

THE ROLE OF INTELLECTUAL CAPITAL IN SHAPING BUSINESS PERFORMANCE: MEDIATING ROLE OF INNOVATION AND LEARNING

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ABSTRACT

Organizational performance and their relationship with intellectual capital is becoming interesting, particularly in times of intense economic turbulence, when companies are looking for new solutions to maintain and grow their business. The aim of this study is to explore the impact of intellectual capital on business performance. Self-administered questionnaire containing the measures of human capital, structural capital, relational capital, business performance, innovation & creation and learning & education has been used for data collection. Quantitative data have been analyzed through PLS-SEM techniques. This study has explored that intellectual capital has positive and significant association with business performance. The study has also examined that intellectual has direct impact on intellectual capital. Moreover, human capital has also indirect impact on business performance as innovation & creation and learning & education positively and significantly mediate the relationship between human capital and business performance. Outcomes of this research are providing insights to higher education institutions, firms and policymakers to consider these factors while making strategies and policies to boost the firm's value.

Keywords: Intellectual Capital, Human Capital, Structural Capital, Customer Capital, PLS-SEM

INTRODUCTION

Traditionally, it is believed that the most essential component of any organization is their physical assets such as land, labor and capital. There were times when these assets determined the economic growth of a country. With the emergence of a more globalized world, this era has become the era of knowledge. With fast development, inter and intra industry has increased tremendously. Businesses and institutions are in a run to develop and explore opportunities and find ways to maximize their outputs (Seleim, Ashour & Bontis, 2004). To achieve the desired results firms cannot rely solely on the physical assets they have. Intellectual capital is as important an asset as any for a firm. For survival in this global world intellectual capital should be considered vital.

In strategic management, the most essential factor is intellectual capital. Intellectual capital is also known as intangible asset of the company and is believed to be the most valuable asset. Intellectual capital of the company includes a firm's tendency or capability to make innovations, create new processes, develop new technology and methods and bring new procedures and programs. In this era, where there is pressurized competition everywhere if an organization wants to win the race, it must have a competitive advantage. One of the competitive advantages of a firm is its intellectual capital. It boosts the investor's confidence, as a result, increasing the firm's reliability (Kong, 2008).

Intellectual property is the worth of knowledge of the employee in an organization, the skills, business training or any useful information that may provide the company with a competitive advantage (Edvinsson & Sullivan, 1996). In this age of knowledge, intellectual capital has become an asset, and can broadly be defined as; 'the collection of all informational resources a company has at its disposal that can be used to drive profits, gain new customers, create new products or otherwise improve the business. It is the sum of employee expertise, organizational processes, and other intangibles that contribute to a company's bottom line' (Guthrie, 2001).

A consensus has been developed that Intellectual Capital (IC) is categorized into three main components. As IC in itself is as intangible asset it cannot be measured directly (Skandia, 1994). We measure it with its sub-categories which are as follows:

1. Human Capital: This is defined as 'the skills, knowledge, and experience possessed by an individual or population, viewed in terms of their value or cost to an organization' (Sandberg, 1986).
2. Structural Capital: 'is the one which consists of the supportive infrastructure, processes, and databases of the organization that enable human capital to function' (Skandia, 1994).
3. Relational Capital: 'is defined as the value inherent in a company's relationships with its customers, vendors, and other important constituencies' (Skandia, 1994).

The intangibility of intellectual capital is the reason that throughout all the countries in the world it has been difficult to deal with it. Most of the time, when measuring the business performance of an industry the intellectual capital of the firm is taken for granted and is often ignored. The concept is still not fully developed and accepted in the banking industry of underdeveloped countries. By considering this problem, this study aims to explore the impact of intellectual capital on business performance.

Research Objectives and Questions

RO1: To investigate the association between intellectual capital and business performance of banking sector.

Following research questions have been used to achieve this objective:

- RQ1: Does human capital has an association with business performance?
- RQ2: Does structural capital has an association with business performance?
- RQ3: Does relational capital has an association with business performance?

Second research objective of this study is:

RO2: To investigate the impact of intellectual capital on business performance of banking sector.

Following research question has been used to achieve this objective:

RQ1: Does intellectual capital has an impact on business performance?

Third research objective of this study is:

RO2: To investigate the mediating relationship of human capital and business performance through innovation & creation and learning & education.

