally protected. Intangible assets include those elements that cannot be codified, documented and legally protected (Sichinava & Dubiei, 2024). Thus we can say that structural capital refers to a framework of different activities that organizations adopt that supports the activities of organization efficiently and which in turn derives a value to them in terms of profitability and customer value. This practice helps organizations to achieve competitive advantage.

Structural capital can be considered a business model as it contributes to the value creation of organization by offering different processes, strategy, culture, infrastructure, innovation. Business models refers to developing a model that is unique to a firm and that generates some value. The company generates its own model to use its resources and abilities and convert these to some kind of economic value. The model clearly specifies how the company acquires its resources which can be tangible and intangible resources and uses it to generate value. A business model is the sustainable way of doing business. Sustainability is the desire to survive over time and create a profitable entity in the long run (Nielsen & Lund, 2018). Business models are a strategic way of doing business. Once a business model is developed it is not used entirely in the life of the company without much changes, but in order to meet changing market needs and competitiveness, business models once developed should be modified and evaluated continuously. Studies have been conducted by different authors related to the concept of structural capital and its components, how structural capital improves the performance of organization. Further, studies on the business models and intellectual capital in the value creation of firms have been done (Beattie & Smith, 2013; Ujwary-Gil, 2017) . But not much studies related to the concept structural capital and business models is conducted in a state like Kerala. Thus, the study addresses the research gap by analyzing about how structural capital as a business model creates value to the companies.

There are several contributions this study makes for the companies. First, it is the first study to analyse whether structural capital as a business model creates any value to the companies. Second, by analysing the results, managers and company professionals will understand why structural capital as a business model is important for organizations to gain competitive advantage. Finally, this paper opens several areas for further research.

The entire paper is organized into these areas: relevant literature reviews, objectives and hypothesis of the study, research methodology, Analysis and interpretation, and the conclusion.

2. Review of Literature

2.1 Structural Capital

Intellectual capital is the combination of three components, human capital, structural capital and relational capital. Structural capital is both the organizational structure and the processes and culture embedded in it (Chen et al., 2015). Structural capital includes strategies, internal networks and systems, processes, files, legal property rights, inventions and related copyrights, trademarks, trade secrets, brands and licenses (Knight & D.J, 1999). Structural capital comprises organizational processes, procedures, systems, organizational culture and databases. It consists of organizational capital and market capital (Bacila & Titu, 2018). Structural capital is the combined knowledge that exists within the firms' routines which helps to simplify operational processes of firm (Kamall Khan, 2016). It is the codified knowledge residing within and utilized through databases, patents, manuals, structures, systems and processes (Subramaniam & Youndt, 2005).

Structural capital can be considered in two areas, explicit and tacit. Explicit or codified structural capital refers to the knowledge that is transmitted in formal, systematic language, while tacit knowledge is basically personal which is rooted in action, commitment and involvement (Nonaka, 1994).

Structural capital involves values and culture, working atmosphere, processes and systems, documentation guidelines, technical systems, immaterial properties (Kujansivu & Sillanpaa, 2008).

(Kalkan et al., 2014) studied the relationship between intellectual capital, innovation, organizational strategy and firm performance. They found that there is a positive relationship between intellectual capital, innovation organizational strategy and firm performance. (Bacila & Titu, 2018) provides an overview of the topic structural capital and organizational culture. Structural capital can provide a positive value for knowledge-based organization. (Kamall Khan, 2016) explores the relationship between structural capital and organizational innovation in SMEs in Australia. They contribute the fact that structural capital is essential for achieving organizational innovation. (Namvar et al., 2011) studied the effect of human capital on the three dimensions of structural capital, that is relational capital, process capital and innovation capital. They show that human capital influences structural capital in the Iranian e-business industry. (Chen et al., 2015) studied the influence of intellectual capital on innovation, mainly product and process innovation. They found that intellectual capital influences product innovation largely than the process innovation.

2.2 Business Models

Business models is the combination of four elements, customer, value proposition, key resources and processes that work together to create value (Johnson et al., 2008). Business model is the relationship between creating a value that is for customer and the firm (Teece, 2010). Business model is the combination of three factors that are critical to the value of the business. They are the value stream for partners and customers, revenue stream and logical stream (Mahadevan, 2000). Business models provides two functions for businesses, value creation and value capture (Chesbrough, 2006). (Fielt, 2014) described business model as the value logic in terms of how it creates and captures customer value and can be concisely represented by an interrelated set of elements that address the customer value, value proposition, organizational architecture and economics dimensions . A business model shows how an organization creates, captures and deliver value (Osterwalder & Pigneur, 2010).

