Intellectual Capital and Organizational Performance

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Abstract

In today's knowledge economy the tangible assets like intellectual capital is a foundation of sustainable growth and competitive lead. Corporations are paying more focus on value creation through these tangible assets. Better organizational performance can be ensured through effective management of firm's intellectual capital. The main rationale of this study is to highlight the interconnection among intellectual capital constituents and business performances in Pakistan. Intellectual capital constitutes; human capital, organizational capital and relational capital. The study uses exploratory approach to develop conceptual model, propose hypotheses and test these hypotheses quantitatively on scientific basis. The data has been collected through structured self administered survey questionnaires. Structural equation modeling (SEM) approach is adopted to test hypotheses. The study documented overall significant association between overall intellectual capital. Significant associations have also been noted among all three dimensions of intellectual capital and the organizational performance. The implications and applications of the study have also been discussed in detail.

Keywords: Intellectual capital, human capital, organizational capital, relational capital, organizational performance.

Introduction

Productivity improvement is the core business strategies. Higher productivity enhances firms competitive positioning as compare to competitors. Alternative strategies are available to improve its productivity. Tangible and intangible capitals drive firm growth. Business relies on these capitals to enhance value and achieve organizational goals successfully. In this perspective, the knowledge has become the most valuable intangible economic resource (Drucker 1993).

Opportunities such as growth of nations, individual's values and wealth of nations can be improved through knowledge (Bounfour and Edvinsson, 2005). Knowledge can be transferred, merge and used as a resource (Grant, 1996) and it may take potential source of Competitive advantage (Nonaka and Takeuchi, 1995). Central of research study revolves around knowing how an organization utilizes its potential knowledge to create value. Moreover, Value Creation resides is central to strategic management and it's a primary coherent to intellectual capital (Petrash, 1996). Firms create different type of resources by supporting so that higher intellectual can financial performance can be

achieved (Bontis, 2003). Knowledge based view support the creation and application of knowledge (Grant, 1996). Increased growth in the firms attitude to give more value to the intangible assets and intellectual capital are keys ton achieve sustainable competitive advantage (James, 1999). Intellectual capital has been originated from the resource based view of the firm (Sullivan, 2000).

Intellectual capital drives the organizational performance and creates value for it (Roos and Roos, 1997), which represents the causal relationship between value creation and organizational intellectual capital (Marr and Roos, 2005) and its innovative capability determine the future of the organization (Bontis, 2002) and its innovative capability determine the future of the organization (Bontis, 2002). Previous studies (Bontis et al., 2000) have identified the strong relationship between business performance and intellectual capital (Bontis, 2008).Although; intangible assets do not affect the performance directly. Rather, their relationship can be identified through cause and effect (Kaplan and Norton, 2004). The paper intended to capture the intellectual capital perception in the banking industry of Pakistan its casual relationship with the performance of Pakistan. The reason for undertaking this type of study is that a little research has addressed this field of study in banking sector of Pakistan. We discussed three elements representing the intellectual capital namely human capital, relational capital and innovative capital in this study. After verifying that intellectual capital has been recognized as special concepts in the banking industry, the foremost objective of the paper is to identify their perceived relevancy and value in the banks.

Primarily, the rationale of this study is : (a) to examine relationship between intellectual capital and organizational performances and : (b) to study the interaction affects of its components with organizational performances., (c) to validate measurement instrument which may be used as operational measure in financial sector.

Literature Review and Development of Research Model

Successful companies tend to rely more on their knowledge of their employee rather than on physical assets such as plant and machinery. So it has become the engine of corporate development. Financial statements do not reflect the value creation of those activities generated by intangibles. This competitive knowledge including the skills and competencies refers to the one of the most thoughtful business strategy called “intellectual capital”. Previous studies (Bontis et al., 2000) have proved interconnection of performance and intellectual capital. We have proposed the following model to show how intellectual capital affects performance of an organization:

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Intellectual capital can be considered as knowledge based equity. An organization needs to clarify how these assets helps to support strategic goals and quantify their contribution to the value of the organization. Sustainable growth advantage can be achieved through knowledge based economy. Intellectual capital has been recognized as the driver of financial performance (Marr and Roos, 2005).

