

THE EFFECT OF INTELLECTUAL AND SOCIAL CAPITAL ON BANKS PROFITABILITY

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Abstract

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Banks have increasingly become aware of the tremendous opportunities for their sustainability and societal benefits in today's business environment. Social capital and intellectual capital might influence the performance of banks. This paper examines the effect of social and intellectual capital on the Jordanian bank's net income. A quantitative approach is adopted, and the statistical program EViews is used to analyze data and test the hypotheses. The sample is withdrawn from the annual reports of 13 Jordanian commercial banks and data collected from 2010–2019. The study findings indicated a positive effect of social and intellectual capital on the bank's net income. Furthermore, social and intellectual capital create added value and sustainability for the banking business. The results suggest that Jordanian banks should boost their social activities and intellectual capital to increase their net income and generate added value for the bank's stakeholders in general. The study concluded that Jordanian banks have raised their net income by providing constant training and sustained development as part of their organizational culture, which will raise the efficiency of the working environment.

Keywords: Human Capital, Social Capital, Corporate Culture, Training, Net Income, Intellectual Capital

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1. INTRODUCTION

Nowadays, intellectual capital and social capital deserve more importance in any discussion related to banking industry performance because they are considered vital assets of the banking sector in the changing economy (Meles et al., 2016). According to Kaya et al. (2010), the rapid changes in the global

economy forced investors and owners of companies to reconsider intellectual and social capital. It seems of prime importance for an organization, especially banks, to better consider intellectual and social aspects to align the corporate performance with the image that they reflect their stakeholders and community (Haddad et al., 2021). Considering the nature of their business, commercial banks in

Jordan play a vital role in the national economy, especially when facing economic adversities. According to the Central Bank of Jordan (2015), banks operating in Jordan are considered the bedrock of the economy and one of the most advanced and standardized leading sectors, and their responsibilities are different compared to other industries. Banks consider their employees their intellectual capital, while the bank's contributions to society can be seen as social capital. In today's dynamic business environment, banks foster the improvement of employee learning and competencies through investments in training to achieve one common purpose that accomplishes the stakeholder's profitability. Putnam et al. (1993) argue that social capital is a significant resource in human resources.

The study problem can be addressed based on the organizational culture of the Jordanian banking sector. There is a responsibility toward human capital that should be constantly considered by investing in the development of skills and abilities of the bank's employees. On the other hand, the Jordanian community has been affected by the bank's social contributions, such as donations, campaigns, and social welfare, which have been made as a provision from the bank's profitability to increase the added value and competitive advantage of the banks. In this respect, this study has shed light on the relationship between social and intellectual capital on the bank's net income, in other words, how net income gets affected by receiving benefits and returns after spending vast amounts of money to develop the social and intellectual capital.

The current study aims to analyze the impact of the integration between intellectual capital and social capital on the net income of the commercial banks of Jordan. Companies are trying to level up their net income with the rapid developments of the business world. This can ensure continuity and competition of companies based on flexible rules adapted to the changing reality. Hence, it is vitally important to know the reality of integration between intellectual and social capital in achieving the competitive advantage of Jordanian commercial banks. In this context, one of the critical questions this research aims to answer entails:

RQ: Is there an impact of intellectual capital, social capital, and their integration on the net income of commercial banks in Jordan?

The structure of this paper is as follows. Section 2 represents the literature review related to this study's objectives and provides the hypotheses developed. Section 3 explains the methods used for the analyses and describes the variables used. Section 4 shows the results and details of the analysis. Section 5 discusses the findings. Section 6 concludes the paper.

2. LITERATURE REVIEW

The exchange of intellectual capital is strategic in organizations, as it maximizes their value (Abdulaali, 2018). The intellectual capital is considered as the superior skills and capabilities of the organization's employees so that it can be used as a "competitive" weapon in the process of creative development that adopts innovation and

improvement, which is the basis for the survival and continuity of the organization in the rapidly changing work environment (Clauss et al., 2020). Moreover, intellectual capital is considered real intangible wealth, which cannot be valued at a price, because it is the potential of a latent mentality possessed by workers of the human capital of the organization and is considered to be the most potent weapon of companies (Ali et al., 2021b).

