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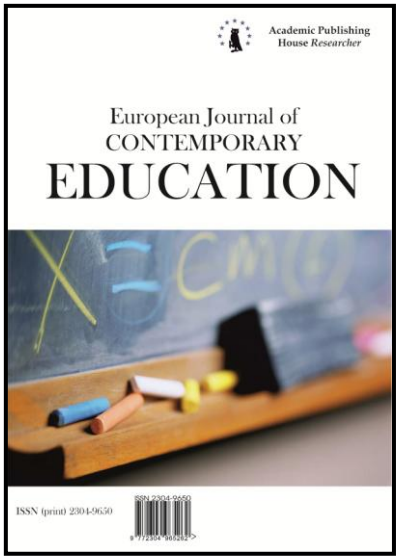


UDC 378

The Impact of Intellectual Capital on the Performance of Universities

[1] Umer Shehzad
[2] Zeeshan Fareed
[3] Bushra Zulfiqar
[4] Farrukh Shahzad
[5] Hafiz Shahid Latif

[1] Hailey College of Commerce, Punjab University, Lahore, Pakistan
M.Com Scholar
E-mail: umer_s455@yahoo.com
[2] COMSATS Institute of Information Technology, Sahiwal, Pakistan
MS Scholar
E-mail: zeeshanfareed@hotmail.com
[3] University of the Punjab, Lahore, Pakistan
M.A Economics,
E-mail: Bushra_zulfiqar786@hotmail.com
[4] Lahore Leads University, Lahore, Pakistan
MS Scholar,
E-mail: farrukh.hailian@gmail.com
[5] University of Management and Technology, Sialkot, Pakistan
Lecturer,
E-mail: shahidlatifhcc@gmail.com

Abstract

Intellectual capital is a concept that is achieving researcher's attention day by day. The main purpose of this research study is to explore the role and relationship of intellectual capital and its three components on the performance and efficient working of universities in Pakistan. Education sector especially universities were selected because it plays a critical role for the development and growth of knowledge intensive sector. So in this research study 3 components of intellectual capital

such as human capital, structural capital and relational capital were taken as independent variables and institution's performance is taken as dependent variable. In this research study a structured questionnaire is adopted from the past research studies and 800 responses have been collected from various public and private university students in Pakistan. Reliability analysis is conducted to check the reliability of constructs and Pearson's correlation is applied to explore the relationship of three components of IC on institution performance. Results indicate that all the three components show a significant relationship with performance but among the three components, the relation of human capital is more prominent.

Keywords: Intellectual capital; Human capital.

Introduction

All the organizations need assets both tangible and intangible for their growth and success. There is no doubt that tangible assets are very important for an organization but intangible assets also play a crucial role in the growth and development of an enterprise. Kristandl & Bontis, (2007) concluded that intangibles are such resources by which an organization is capable of creating sustainable position but unfortunately these are not easily available to many firms. They have the potential of creating future benefits, which other firms can't acquire easily and are also not copied by an organization's competitors or other firms can't substitute them with the help of other resources. Due to corporate control, they have the feature of immobility. With respect to their nature they have limited life and they are non-physical. These intangible assets often referred as intellectual capital of an organization. Intellectual capital is a way to achieve and gain the competitive position by utilizing a unique combination of human, structural and relational capital (Saeed, Sami, Lodhi, & Iqbal, 2013). Word intellectual means knowledgeable and major rationale behind this concept is to define the word Capital which means resources.

