International Journal of Research in IT and Management (IJRIM)
Available online at: http://euroasiapub.org
Vol. 7, Issue 3, March - 2017, pp. 221~230
ISSN(o): 2231-4334 | ISSN(p): 2349-6517 | Impact Factor: 6.505 | Thomson Reuters Researcher ID: L-5236-2015

Intellectual Capital and Business Performance: A conceptual study

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1. Abstract

This is a conceptual study that has been designed to analyze the effect of intellectual capital on business performance and the interdependence among the components of intellectual capital (Human capital, structural capital and relational capital) based on the secondary data from both theories and related literatures of 12 recent articles. The process of construct development and measurement is at the core of theory construction. According to some perspectives, the success of a company's strategy is critically dependent on intellectual capital assets, but the accumulation or depreciation of intellectual capital is also determined by strategy designed by an organization. In the knowledge economy, the performance of any organization is highly influenced by intangible assets. For an organization what matters most in the competitive environment is the efficient utilization of resources. Human knowledge, skill, ability and experiences are the most important assets that help even to manage and appropriately utilize the physical resources. According to some information from studies, the performance of organization is highly positively influenced by the interactive results of the components of intellectual capital than the physical assets of the organization. Intellectual capital successfully enhances performance given its components are interdependently interacting. Some literatures of intellectual capital identify the intellectual capital components as: human capital, structural capital, relational capital and innovativeness and some also add spiritual capital. Most researchers confirmed that human capital, structural capital and relational capital are the basic components of Intellectual capital. For employees in order to enhance their knowledge, skill, experience and capabilities, organizationally build systems, structures, processes and databases in addition to the knowledge and positive relationships with customers, suppliers and partners are very much important.

Key words: Human capital, structural capital, relational capital, business performance

2. Introduction

Intellectual capital has been identified as a set of intangibles (resources, capabilities and competences) that drives the organizational performance and value creation (Bontis, 1998). The same description explained by Pulic (2001) where agreed IC includes all employees, their organization and their abilities to create value added that is evaluated on market into intellectual capital. Intellectual capital is essentially defined as the knowledge assets that can be converted into value (Edvinsson and Sullivan, 1996).

Stewart (1997) defines intellectual capital as the intellectual material that has been formalized, captured, and leveraged to create wealth by producing a higher-valued asset. Following the work of Edvinsson and Malone (1997), Sveiby (1997), Roos et al. (1997), Bontis (1999), O'Donnell et al. (2004, 2006), Sa¨llebrant et al. (2007), Curado and Bontis (2007) among others, intellectual capital is defined as encompassing:

- .human capital;
- structural capital; and
- relational capital.

Most of the initial intellectual capital literatures can better be looked as being theoretical in nature in the fields of the social sciences particularly in business and economics faculties. The focus was on understanding and explaining the various factors by which intellectual capital is determined and their interdependent relationship in addition to their impacts on organizational performances.

Gradually, with the expansion of globalization and advancement of technologies, the theoretical contributions have been replaced by empirical character. The move to studying 'intellectual capital in action' (cf Hopwood, 1983; Miller, 1994) is understandable, given that researchers now have a list of issues to explore in detail.

A phenomenon as complex as intellectual capital, requires comprehensive theoretical and empirical development. However, some academics simply claim that more rigorous empirical testing is needed (Marr, Gray and Neely, 2003). A consensus exists in the literature that the linkage between theoretical definitions and their corresponding measures is generally weak (Churchill, 1979; Straub, 1989; Venkatraman, 1989). The process of construct development and measurement is at the core of theory construction. Linking theory construction (exploratory) to theory testing (confirmatory) is a *sine qua non* condition for the management theory development. It is also vital that researchers be able to compare findings of their studies with those of their projects that differ in settings and time periods. Sullivan (2000) argues that intellectual capital has its origin in the resource-based view of the firm (Rumelt, 1984; Wernerfelt, 1984; Barney, 1991). The knowledge-based view of the firm suggests that the primary firm's rationale is the creation and application of knowledge (Grant, 1996).