Following research questions have been used to achieve this objective:

RQ1: Does innovation & creation mediates the relationship between human capital and business performance?

RQ2: Does learning & education mediates the relationship between human capital and business performance?

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Every company has special knowledge related to procedures, programs, patents, customers, suppliers, technologies and management skills and it is known as intellectual capital of the company (Pedro et al., 2018). Intellectual capital includes all the intangible assets that are never represented on balance sheet or financial statements. Intellectual capital determines the gap that arises in book value and market value of a firm (Hsu & Fang, 2009). Intellectual capital is all non-tangible asset that an organization possessed. Intellectual Capital is termed as the brain of the firm and the currency of the future. The intellectual Capital of a company represents the power of ideas of employees, and their capability to be innovative and, thus determines the future of the company growth. (Choudhary et al., 2013). Competitive advantage of a company is based on the knowledge of the company as it lead to the sustainable intellectual capital (Prinsloo, 2017) Competitive advantage of the any business is generally subject to the ability of a firm to create, separate, embrace and disseminate its knowledge and information in the firm. Knowledge sharing in a firm is an asset on which a firm can sustain and build up the competencies of the firm. (Ahmed Hashmi et al., 2019).

Theory of Intellectual Capital

With change in global trends, information and knowledge are two weapons that help any firm to gain competitive advantage. The competitive advantage, at this point simply the primary concern, but instead the individual competences and knowledge housed in each firm. Any firm can decide to expand on these qualities and receive the rewards, or just watch while their rivals keep on augmenting the gap of success (Sharabati et al., 2010). Edvinsson & Malone (1997) are two main authors that had significantly contributed in directional guidelines for the concept of theory of intellectual capital. Intellectual capital includes possession of marketing intelligence, trends knowledge, effective human resource management, technology advancement, and professional skills that provide distinctive advantage for firm in the market (Edvinsson & Malone, 1997). Intellectual capital is also considered as “packaged useful knowledge” (Hejase et al., 2016). Intellectual capital theory depicts that knowledge as an asset played vital role in strategy development to strategy implementation in a firm just like money or equipment of the firm. Top level management need to invest in these resources as it will bring greater efficiency in work performance and provide core competencies that are unable to copy by any rival firm. (Soewarno & Tjahjadi, 2020).

Intellectual capital is merger of three major components that are, Human Capital (HC), Relationship Capital (RC) and Structural Capital (SC). When a firm aligned and balanced these fundamental components of intellectual capital, firm gain competitive advantage and enhance business performance and create the best possible financial capital. (Eszter & Jónás, 2012). A firm that consists of employee's traits including human, structural and relationship capital, usually have good working environment, and better HR practices and enhance employee's productivity and less employee turnover ratio (Do et al., 2008).

Intellectual capital is becoming a viable option for firms to succeed in market. In last decade under developing countries are not much focusing on employees' skills and employees' motivation due to fewer resources available and difficulties in doing business. (Fabrizio, 2009). Moreover, fundamental components are becoming necessary to do business in today's market. The major emphasis of the intellectual capital theory is that there must be consistent balance between these fundamental components in order to gain optimum output from the business. This theory also provide major supporting guidelines that corporate value for the firms usually does not arise from the intellectual capital elements directly, instead it only arise from the interaction between these three fundamental component of the intellectual capital. (Harris, 2000). Intellectual capital concepts had derived by linking the knowledge to the capital. Intellectual capital considered the knowledge of the employees as the firms' biggest assets (Bontis et al., 2000).

Human capital skills and knowledge a firm's employees have, which they use to solve problems that arise in a firm (Faggian et al., 2019). Human capital is also considered as the explicit knowledge in the minds of employees about any aspect of the business or life (Akhmetshin et al., 2018). Human capital is considered as key to the intellectual capital. Generally, human capital is a combination of different factors like; education, experience, technological factors, knowledge, educational background, devoted time, occupational appreciated values, professional qualifications and competence (Shirinkina & Kodintsev, 2018).