Intellectual capital is a new widely emerging concept. Profit and not for profit organizations both are trying to achieve greater market share and to utilize their resources in a better way to get distinction over their competitors. This competition and economic conditions divert the organizations to properly utilize their resources so that it will lead to performance improvement. And ultimately this performance improvement of organizations leads to a country's economic development and growth. A lot of previous literature shows that intellectual capital have a significant role in the efficient performance of organizations (Mention & Bontis, 2013; Muhammad & Ismail, 2009) and also for an organization's competitive advantage (Mondal & Ghosh, 2012). Whereas the focus of this study is on education sector because Education sector specially both public & private universities play critical and very important role in the development of the knowledge-oriented society. These are the institutions that use intangible assets (intellectual capital) and produce such output that is utilized by other organizations. Previous study of (Sharafi & Abbaspour, 2013) shows that intellectual capital has a strong influence on education sector performance especially universities and an academic institution has to properly manage its intangible asset for achieving efficiency. From a long time universities have been recognized due to their two main functions: 1st is teaching and 2nd is research. In recent years universities are required and expected to perform the 3rd function of social & economic growth and development.

So the purpose of this study is to explore the role of intellectual capital in the public and private universities of Pakistan and to study and investigate the effect and association of intellectual capital on the performance and efficient working of universities.

Previous study of (M. Khalique, Shaari, & Hassan, 2011) highlight six various components of IC such as human capital, relational capital, structural capital, technological capital, spiritual capital and social capital but most of the literature shows three main components such as human capital, structural capital and customer/relational capital (Ahmad, Parivizi, meyhami, & ziaee, 2012; Akbari, Rostami, & Veismoradi, 2013; Corcoles, Penalver, & Ponce, 2011). This study also include these three components of intellectual capital to explore their impact on the performance of universities.

This study is unique and important because intellectual capital concept is not familiar in education sector of Pakistan. Moreover it is assumed that universities should have highest degree of intellectual capital so that they can produce efficient output that possesses new knowledge and skills. Unfortunately in case of developing country like Pakistan, authentic research and case

studies regarding intellectual capital in education sector are not available. Mostly the literature focuses on other service companies such as telecom, healthcare sector, banks, hotel, hospitals, and retail companies. Therefore, "it is very important to explore the effect and role of IC on efficiency and performance of Pakistani universities.

The study is conducted in ten universities of Lahore. Random sampling technique and structured questionnaire is used to collect the data from the employees of specified universities. In order to test the relationship between components of intellectual capital and performance of universities, correlation and regression analysis is used and analyzed in SPSS. The results indicate positive and significant relationship between university performance and intellectual capital components; human capital, structural capital and relational capital. These findings will be useful for educational institutions to apply concept of intellectual capital and give proper attention toward the management of intellectual capital for improving their performance.

Problem Statement

Bontis, Keow, & Richardson, (2000) argued that role of IC in the performance and progress of an organization is obvious. So, the focus of this study is to see "whether intellectual capital and its three main components have the same positive relation with universities performance as with other sectors of society? And how the universities should manage their intellectual capital to achieve efficiency in their performance"

Study objectives

1. To explore the role and function of IC with respect to universities in Pakistan.
2. To investigate the association of intellectual capital with respect to university performance and efficient working.
3. To study the role of intellectual capital by comparing public and private sector universities.
4. For understanding the importance and significance of intellectual capital management in developing countries

Literature review

Although the concept of intellectual capital was 1st proposed by Gailbraith but now it has been developed during the last decade. There are a number of definitions regarding intellectual capital in literature as according to (Kaya, Sahin, & Gurson, 2010) every firm needs three types of capital such as physical ,financial and intellectual. Intellectual capital can be defined as factors consisting of knowledge, experience, information and skills, which have a strong influence and effect on the current and future progress of an organization and as a result with respect to intangible assets such as patents, knowledge system, license agreement, and copyrights, increase an organization ranking among its competitors. Similarly according to (Edvinsson & Malone, 1997) intellectual capital is a knowledge and information that can be changed into value. The difference between a firm's book value and market value is termed as IC. Similarly in the same context (Sullivan, 2000) defined IC as knowledge that can be changed into profits. IC contains such sources of value which are non-physical and associated with organizations resources, employees' skills &abilities, the relationships with stakeholders and methods of operation (Lönnqvist, 2004).