Therefore, intellectual capital can be defined as the mental ability, knowledge level, and information possessed by a particular group of the organization's workforce with intellectual skills and expertise capable of analysis, and it works to create the ideas to achieve creativity and innovation to find value, offers outstanding products, and achieving competitive superiority in the market (Zhou & Wu, 2009). After reviewing the previous definitions, intellectual capital is the pioneering creative skills and abilities possessed by the company's employees, which serve as the weapon companies use to achieve rationality globally. Literature focus on the bank's influence on the intellectual capital and its components effects (Buallay & Hamdan, 2019; El-Bannany, 2008) via the implementation of the value-added intellectual coefficient (VAIC) model and standard accounting measures (i.e., return on asset, ROA) along with the market value of the bank.

It was pointed out recently that the efficiency of intellectual capital has a significant and positive effect on the profitability of financial institutions in China, Taiwan and Hong Kong. In contrast, the performance of financial institutions is significantly linked to human capital and systemic capital in China, Taiwan and Hong Kong (Nazir et al., 2020). Intellectual capital and social capital relationships with net banking income should be calculated since this correlation can directly affect the banks' innovation activities and performance. As a result, bank performance improvement is highly specialized; creating, merging, recombining, and improving bank performance requires significant input from external social resources. Globalization has developed the banking industry into a knowledge industry (Rehman et al., 2021). In order to achieve corporate competitiveness and financial sustainability, intellectual capital has been recognized as a critical component of the knowledge industry (Xu & Wang, 2018). Since bank members subordinate individual goals to the achievement of collective goals and actions, a bank is an important place for social capital development and a generator of confidence among the bank team members. Despite a causal link between social capital, intellectual capital and their integration into commercial banks, there is still a gap in identifying the nature of this relationship in the Jordanian commercial banking environment.

Banks realize the essential role in enhancing their value through the development of intellectual capital. Intellectual capital has become an essential factor in measuring the performance of banks Brozovic (2018). Oppong and Pattanayak (2019) have debated that the primary sources of intellectual capital consist of numerous factors such as; human capital, structural capital, and relational capital. El-Bannany (2008) considered information technology and its efficiency a part of

the intellectual capital in the banks and have effects on the performance. Banks' traditional factors represent intellectual capital drivers. Neves and Proença (2021) state that intellectual capital affects the performance of banks, which affects future strategic decisions. Therefore, banks focus on managing intellectual capital to improve performance and achieve stakeholders' goals. Santos Bernardes and Hanna (2009) stated a negative relationship between intellectual capital and profitability. On the other hand, Chang et al. (2008) indicated that intellectual capital is closely related to the performance and profitability of banks and insurance companies, and this depends on policymakers in their spending to develop human capital.

Social capital can be defined as "features of social organization, such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit" (Putnam et al., 1993, p. 285). Social capital is an informal, developed standard that promotes cooperation among individuals. It lowers transaction costs in the financial world and encourages the style of association life necessary for the success of limited government and modern democracy in the political world (Priyanath & Premaratna, 2015). By providing enough liquidity services, capital accumulation and productivity growth can be accelerated by the strengthening ties between domestic and international investors (Feldmann et al., 2022; Kraiwani & Tulathananun, 2021; Kusumawardani et al., 2021; Al-Qudah et al., 2021). Companies have been regarded as fundamental social frameworks in developing and forming social capital diffusion (Fukuyama, 2010). Adler and Kwon (2002) pointed out that "the behaviour of a collective actor such as the firm is influenced both by its external links with other firms and institutions and by the fabric of its internal links" (p. 21). In this context, there is literature that has discussed, from internal and external viewpoints, the social capital-firm relationship. Many organizations have tested the interaction of their social capital and society, allowing them to continuously expand their role in society.

