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Abstract: The critical review of the literature shows that intellectual capital plays a pivotal role in the better performance of a business firm. The current study is primarily based on the literature reviews taken from different researches conducted based on the impact of Intellectual Capital on Firm Performance but still there is a lack of studies in this context of developing countries. Hence, this study makes an effort to compile the findings of empirical studies that were conducted in intellectual capital perspective. The study will be very much beneficial for the policy makers taking into account the significance of intellectual capital in measuring the performance of the business firms.

Keywords: Intellectual Capital, Firm Performance, developing countries, capital perspective, knowledge resources

1. Introduction

In the contemporary environment, business firms have faced numerous challenges mainly due to knowledge-based economy and globalization. Human capital stands among the most valuable and important assets of an organization. It helps the company to grow and achieve its goals more effectively and efficiently. So one major area of concern for a firm is to make investments in human capital. Human capital investments are basically a process of developing employees by providing them training or education or both. In reaction to the changes, most firms have adopted the notion that Human Capital could raise competitive advantage that will in turn facilitate higher performance.

In the present economy, knowledge, information, information technologies is the dominating resources in the knowledge based world. Practitioners and academicians as well have paid substantial attention to the use of knowledge for global competitiveness and they believe that intangible assets or intellectual capital (IC) is the lever for maintaining competitive advantage and sustainable corporate performance. In reality the wealth of the modern economic system no longer depends on physical assets rather it depends on intangible assets. Intellectual capital is associated with the main source of individual, organizational as well as national competitiveness in today’s knowledge economy (Wigg, 1997). Not just that, in that respect are several companies (mainly, service sector companies or knowledge intensive companies) earn profit and keep their existence in the present economy merely depending upon the intangible assets or intellectual assets. Canadian Institute of Chartered Accountants’ survey concludes that intellectual assets are crucial for the firm’s success (Ghosh and Wu, 2007). Abernathy et al., (2003) estimate that investment in intellectual capital creates twice fruits as compared to the same quantity of investment in physical assets. However, benefits of intangibles are difficult to define, measure and quantify. This proposes that traditional measures of a company’s performance, which are founded on conventional accounting principles, may be unsuitable in the new economy in which competitive advantage is driven by intellectual capital (Edvinsson and Malone 1997, Pulic 1998).

The use of traditional performance measurement techniques may lead investors and other stakeholders to make inappropriate decisions when companies have a large proportion of their investment in intangible assets (S. Firer and L. Stain bank, 2003).

According to the study conducted by Roos, Edvinsson, and Dragonetti (1998) the firm’s value is determined by traditional physical, financial capital and intangible intellectual capital. Lev (2001) suggests that the physical and financial assets of firm can only earn normal earnings; The development of intangible assets will bring in abnormal earnings to the firms. Therefore, intellectual capital plays a vital role in the knowledge economy to boost financial performance as well increase its market value. This study is an attempt to assess the intellectual capital performance and to evaluate whether intellectual capital performance and corporate financial performance have significant relationship in the Indian knowledge intensive companies or not.

2. Definition of Intellectual Capital

Collective knowledge of the individuals and society. This knowledge helps a firm to produce wealth, multiply output of physical assets, gain competitive advantage, or enhance the value of other types of capital. Recently, intellectual capital being classified as a true capital cost because of the following reasons:

1) Investments made in people is considered as investments in plant and machinery, and
2) The education and training expenditure in maintaining talent management are equal to the depreciation cost physical assets.
Intellectual capital comprises of human capital, intellectual property, customer capital, and structural capital. There are a lot of definitions of intellectual capital:

Intellectual Capital has also been defined as the difference between a firm’s market value and the cost of replacing its assets. It is those things that we normally cannot put a price tag on, such as expertise, knowledge and a firm’s organizational learning ability

1) Market value equals book value plus intellectual capital, with book value usually only the tip of the iceberg of wealth.