Human Capital has immense importance for the organizations of developing countries as it is perceived to increase productivity thus profitability of the organization. An organization is often said to be as good as its people, directors, employees, and leaders who constitute an organization's human capital. Managed by the Human Resource (HR) department of an organization, HC tends to migrate, especially in global economies. That is one of the reasons that there is often a shift from under developing areas or rural areas to more developed or urban areas. (Boon et al., 2018). Human Capital is considered as the source of innovation and creativity and help in brainstorming new ideas and new processes. (Abdurakhmanova et al., 2020). Learning and education is also major source of human capital. Learning new skills enhance the employee's productivity and in return it increases the profitability of the firm (Lim et al., 2018).

Structural capital consists of the supportive infrastructure, processes and databases of the firm that enable human capital to function (Beltramino et al., 2020). Structural Capital is owned by a firm and remain with a firm even when people leave. Structural Capital mainly includes capabilities, routines, methods, procedures and methodologies embedded in a firm (Kong, 2017). SC is the supportive non-physical infrastructure that enables Human Capital to function. It is also stated that after a specific duration, Human Capital turns into Structural Capital. Structural Capital was regarded as the skeleton of an entity it aids a firm's growth and helps reach its objectives. (Khan et al., 2017) Structural Capital has two main components: (1) Infrastructure Capital (2) Intellectual Ownership.

Relational Capital is defined as all relationships - market relationships, power relationships and cooperation - established between firms, institutions and people, which depicts a strong sense of belonging and a highly developed capacity of cooperation typical of culturally similar people and institutions (Graça & Kharé, 2020). Relational dependency may be vertical or horizontal, either up or downstream, shaping different types of cooperative, collaborative or competitive mechanisms in

different ecosystem. Relational Capital is actually the knowledge hidden in the external links of the business such as relation with suppliers, customers, government or other external entities. Customer & supplier relation and knowledge of marketing channels are important components of relational capital (Bontis et al., 2018). In simple words, relational capital is actually the possible number of those customers which are connected with the firm it actually works as a link between Structural Capital and Human Capital (Campos et al., 2020).

By sharing the information, business provides an opportunity and helps the customer to determine their cost-benefits analysis (Kumar et al., 2018). Firm's which are using Relational Capital effectively are producing more creative and innovative responses to customer demands (Hung, 2020). Sales of a company can be changed significantly by producing a small change in customer demand. Innovative behavior of employees is also stimulated by changes of demand. Performance of the firm is increased when customers get products which are not exactly, they demanded but better than they demanded. This is the customer focused behavior model (De Jong & Kemp, 2003).

Business performances are indicators, either financial or non-financial that determine the faith of the business and determined the achievement of the objectives and goals of the organization (Lima et al., 2021). To draw a road map, performance measures are very important because it is not possible that we manage or control a thing which cannot be measured (Essawy et al., 2019). Business performance is a vital factor of experimental researches related to business procedures and policies. It is a complicated and multi-dimensional concept. Measurement and evaluation of performance help top management to examine the success level of an activity performed by an individual, group or organization according to specific criteria. Business performance can be measured in subjective and objective ways depending on the financial and non-financial data (Kostyukova et al., 2017). Financial indicators like profitability, increase in sales rates, investment achieved from equity capital help in objective performance measurement. While in subjective performance measurement, non-financial indicators like market share, quality of products, and number of new products launched in the market, technological advancement and marketing achievements are used. Primary and secondary resources are available to get data for these measurements (Chua et al., 2018).

Market and value-based measures in business performance measurement gives more appropriate data rather than the accounting-based measurement method. But objective performance measures are seen to be more dominant and valid to show the financial aims of the business. One of the ideal measurement methods of financial and non-financial indicators is balanced scorecard method. (Dinçer et al., 2017). There are many methods to analyze business performance. Studies find different results and corporate community uses different methods. Every method has its own advantages in different situations and some capture those important factors which are recognized by other methods. Traditional measures pay more attention to cash flows, net income and WACC. Mainly these techniques take into account the tangible assets present in the firm, while in the knowledge-based economy managers give importance to employees and Intellectual Capital (Ahmad, 2019).