Ostergaard et al. (2016) found that international banks tend to have higher net income when located in high social capital communities, although commercial banks have failed to show higher net income. Areas with higher social capital have more banks that raise local deposits. Banks in such areas donate more of their profits and manage a branch network that is more locally oriented. Savings banks in Norway are controlled by their stakeholders; also, Norwegian banks show that social capital enhances stakeholder governance efficiency. It was found by Nishantha (2011) that social capital moderates the human capital and business growth relationship. Ali et al. (2021a) argue that there is a relationship between human capital and financial and non-financial factors. The quality of the decisions taken affects the company's performance in general, which will affect the social capital. In order to maximize the company's resources, companies must pay attention to social ties, which will reflect positively on their profitability and increase competitiveness in the banking sector (Haddad, 2017).

Net income lies on the last line of the most common financial statements, which is the income statement. The accounting discipline has considered net income as one of the key factors in judging entities' financial performance. Some studies have used many terms on net income, such as net earnings or profit. The company's earnings represent profit after paying off the expenses. Intuitively, net income has been calculated after the revenue sales or interest and deduction of the cost of goods sold, assets depreciation, amortization, taxes, and other expenses (Gazzola & Amelio, 2014). Net income is used to assess the earnings per share, and in addition, stakeholders commonly use the net income to judge the stability of organizations (De Wet, 2013). Net income is the entities' earnings after subtracting taxes from gross income.

In the last century, Jordan did not have a banking system due to the Mandate of the United Kingdom, while foreign banks and financial institutions, such as the British Bank, were operating during that stage. The Central Bank of Jordan was established in 1964. The Central Bank of Jordan is considered a legal entity with capital, wholly owned by the Jordanian government and issuing the Jordanian currency with two banks. Since then, two branches were founded, British Bank and the Arab Bank, in 1936 and 1949, respectively (Pakurár et al., 2019a). Meanwhile, the Central Bank of Jordan is the regulating system of all the banking sectors in Jordan, consisting of three main categories: commercials, foreign and Islamic banks. The primary duties of the Central Bank of Jordan include providing liquidity, issuing banknotes, managing reservations, and supervising and organizing bank procedures to comply with the state's financial policy (Ali et al., 2021b).

Intellectual capital

It has been considered an asset due to its dependency on knowledge which can be affected by the entity by creating value and competitive advantage in the long run (Lev, 2001, 2004; Cabello-Medina et al., 2011). In addition, intellectual capital is a vital source for the organization's innovations, in this respect, human development via sharing knowledge (Sardo & Serrasqueiro, 2017). Ownership may negatively affect the intellectual capital of value creation and development by Gedajlovic and Carney (2010). While Shleifer and Vishny (1986), Denis and McConnell (2003) stated that ownership might positively affect an organization's performance and value. Therefore, it has been proposed that Intellectual capital affects the bank's net income, leading to *H1*.

Social capital

Lately, several researchers have discussed the characteristics and tools which define social capital in entities and how social capital can develop organizations (Saz-Gil et al., 2021). Organizational plurality is correlated with social capital. Therefore, it is essential for public, private, non-governmental organizations (NGOs), social enterprises, and other hybrid organizations to improve their performance regarding social capital (Bauwens & Defourny, 2017). Banks and other organizations have been paying attention to academic research on social capital (Spognardi, 2019). The characteristics of organizations lead the researchers to investigate social capital and its effect on the development and

growth of the ideal, more sustainable model of entrepreneurship (Arando et al., 2012). Therefore, the second hypothesis proposes that social capital contributes to a bank's net income, forming *H2*.

Integrated intellectual capital and social capital: Pakurár et al. (2019a) stated that there are two types of integration in the banking sector. First is internal integration, which implies that all entities' departments must interact to achieve a common aim. In this respect, in order to reflect the image of the entity, employee training has been considered an essential part of internal integration based on (Flynn et al., 2010); external integration has engaged with the stakeholders like suppliers, customers, investors, and audiences, which serves the society and the banks that they are contributing to (Abed et al., 2022). Therefore, proposing the integration of intellectual capital and social capital contributes to the bank's net income, leading to the following three hypotheses:

H1: There is no impact of intellectual capital on the net income of the Jordanian commercial banks.

