

STRUCTURAL CAPITAL AND ORGANIZATIONAL EFFECTIVENESS

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ABSTRACT

If human capital is an "engine" for the firm, then structural capital serves as its "vehicle" for product development and value creation. Human capital alone is not sufficient for product development; it needs an organization in order to exploit its value. Structural capital represents the organization's capabilities to meet its internal and external challenges and emphasizes the importance of knowledge-based assets in the production function and represents a company's "know-how" that is embodied in corporate processes, tools, and organizational structure. It includes a firm's unique capabilities, proprietary tools and data, corporate technologies, intellectual property, as well as structures and mechanisms that aid in collaborative design and project execution. The paper attempts to study the relationship of structural capital on different constructs of Organizational Effectiveness - Future outlook, Market Leadership, overall performance and overall organizational effectiveness.

Keywords: Intellectual capital, Knowledge management, structural capital

INTRODUCTION

The extent to which a company uses its information technology and networking systems can have a profound effect on its ability to do business on a global level to assure uniform standards of quality in different locations, and to share important information about customers or about production innovations.

The need for knowledge management has spurred the development of software, systems and consulting services. Knowledge databases are becoming more common. Companies are now recognizing the need to manage their knowledge resources and many have created knowledge management positions. Structural capital (organizational capital) provides the necessary infrastructure for coordinating efforts and turning knowledge into products. Structural capital is where knowledge managers act. The emergence of knowledge management field demonstrates the positive effect it has on improving structural capital value which in turn boosts corporate profitability.

The Importance of Structural capital has been recognized in the following crucial areas of business. Structural capital represents the organization's capabilities to meet its internal and external challenges. It includes infrastructures, information systems, routines, procedures and organizational culture. Structural capital consists of customer capital (customer base, relationships and potential) and organizational capital (process capital, culture and innovation capital). Structural Capital includes management philosophy, corporate culture, management processes, information technologies systems, networking systems and financial relations.

REVIEW OF LITERATURE

The literature of on knowledge management proposes the existence of two types of knowledge, tacit and explicit. Nonaka and Takeuchi(1995) provided interaction of tacit and explicit knowledge with four models namely; socialization (from tacit knowledge to tacit knowledge), externalization(from tacit knowledge to explicit knowledge, combination (from explicit to explicit knowledge) and internalization (from explicit knowledge to tacit knowledge). This spiral moves of knowledge from individual level to organizational or inter-organizational level leads to creation of structural knowledge/capital. Intellectual Capital literature offers a static view of knowledge based resource. Though, it offers differences in different components of Intellectual Capital there is convergence among them.

Human Capital was considered as individual knowledge stock of its employees. They contribute innovations by means of their competence, their attitude and their mental agility. It includes the employees' innovativeness, attitude, wisdom, experience and capabilities. Unlike Human Capital, Structural Capital is defined as stocks of patents, trademarks, hardware, software, database, organizational culture and capability within the organization. It is the knowledge that remains in the company when employees go home. On the other hand, structural capital encompasses all forms of knowledge deposit which is not supported by the human being such as organizational routines, strategies, process handbooks and many more.

The high value of human resources makes organizations improve their effectiveness while use of opportunities help in neutralizing the threats. Similarly structural capital adds value to the company by means of cost reduction and improvement in product process or service delivery. The importance of structural capital is mostly identified as a means of value creation and thereby it creates effectiveness. Thus, the companies are encouraged to invest significant resources into its structural capital to reduce the risk and to capitalize the product potential. Leif Edvinsson (1997) who played a pioneering role in managing intellectual capital at Skandia pointed out that structural capital does not go home at 5pm, or quit and hire on with a rival. Structural capital is therefore the form of intellectual capital that is most clearly owned and controlled, despite the intangible nature of most knowledge-based assets. Structural capital extends well beyond the physical tools of manufacturing, i.e. production lines and capital equipment. Rather, structural capital is corporate knowledge - embedded in both the tangible and intangible infrastructure of the firm - that results in unique capabilities, allowing workers to collaboratively deliver new products and services. This concept is at the core of what managers refer to as their organizational know-how.