Several Scandinavian countries have started to publish their Intellectual Capital statements. Content analysis was conducted on the annual reports of 10,000 Canadian corporations. Results reflected that there are several Intellectual Capital related terms in the statements and found significantly small number of instances in which Intellectual Capital disclosure took place. Organizations that concerned about their relationship with capital market to develop strategic and tactical initiatives should opt for the voluntary disclosure of intellectual capital (Bontis et al., 2000). A study conducted in Taiwan showed that intellectual capital elements directly influence a business' performance, with the exception of Human Capital. Human Capital indirectly affects performance through the other three elements of intellectual capital; innovation capital, process

capital and customer capital. It was also found that there exists a relationship among the three fundamental components of intellectual capital and the business performance. This study was applied in high-tech IT industry and helps management identify relevant intellectual capital elements and their indicators to enhance business performance (Wen-Ying Wang & Chingfu Chang, 2005). World is changing from industrial to knowledge economy and the most important element of this economy is Intellectual Capital. In recent study the relationship of intellectual capital and business performance within the National Iranian South Oil Company. In accordance to previous studies conducted the results showed that there is a positive relationship between the variables however the difference in psychometric item evaluation came from the unique geographical context (Ahmadi, 2013). Similarly, theory of intellectual capital also provides a strong ground about the relationship of these variables.

- H1: Human Capital has a positive and significant association with business performance*
- H2: Structural Capital has a positive and significant association with business performance*
- H3: Relationship Capital has a positive and significant association with business performance*

Human Capital dimensions are related to employee’s innovative work behavior and employee’s learning and education. In another study human capital dimensions were empirically tested with the help of a theoretical model and specifically suggests knowledge sharing behavior among employees as a key mediator (Mura et al., 2012). Whereas, learning and education of employees were also considered as critical in order to enhance business performance.

- H4: Learning and education of the employees positively and significantly mediates the relationship between human capital and business performance*
- H5: Innovation and creation positively and significantly mediates the relationship between human capital and business performance*

In another study conducted on Jordanian Telecommunication Companies. Results reflected that intellectual capital should be taken into serious consideration when formulating a company’s strategy (Mahoney & Kor, 2015). There was a significant relationship between intellectual capital and business performance among the companies in the telecommunication sector. Study also found that there are strong inter-relationships and interactions among the three components of intellectual capital. Similarly (Bontis et al., 2018) conducted a research on the pharmaceutical industry in Jordan. He concluded that intellectual capital is of primary interest for the senior executives of the pharmaceutical firms in Jordan. This study also concluded that there exists a strong correlation between intellectual capital and business performance.

- H6: Intellectual capital has a positive and significant impact on business performance*

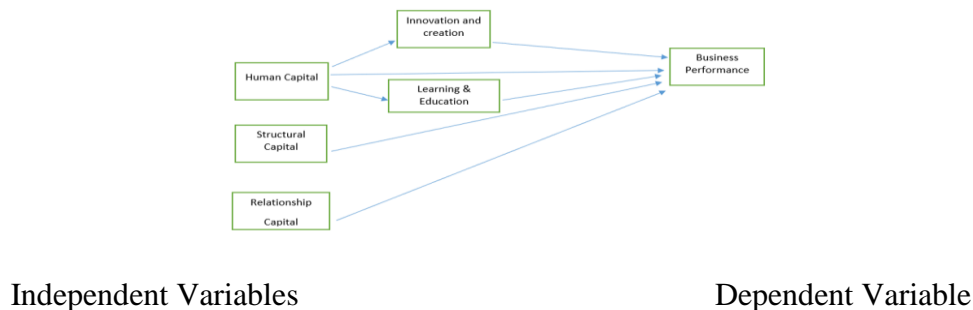


FIGURE 1
CONCEPTUAL FRAMEWORK

MATERIALS AND METHODS

Data Collection

Research design is the detailed plan according to which research will take place. For the current study, quantitative research approach has been used. Study setting of the current study is based on natural environment and data is purely non-contrived in nature as data is collected through self-administrated questionnaire. Researcher interference was minimum during data collection to avoid biasness. Unit of analysis is “individual” as study is investigating the impact of intellectual capital on the business performance of the bank. Research is based on cross sectional data. Data is collected only one time and nature of the topic and study setting also support that time horizon must be cross sectional.

Sample size for the current study is 150. PLS-SEM has the higher level of statistical power with the small sample size (Jr et al., 2018). Purposive sampling technique has been used to gather accurate and relevant responses. As this study focused on the banking sector that is why a screening question has been added in order to screen out the irrelevant responses.