Intellectual capital (IC) represents the collective knowledge that is embedded in the personnel, organizational routines and network relationships of an organization (Stewart 1997; Bontis 2004; Christina 2006). Intellectual capital can be defined as the 'economic value' of three categories of intangible assets of a hospital (Kong, 2010). Many researchers (Edvinsson and Malone, 1997; Stewart, 1997; Pulic, 1998; Pulic, 1999 and Sveiby, 2000) advocate that traditional measures of a company's performance, which are based on conventional accounting principles, may be unsuitable in the knowledge-based economy which is driven by intellectual capital.

The concept of intellectual capital is based on the belief that the main resources for building competitive advantage are intangible in nature (Edvinsson and Malone, 1997; Stewart, 1997; Sveiby, 1997).

3. **Objectives of the study**

- To study conceptually the value effect of intellectual capital on organizational performance
- To assess the interdependence between the factors of intellectual capital

4. Methodology

In this study, articles and research papers in relation to Intellectual capital have been analyzed with the help of content analysis methodology. Theories, articles and research papers published in journals were taken as unit of analysis, and each of them was investigated to know the relationship between intellectual capital and organizational performance as well as the interrelationship among components of Intellectual capital. In addition to the theoretical perspectives, 12 research articles with similar constructs, measurements and models, published since 2006 were discussed and analyzed.

5. Analysis and Discussion of Intellectual capital perspectives and Related Literatures

Theoretical Perspectives of Intellectual Capital

Intellectual capital resources are often performance drivers; hence, there is a causal relationship between those resources and value creation. They require being interrelated to create more value (Marr, 2005). Intangibles have now become of higher importance, both in value terms and in contribution to growth, than tangible assets (Lev, 2003). As Brooking (1997) observes, the value of many enterprises no longer resides in their tangible assets, but in their intangibles. The success of a company's strategy is critically dependent on intellectual capital assets, but the accumulation or depreciation of intellectual capital is also determined by strategy designed by an organization. There are different views that the strategy designers and the chief executives of an organization can follow in order to put into emphasis the intellectual capital. Some of the intellectual capital perspectives are as follows:

Economic Perspective

In this competitive era, Intellectual capital is seen as a valuable resource and needs a special attention from the strategic aspect. This can be understood from a macroeconomic perspective point of view.
Therefore, in macroeconomic terms, developing stocks of intellectual capital is intimately related to the wealth of countries (Augier and Teece, 2005). According to Bontis (2004, p14), "the Intellectual Capital of a nation includes the hidden values of individuals, enterprises, institutions, communities and regions that are current and potential sources for wealth creation" That is, to create wealth it is necessary that people possess intellectual capital (Bontis, 2004), which is used in companies that, at the same time, create more intellectual capital and value. When grouped together they contribute a major part of the wealth creation activity of the country. This view emphasizes that the role that the intellectual capital can play is at macro level or national level. This reminds that the value of employees and their management in any organization should be given emphasis beyond what they actually contributing to their specific organizations.

Accounting Perspective

For long time, it is difficult to measure the contribution of human elements in the financial reports of organizations. This is because of the difficulties and un-availabilities of yardstick for the intangible human assets.
There is merit in analyzing the accounting informed definition that Nomen (2005) provides for intangible assets. He defines these as assets which do not exhibit physical properties or legal disposal, attributes which in turn can seriously restrict their perceived utility.
For some authors intellectual capital is not just an asset in the balance sheet, since it is also linked to balance sheet liabilities. In an early influential contribution, Edvinsson and Malon (1997) observe that intellectual capital is **a debt** issue and therefore, it has to be managed in the same way as equity**.** The implication is that it is difficult to attach monetary value to the contribution of employees. Based on the resource based view, employees are valuable assets that put an organization in a sustainable competitive advantage. This is only possible, when the top managers understand it and accordingly treating employees strategically towards the competitive advantage. Non financial measures should be there in order to measure the value that intellectual capital contributes to the organizational performance.

Strategic perspective

Strategy permeates or fills the entire organization, identifying the path that all the firm's departments and functions have to pursue in order to accomplish the objective of creating value. Intellectual capital resources are often performance drivers; hence, there is a causal relationship between those resources and value creation. They require being interrelated to create more value (Marr, 2005). Intangibles have now become of higher importance, both in value terms and in contribution to growth, than tangible assets (Lev, 2003).

Developing intellectual capital stocks also has important consequences for organizational culture (Lynn, 1998). The entire organization has to be engaged with this project, due to the fact that they are assets that are usually difficult to manage. For Marr, "extracting value from intellectual capital is a much more complicated and risky process than from physical capital" (Marr, 2005: 6).