The review of literature clarifies the usefulness of intellectual capital. Intellectual capital itself quest the research to better understand the roots of company's value, the measurement of the factors that motivate visible company (Edvinsson and Malone 1997:11). Miller et al (1999) scrutinized manager's perceptions of the usefulness of intellectual capital. Regardless thee type of the industry, manager emphasizes greatly on intellectual capital. Van Buren (1999) concluded in his studies that intellectual capital is associated with firm's financial performance. However, Low (2000) has observed the importance of non financial assets and their affects on company's performance. Bontis et al (2000) investigated three components of intellectual capital named as, human, relational and structural. He interlined them also. His emphasis is mainly related to human and relational capital which is significant for running the businesses where as structural capital has positive influence on business performance. Riahi-Belkaoui (2003) examined the interconnection of intellectual capital and performances measure of multi national companies in the context of intellectual capital. His results support the connection of intellectual capital to the financial performance. But certain condition must be met to maximize organization performance. So, it must be inimitable, non substitutable, rare and precious (Wright at al, 1994).

Value creation is the heart of the strategic management and intellectual capital woven it ability to create value. It is clear form the arguments that intellectual capital help is nurturing strategy. But one the challenge for researchers is to prove that it creates value (Meritum, 2001). Our purpose is to find the drivers of intellectual capital and which generate more value. The following preposition can be inferred on the basis of above theoretical arguments.

Preposition 1: Overall intellectual capital positively influences organizational performance.

Dimensions of Intellectual Capital

A. Human Capital and Organizational Performance

The concept of human capital refers to knowledge, abilities and skills that can be used to stimulate economic growth (Coleman, 1988). It can be viewed as blend of four essentials including genetic heritage, education, approach and experiences about life and business (Hudson, 1993). Florin and Schultze (2000) spotted the existence of different type of human capital. First, it is firm specific human capital which refers to dexterity and knowledge that are valuable within the firm. Secondly, industry-specific human capital that exhibit knowledge resulted from the experience gained in specific industry. The experience level in term of economic performance and social development was analyzed by Siegel et al. (1993) and also by Kenney and Von Burg (1999). It can include managerial and entrepreneurial experiences (Pennings et al., 1998) education, vocational trainings (Hinz and Jungbauer, 1999). This can include managerial and entrepreneurial experience (Pennings et al., 1998) a certain level of education and vocational training (Hinz and Jungbauer, 1999).

Human capital considers being the primary element of intellectual capital, is helpful in gaining sustainable competitive advantage (Nonaka and Takeuchi, 1995). Maskell and Malmberg (1999) argue that knowledge based view increases global competition. So, it may be useful to invest in human capital through professional trainings may raise the competition (Black and Lynch, 1996) and also enhanced global productivity (Cannon, 2000).

Moreover, Human resource management involves in designing and implementing the set of consistent policies and practices which make certain that firm's human capital contribute to achieve organizational objectives (Schuler and Jackson, 1987). It has been proved that there is correlation between human capital elements and economic performances, both at individual and firms level (Pennings et al., 1998). Ali et al. (2010a) also analyzed the influence of knowledge management practices on organizational performance for the case of Pakistani firms. The below preposition can be developed on the base of above theoretical debate.

Preposition 2: There is strong positive association human capital and organizational performance.

B. Organizational Capital and Organizational Performance

Organizational capital offers competitive position that deliver superior performance. Certain elements such as first mover advantages and organizational characteristics depicts why such approach brings high performances. Organizational characteristics such size, sagging, managerial tenure, differentiation, specialization, professionalism and adoption develops and retain innovative capabilities of organizations (Damanpour, 1991). Schumpeter (1942) has pointed organizational as important managerial issues. Organizational has been considered as most important capability to gain in global markets (Litz and Kleysen, 2001). Different organizations adopt certain types of organizational. Organizational tendency to innovate (Wolfe, 1994) measured differently on either the type of organization or the degree of the organization characteristics linked with organizational (Walker et al., 2001).

Product and process depicts different relationship with performance. They both affect each other; and different factors affect their adoptions (Tornatzky and Fleischer, 1990) and they positively affect organizational performance (Damanpour et al., 1989). Process organizational itself does not product rather they share similarities that affect organizational (Damanpour, Szabat and Evan, 1989). They affect the exchange between organizational members and environment (Kimberly and Evanisko, 1981). Ali et al. (2010a) also investigated the influence of organizational innovativeness on organizational performance for the case of Pakistani firms. Therefore, we proposed the following preposition on the basis of above theoretical discussion.

Preposition 3: Higher levels of organizational capital positively influence organizational performance.

C. Relational Capital and Organizational Performance

Relational capital has been received as interlinked between firms and their customers. Relational Capital is rational capital (Roos et al., 1997). It influences the organization and their customers (Hsu, 2006). The term intellectual capital has been explained as knowledge of consumers and their experiences which affect the capabilities and they are the source of organizational. Employees are needed to serve their customers. Through providing quality, a relational can be satisfied, which helps to achieve efficiency. Stewart (1997) focused on the relationship between employee capabilities and relational satisfaction. He emphasize that employee must posses certain skills and knowledge to serve relational need effectively. The following preposition can be developed on the basis of above theoretical discussion.