Instrumentation

Due to COVID-19 and lockdown in many countries around the globe, the data have been gathered online through google forms. This questionnaire was originally developed by Canadian author Dr. Nick Bontis in 1998. For this study, the questionnaire has been circulated among the employees of public and private banks. Five-point likert scale is used to record the view of respondents. Questionnaire is adapted from the Bontis & Sharabati studies (Bontis et al., 2000; Sharabati et al., 2013). Questions have been phrased, adjusted and adapted according to the guidelines for a good questionnaire (Morrison et al., 2010).

Human Capital is measured with the help of 5 items. Innovation & creation and Learning & education are measured with 5 items each. (1=strongly disagree and 5=strongly agree). Relational Capital and Structural Capital have 7 and 8 items respectively. Business performance is measured with the help of 7 items. Pilot testing has been conducted before data collection process in order to check the understandability of the questionnaire. 20 people were included in the pilot testing and after working on their suggestions and feedbacks we finalized the questionnaire. Response rate of the current study is 60%, which is considered as excellent response rate. So, this study has the fair representation of the population and having a good response rate, therefore, generalization of the results is higher.

Data Analysis Tools and Techniques

Smart PLS 3.1 is used for the evaluation of the measurement model and determination of the Path relationship of the variables. Data cleaning, data coding and preliminary data analysis of demographics, such as descriptive statistics and frequency distribution of the demographics have been calculated with the help of SPSS 23. Structural Equation Modeling (SEM) is a multivariate statistical data analysis technique that provide better results for hypothesis testing and validity or reliability of the instrument. Moreover, PLS is non parametric in nature that is why it can manage and handle not normal data with ease and also work with both metric and quasi metric data (Hair et al., 2014). Hair and his colleagues in 2016 recommended the step wise approach for data analysis in PLS-SEM. Measurement theory and structural theory are engaged in developing path model. Firstly, the measurement model is evaluated in order to find the reliability and validity of the items

of each construct. When the validity and reliability is established, hypothesis is tested with the help of path coefficient and overall variance R^2 .

RESULTS

Demographics

A detailed analysis of the demographics of the study has been done through the SPSS. This help to develop a clearer and meaningful summary of data. Demographic profiling has immense importance as it helps to generalize the results on large population and provide better insights to organizations to better understand and implement the strategies. The descriptive statistics for the gender of the survey showed that 72 percent of respondents are male and 28 percent are female. The majority (61%) of the respondents are those individuals which belong to the age group (35-40), while the 57% individual belong to the age group ranges from 31-35. Whereas 48.6% respondents are from public corporation and 51.7% are from private corporation. A large number of respondents belong to the non-HR staff, making it 61.3% of the total, whereas 38.8% are from HR position.

Items	Categories	Percentage
Gender	Male	72
	Female	28
Age	Below 26	0
	26-30	21
	31-35	57
	35-40	61
	More than 40	11
Type of corporation	Public	48.6
	Private	51.7
Employment Status	SVP	0
	VP	6
	AVP	29.3
	OG1	43.3
	OG2	14.6
	OG3	6.6

Measurement Model Assessment

PLS-SEM has different step wise approach for reflective and formative measurement model. Current study has reflective measurement model. In reflective measurement model, firstly, indicator reliability and internal consistency have been evaluated. Internal consistency reliability is evaluated through the Cronbach's Alpha and composite reliability. Values of all the items of each constructs are in range of (0.7-0.9) *i.e.*, above the critical level. It reflects that all the indicators of each construct show consistency in measuring that construct. In next step, outer loadings are examined in order to check indicators reliability. Outer loadings of all the reflective items are above the

communality level *i.e.*, 0.708. For the purpose of discriminant validity, Fornell-Larcker Criterion and HTMT ratio have been calculated. HTMT ratio represents the significant results that all values are above the critical level (Human Capital - 0.459, Relationship Capital - 0.557, Structural Capital -0.641). Whereas, in Fornell-Larcker Criterion the correlation between items and relevant construct is higher than the correlation of items with other variable. So, discriminant validity is established. For the purpose of convergent validity, AVE has been examined. HC have highest value *i.e.*, 0.678 and RC have 0.554. All the values are above minimum acceptance level of 0.50 and reflect that there are lesser numbers of errors in the indicators.