H2: There is no impact of social capital on the net income of the Jordanian commercial banks.

H3: There is no impact of the integration between intellectual capital and social capital on the net income of the Jordanian commercial bank.

3. RESEARCH METHODOLOGY

The sample of this study consists of thirteen commercial banks, which were collected using disclosed financial statements in the Amman stock exchange over the period 2009 to 2019. Whereas, the secondary data variables of social capital and intellectual capital were gathered by using the annual financial reports of the Jordanian banks which have been published on their websites. The current study is represented by all (13) the Jordanian commercial banks, namely: Arab Bank, Housing Bank for Trade and Finance, Bank of Jordan, Cairo Amman Bank, Union Bank, Jordan Kuwait Bank, Arab Jordan Investment Bank, Jordan National Bank, Arab Banking Corporation (Jordan), Jordan Commercial Bank, Investment Bank, Societe, Generale Bank of Jordan, Capital Bank. It should be pointed out that data from 2020 were excluded due to obstacles of COVID-19, which has caused a delay in the issuing of reports and it was not representing the normal situation to judge the banks' performances. The study model shed light on the intellectual and social capital disclosed in the published financial statements and the net income of the Jordanian commercial banks found in ASE during the period of 2009–2019.

Based on the financial reports, independent and dependent variables were used for the proper measurement of the study, in line with the data extracted from the financial reports of the study population, the independent variables are:

- *Intellectual capital:* The intellectual capital variable was measured by the amount of training spent on employees working in Jordanian commercial banks for the period of time 2009–2019.

- *Social capital:* The variable of social capital was measured through the amounts of donations provided to the Jordanian community, which are confirmed in the financial reports of these banks for the period of time 2009–2019.

- *Integration between intellectual and social capital:* The variable of integration between intellectual and social capital was measured by finding the relationship and determining the area of integration between intellectual capital and social capital for the period of time 2009–2019.

The dependent variable is the *Income Statements of Jordanian Commercial Banks*, which were collected through the net profits announced in the annual financial reports for the period 2009–2019.

Researchers have followed the descriptive and analytical approach in the theoretical side of this study, as for the applied aspect related to the data of Jordanian commercial banks, researchers followed the quantitative approach based on the use of long time series data (Panel data) for the period extending from 2009 to the year 2019. By relying on the statistical program EViews to apply the standard statistical methods represented by regression analysis and quantitative correlation coefficients. Statistical tests are used to test the hypotheses of the study in order to achieve the objectives of the study and test its hypotheses through the collected financial data. This part of the research deals with the curriculum, society and sample of the study, the method of its selection, and the tools, procedures, design, and statistical treatment used to draw its conclusions.

4. RESULTS

This part of the study includes a presentation of data analysis and testing of the leading hypotheses related to the subject of the study, as well as a review of the most prominent findings of the analysis of the financial statements in the collected financial reports. The following is a presentation of descriptive statistics of study variables.

Before the data analysis process was initiated and the hypotheses of the study were tested, data on independent and dependent study variables had to be described using the measures of centralization of the arithmetic medium and the standard deviation. We can measure the extent to which we can rely on these data as a reasonable and appropriate basis to reach out to the community's teachers and determine the validity of these data for statistical testing.

Table 1. Descriptive statistics of study variables

	<i>Net income</i>	<i>Intellectual capital</i>	<i>Social capital</i>	<i>Integration between intellectual and social capital</i>
Average	46193321.69	218116	1163147	1381263.462
Maximum	263824363.6	581283.64	10279720.18	10861003.82
Minimum	5891929.455	2425.71	25317.27	27742.98
SD	73044970	1436.644	1472.741	1858.650
Probability	0.000000	0.000000	0.005591	0.004810
N	143	143	143	143

Source: Authors' creation.