2.3 Company Performance

Measurement of a company performance refers to the transformation of strategies of a company into results. It measures the progress and provides feedback which may be positive or negative so that companies can make changes in them. For measuring performances, two methods were generally used, objective and subjective methods. Both subjective and objective measures of business performance are capable of measuring the performance of organization. Among these subjective methods were mostly used as it is easy to perform. Subjective measurement methods were relative whereas objective methods are absolute (Wall *et al.*, 2004). Both methods consist of financial and non-financial aspects. Objective performance measurement includes Return on Asset, Return on Sales, Earnings Per Share, return on net worth, sales growth based on actual accounting data which are complex to perform while subjective performance methods include the opinions and perceptions of company managers, employees regarding customer satisfaction, employee turnover, employee satisfaction, productivity, profitability, product quality, service quality etc. It is justified to use subjective measures of business performance and recommended in situation warranted by non-availability of archival data (Vij & Bedi, 2015).

3. Objectives of the study

The main objective of this study is to examine the impact of various Structural Capital components on the Performance of IT Companies in Technopark, Thiruvananthapuram.

4. Hypothesis of the study

H1: organizational process and systems has a positive impact on company performance.

H2: organizational culture has a positive impact on company performance.

H3: information and knowledge management system have a positive impact on company performance.

5. Research Methodology

The study was conducted using both primary and secondary data. A questionnaire was designed to collect primary data. Independent variable used for the study was structural capital with three components organisations process and systems as the first component, organisational culture as the second component and information and knowledge management system as the third component. The dependent variable used for the study was company performance.

The data were collected from 80 top level executives of various IT companies in Technopark, Thiruvananthapuram. The sample method adopted was purposive and convenience sampling. Data collected were analysed and the proposed hypothesis were tested using the statistical method of regression analysis using Statistical Packages for Social Sciences (SPSS) software. The sample size is limited within 80 top level executives as it is adequate for carrying a regression analysis.

6. Analysis and Interpretation

Table 1: Descriptive statistics.

Position in the company	CEO 31 (38.75%)	Manager 27 (33.75 %)	Assistant manager 16 (20%)	CFO 6 (7.5%)
Size of the employees	50-200 4 (5%)	200-600 12 (15%)	600-800 46 (57.5%)	800 above 18 (22.5%)
Employee tenure	0-2 years 7(8.75%)	2-5 years 37(46.25%)	6-10 years 31(38.75%)	10 years above 5(6.25%)
Company tenure	0-2 years 12(15%)	2-5 years 17(21.25%)	6-10 years 40(50%)	10 years above 11(13.75%)

Table 2: Reliability analysis

Variables	Scale type	No of items	Cronbach Alpha
organizational process and systems	LS*	5	0.727
organisational culture	LS*	4	0.817
information and knowledge management system	LS*	3	0.851
Company performance	LS*	4	0.821

LS*: Likert Scale (5 point)

From the above table it is understood that the Cronbach Alpha values ranges from 0.851 to 0.727. For the structural capital components, information and knowledge management system has the highest value (0.851) and organizational process and systems has the lowest value (0.727). For the company performance the reliability value is 0.821.

Regression analysis was used to analyse the impact of structural capital on company performance. The result of regression analysis is given in the below table.

Table 3: Regression Analysis

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	
	B	Std. Error	Beta			
organizational process and systems	.442	.110	.413	3.996	.000	
organisational culture	.018	.082	.023	.223	.824	
information and knowledge management system	.273	.088	.309	3.102	.003	

Dependent variable: company performance

R square: .269, F: 9.311

The proposed hypothesis was tested to find if Structural Capital as a business model has a significant impact on the performance of IT companies at Technopark, Thiruvananthapuram. Here, the first component of Structural Capital, organizational process and systems shows a positive and significant impact on company performance ($B = .442, P < 0.005$). The second component of Structural Capital, organisational culture does not show a significant impact on company performance ($B = .018, P > 0.005$) and the third component of structural capital, information and knowledge management system also shows a positive and significant impact on company performance ($B = .273, P < 0.005$).

Therefore, the proposed hypothesis H1, organizational process and systems has a positive impact on company performance is accepted, H2, organizational culture has a positive impact on company performance is rejected and H3, information and knowledge management system have a positive impact on company performance is accepted.