Intellectual capital is the knowledge oriented equity of an organization which has attained greatest attention and importance during the last decade (Campisi & Costa, 2008). Choudhury, (2010) describe the importance of intellectual capital in an organization by stating that intellectual capital forms the basis of an organization and ultimately a nation and contribute toward future development and growth .It contain such production factors that help the organization to achieve long term profitability. It may include patents, copyrights, brand, customer relationship and knowledge. The capability difference of an organization is hidden under its intangible assets.

Different theories in literature such as resource based theory, Organization Learning, Information processing and human capital theory suggest that IC can built value and increase an enterprise performance through cost reduction, customer's benefit enhancement or combination of both.

In the context of education sector especially universities Ramı´rez & Gordillo, (2014) define intellectual capital with the help of definition given by European commission. According to this study, the term IC cover an institution's non-tangible assets and includes patents, copyright, processes, innovation capacity, society's recognition, member's knowledge and their capabilities,

skills and abilities, its network and contacts. Universities are encouraged to manage their intangible assets such as the study of (Canibano & Sanchez, 2008) suggested that various other entities also demand and encourage universities to properly report their intangible assets (IC) to society due to the greater power and autonomy given to them by society. With reference to the components of intellectual capital (M. Khalique et al., 2011) indicate 6 important components of 1C such as Human Capital, Customer Capital, Structural Capital, Social Capital, Technological Capital, Spiritual Capital but mostly literature highlighted 3 main components of IC such as human capital, structural capital and relational capital (Ahmad et al., 2012; Akbari et al., 2013; Corcoles et al., 2011). The study of (Sundac & Krmpotic, 2009) suggested that human capital is most important among all three components but despite of this importance a strong intellectual capital can be created with the combination of all these three components. As the study of (Saeed et al., 2013).

Human capital includes educated employees and their experience so investment in HC is needed to achieve efficiency in performance. Structural capital is associated with all those planes and actions that are necessary for an organization's success and progress. Similarly according to this study relational capital includes those effective plans and procedure with the help of which, an organization not only maintain its link and long term relations with its stake holder but with other organizations as well. According to (Wasim-ul-Rehman, Asghar, & Rehman, 2013) human capital is most valuable asset of an organization as it includes knowledge, experience and skills of its employees. Structural capital provides support for human capital. It includes patents, copyright, processes, rules & regulations, procedures and trademark. Relationship of an organization with stakeholders both inside and outside of an organization is relational capital of an organization. (Bontis, 1998) stated that human capital brings innovation and renewal in an enterprise either through brainstorming, day dreaming or through re-engineering and sheer intelligence among members of an organization. similarly with respect to structural capital, it is stated that structural capital consist of such mechanism through which employees achieve optimal performance because employees may have excellent skills but if an organization doesn't have proper system and processes then performance achievement is not possible. Knowledge and relationship with customers and about marketing channels is associated with customer capital.

Intellectual capital has a very significant influence on the performance of an organization. Literature shows the positive impact of IC and its components on the performance of various sectors such as with respect to banking sector (Latif, Malik, & Aslam, 2012) concluded that in case of Islamic banks human capital is major indicator of performance whereas In case of conventional banks capital employed is major predictor of performance. Similarly (D. M. Khalique, Shaari, Isa, & Samad, 2013) conducted a study in Malaysia which also support this hypothesis that intellectual capital has a strong impact on the performance of Islamic banking sector in Malaysia.

The study of (Mondal & Ghosh, 2012) concluded that although not all elements of IC contribute to the performance of banks but despite of this intellectual capital has a strong influence on the bank's performance and it help the banks to gain competitive position over one another. Mention & Bontis, (2013) study concluded that among the components of intellectual capital human capital has more significant relation with banking sector performance whereas other two components although have positive impact on performance but not so significant. As it has been proved many times in literature that IC has a strong impact on an organization performance, (Cabrita & Bontis, 2008) studied that interaction and inter relationship of IC components also have positive influence on banking sector performance. Similarly (M. Khalique, Shaari, Md.Isa, & Alkali, 2012) also concluded that components of intellectual capital jointly contribute to enhance the performance of banking sector in Pakistan.