Structural Capital is the backbone of the organization. It is the skeleton and glue of an organization. Its value depends on how well it enables a company to package, move and use human capital - the company's knowledge-in service to corporate goals. Structural capital is not to be confused with equipments which are already on the books as assets.

Lev, B. (2001), identified six key components to structural capital namely Management philosophy, Corporate culture, Information technology systems, Management processes and Financial relations.

Structural capital has a positive effect on their organizational effectiveness by means of innovative and proactive management strategies. Thus, the current study aims to explore the relationship of structural capital on different constructs of Organizational Effectiveness with the following objectives.

OBJECTIVES

- To study the relationship of structural capital on different constructs of Organizational Effectiveness - Future outlook, Market Leadership, overall performance and overall organizational effectiveness
- To study the direct and indirect effect of sc on organizational effectiveness constructs

HYPOTHESES TESTED

H₁: Structural Capital with its indicators will be positively related for better future outlook of the organization which in turn enhances the organizational effectiveness.

H₂: Structural Capital with its indicators will positively increase market leadership of an organization which in turn enhances the organizational effectiveness

H₃: Structural Capital with its indicators will positively enhance overall performance of an organization which in turn enhances the organizational effectiveness

H₄: Structural Capital with its indicators will positively influence the overall organizational effectiveness

METHODOLOGY

The required data for the current study were collected by using the primary data collection method. The target population of the study is represented by certified accountants and practicing chartered accountants. Majority of them are drawn from accountants practicing for technology oriented or IT oriented companies. The final sample consisted of 123 members who agreed to participate in the study.

The paper applies the overall structural regression model to test how the structural capital positively improves overall performance of an organization which in turn enhances the organizational effectiveness.

STANDARDIZED REGRESSION CO-EFFICIENT OF STRUCTURAL CAPITAL WITH ORGANIZATIONAL EFFECTIVENESS CONSTRUCTS

The results showed that all the three constructs of organizational effectiveness are significantly influenced by structural capital. The path co-efficient of Future Outlooks, Market Leadership, Overall Performance to Structural Capital were positively related. The overall organizational performance is also positively related, therefore, the entire four hypotheses given were supported. Thus, the following conclusions are drawn from the hypotheses formulated.

- Structural capital with its constructs significantly influence the Future outlook and thereby it influences the organizational effectiveness
- Structural capital with its constructs significantly influence the Market Leadership and thereby it influences the organizational effectiveness

- Structural capital with its constructs significantly influence the Overall Performance and thereby it influences the organizational effectiveness
- Structural capital with its constructs significantly influence the organizational effectiveness

Table 1 - Standardized Regression Co-efficient of structural Capital with Organizational Effectiveness Constructs

Path	Standardized Regression	S.E.	CR	Significance Level	Hypothesis Testing
Future outlook <-SC	.973	0.062	17.777	***	Supported
Market Leadership <-SC	.930	0.031	33.153	***	Supported
Overall Performance <-SC	.974	0.050	21.638	***	Supported
Org. Effectiveness <-SC	-.446	0.328	-3.854	***	Supported

The above table presents standardized regression co-efficient weights for the four paths namely; Future Outlook to SC, Market Leadership to SC, Overall Performance to SC and Organizational Effectiveness to SC. The Critical Ratio related to these four paths together with significance level is also presented. All the four critical ratios are considered to be significant (value >±1.96) this gives an evidence that all the four hypotheses are supported. This also can be supplemented with its significance level (< 0.05). The standardized regression coefficients range between -0.446 to 0.974.

The squared multiple correlation (similar to R² in regression) representing explained variances of the four variables range from 0.826 to 0.898, the residual (unexplained) variances are calculated by subtracting each explained variance from 1 (i.e. 1- squared multiple correlation) thus, for these four variables the unexplained variance range from 0.102 to 0.174 these values are considered to be minimal and hence the regression equation of all the four paths are considered to be significant.

