



THE IMPACT OF INTELLECTUAL CAPITAL AND FINANCIAL PERFORMANCE: AN EVIDENCE FROM THE ISLAMIC BANKS IN PAKISTAN

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Abstract

Purpose: The study seeks to look at the impact of intellectual capital on the financial performance of Islamic banks in Pakistan.

Methodology: This study employed the regression model by using different Islamic banks. In this scenario, the data were collected from the Islamic banks in Pakistan from 2010 to 2019. The financial performance was measured through return on assets and intellectual capital was measured through human capital efficiency, structured capital efficiency, and capital employed efficiency.

Main Findings: The study concluded that human capital influences the return on assets which increases the financial performance of Islamic banks. The rest of the components of intellectual capital negatively influence the performance of Islamic banks.

Applications of the Study: This study enables us to understand the importance of IC and helps the management of the Islamic banks to get benefit from it.

Novelty/ Originality of this study: This is an original study that has not been published before in any journal. The present study contributes to the existing knowledge of the literature on intellectual capital by throwing the light on the previous studies made regarding the Islamic banks and it is useful for the policymakers.

Keywords: *Financial Performance, Intellectual Capital, Islamic Banks, Regression Analysis, Pakistan.*

INTRODUCTION

Intellectual capital refers to the strength and standard of knowledge, education, skills, experience, and training of the employees of a company. It is an immovable asset of an institution or an organization that measures the level of understanding, business training, and profitability of its employees. It can be used to acquire new customers and develop new product strategies. To develop and consolidate intellectual capital, close attention to polished skills, organizational processes, human capital, information tools and techniques, brand awareness, training programs, and teaching capital is needed. The recognition of Intellectual Capital as an intangible asset has been discussed over the last few decades. It plays a very energetic role in the sustainability and financial performance of the firms ([Eisenhardt and Schoonhoven, 1996](#)). In knowledge-intensive organizations, intellectual capital has become the lifeblood and provides a competitive edge. The organizations having intellectual capital come forward with a competitive advantage over other organizations ([Andriessen, 2004](#)). In the present era, the importance of knowledge has increased and is discussed as a tool for organizations ([Rechberg and Syed, 2013](#)). In this modern century, organizations have entered from production-oriented to knowledge-oriented and labor-based to knowledge-based organizations. The conversion towards this factor has edged many organizations to make planning and reposition the strategies. In measuring the performance of the firm, IC has been discussed by many researchers ([Brennan and Connell, 2000](#); [Khaliq, Shaari, Abdul, Isa, and Samad, 2013](#)).

The banking sector has been observed over a long period under the competitive environment. The banks are facing a challenging environment due to scarce resources. In this context, it is difficult to survive for banks where the world has changed due to knowledge and information technology. The utilization of intellectual capital is being considered as a beneficial tool to overcome and compete in such challenging situations ([Shih, Kuang-Hsun, Chang, and Lin, 2010](#)). Undoubtedly, the evaluation of the performance of banks is done by different factors but intellectual capital has also been accepted as an important factor to measure the performance of banks ([Sarea and Alansari, 2016](#)). The acknowledgment of IC as a value creation not only in the conventional banks has been admitted but also in the Islamic banks as well. In this competitive era, Islamic banks are trying to compete through different strategies for their survival. That is why, Islamic banks may formulate and set their priorities ([Li, 2001](#)).

The emergence of the Islamic banks was experienced during the eighteenth century when Arabs started to trade with Europeans ([Chachi, 2005](#)). Globally, Islamic banks are growing rapidly and their assets are more than 2 trillion dollars with more than 775 branches all over the world ([Edbiz, 2015](#)). In Pakistan, Meezan Bank was established as the first Islamic bank and according to [Islamic Banking Bulletin \(2015\)](#) there are more than two thousand branches of Islamic banks. The 97% population of Pakistan belongs to Islam. Islam has a financial system that prohibits interest and follows the Shariah laws. Islam also promotes knowledge and promotes its propagation in society. The value of knowledge has been discussed in Islam by the Quranic verse: "A knowledgeable and non-knowledgeable cannot be equal" ([Quran, Az-Zumar 39: 9](#)). It is a dire need to discuss the role of IC in the performance of Islamic banks. So, the IC and financial performance have been examined in the context of Pakistani Islamic banks. The foremost objective of the study is to check the impact of the intellectual capital of the Islamic banks on their performance. This study makes an addition to the existing literature on IC by shedding the light on the previous studies made in the Islamic banks. For the completion of the objective, we have to answer the following research questions:

Research Question

Q.1. Does intellectual capital impact the financial performance of Islamic banks?