The strategic perspective gives attention to the long term perspective that helps to take an organization a step forward in the future by analyzing and considering the internal and external situations by centralizing and capitalizing the intellectual capital. Managing intellectual capital is not direct foreword when compared to physical assets and different models and systematic non financial measures should be developed.

Managerial perspective

Following Edvinsson (1997), Lynn (1998) and Marr (2005) observe that organizations employ three types of capital: physical; financial; and intellectual capitals. These capitals combine to form an organization's resources, and as such need to be well managed. Edvinsson and Malone (1997) explain that intellectual capital increasingly provides the roots of a company's value, being the invisible factors that contribute to create it in the firm, over and above the stock of visible or tangible assets.

When an organization's management is not aware of what its intangible assets are, it may miss business opportunities based on these intangible resources, because managers will be making key decisions without taking them into account among their possible variables

Managerial perspective gives due attention to all resources that helps an organization to achieve its intended goal. In competitive and dynamic environment, efficient utilization of resources by giving special attention to the most important assets is vital to managers.

Analysis of Related literatures

In the knowledge economy, the performance of any organization is highly influenced by intangible assets. For an organization what matters most in the competitive environment is the efficient utilization of resources. Human knowledge, skill, ability and experiences are the most important assets that help even to manage and appropriately utilize the physical resources.

The following literatures are based on the relationship between intellectual capital and organizational performance as well as the interactions of intellectual capital components:

Nick Bontis and Maria do Rosário Cabrita (2008) and Abdel-Aziz Ahmad Sharabati ,Shawqi Naji Jawad and Nick Bontis (2010) in their study of Intellectual capital and business performance, tried to see the effect of the components of the Intellectual capital separately and their interactive influence on business performance. According to Nick Bontis and Maria do Rosário Cabrita, the three constructs (Human capital, structural capital and Relational capital) that make up intellectual capital affect one another. Human capital is the most important construct. Human capital also influences business performance indirectly through structural and relational capital. Naji Jawad and Nick Bontis also arrived at that the three sub-constructs of intellectual capital together have a positive and substantive association with business performance. In the same way, Ali Akbar Ahmadi, Freyedon Ahmadi and Shaghayegh Shakeri (2013) surveyed the relationship between intellectual capital and organizational performance and conclude that there is a positive relationship between intellectual capital and organizational performance. These implies that all the components of intellectual capital can affect the business performance separately and more advisable to interact one with the other in order to better enhance performance. Practically, the

mere presence of competent employees in the absence of better facilities and systematic approaches as well as good internal and external relationship, the organization do not achieve competitive advantage.
According to Dimitrios Maditinos, Željko Šević, and Charalampos Tsairidis, (2010) and Marian Holienka and Anna Pilková,(2014), the Intellectual capital components have positive relationships with organizational performance. Dimitrios Maditinos, Željko Šević, and Charalampos Tsairidis, treats innovation as additional component of intellectual capital and concludes that all the factors have strong positive relationship with performance. In the same way, Marian Holienka and Anna Pilková also found that different intellectual capital components play a significant role in predicting firm financial performance; there are considerable differences across the industries. However, these different modes of interplay between intellectual capital components seem to lead to a similar pattern when the firm´s financial performance is combined with its overall intellectual performance. Here, it can be understood that, the addition of innovation capital does not affect differently the contribution of intellectual capital since the better valuation and capitalization of employees lead them to create or adopt innovation. The different ways of combination of the IC components may not as such change the overall effect of intellectual capital on organizational performance.