In case of telecom sector the significant positive impact of IC on performance has also been proven (Saeed et al., 2013). Among the components of intellectual capital, (Suraj & Bontis, 2012) suggested that relational capital such as building long term relationship with customers have most significant influence on the performance of telecom sector. (Sharabatia, Nour, & Shamari, 2013) concluded that while formulating the strategies of a company, due consideration should be given to intellectual capital management. Further the components of intellectual capital have significant interaction and inter relationship with one another but relational capital have more influence on the performance of telecom company rather than human and structural capital.

As for as the inter relationship of components of IC is concerned (Maditinos, Šević, & Tsairidis, 2010) stated that human capital has a positive influence on relational capital in both

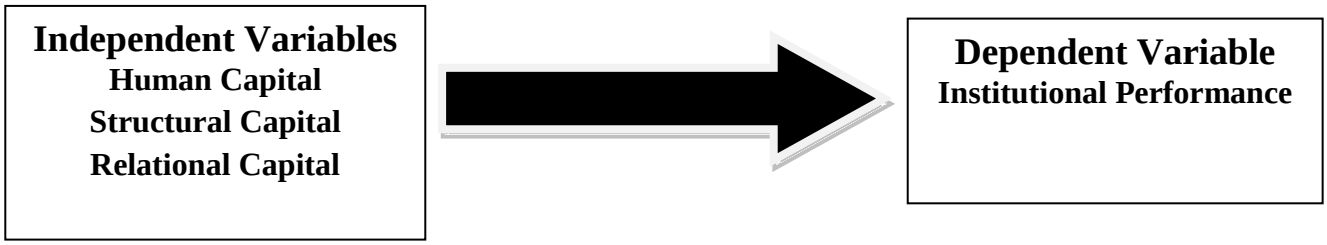
service and non-service industries and relational capital further has a impact on structural capital. As a result structural capital ultimately has significant impact on organization performance in both industry types but more impact is on non-service industry. (Makki, Lodhi, & Rahman, 2008) concluded that among the components of IC, human capital is most important which contribute significantly toward an organization performance. Knowledge workers and their experience lead toward the value creation. Similarly proper intellectual capital management and disclosure helps a company to gain comparative advantage in economy.

With respect to the universities (Corcoles et al., 2011) concluded that it is very important for the universities to provide proper information about their intellectual capital so that information model of universities can become more effective and relevant. (Ramı´rez & Gordillo, 2014) stated that measurement if IC in universities can be done by identifying the main intangible assets of a university and these indicators would serve as a benchmark for measuring the intellectual capital of universities.

Conceptual Framework and Hypothesis Development

The main objective of the study was to identify the influence of the components of Intellectual Capital that are human capital, structural capital, Relational capital and Institution performance in public and private sector universities of Pakistan. Most of the Researchers are agreed that Intellectual capital is positively related to the performance on Education sector and universities. The conceptual framework of this study is based on that three predictor variables human capital, structural capital, and Relational capital and one is predicted variable that is Institution performance.

The relationship between variables can be shown as under.



Furthermore, The Independent Variables are sub divided into different components that are,

Human Capital

1. Learning and education
2. Experience and Expertise
3. Innovation and Creation

Structural Capital

1. System and programs
2. Research development

To achieve the objectives of this study the Following Hypotheses were formulated.

H1: Human capital is positively related to Institutional performance in universities of Pakistan.

H2: Structural Capital is positively related to Institutional performance in universities of Pakistan.

H3: Relational capital is positively related to Institutional performance in universities of Pakistan.

Research Methodology and Sample size

The sample size depends on the universities in Pakistan and in major cities. The Education sector is selected because it is knowledge intensive sector. The Structured Questionnaire (Sharabatia et al., 2013) that is edited and modified has 44 items which was used to collect data from respondents. The amendments were made to ensure the constructs are relevant to the research in Pakistan.

