

BOARD CHARACTERISTICS AND INTELLECTUAL CAPITAL PERFORMANCE: EMPIRICAL EVIDENCE OF BAHRAIN COMMERCIAL BANKS

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ABSTRACT

The aim of this study is to look into the relationship between (BC) and business outcomes. Its aim is to see if the Select Characteristics Board has an effect on Bahrain's commercial banks' (ICP). The board size, board independence, number of board meetings, diversity of board nationality, and board experience are all reflected by the (BC).

To achieve the primary goal of this study, panel data and multiple regression were used to examine the relationship between (BC) and (ICP). The research duration is five years, from 2015 to 2019, and seven commercial banks were chosen for this report.

The findings indicate that there is a substantial relationship between board size, board independence, and bank size and ICP, while there is a marginal relationship between the number of board meetings, board diversity, and board expertise and the (ICP) of Bahrain's commercial banks. However, it recommends that commercial banks and consumers pay greater attention to the success of human resources rather than relying solely on financial factors.

Keywords: Intellectual Capital Performance (ICP), Board Characteristics (BC), Commercial Banks, Bahrain.

INTRODUCTION

Corporate associations used to work for the benefit and sustainability of their members; but, in modern times, the aims of corporate associations have grown beyond profit to include gaining comparative advantages (Ali & AlSondos, 2020; Ali et al., 2016; Salameh et al; Herli et al., 2021). Firms all over the world aim to revise their results from time to time in order to increase their efficiency and performance and to recognize their weak points in order to make necessary improvements (Ali et al., 2020). According to the resource-based view principle, each business owns its own capabilities and resources, which include tangible and intangible assets where the firm can have a high competitive advantage because these assets are unique, valuable, non-replaceable, and completely imitable, according to (Barney et al., 2001; Qeshtaa & Ali, 2020).

As a result, corporate governance is one of the most common methods for controlling, organizing, and monitoring stakeholder relationships in order to achieve the highest level of competitiveness and efficiency for the company. Various studies have stressed the importance of Board Characteristics (BC) structure in companies, as this structure has a direct effect on financial efficiency (Kaur et al., 2017; Masum & Khan, 2019; Vitolla et al., 2020). Gender Diversity on Board of Directors and Intellectual Capital Disclosure in Indonesia, The Journal of Asian Finance, Economics, and Business). Academics and analysts have traditionally been used to assess the relationship between board characteristics and a company's physical and financial capital. The aim has been to measure the relationship

between board characteristics and Intellectual Capital Production (ICP) over the last few decades (Saruchi et al., 2019; Ana et al., 2021). In a knowledge-based economy, intellectual capital has become increasingly essential to a company's success. There are some authors who argued that there is no universal definition of intellectual capital, but that it can be defined as intangible values that are a part of a company's capital and include human, structural, and relational components that contribute to the creation of innovation and innovative ideas that help the company succeed, gain market share, and boost competitiveness (El Tawy & Tollington, 2012).

In 2010, the Bahrain Ministry of Trade and Industry and the Central Bank of Bahrain (CBB) published the Code of Corporate Governance Bahrain to boost investor trust in Bahraini companies and encourage economic growth (Qeshtaa & Ali, 2020; Ghazzawi et al., 2020).

All Bahraini companies linked to Basel agreements have implemented this code; for example, a commercial bank, which is considered one of the world's most profitable industries, is one of the main businesses that has followed this code. Bahrain pays careful attention to and considers different aspects of how to have a stable and appealing investment environment (Ali & Oudt, 2020; Oudat et al., 2020). To that end, the current study examines the relationship between (BC) and (ICP) for commercial banks from 2015 to 2019, providing recent empirical evidence from the Bahrain context. The primary aim of this research is to dig deeper into the relationship between board characteristics and the (ICP) of commercial banks listed on the Bahrain Stock Exchange. This study's primary goals are as follows: Corporate associations used to operate for the benefit and sustainability of their members; but, in modern times, the interests of business associations have expanded beyond profit to include achieving comparative advantages (Ali & AlSondos, 2020; Ali et al., 2016; Salameh et al. 2020; Herli et al., 2021). Firms all over the world aim to revise their results from time to time in order to improve their competitiveness and performance and to identify their weak points in order to make appropriate changes (Ali & Oudat, 2020). According to the resource-based view theory, each business owns its own capabilities and resources, which include tangible and intangible assets where the firm can have a high competitive advantage because these assets are unique, valuable, non-replaceable, and fully imitable, according to (Barney et al., 2001; Qeshtaa & Ali, 2020).