The remaining sections of this research paper have been comprised of as follows: the prior literature has been discussed in section two, the methodology portion has been demonstrated in part three, the empirical results of the study have been analyzed in part four, and conclusion of the research paper has been exhibited in the last section.

LITERATURE REVIEW

The previous two decades are evident that intellectual capital has got the attention and it has remained under the discussion by researchers and academicians. Intellectual capital refers to the skill and knowledge of the employees. The intellectual capital of an organization is assumed a vital strategic asset for its success ([Rezaei, 2014](#)). The existing literature regarding intellectual capital has been discussed extensively ([Shakina and Barajas, 2013](#); [Dzemyda and Jurgelevicius, 2014](#); [Guerrini, Romano and Leardini, 2014](#); [Akhtar, Ismail, Ndaliman, Hussain and Haider, 2015](#); [Alhassan & Asare, 2016](#); [Nawaz and Haniffa, 2017](#); [Okenwa, Ndubuisi, Mary and Chidoziem, 2017](#); [Nawaz, 2017](#)). During the last two decades, the studies related to IC and bank performance have been discussed in developed economies ([Bollen, Vergauwen and Schnieders, 2005](#); [Ting and Lean, 2009](#); [Madinios, Chatzoudes, Tsairidis and Theriou, 2011](#); [Al-Musali and Ismail, 2014](#); [Inkinen, 2015](#); [Abdull Razak, Mohammad, and Tobiagi, 2016](#); [Ozkan, Cakan and Kayacan, 2017](#); [Setyawatia, Widayastutia, Suryatia, Hartani, 2019](#)). [Ousama and Fatima \(2015\)](#) researched to inspect the VAIC and FP of the Islamic banks in Malaysia by collecting the data from annual reports of the banks and they were in view that the optimal usage of the IC increases the profitability of the Islamic banks. Furthermore, [Ahmad and Ahmed \(2016\)](#) have discussed the IC and FP of the financial sector of Pakistan by using the VAIC model. The data were collected from 2008 to 2013 and concluded that IC increasing the performance of the Islamic banks.

Several studies have examined the issues related to intellectual capital ([White, Lee, and Tower, 2007](#); [Whiting and Woodcock, 2011](#)). [Haji and Ghazali \(2018\)](#) pursued the intangible assets and intangible liabilities regarding the firm performance by collecting the data of Malaysian firms from 2008-2013 and they found that intangible assets positively impact the performance of the firm. Another study by [Setianto and Sukmana \(2016\)](#) was carried out in Malaysia and Indonesia focusing on Intellectual Capital and the performance of Islamic banks. They run a regression model by using the data from 2010 to 2014 and concluded that banks show better performance in the presence of high intellectual capital. [Matinfard and Khavari \(2015\)](#) used the Public method by gathering the data from 73 firms. They have a positive result regarding intellectual capital and financial performance. Recently, [Tahir, Shah, Khan, and Afridi \(2018\)](#) made a research about the intellectual capital and financial performance of banks by collecting the data from 2007 to 2015 through the annual reports. They employed multiple regression and they have found mixed results regarding the intellectual capital and the performance of banks.