Intellectual Capital encompasses much more than patents, copyrights and other forms of intellectual property. It is the sum and synergy of a company’s knowledge, experience, relationships, processes, discoveries, innovations, market presence and community influence

Characteristics of Intellectual Capital
The intellectual capital is resembles tangible assets in its capacity to produce future cash flows, it is totally different from tangible capital in the following aspects:

Intellectual capital are capable of multitasking where as physical are not capable to do multitasking always, are non-rival assets. Intellectual Capital and Relational Capital cannot be owned, but have to be shared with employees and suppliers and customers. Developing these kinds of capital is therefore essential. Similarly Structural Capital also is an intangible asset that can be effectively maintained by managers. Therefore it is crucial to develop these resources to face the modern day competition.

Review of Empirical Studies of Intellectual Capital
The primary purpose of reviewing these previous empirical studies here is to develop an understand and establish that intellectual capital is the fundamental and crucial asset for organizational survival and success and these studies have clearly confirmed it. Secondly, these studies also show that previously intellectual capital and strategic planning were not combined in one single empirical study and in which the intellectual capital mediates the relationship between strategic planning and organizational performance.

The review of previous research and the finding of researchers are presented below:
In the findings of Moore. (1996) IC includes, the innovative capital, customer capital and level of organizational capital. Authors like Blair and Wallman describe that it is not possible to provide a concise and complete definition for the intellectual capital.

Youndt, Snell, Dean, and Lepak (1996) have explored the same idea in the context of Greece and found that there exists a significant positive link between IC and the performance of the business firm.

In their study, Amir and Lev (1996) have worked on various insurance companies by considering the impact of intellectual capital and its impact on the performance of the business firm. By using the M/B book ratio, their major concern is to study the impact of human capital on the performance of insurance companies. Their findings provide the evidence that IC has a very positive relationship with the productivity and financial outcomes of the selected firms.

Edvinsson and Malone (1997) defined IC as the concept of knowledge which can be source of value creation for the business organization over a lifetime. Their findings also provide the fact that there is significant difference in the both the market and book value of intellectual capital.

While, Stewart (1997) views IC as knowledge, information, intellectual property, and expertise that can be used to create wealth.

Dr. Nick Bontis, William Chua Chong keow and Dr.Stanley Richardson (1999), in their paper entitled, ―Intellectual Capital and Business Performance in Malaysian Industries‖, deal with the empirical study to investigate three elements of Intellectual Capital and their interrelationships within two industry sectors in Malaysia. Cronbach’s Alpha Test and Partial Least Squares were the statistical tools used in the study. Human Capital is important regardless of the industry and finally, in this study, development of Structural Capital has a positive relationship with business performance regardless of industry.

In Pulic ‘s (2000) Value Added Intellectual Coefficient (VAICTM) Method that measures the “value creation efficiency” of a company. It examines the relationship between firms’ Intellectual Capital (including human capital, structural capital, and social capital), R&D expenditure, intellectual property, and market performance. Tests of modified VAIC and measures of corporate performance suggest that R&D expenditure and intellectual property may capture additional information that is omitted from the Pulic’s VAIC approach and underline the importance of R&D expenditure and intellectual property in enhancing firms’ market performance.

S.Firer and L.Stainbank (2003), in their paper entitled, “Testing the Relationship between Intellectual Capital and Business Performance: Evidence from South Africa”, analysed whether the performance of a company’s Intellectual Capital can explain organizational performance. Correlation and Linear Regression were used in this study. The result of this study shows that relationship between the performance of a company’s Intellectual Capital and Profitability, Productivity and Market Valuation are informative but varied. The findings suggest that the performance of a company’s Intellectual Capital can explain profitability and productivity but not market valuation.

Steven Firer and S.Mitchell Williams ( 2003 ), in their paper entitled, “Intellectual Capital and Traditional Measures of Corporate Performance”, deal with the association between

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efficiency of value added major components of a Firm Performance and three traditional dimensions of Corporate Performance. Correlations, Multiple Regression and VAIC Model were the statistical tools used in this Study. The results of the study reveal that Physical Capital remains the most significant underlying resources of corporate performance in South Africa.