A total of 1000 Questionnaires were distributed to different students among public and private sector universities of Pakistan from which 800 questionnaires were considered for study which was returned and have full information.

Analyze stage and Questionnaire Evaluation

In this step we must ensure that factors are associated with the same contents which are important for this study. The Cronbach alpha was 88% which means good reliability and which shows data is fairly reliable.

Reliability of the Constructs is shown as under

Table 1: Reliability test of Constructs

Variables	Cronbach Alpha
Human Capital	0.90
Structural Capital	0.87
Institutional Performance	0.85
Relational Capital	0.93

Results and Findings

As explained above this study attempted to explore the relationship of components of intellectual capital and Institutional performance in the context of education sector of Pakistan. Three hypotheses were constructed and to test these hypotheses Pearson correlation was used. The results of this study indicate that components of intellectual capital are positively related to Institutional performance.

The results also indicate Human capital is more positive related to Institutional performance in universities of Pakistan. The second number is of structural capital and Relational Capital is at third position.

Table 2: The results of Pearson Correlation

Variables	HC	SC	RC	IC
Human Capital (HC)	1			
Structural Capital (SC)	0.761	1		
Relational Capital (RC)	0.680	0.567	1	
Institutional Capital (IC)	0.780	0.750	0.656	1

** Correlation is significant at 0.01 level (2 tailed)

The crux of this study was to examine the Relationship between the components of Intellectual capital and institutional Performance in Universities of Pakistan. The empirical results shows that all the components of Intellectual capital are positively related to Institutional Performance in universities of Pakistan and it is also supporting previous results. These results show that components of Intellectual capital have major contribution in Institutional Performance of universities in Pakistan.

Conclusion

From the above discussion it is cleared, that all three types of intellectual capital are linked directly with the performance of the organization. First of all we focus on human capital because according to this study, performance of the universities is more influenced by human capital as compared to structural and relational capital. As human capital includes employees, staff of the university so they are the valuable assets for the organization. If they are managed properly then

they can surely lead the organization toward success. That's why human capital has more positive influence on the performance of universities.

Structural capital provides support for a university human capital. As it includes rules& regulations, processes, systems and programs and research developments of institution so it also has a positive influence on institution's performance. If an institution has proper rules &regulations, comprehensive research development plans, then it is obvious that performance of the organization is positively affected.

Relational capital has a little effect on institution performance. An institution's relation with other institutions and with outsiders has no strong impact on universities performance as compared to human and structural capital. Human and structural capital has more positive influence on the performance of universities.

So it is concluded that although all the three components of IC has a positive influence on the performance of universities but human capital is more prominent among all of them. Structural capital also has strong influence on performance but less than human capital. And relational capital is on last number regarding its influence on the performance of universities. So this study is consistent with the results of previous studies regarding the positive impact of IC components on institutions performance.

Limitations

1. This study doesn't take into account all major universities of Pakistan for data collection due to lack of resources and time.
2. The study results are based on student's perspective about IC. University staff, employee's perspective should also be considered for more clear results.
3. The study doesn't explore which component of human, structural capital influence more on university performance compared with others.

Practical implications

This research study will provide valuable information to university management and practitioners regarding the importance of intellectual capital in efficient working of universities. According to this study human capital has more significant relation with performance so universities has to keep this pint in mind while managing their intellectual capital that their employees are more important for their efficient working and strength so basically universities have to properly manage and satisfy their employees in this context. Secondly structural capital also shows positive relation so university management has to improve its systems and processes as well as enhancement of research &development programs are necessary for efficient performance of universities. Finally practitioners will come to know that although relational capital has positive relation but not so significant which means that in the context of universities relational capital is not so important for efficient working and performance of university. A university human capital (its employees, staff) and structural capital (its system processes and research & development system are the main assets for its efficient working so their proper management is necessary.

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