7. Conclusion

Knowledge has become the most important component of modern economy. Every organization has to find new innovative approaches to increase their competitiveness and performance in this growing global economy. Intangible assets are one of the critical success factors to be considered if a company wish to be competitive in the long run. But to be strategically innovative, organization has to manage its structural capital to compete with its rivals. Organizations focus more on the improvement in structural capital as it enhances in its long-term survival. The importance of structural capital as a critical factor in increasing the value of organization is understood and applied by high tech, competitive companies. Business models are also a critical factor which emphasize on value creation for companies. There is a close link between business model and structural capital. Business models developed by companies and structural capital components adopted by companies influence on increasing efficiency which in turn increase the survival capacity of companies. Managers should focus on both these factors by measuring and monitoring components of business models and structural capital for increasing the competitiveness of companies. The analysis of this paper provides the management of companies to focus their attention not only to the physical fixed assets but also intangible assets like structural capital, this is because many competitive companies adopt this concept as an innovative approach towards managing their business affairs in a competitive manner. This helps to increase the performance of companies in the long run.

The entire study was conducted to analyze the impact of structural capital components such as organizational process & systems, organizational culture and information & knowledge management system on the performance of selected IT companies in Technopark, Thiruvananthapuram. A questionnaire was developed and collected the data from 80 top level executives of these companies. The sample was selected using convenience and purposive sampling methods. To analyze company performance there are several methods. The method adopted for this study is subjective methods, were opinions of executives regarding the company performance were adopted. After testing the hypothesis, the findings of the study show that among three components of structural capital (organizational process & systems, organizational culture and information & knowledge management system), two components show a positive impact on companies' performance (organizational process & systems and information & knowledge management system). Organizational culture doesn't show an impact on companies' performance.

Reference

- Bacila, M.-L., & Țitu, M. A. (2018). Structural capital and organizational culture-An approach regarding the development of valuable intellectual capital. In *Review of General Management* (Vol. 28, Issue 2).
- Beattie, V., & Smith, S. J. (2013). Value Creation and Business Models: Refocusing the Intellectual Capital Debate. *British Accounting Review*, 45(4), 243-254.
- Chen, J., Zhao, X., & Wang, Y. (2015). A new measurement of intellectual capital and its impact on innovation performance in an open innovation paradigm. *International Journal of Technology Management*, 67(1), 1–25. <https://doi.org/10.1504/IJTM.2015.065885>.
- Chesbrough, H. (2006). Open business models: How to thrive in the new innovation landscape.
- Evangelista, F., Lombardi, R., Russo, G., & Riad Shams, -S M. (2015). Exploring structural capital from the business administration perspective: a general framework on the existing literature 1. In *italian journal of management* (Vol. 33).

Fielt, E. 2014, Conceptualising Business Models: Definitions Frameworks and Classifications, *Journal of Business Models*, 1(1), 85-105.

Johnson, M., Christensen, C. & Kagermann, H. (2008). Reinventing your business model. *Harvard Business Review*, 86(12), 50-59.

Kalkan, A., Bozkurt, Ö. Ç., & Arman, M. (2014). The Impacts of Intellectual Capital, Innovation and Organizational Strategy on Firm Performance. *Procedia - Social and Behavioral Sciences*, 150, 700–707. <https://doi.org/10.1016/j.sbspro.2014.09.025>

Kamall Khan, Y. (2016). *Impact of Structural Capital on Innovation in the Australian SMEs*. 302–312. <https://doi.org/10.15405/epsbs.2016.11.02.28>.

Knight, D.J. (1999). Performance measures for increasing intellectual capital. *Strategy & Leadership*, 27(2), 22-27.

Kujansivu, P., & Sillanpaa, V. (2008). Intellectual capital management practices in Finnish companies. In *International Journal of Networking and Virtual Organisations and Journal of Applied Management Accounting Research* (Vol. 1, Issue 2).

Mahadevan, B. (2000). Business models for internet-based e-commerce: An anatomy. *California Management Review*, 42(4), 55-69.

Namvar, M., Fathian, M., Gholamin, M. R., & Akhavan, P. (2011). Exploring the role of human capital on firm's structural capital in Iranian e-business industry. *International Journal of Commerce and Management*, 23(3), 97-112.

Nielsen, C., & Lund, M. (2018). An Introduction to Business Models. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2579454>.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1).

Osterwalder, A., & Pigneur, Y. (2010). Business model generation: A handbook for visionaries, game changers and challengers.

Sichinava, A., & Dubiei, Yu. V. (2024). Structural capital: essence and role in ensuring technical and technological development. *Economic Bulletin of Dnipro University of Technology*, 85, 15–21. <https://doi.org/10.33271/ebdut/85.015>.

Subramiam, M., & Youndt, M. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal*, 48(3), 450-463.

Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2-3), 172-194.

Ujwary-Gil, A. (2017). The business model and intellectual capital in the value creation of firms: A literature review. *Baltic Journal of Management*, 12(3), 368–386. <https://doi.org/10.1108/BJM-10-2016-0224>.

Vij, S., Bedi, S.H. (2015). Are subjective business performance measures justified?. *International Journal of Productivity and Performance Management*, 65(5), 603-621.