Table 1 shows that the average net income of Jordanian commercial banks for the period from 2009 to 2019 amounted to 46193321.69 JOD with a standard deviation of 73044970 JOD, while the lowest value of net income was 5891929.5 JOD and the most significant value was 263824363.6 JOD with a financial difference of 257932434.2 JOD, which is a significant and noticeable difference that confirms the existence of several factors affecting the profitability of Jordanian commercial banks, as it can be seen from the previous table that the arithmetic average of spending on the development of intellectual capital in Jordanian commercial banks has reached 218.116 JOD with a standard deviation 1436.644 JOD, while the arithmetic average of the social capital of those banks has reached 1163147.406 JOD with a standard deviation 1472.741 JOD while we find that the average integration between the head of the intellectual and social money of Jordanian commercial banks has reached 1381263.462 JOD with a standard deviation 1858.650 JOD, as it can be seen from the Table 1 that all the variables of the independent and dependent study are suitable for conducting statistical analyses on them, and this is evidenced by the level of probability, which all had less than 0.05.

Researchers also applied the linear plurality test to ascertain the appropriateness of the study data to use the simple and multiple regression analysis tests on them (see Table 2).

Table 3. Regression analysis of the intellectual capital variable

Variables	Coefficient	Standard error	T-statistics	Probability
Intellectual capital	105.488	7.387	8.968	0.000
Constant	19507.338	5.904		
R-squared	0.976			
Sum-of-squared residuals	0.952	Adjusted R-squared	46193321.69	
F value	219.674	S.D. of the dependent variable	73044970	
F-statistic	0.000	Durbin-Watson statistic	1.743092	

Source: Author's creation.

The calculated level of evidence 0.0000 is lower than the level of morale determined in this study ($\alpha \geq 0.05$), thereby rejecting the zero hypotheses and accepting the alternative hypothesis. By looking at the fair value of the correlation factor between the profitability of banks measured in terms of net profit and intellectual capital, we find that intellectual capital accounts for 95.2% of the difference in net profits.

Table 4. Regression analysis of the social capital variable

Variables	Coefficient	Standard error	T-statistics	Probability
Social capital	24.462	2.130	2.878	0.015
Constant	17740381.978	6163507.314		
R-squared	0.961			
Sum-of-squared residuals	0.923	Adjusted R-squared	46193321.69	
F value	131.896	S.D. of the dependent variable	73044970	
F-statistic	0.000	Durbin-Watson statistic	1.89547	

Source: Author's creation.

Table 4 shows a statistically significant effect of social capital costs on the profitability of Jordanian commercial banks. The calculated level of evidence 0.015 is lower than the level of morale identified in this study ($\alpha \geq 0.05$). Thus, the zero hypotheses have been rejected, and the alternative hypothesis has been accepted. By looking at the fair value of the correlation factor between the profitability of banks measured in terms of net profit and social capital, social capital accounts for

Table 2. Expressive analysis and connection matrix

Variables	VIF	Tolerance
Intellectual capital	1.089	0.918
Social capital	1.099	0.910
Integration between intellectual and social capital	1.055	0.948

Source: Authors' creation.

Table 2 shows no linear plurality problem concerning the data collected for the study hypothesis test. The variance inflation factor for all variables is less than 10. The value of the tolerance test is close to the correct one, so it can be emphasized that there is no linear plurality problem and data validity for analysis according to the multiple linear regression analysis tests (Gujarati & Porter, 2009).

1) First hypothesis:

H1: There is no statistically significant effect at the indicative level of 0.05 of intellectual capital costs on the profitability of Jordanian commercial banks.

To test this hypothesis, the researchers used the linear regression analysis test through the statistical program Eviews.

Table 3 shows a statistically significant effect of the costs of intellectual capital on the profitability of Jordanian commercial banks.

2) Second hypothesis:

H2: No statistically significant effect at the semantic level ($\alpha \geq 0.05$) for the costs of social capital on the profitability of Jordanian commercial banks.

To test this hypothesis, the researchers used the linear regression analysis test through the statistical program Eviews.