Kuei – Yang Cheng, (2004), in his research paper entitled, “Intellectual Capital and Firm Performance of IC Design Companies in Taiwan”, deals with measuring intellectual capital stocks to evaluate and compare the performance of Taiwan IC design companies. Correlation, Linear Regression and Data Envelopment Analysis were used in the study. The results of this study revealed that one third of the companies have excellent efficiency of managing Intellectual Capital. But the efficiency of two thirds of the companies became worse during the study period.

Paula Kujansivu and AnttiLonnqvist (2005), in their study, “How Investments in Intellectual Capital do create Profits?”, found that investments in Intellectual Capital was converted into profits in different stages. The correlation results have proved that no linear relationship exists between investments in Intellectual Capital.

Syed Najibullah (2005), in his paper entitled, “An Empirical Investigation of the Relationship between Intellectual Capital and Firms’ Market Value and Financial Performance in Context of Commercial Banks of Bangladesh”, employed Correlation and Regression (both standardized and Stepwise) Analysis to establish that there was no strong association between the studied variables.

Saudah Sofian, Mike Tayles and Richard Pike (2006), in their research paper entitled, “The Implications of Intellectual Capital on Performance Measurement and Corporate Performance”, examined the impact of the degree and form of IC on management accounting practices, specifically performance measurement and corporate performance. The study explored both the role of management accounting information and that of the management accountant. Results suggest some evolution in performance measurement approaches due to the impact of IC and they also indicate that IC did influence Corporate Performance.

Chung – Fah Huang and Sung – Lin Hseueh (2007), in their paper entitled, “Intellectual Capital and Business Performance in the Engineering Consulting Industry: A Path Analysis”, deal with relationship between Intellectual Capital and Business Performance and seek to understand the acquisition and development status of Intellectual Capital in the Engineering Consulting Industry. Correlation and Path Analysis were the tools used in the study. The result of the study reveals that, among the Engineering Consulting Firms, the Structural Capital and Relational Capital showed better performance while Human Capital registered poorer performance.

KiGan and ZakiahSaleh 9 2008), in their study have established, “Intellectual Capital and Corporate Performance of Technology-Intensive Companies: Malaysia Evidence”, the association between intellectual capital and corporate performance of companies listed in (MESDAQ) by Value Added Intellectual Capital (VAICTM). The research shows that these companies still depend intellectual capital.


Muhammad Abdul MajidMakki and Suleman Aziz Lodhi (2008), in their Paper entitled, “Impact of Intellectual Capital Efficiency on Profitability (A Case Study of LSE25 Companies)”, explored the relationship between Intellectual Capital Efficiency and Firm’s Profitability. The results of regression show that IC Efficiency contributed significantly to the Firm's Profitability. It can also be developed as a management tool to create a sustainable comparative advantage in the competitive global knowledge economy.

Kate Walsh, Cathy A. Enz and Linda Canina (2008), in their study, “The Impact of Strategic Orientation on Intellectual Capital Investments in Customer Service Firms”, explored the influence of Intellectual Capital on firm performance in customer service firms, through different data analysis. The study results showed that financial through investing in Intellectual Capital. The findings proved to be useful for firms making decisions, while recruitment and talent retention.

MdKhairu, Amin Ismail, and NikMaherenNik Mohamed (2009), in their Paper entitled, “Intellectual Capital Efficiency and Firm Performance: Study on Malaysian Financial Sector”, deal with the relationship between Intellectual Capital and Firm Performance. VAIC Model and Multiple Regression Analysis were the statistical tools used in this study. The result reveals that banking sector relied more on Intellectual Capital, followed by Insurance Companies and Brokerage Firms. It was also found that Intellectual Capital has positive and significant relationship with companies’ performance.