Preposition 4: There is strong association among relational capital influence and organizational performance.

Research Methods

Sample and Data Collection

This is an exploratory study in nature that requires primary data for analysis. The data has been collected through structured self-administered survey questionnaires. The unit of analysis in this study is the organizational managers of different manufacturing units in Lahore region who know about the focus of organization towards management of intellectual capital and its influence of the organizational performance. A total of 500 questionnaires were distributed out of which 294 were returned with a response rate of 59% which is quite satisfactory for this type of study. Convenience sampling technique is used for data collection in this study in order to have maximum response rate.

Measurement and Instrumentation

The independent variable is this study is intellectual capital. Three dimensions of intellectual capital are considered for analysis purpose including human capital, organizational capital and relational capital. The instrument to measure human capital is consisted on 4 items adopted from Snell and Dean (1992); Zárraga and Bonache (2005); Wu et al., (2008); as used by Delgado (2011) measured on 5 point Likert scale. The instrument to measure organizational capital is adopted from Carmeli and Tishler (2004); Chen et al. (2004); Subramaniam and Youndt (2005). The instrument contained 4 items and measured on 5 point Likert scale. The relational capital was measured by six items related to relationships with customers, suppliers, and other stakeholders. The instrument is adopted from Chen et al. (2004); Subramaniam and Youndt, (2005); Reed et al., (2006) measured on 5 point Likert scale.

The dependent variable in this study is organizational performance. The scale to measure organizational performance is taken from Deshpande et al. (1993); Jaworski and Kohli

(1993); and Samiee and Roth (1992), used by Ali et al. (2010b). The instrument consisted on three items measured on 5 point Likert scale where 1 is for Strongly Disagree and 5 stands for Strongly Agree.

Procedure

The study used various statistical techniques to test the validity and reliability of the data and the scale and to test the hypotheses. For this purpose latest versions of SPSS and AMOS have been used. The reliability of data will be checked through SPSS and the reliability of scale will be analyzed through confirmatory factory analysis technique of AMOS. Structural equation modeling (SEM) technique will also be adopted to test hypotheses and investigate the nature of association between the dependent variable and the independent variables.

Results and Discussions

Reliability and Validity Analysis

In order to test the reliability and validity of data SPSS and AMOS software have been utilized. Factor loading of each item and Cronbach alpha of each scale are provided in Table I. Item statements with significant loading (≥ .40) were retained in the respective scales and insignificant and negatively significant/insignificant statements (< .40) were removed from their respective scales and not used for data analysis. Cronbach alpha greater than 0.5 indicates acceptable reliability of the data in social sciences (Nunally & Bernstein, 1978).

Table I shows the results of confirmatory factor analysis (CFA) and reliability analysis, the values of factor loading are obtained from CFA from AMOS software and values of α depicts the Cronbach alpha obtained from reliability analysis of SPSS software. Table I provides that all items belonging all variables of investigation in this study obtained good results and the data is reliable for using into further analysis. Similarly the values of Cronbach alpha is also greater than 0.5, therefore data is also satisfactorily reliable.

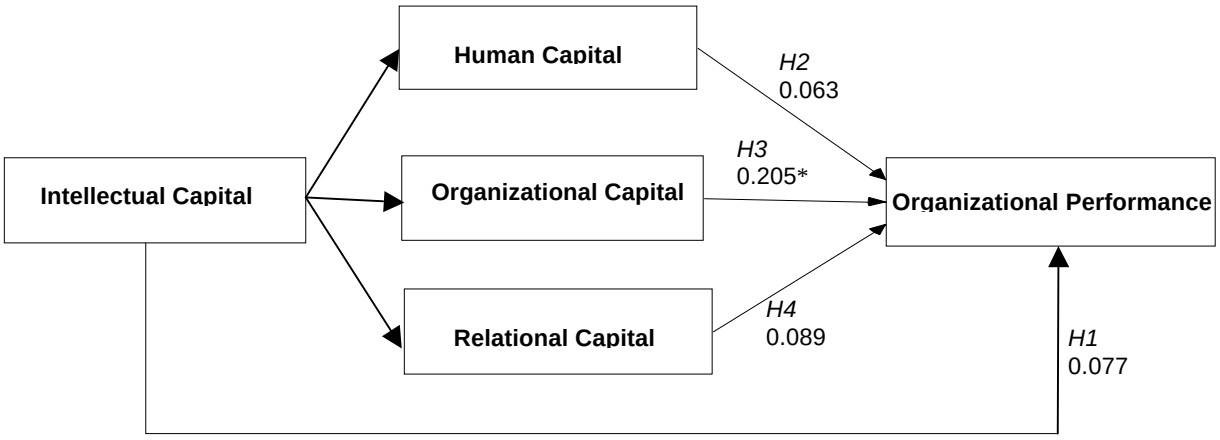
Table I: Factor Loading and Reliability Testing