92.3% of the difference in net profits. From the results of Table 4, the following predictive equation can be derived:

$$\text{Profitability of banks} = 17740381.978 + 24.462 * \text{Social capital} \quad (1)$$

3) Third hypothesis:

H3: No statistically significant trace at the semantic level ($\alpha \geq 0.05$).

To integrate intellectual capital and social capital into the profitability of Jordanian commercial banks.

To test this hypothesis, the researchers used the linear regression analysis.

Table 5. Regression analysis of the social capital variable

<i>Variables</i>	<i>Coefficient</i>	<i>Standard error</i>	<i>T-statistics</i>	<i>Probability</i>
<i>Integration between intellectual and social capital</i>	25.127	1.859	13.517	0.000
Constant	11486761.113	5485333.594		
R-squared	0.971			
Sum-of-squared residuals	0.943	Adjusted R-squared	46193321.69	
F value	131.896	S.D. of the dependent variable	73044970	
F-statistic	0.000	Durbin-Watson statistic	1.97854	

Source: Authors' creation.

Table 5 shows a statistically significant effect of the integration between intellectual and social capital on the *Income Statements of Jordanian Commercial Banks*, as the value of the calculated significance level reached 0.000, which is less than the level of significance that was determined in this study with ($\alpha \geq 0.05$).

Thus, rejecting the null hypothesis and accepting the alternative hypothesis by looking at the fair value of the correlation coefficient between each of the income statements of banks measured by net profit and the integration between intellectual and social capital.

We find that the complementarity between intellectual and social capital explains the amount of 94.3% of the variance in net profits.

5. DISCUSSION

Based on the results of the analysis, the study showed that there is a positive effect of intellectual capital on net income. The analysis over the ten years revealed an increase in the expenses spent on the human factor, and at the same time, there was an increase in the net income of most banks. In addition, increased training expenses for the bank's new and old employees led to improved work efficiency and net income during the study period.

This paper has also shown that social capital positively impacted the net income of Jordanian banks. The analysis over time showed that an increase in the expenses spent on community service was accompanied by a rise in banks' net income, indicating the bank's good reputation and contribution to local issues. The higher expenses of donations and local aid, a component of social capital, accompanied by the increase in net income, indicated that the bank had achieved a higher net income due to donations and aid in the local community.

The bank's contribution to the employment of individuals has helped solve the community's unemployment problem, strengthening the bank's reputation, which directly impacted the net income due to the increase in the local community's dealings with banks. The analysis has also shown a positive correlation between social capital and intellectual capital; however, there was no contradiction between them in the positive impact on banks' net income throughout the study period.

6. CONCLUSION

The main objective of this study was to investigate the effect of integrated intellectual and social capital on the net income of commercial banks in Jordan. Using a sample of data from Jordanian commercial banks from 2009 to 2019, the study presented an experienced indication of the effect of social and intellectual capital and their integration in enhancing the performance of banks. Results have revealed that social capital and intellectual have a positive impact on the net income of Jordanian banks individually and by integrating them.

The study concluded that the attention paid by banks to their employees by providing constant pieces of training and sustained development as part of the organizational culture of the banks could raise the efficiency of the working environment, which will help in completing the banking operations at a faster rate and thus raising the net income of Jordanian banks. Banks should develop choices based on understanding the importance of intellectual capital in organizations, particularly in technology and knowledge-based industries.

As social capital positively influences net income, maintaining old and well-trained employees due to the accumulation of experience can also positively affect work efficiency. The necessity of the bank's participation in attracting new human elements and subjecting them to continuous training would enhance the human element in the banks. Banks should increase their donations and aid in the local community leading to an improved reputation and a higher number of customers. The study's limitations can be expressed by excluding the period after 2019 due to the COVID-19 which has negatively affected the financial statements of Jordanian banks and it is hard to judge and rely on it.

For further studies, it is recommended that banks extend their expenditures to align with international goals, such as sustainable development goals (SDGs), which comply with the global perspective. Also, future studies should test the effect of the integrated intellectual and social capital on the net income of Jordanian International Banks. This can help in creating value in the dynamic business environment.

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