[El-Bannany \(2008\)](#) also made a study to investigate the determinants of intellectual capital by applying multiple regression and found that profitability and risk are important factors to determine intellectual capital. Moreover, [Gan and Zakiah \(2008\)](#) have the opinion that human capital plays an important role in the profitability of organizations in Malaysia. [Bualay \(2019\)](#) made a comparison of the intellectual capital and performance of Islamic and conventional banks of Gulf countries. He captured the data from 59 banks over a period of five years. He used performance as the dependent variable and the independent variable was modified VAIC. The study found a positive impact of IC on the performance of Islamic banks. [Nawaz \(2018\)](#) reported the intellectual capital and financial performance of the Islamic banks in the United Kingdom. He used ROAA and ROAE to measure the financial performance of the banks and found a positive relationship between IC and financial performance. Moreover, [Siswanti, Salim, Sukoharsono, and Aisjah \(2017\)](#) analyzed the intellectual capital and financial performance of the Islamic banks by using quantitative data from 2010 to 2015. They are in view that Islamic intellectual capital significantly impacts the financial performance of Islamic banks. Recently, [Ousama, Hammami, and Abdulkarim \(2020\)](#) have made a study in GCC countries by checking the impact of intellectual capital on the financial performance of Islamic banks through the regression analysis. They constructed a data set from 2011 to 2013 through annual reports of the Islamic banks and they are in view that there is a positive and significant role of intellectual capital on the financial performance of the Islamic banks in the Gulf

Cooperation Council countries. The noteworthy result is that they found insignificant structural capital which indicates that SC does not have any impact on the financial performance.

Another recent study by [Rehman, Aslam, and Iqbal \(2021\)](#) was carried out on the intellectual capital efficiency and performance of Islamic banks by using the GMM model. They have congregated the data from 2008-2017 of 129 Islamic banks. They used human capital, structural capital, and relational capital efficiency as the proxies for intellectual capital. They have come with a surprising result that human capital efficiency hurts the performance of Islamic banks. The study also revealed that the rest of the variables have a positive and significant effect on the performance of the Islamic banks. Most recently, [Aslam and Haron \(2021\)](#) have discussed intellectual capital as a mediating variable to investigate the impact of corporate governance on the performance of Islamic banks in the Organization of Islamic Countries (OIC). They constructed a huge data of 29 Islamic member countries of OIC from 2008-2017. They also have applied the two-step GMM model and they have revealed that intellectual capital has a mediating role in creating a relationship between corporate governance and the performance of Islamic banks in the Muslim countries.

The discussion above demonstrates that intellectual capital is also contributing to the financial performance of Islamic banks. Many studies have explored the different aspects of intellectual capital. There are several studies available that encompass the intellectual capital and the financial performance of Islamic banks all over the world. But, only a few studies have discussed the IC and FP of banks of Pakistan. So, this research article is an effort to contribute to the literature related to Pakistan.

METHODOLOGY

The study was carried out to inspect the effect of IC on the FP. In this regard, the financial performance was used as the dependent variable, and return on assets was considered as the proxy whereas the independent variable was intellectual capital which was measured through the efficiency of human, structured, and employed capital. The data were accumulated from the financial statements of the Islamic banks in Pakistan over a period from 2010 to 2019. The present study has followed a quantitative approach by using regression analysis. Before the regression analysis, the descriptive and correlation test have been applied.

The equation for VAIC was:

$$VAIC = HCE + SCE + CEE$$

Research Design

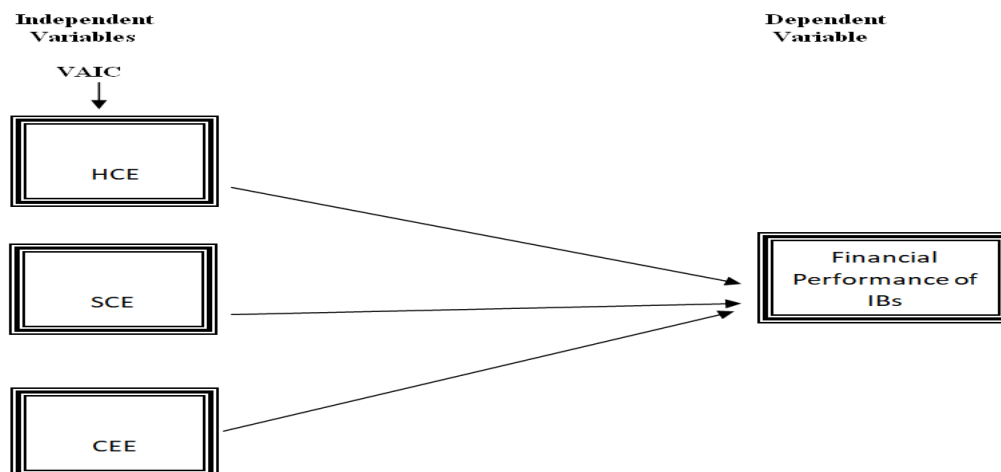


Figure 1: Research Model

EMPIRICAL FINDINGS

Table 1 reports the descriptive analysis which shows that the total observations were 312. The table represents that the value of VAIC ranges from 0.219 to 12.14, with an average of 2.43 and a standard deviation of 2.15. Moreover, the mean of ROA is 0.04 which shows that the return on assets is low while the standard deviation is high. The results show that the mean of HCE is higher than SCE and CEE which indicates that human capital is more important than structural and employed capital. According to the table, the skewness of HCE is high with a coefficient of 0.427 followed by VAIC with a coefficient of 0.381 and the lowest skewness is 0.014 of SCE. Moreover, the kurtosis of all the variables is found negative.

Table 1: Descriptive Analysis

Variables	Obs.	Mean	SD	Min	Max	Skewness	Kurtosis
Return on assets	312	0.04	0.21	-0.018	0.037	0.326	-0.413

Value Added IC	312	2.43	2.15	0.219	12.14	0.381	-0.152
Efficiency of human capital	312	2.17	1.12	0.118	8.34	0.427	-0.214
Structured Capital	312	0.31	1.53	0.01	10.14	0.014	-0.421
Employed capital	312	0.46	0.46	0.003	7.04	0.281	-0.173

Table 2 provides the results of the correlation matrix which elaborates the relationship between the dependent and independent variables. The findings depict that VAIC is positively correlated with HCE (0.643), SCE (0.538), and CEE (0.457). On the other hand, there is a negative correlation between ROA and SCE. Moreover, the correlations of the independent variables indicate that there is no multicollinearity between the independent variables.

Table 2: Correlation Matrix

Variables	ROA	VAIC	HCE	SCE	CEE
ROA	1				
VAIC	0.521***	1			
HCE	0.615***	0.643***	1		
SCE	-0.245***	0.538***	0.532***	1	
CEE	0.531***	0.457***	0.432***	0.592***	1

Note: *** indicates significant at 0.01 level

Table 3 depicts the results of the regression models where VAIC was shown in model one and model two, model three and four represents the HCE, model three and model four also depicts the findings of SCE. The coefficient of adjusted R square of the models was found as 0.532, 0.426, 0.631, and 0.531 respectively which indicates that VAIC explains the profitability of the Islamic banks effectively. Table 3 demonstrates that the explanatory variables of all models influence the ROA up to a different extent. The findings of VAIC were found statistically significant and influences the ROA which indicates that high VAIC leads to the high profitability of the Islamic banks. It suggests that a one percent increase in VAIC would increase the return on the asset by 0.0034. It also indicates that Islamic banks get high profits through spending on the intellectual assets of the banks.

Turning out to model 3 and model 4, a one percent increase in HCE will contribute to ROA by 0.0064 and 0.0053. The findings suggest that trained and skilled employees are precious assets of Islamic banks that raise the ROA. The efficient management and skilled employees lower the expenses of the bank and reduce the cost which leads to an increase in the ROA of the Islamic banks. According to Table 3, if SCE is increased by one percent, the ROA of the Islamic banks decreases by -0.0021 percent and -0.0052 percent. The results indicate a negative relationship between the SCE and ROA of the Islamic banks. Similarly, the coefficients of CEE were found -0.0024 and -0.0021 in model 3 and model 4 respectively. It also shows the negative relationship between CEE and ROA which brings a decrease of 0.0021 percent and 0.0052 percent in ROA.