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

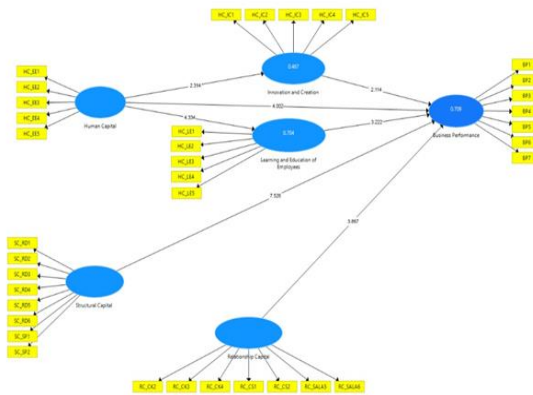


FIGURE 2
SEM MODEL – REPRESENTATION OF BOTH MEASUREMENT AND STRUCTURAL MODEL

Structural Model Assessment

VIF and tolerance values have been examined in order to check the collinearity issues. VIF is considered as “the reciprocal of tolerance”. All the values for VIF are in between 1.123 to 2.661. Thus, there is no collinearity issue reported. Path coefficients are evaluated in order to evaluate the hypothesized relationship. For the path coefficients, bootstrapping has incorporated with 5000 samples (Hair et al., 2014). Both t statistics and p values are evaluated in order to determine the significance of the relationship. According to Hair et al and his colleagues, the critical level of t statistics is 1.96. Whereas, p values less than 0.005 are considered as significant. The path coefficient value of Human Capital (HC) → Business Performance (BP) is 0.323, whereas the path coefficient value of Structural Capital (SC) → Business Performance (BP) is 0.500. Lowest value of Path coefficient is for the relationship between Relationship Capital (RC) → Business Performance (BP) *i.e.*, 0.289. Whereas the p values and t statistics are shown in Table 2, that represent that t statistics for the Human Capital (HC) → Business Performance (BP) is 4.002 ($t > 1.96$), more than the critical level of significance. Whereas the p value is also significant (0.000). Similarly, t statistics for the relationship between Structural Capital (HC) → Business Performance (BP) is 7.526 ($t > 1.96$), and similarly, t statistics for the relationship between the Relationship Capital (RC) → Business Performance (BP) 3.867 ($t > 1.96$). In both hypothesized relationship, p values are also significant.

	Original Sample (O)	MMean (M)	Standard Deviation (STDEV)	T Statistics	P Values
HC – BP	0.323	0.302	0.045	4.002	0.000
SC – BP	0.5	0.504	0.056	7.526	0.000
RC – BP	0.289	0.29	0.045	3.867	0.000

Coefficient of Determination (R^2 Value) is next step in evaluation of structural model. Value of R^2 is usually 0.25 for weak effect, 0.50 for moderate or substantial effect and 0.75 for strong effect on endogenous construct. Coefficient of Determination (R^2) of the Business Performance (BP) is 0.732 which is considered as strong impact as it is close to 0.75 (strong impact) and above 0.50 (substantial impact) as indicated by the recommendations (Hair et al., 2012). While Innovation & Creation (IC) has lowest value of 0.467 and consider as weak to moderate effect. Whereas Learning & Education of Employees (LEE) has a value of 0.704 consider as strong impact by exogenous construct. Values of R square and adjusted R square have very much less difference that represent that model is parsimonious.

Endogenous Construct	R Square	R Square Adjusted
BP	0.732	0.721
IC	0.467	0.464
LEE	0.704	0.702

Mediation Analysis

This study includes two indirect effects (1) HC \rightarrow (IC) \rightarrow BP and (2) HC \rightarrow (LEE) \rightarrow BP. In first indirect effect, innovation & creation is mediating the relationship between human capital and business performance. In second indirect effect, learning & education of employees is mediating the relationship between human capital and business performance. The path coefficient value of HC \rightarrow (IC) \rightarrow BP is 0.377 and t statistics for this relationship is 5.006; more than critical level ($t > 1.96$). Whereas p value is also significant. Second mediation is HC \rightarrow (LEE) \rightarrow BP. The path coefficient value of HC \rightarrow (LEE) \rightarrow BP is 0.400 and similarly, t statistics for this relationship is 8.627; more than critical level ($t > 1.96$).