Mir Dost,et,al.,(2016), Muammer Zerenler, Selcuk Burak Hasiloglu and Mete Sezgin, (2008) and Santos-Rodrigues et al. (2011) studied the relationship between intellectual capital and innovation. Here innovation is taken as independent variable that they tried to see in innovation generation and innovation adoption. Mir concludes that Organizational capital exerts significantly positive impact on innovation adoption. Social capital exerts significantly positive impact on both innovation generation and adoption. Interaction of social capital further strengthens the impact of human capital on innovation generation. Muammer and his co-researchers also found that Employee capital, structural capital, and customer capital– had a significantly positive relationship with innovation performance. Customer capital was the greatest among these three types of intellectual capital while Santos-Rodrigues reach at where relational Capital being the only Intellectual Capital construct related simultaneously with both innovation creation and adoption while the rests were only to innovation adoption. According to the researchers finding it can be understood that the efficient management and utilization of intellectual capital can better enhance the organizational innovative performance. As of these studies, though all the intellectual capital components are important for innovation performance, the human capital is the most important for innovation creation and the relational capital is best predicts the innovation adoption.
Intellectual capital has become the important elements of value creation. The most efficient companies may not necessarily the most value creating (Norsaliza Abu Bakar And Haslenda Yusop). The value created is measured by the level of performance or sales or revenues per each capital employed, where as the efficiency can be measured relative to the cost incurred in order to create wealth. The less revenue generating companies may be the more efficient relative to the capital they employ. Muhammad Abdul Majid Makki and Suleman Aziz Lodhi, (2008), conclude in their study that the intellectual capital efficiency contributes significantly to the firm's profitability. The study reminds that the top level managers should give attention and consider in their strategic decision the importance of intellectual capital both in their contribution to value creation and performance efficiencies. According to Maria do Rosário Cabrita and Jorge Landeiro Vaz,(2006),” Intellectual capital is substantively and significantly related to the organizational performance and with direct or indirect relationships between intellectual capital components creates value to the organizational performance.
Intellectual capital is a base and the most important factor for sustainable competitive advantage. During the knowledge era, the development and management of innovative capacity of intellectual capital should be the first chosen strategy to be implemented. Dr. Eman Salman Taie, PhD (2014), in his study of “the Effect of Intellectual Capital Management on Organizational Competitive Advantage”, found that there is

strong positive and highly significant correlation between human capital, structural capital and relational capital respectively with competitive advantage.

6. Conclusion

This research has been analyzed the data based on the secondary sources from some research findings and theories of intellectual capital in relation with organizational performance. Among the studies analyzed, business performance is important dependent variable in the intellectual capital while some were using innovation and competitive advantage and the studies show there is a positive relationship between the components of intellectual capital separately or interactively with performance. The most important measurements or tools used by the researchers were financial accounting of balance sheet information and perceptual measures.

From the literature and theories of intellectual capital, it can be understood that intellectual capital is an intangible asset that most creates value to the performance of an organization and best leads to competitive advantage compared to tangible/physical assets. The resource based view advocates that the internal unique and valuable resources and capabilities with less imitation nature take an organization to sustainable competitive advantage.

Intellectual capital successfully enhances performance given its components are interdependently interacting. For employees in order to enhance their knowledge, skill, experience and capabilities, organizationally build systems, structures, processes and databases in addition to the knowledge and positive relationships with customers, suppliers and partners are very much important. On the other hand, human capital is a prerequisite to build the organizational routines and external relationships.

Though some researchers claim that the components of intellectual capital are extended to innovation, some also argue that spiritual capital is the fourth component (MAZLAN BIN ISMAIL, 2005), most of the theories and studies show that intellectual capital mainly consists of Human capital, structural capital and relational capital. Innovation could be seen as either the cause or the effect of Intellectual capital. Bontis (1998), emphasizing the organizational perspective, refers to human capital as 'the source of innovation and strategic renewal'. Innovation can be created when an organization is well developing its human resource with the integration of facilities and infrastructures and have good relationships with stakeholders as well.

Intellectual Capital is generally the sum total of all the intangible assets, commonly sub-classified into Human Capital, Structural Capital and Relational Capital of an organization. Humana capital comprises knowledge, skills, competencies, ideas, energies, motivation, etc that is only found in the minds of the employees of the Company. This capital leads to the creation of new products and services that attracts Customers, drives revenues and stimulates long term growth of the Company. Structural Capital is the knowledge of an organization that does not go home at night. In other words, it is company property that is deeply entrenched in the culture of the company by way of documents, systems, processes, databases, publications, manuals, organization structure, etc. It is distinct from Human Capital in that it can be easily reproduced and shared. However, ownership of it can be legally protected by way of patents and trade secret and copyright laws. Relational capital is the value of an organization's relationships with the people and businesses with whom it trades, such as its Customers, Suppliers and Partners. This is the most valuable form of Intellectual Capital because Customers pay the bills, which directly contribute to revenues. (WWW.ATTAINIX.C OM)

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