PinaPuntillo (2009), in his paper, “Intellectual Capital and Business Performance: Evidence from Banking Industry”, deals with the relation between the value creation efficiency and financial performance. VAIC model and Multiple Regression Analysis were the statistical tools used in this
The results did not show any strong relation between the studied variable except for the relation between a component of VAIC, the CEE and different Measures of the Firm Performance.

Stefania Veltri (2009), in her research paper entitled, “The Impact of Intellectual Capital Measurement on the Financial Markets: A Meta – Analysis Approach”, probes the association between Intellectual Capital and Firm Performance. Meta Analysis and Moderator Analysis were used. The result shows that there was positive correlation between Intellectual Capital & Firm Performance.

Dimitrios Maditinos, ŽeljkoŠević and Charalampos Tsairidis (2009), in their study, “Intellectual Capital and Business Performance: An Empirical Study for the Greek Listed Companies”, used four elements of Intellectual Capital (human capital, customer capital, structural capital and innovation capital) and their relationship with firm performance. The results established that (a) Human Capital is positively related with Customer Capital (b) Customer Capital did not influence non-service industries; (c) Innovation Capital seems to have a positive relationship to Structural Capital. and (d) Structural Capital has positive relationship with firm performance.

Amrizah Kamaluddin and Rashidah Abdul Rahaman (2009), in their paper entitled, “Enhancing Organization Effectiveness through Human, Relational and Structural Capital: An Empirical Analysis”, investigated the relationship between Intellectual Capital and Organizational Effectiveness. Descriptive Statistics, Correlation and Regression Analysis were the statistical tools used in this study. It was found that among the Intellectual Capital Components, Structural and Relational Capital significantly influenced the organization’s effectiveness, with Structural Capital being the strongest predictor.

Ting and Lean (2009) examined the connection between IC and the “Impact of Intellectual Capital on Firm Performance”1945 WafaFarrukh 1, IJMEI Volume 04 Issue 10 October 2018 Firm Performance (ROA) Human Capital Efficiency (HCE) Structural Capital Efficiency (SCE) Capital Employed Efficiency (CEE) financial performance of firms working in Malaysia. They connected the Value Added Intellectual Coefficient VAIC strategy keeping in mind the end goal to measure the empirical impact of intellectual amount of capital on return on assets (ROA). The consequences of this examination demonstrated that there is a significance linkage between the three parts of the IC and the financial outcomes of selected organization.

V. Murale and Dr. Ashraf Ali (2010), in their paper entitled, “Impact of Intellectual Capital on Firm Value: A Panel Data Analysis of Indian IT firms”, dealt with finding the relationship between Intellectual Capital and Firm Performance, with special reference to Indian Information Technology Industry. The results of Correlation, Regression and Data Envelopment Analysis suggest a positive relationship between Market Value and Book Value. In addition, this study indirectly proves the positive relationship between market value and corporate financial performance.

Samuel Kai Wah Chu, Kin Hang Chan, Ka yin Yu, Hing Tai Ng and Wai Kwan Wong (2010), in their paper entitled, “An Empirical Study of the Impact of Intellectual Capital on Business Performance”, dealt with the Intellectual Capital Performance of Hong Kong Companies and its association with business. Regression was used in this study. The research result shows new insights into the utilization of IC by businesses in Hong Kong. It was found that IC has an impact on business performance in the companies surveyed in Hong Kong.

Martin Clarke, DynaSeng and Rosalind H. Whiting (2010), in their study, “Intellectual Capital and Firm Performance in Australia”, explored the effect of Intellectual Capital on Firm Performance. It was proved that there is a direct relationship between Intellectual Capital and Firm Performance.


Biserka Komenic, Daniilo Tomic, and Gordona Tomic (2010), in their Paper entitled, “Measuring Efficiency of Intellectual Capital in Agricultural Sector of Vojvodina”, dealt with measuring the efficient use of Intellectual Capital by Vojvodina Companies operating in Agricultural Foods Sector. VAIC Model and Rank Matrix were the tools used in this study. The results of the study show that Intellectual Capital is a significant element for generating overall success of their business operations.