S. No	Items	Factor Loading	α
Human Capital			
1	In my company, the percentage of people who receives training is higher than my competitors	0.815	0.817
2	In my company, the percentage of people with superior a degree (bachelor, engineer, masters, etc.) is higher than my competitors	1.024	
3	The experience our employees have is appropriate to carry out their work satisfactorily	0.728	
4	Our employees have abilities that are widely considered to the best in our industry	0.715	
Organizational Capital			
1	My company encourages creativity, organizational and/or the development of new ideas	0.943	0.762
2	A common system of values, beliefs and objectives exists in my company, directed towards organizational	0.917	
3	Often, managers involve employees in important decision-making processes	0.104	
4	In my company, managers support and lead the organizational process	0.827	
Relational Capital			
1	Employees of my company work jointly with customers to develop solutions	1.271	0.824
2	The relational base of my company is one of the best in our industry	0.936	
3	Employees of my company work jointly with suppliers in order to develop solutions	0.852	
4	The supplier base of my company is one of the best in our industry	0.836	
5	Employees of my company work jointly with allies in order to develop solutions	0.917	
6	The allies base of my company is one of the best in our industry	0.678	
Organizational Performance			
1	Increase/decrease of market share relative to previous year	0.94	0.935
2	positive/negative change in overall performance of corporation relative to its competitors	1.05	
3	Increase/decrease in return on investment, return on assets, sales growth, and growth in profit.	0.86	

Hypotheses Testing

Figure I present the structural equation model (SEM) for influence of intellectual capital organizational performance. Model fitness ratios are also reported in the Figure 1. Several statisticians recommended the value of CMIN/DF as measure of model fitness. For instance, Wheaton et al. (1977) viewed that the ratio must be five or less indicate good model fitness. The standard criterion for model fitness is that the values of CFI, AGFI and NFI should be closer to 0.90 and to accept any hypothesis the estimated value should be < 0.10. All of these ratios show that model is a good fit, appropriate and can be used for hypotheses testing. Figure I show that all four hypotheses have been accepted. More specifically our H1 in this study was regarding the strong association between overall intellectual capital and organizational performance. The estimated value of this path is 0.077 therefore we accept our *H1* at 0.10 levels. Similarly, *H2* is relating to positive association between human capital and organizational performance. The results show the value of 0.063, we therefore accept our H2 as well. Likewise, the third path is between organizational capital and organizational performance which yielded the value of 0.205, we therefore accept our *H3* at 0.05 levels. Finally, our H4 represents positive linkage between relational capital and the organizational performance. It also scored 0.089 value in structural equation modeling test, resulting in acceptance of our *H4* as well.

Figure I: Structural Equation Model



**. Significant at 0.05 level, *. Significant at 0.10 level
Model Fitness Ratios: CMIN = 14.273, DF = 3, CMIN / DF = 4.757, CFI = 0.951, GF I = 0.896, NFI = 0.927, RMSEA = 0.079

The results obtained from structural equation modeling in this study are quite satisfactory and logical. The results are also supported by previous studies conducted on this topic. This confirms the strong influence of intellectual capital overall on organizational performance. The study also found that all three dimensions of intellectual capital adopted in this study namely; human capital, organizational capital and relational capital are also having strong and positive influence on organizational performance for the manufacturing industry sector in Pakistan.

Conclusion

The study aims to investigate the influence of intellectual capital on organizational performance among Pakistani firms'. The significance of intellectual capital for organizational sustainable growth cannot be over emphasized in today's dynamic world. This specially becomes more important in intense market competition where corporations strives to offer maximum value added good and services to its customers. Therefore, firms are paying special attention to intellectual capital to enhance organizational performance. This study also investigated how intellectual capital affects organizational performance. The study found overall significant influence of intellectual capital on organizational performance for the case of manufacturing firms in Pakistan. Moreover, the study also found significant association between organizational performance and all three dimensions of intellectual capital, namely; human capital, organizational capital, and relational capital. The study proposes that organizational should ensure systematic use of its intellectual capital including human capital, organizational capital and relational capital. In this way organizations can make best use of their human resources, better satisfy their customers and register more patents as compare to their competitors.

The study proposes that efficient intellectual capital management can result in high level of motivation and dedication in employees, larger market share, leading place in the market place. The study also provides important information to corporate decision makers and future researchers on this topic.

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