Table 3: Regression Analysis

Ind. Var.	Model 1	Model 2	Model 3	Model 4
C	-0.004 (0.0023)	-0.0036 (0.0325)	-0.0062 (0.0021)	-0.0054 (0.0042)
VAIC	0.0034*** (0.007)	0.0034*** (0.0025)		
HCE			0.0064*** (0.007)	0.0053*** (0.007)
SCE			-0.0021*** (0.002)	-0.0052*** (0.004)
CEE			-0.0024 (0.005)	-0.0021 (0.005)
R Squared	0.642	0.562	0.741	0.672
Adjusted R	0.532	0.426	0.631	0.531
F- Statistics	17.4263	53.244	175.432	101.42
P-value	0.000	0.000	0.000	0.000

Note: Dependent Variable ROA

DISCUSSION

This study is attempted to spin out the impact of the intellectual capital on the financial performance of the Islamic banks in Pakistan. In this background, the intellectual capital of the Islamic banks has been considered as the independent variable with the proxies of human capital efficiency, structured capital, and employed capital of the Islamic banks in Pakistan. To check the properties of the data, descriptive analysis has been conducted which reveals that human capital efficiency has greater influence than the rest of the variables. This finding is inconsistent with the results of [\(Rehman, Aslam, and Iqbal, 2021\)](#). They are in view that human capital negatively influences the performance of Islamic banks. Moreover, the results of descriptive analysis depict that all variables are negatively skewed which indicates that the data is normal and may be used for further analysis.

Focusing on the correlation analysis, the results demonstrate that there is no multicollinearity among the independent variables which indicate that there is no high correlation among the independent variables and the correlation analysis highlighted the high correlation between human capital efficiency and performance of the bank [\(Latif, Malik, and Aslam, 2012\)](#). The results of the regression model were found very interesting. Four models have been used to check the impact of intellectual capital on the financial performance of Islamic banks in Pakistan. The important finding of the regression analysis is that it confirms that the structural efficiency of the Islamic banks does not involve in the performance of the Islamic banks. This finding of the regression model is consistent with the findings of [\(Khalique, Ramayah, Shah & Iqbal, 2019; Ousama, Hammami, and Abdulkarim, 2020\)](#) who have also found and reported similar results. On the other hand, [\(Mehralian, Rajabzadeh, Sadeh, and Rasekh \(2012\)\)](#) are in view that structural capital efficiency plays a vital role in achieving sustainable growth and performance.

From the perspective of Pakistan where a majority of the population is Muslim, Islamic laws are not followed in daily life. The skilled and educated employees who know the complete rules of Islamic banking are still scarce. That is why, there is a dire need to train their human capital to get the better financial performance of the Islamic banks [\(Al-Musali, and Ismail, 2012; Jetmiko, 2018\)](#). Furthermore, the study exhibits a negative relationship between employed capital and the financial performance of the Islamic banks in Pakistan.

CONCLUSION

The study examines the impact of IC on the FP of Islamic banks in Pakistan. This study employs regression analysis by using data from 2010 to 2019. For this purpose, financial performance was used as a dependent variable and intellectual capital as the independent variable. The study concludes that the financial performance of the Islamic banks is affected by the intellectual capital of the Islamic banks. Among the components of the VAIC, the study concluded that HCE positively and actively contributes to the financial performance of the Islamic banks which suggests that HCE plays an important role for ROA to capture VAIC. On the other hand, the study also concludes a negative relationship between SCE and CEE with the financial performance of the banks. The current study also provides several implications for the management of Islamic banks, policymakers, and researchers. From the management of Islamic banks' perspective, it is suggested to enhance their human capital efficiency by providing them the training and by offering different courses related to Islamic banking. Furthermore, this study may be very interesting and fruitful for researchers and academicians because it provides a better understanding related to the Islamic intellectual capital.

LIMITATION AND STUDY FORWARD

The study covers only a few Islamic banks due to the unavailability of the data and suggests including the rest of the Islamic banks for future study.

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AUTHORS CONTRIBUTION

Dr. Muhammad Riaz Mahmood (Principal Author) has floated the idea and contributed to the introduction and literature of the research paper. Dr. Muzammil Khurshid (Corresponding Author) has contributed by collecting the data of the research paper and has constructed the research model of the study. He has arranged and organized the dataset of the study. He also has contributed to the empirical analysis. Dr. Hafiza Farhat has worked on the data analysis of the research paper. Dr. Shagufta Naveed has worked on the discussion part of the research paper. Muhammad Irfan Ahmad has also worked on the discussion and conclusion part.

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