Sarayuth Saengchan (2010), in his research paper entitled, “The Impact of Intellectual Capital on Efficiency: A Comparative Study between Foreign Banks and selected Thai Commercial Banks”, compared the cost efficiency of domestic and foreign banks in Thailand. Stochastic Frontier (SFA) Model was the tool used in the study. It was found that incomes from bank products including loans, fees and commission and labor costs are significant factors in determining the cost efficiency. In addition, the VAIC and Ownership Coefficient were significantly negative, which supports the effects of Intellectual Coefficient and the different ownership structure.

JI Yi-Cheng and Fu Chuan– Rui (2010), in their research paper entitled, “Empirical Study on the Relationship between Intellectual Capital and Corporate Value: A Quantile Regression Model”, investigated the relationship between various resources and corporate value. Descriptive Statistics, Correlation and Quantile Regression were the statistical tools used in this study. The results show that the Physical Capital had significant positive impact on all listed companies’ value, and the impact became stronger when the company’s value went up. Human Capital had stable positive effect on corporate value for most companies, but it did not significantly influence the companies with high value. Structural Capital only positively affected those companies with median value.

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Taliyang et al. (2011) conducted a study in Malaysia with data from a sample of 150 companies listed in Bursa Malaysia that consist of five industries: information technology, consumer product, industrial product, trading/services and finance and reported that about 72.6 percent of the companies selected disclosed intellectual capital in their annual reports. The data showed that their variables were determinants of intellectual age, size, director ownership and growth. Fatoki (2011) conducted a study in South African SMEs and reported that a significant positive relationship between human, social and financial capital and the performance of SMEs.

Fayez Abdulsalam, Hameed Al-Qaheri, Ridha Al-Khayyat (2011) in their study entitled, “The Intellectual Capital Performance of Kuwaiti Banks: An Application of VAIC™ Model”, The results were used to rank kuwaiti banks into best and worst performers.

Pierre and Audet (2011) study proved that SMEs that adopt different strategies organize their intellectual capital in a particular and adapted way.

FethiCalisir, Cigdem A. Gumussoy, FarukCirit and A. Elvan Bayraktaroglu (2011), in their paper entitled, “Intellectual Capital in Development and Investment Banks of Turkey”, compared the development and investment banks in Turkey in terms of Intellectual Capital Performance by using VAIC. The development and investment banks recorded decreasing trend for all type of efficiencies. They concluded that Investment Banks in Turkey began to gather strength.

Mu Shun Wang (2011), in his paper entitled, “Intellectual Capital and Firm Performance”, tested the relationship between Intellectual Capital and Firm Performance. OLS, Panel Data Regression were the tools used in the study. This paper concludes that firm ought to put emphasis on the human training, customer related management and research development input to cope with the regression period.

Baum and Silverman (2015) excessively considered the connection between Intellectual amount of capital and financial outcomes of 113 manufacturing firms working in the environment of Argentina. The consequences of the study appeared that there is a critical positive relationship between IC and financial outcomes for these firms over a period of time in which the study is carried out.

Koryak (2015) contemplated the part of significant worth included – as a list for measuring Intellectual amount of capital – and its association with financial performance for the firm’s working in UK. The aftereffects of their examination demonstrated the idea that there is a positive connection between IC and financial measures of the business over time span of the study.

3. Conclusion

This study depicts that the critical review of empirical studies conducted from intellectual capital and firm performance perspective. The extensive review of literature in this regard shows that intellectual capital plays a vital role in the firm performance. Though the review of this literature proves that intellectual capital has positive impact on organizational performance but most of the literature review is presented in western context, and therefore this review also shows that there is lack of studies in the context of intellectual capital from developing countries. Hence, the empirical studies should be encouraged in developing countries as Malaysia, Pakistan, Bangladesh from intellectual capital and SMEs performance perspective.

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