	Original Sample (O)	Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
HC > IC > BP	0.377	0.379	0.039	5.006	0
HC > LEE > BP	0.4	0.404	0.047	8.627	0

CONCLUSION

Current study is providing the direct and indirect impact of intellectual capital on business performance of banking sector. Firms usually don't rely only on Intellectual Capital, which has three dimensions *i.e.*, Human Capital, Structural Capital and Relational Capital but also have some capabilities which serve as main driver of better performance of firms.

This research has highlighted those three dimensions of Intellectual Capital *i.e.*, Human Capital, Structural Capital and Relational Capital have positive and significant association with business performance of banking sector. These findings of current study are consistent with some earlier studies (Bin, 2011; Mushraf, 2011; Samad, 2013).

Moreover, the results of the current research also confirm that Structural Capital and Relational Capital and Human Capital have direct impact on business performance of banking sector. These outcomes have been supported by many past researches as according to (Zeithaml et al., 1988) satisfied customer can influences the financial performance of firm. Structural Capital includes knowledge sharing adds value to Human Capital which ultimately increases the business performance (Bontis, 2001).

In addition, current study also examined that Human Capital has indirect impact on business performance as Human Capital affects business performance through innovation & creation. This outcome is consistent with past research (Bontis et al., 2005). In order to gain competitive advantage and business performance, human knowledge and creative skills play an important role (Agarwala, 2003 & Samad, 2012).

It has also been found that Human Capital affects business performance through learning & education. The focus of the present study was to identify a variable which mediates the relationship between Intellectual Capital and business performance because along with Intellectual Capital firms also possess some factors that supports their Intellectual Capital.

In current study, we identify that learning & education positively and significantly mediate the relationship between Human Capital and business performance. This can be elaborated as when a firm provides the learning opportunity to their employees then it adds value in the Human Capital of firm which would ultimately boost the firm's value by increasing firm's financial performance. This predicts that firms can boost their performance when managers pay attention towards the Human Capital, Structural Capital and Relational Capital of the firm.

Findings of current study have theoretical and managerial implications. This study is providing better understanding to banks about the role of Intellectual Capital on business performance of banking sector. Current study is considering some mediators to provide clear understanding of link between Intellectual Capital and bank's performance. So, this study is fulfilling the gap between theoretical and practical work. This study has investigated the direct impact of Intellectual Capital on bank's performance but also explored the indirect effect of Human Capital on bank's performance through innovation & creation and learning & education. So, current study is also providing managerial implications by highlighting that to increase the bank performance managers must boost the importance of Intellectual Capital and capabilities that mediates the relationship between business performance and Intellectual Capital.

This study is providing guidelines to Higher Education Institutions that HEIs must provide opportunities to students so that they can understand the importance of intellectual capital in firms and learn those skills, which can help in increasing firm's value. Current study is also providing insights to policymakers so that they make those strategies and policies that can promote the culture of training and educate employees with necessary knowledge and skills so that they can contribute towards the better business performance which results in more value distribution between firm's stakeholders.

Focus is only on banking sector in this study is a limitation. The outcomes of current study may not be generalized on different industries and different sectors. Another limitation of this

research is that data was collected during COVID-19 pandemic. Due to limited time, limited money and the country's present situation made the analysis challenging and limited the discovery of many aspects.

Future research may be conducted to study the three-dimensional concept of organizational intellectual capital – rational capital, emotional capital and spiritual capital, which can be measured by rational intelligence, emotional intelligence and spiritual intelligence, respectively. Future studies can be conducted on different sectors other than banking sector can help to explore more about the relationship between intellectual capital and business performances. Future studies can be conducted in other developing and developed countries so a clear comparison can be obtained because results may differ when moving across different countries. Various other factors can be utilized in future studies to investigate how they mediate the relationship between intellectual capital and business performance. It can help firms and policymakers to add those factors in their strategies that can add value in their business performance. Further researches can increase the sample size for data collection to predict better and more accurate results.

After applying the PLS-SEM techniques the current study concluded that intellectual capital has positive and significant association with business performance. Moreover, it has been examined that intellectual capital has direct impact on business performance. However, current study has also explored that human capital has indirect impact on business performance of banking sector. Innovation & creation positively and significantly mediates the relationship between human capital and business performance. It has also been explored that learning & education positively and significantly mediates the relationship between human capital and business performance.

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