DIRECT AND INDIRECT EFFECT OF SC ON ORGANIZATIONAL EFFECTIVENESS CONSTRUCTS

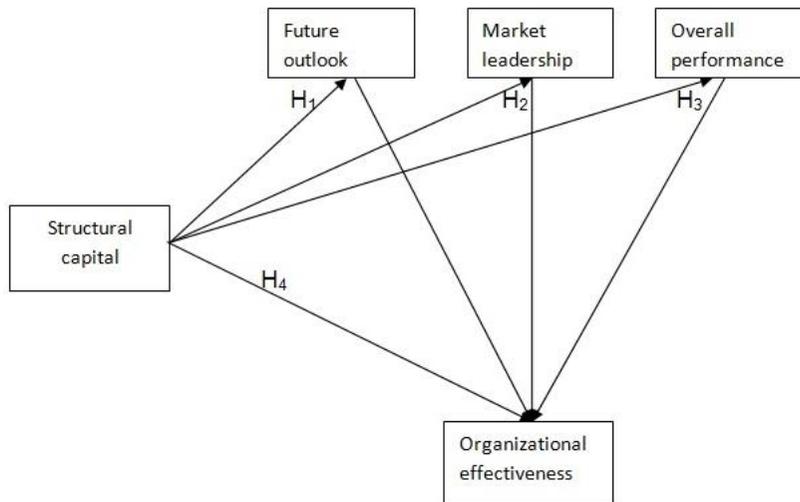
The basic assumption in the measurement model is that organizational effectiveness constructs and also organizational effectiveness is both directly and indirectly affected not only by structural capital but also with other components of IC namely Human capital and Relational Capital. As the analysis revealed in the earlier table shows that, there is a significant relationship with SC on all the three constructs of Organizational Effectiveness, it is important to identify the total effect of SC on the three constructs and also interested in identifying the direct and indirect effect of SC on these constructs. The results of direct and indirect effect of SC on Organizational Effectiveness constructs are given in Table 2

Table 2 - Direct and Indirect Effect of SC on Organizational Effectiveness Constructs

PATH	Direct Effect	Indirect Effect	Total Effect
Future outlook < ---- SC	.973	-1.166	-.193
Market Leadership < ---- SC	.930	-1.175	-.245
Overall Performance < ---- SC	.974	-1.134	-.160
Org. Effectiveness < ---- SC	-.446	.000	-.446

Thus, Structural Capital has significant direct effect on Organizational Effectiveness, it had a value of -0.446 direct effect but through the other components of Intellectual Capital the total effect of organizational effectiveness is unaltered and hence it is concluded that organizational effectiveness is mainly influenced by the Structural Capital and not by the influence of other constructs. This confirms the theoretical findings that Structural capital is main element of process management tool and that Structural capital is knowledge at organizational level created through the institutionalization of both individual and group knowledge present in the firm during the learning process which provides impetus to organizational effectiveness.

This finding also supplements the research findings of Collis and Montgomery, they also point out that the importance of Structural Capital also grows as it contributes to the creation of a competitive differentiation. As the uniqueness of Structural Capital increases, companies are encouraged to invest significant resources into its capital management to reduce risk and to capitalize on its productive potential.

FIGURE 1 THE PARTIAL STRUCTURAL REGRESSION MODEL INVOLVING SC

The Overall Performance construct has a total effect of - 0.160 but with a direct effect of 0.974. This indicates that the overall performance construct is influenced maximum by structural capital. Future outlook and market leadership also shows the similar trend. (Total Effect -.193, -.245; Direct Effect 0.973, 0.930; and Indirect Effect -1.166, -1.175)

FINDINGS

There is a significant relationship with SC on all the three constructs of Organizational Effectiveness and organizational effectiveness is mainly influenced by the Structural Capital and not by the influence of other constructs.

Both Future Outlook and Market Leadership constructs involve the influence of other IC variables of the model. From this, it is concluded that all the constructs of organizational effectiveness are influenced by Structural Capital components and also it influences the overall organizational effectiveness.

CONCLUSION

The companies should convert their employees' core knowledge and the consequences of their relations with other agents (shareholders, suppliers, customers) into the companies own knowledge to main their competitive position. In other words, the companies should transform its human and core relational capital into knowledge that is inside the structures and organizational process. Similarly, human knowledge is to be institutionalized and codified in to organizational routines, politics and databases. To sum up, the concept of structural capital should create value to the organization and thereby its effectiveness to be increased.

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