As a result, corporate governance is one of the most common methods for controlling, organizing, and monitoring stakeholder relationships in order to achieve the highest level of competitiveness and efficiency for the company. Various studies have emphasized the importance of board characteristics (BC) structure in companies, as this structure has a significant impact on financial efficiency (Kaur & Vij, 2017; Masum & Khan, 2019; Vitolla et al., 2020; Herli et al., 2021). Academics and analysts have historically been used to determine the relationship between board characteristics and a company's physical and financial capital. The aim has been to measure the relationship between board characteristics and intellectual capital production (ICP) over the last few decades (Kamath 2019; Saruchi et al. 2019; Ana et al., 2021).

In a knowledge-based economy, intellectual capital has become increasingly important to a company's success. Tawy & Tollington, (2012); Ghazzawi et al. (2020); Tuna, & Acar, (2020) who argued that there is no universal definition of intellectual capital, but that it can be defined as intangible values that are a part of a company's capital and include human, structural, and relational components that contribute to the creation of innovation and innovative ideas that help the company succeed, gain market share, and improve competitiveness.

The Bahrain Ministry of Trade and Industry and the Central Bank of Bahrain (CBB) released the Code of Corporate Governance Bahrain in 2010 to increase investor confidence

in Bahrain companies and promote economic growth in the country (Qeshtaa & Ali, 2020).

This code has been applied by all Bahrain companies linked to Basel agreements, for example, a commercial bank, which is considered one of the most profitable sectors in the world, is one of the key corporations that has followed this code. Bahrain pays close attention and focuses on how to provide a secure and attractive investment climate in various aspects (Ali & Oudt, 2020; Oudat et al. 2020). To that end, the current study aims to provide recent empirical evidence from the Bahrain context by examining the relationship between (BC) and (ICP) for commercial banks from 2015 to 2019. The main goal of this study is to investigate the relationship between board characteristics and the (ICP) of commercial banks listed on the Bahrain Stock Exchange in greater depth. The following are the specific objectives of this research.

1. Examining the relationship between board size and (ICP) of commercial banks listed on Bahrain Stock Exchange.
2. Investigating the relationship between Board independency and (ICP) of commercial banks listed on Bahrain Stock Exchange.
3. Examining the relationship between numbers of board meetings and (ICP) of commercial banks listed on Bahrain Stock Exchange.
4. Investigating the relationship between diversity of board nationality and (ICP) of commercial banks listed on Bahrain Stock Exchange.
5. Examining the relationship between Board expertise and (ICP) of commercial banks listed on Bahrain Stock Exchange.
6. The paper structure began with the first section of this report, outlining the purpose of the study and then addressing previous research and hypotheses. A comprehensive list of data sources, research methods and models is provided. This is followed up with results of the study and a thorough review, ending in the last section and some suggestions.

LITERATURE REVIEW AND HYPOTHESES PROPOSED

Board Characteristics

A board of directors is the legal agent of the firm's capital interests and is responsible for taking care of shareholders' interests without discrimination or prejudice to the percentage of their membership, and it assumes management duties. Furthermore, the effect of board characteristics, especially on financial results, has been extensively researched in the literature (Priya & Nimalathasan, 2013; Odudu et al., 2016; Ng et al., 2016; Ghosh & Ansari, 2018; Oyedokun, 2019; Saleh & Islam, 2020; Vitolla et al., 2020; Ana et al., 2021).

Board Size

The number of directors on the board has a significant impact on the board's effectiveness. Previous studies have failed to reach a consensus on the relationship between board size and effectiveness. It is likely that a larger board would be less efficient, making it easier for the executive director to manage. Additionally, a larger board is correlated with a better atmosphere, interactions, firm efficiency, and ownership structure (Katuse, 2013; Al-Musalli & Ismail, 2012). However, the results on the relationship between board size and performance are mixed (ICP). Accordingly, (Alizadeh et al., 2014; Attarit, 2016; Herdjiono & Sari, 2017; Kamath 2019) discovered a significant relationship between board size and results, whereas (Ho & Williams, 2003; Al-Musalli & Ismail, 2012) discovered an insignificant relationship (ICP).

As a result, the first hypothesis can be stated as follows:

H₁: The size of the board of directors has no bearing on the (ICP) of commercial banks listed on the Bahrain Stock Exchange.

Board Independency

The independence of the board of directors is an integral part of corporate governance. External non-executive directors on the board of directors are viewed as a critical component of internal control processes and an essential measure of the quality of corporate governance execution and a source of additional expertise, intelligence, and resources. The addition of independent representatives to the Board of Directors to intervene in the financial reporting process and increase disclosure and transparency for shareholders and stakeholders (Gabrielsson & Huse, 2005; Al-Musalli & Ismail, 2012). The majority of previous studies have shown a significant relationship between board independence and (ICP), such as; (Al-Musalli & Ismail, 2012; Alves, 2014; Kamath, 2019). As a result of the study, the following hypothesis was proposed:

H₂: There is a strong correlation between the Bahrain Stock Exchange's independence board and commercial banks listed there (ICP).

Meetings of the Board of Directors

In addition to board dimensions and independence, the board is one of the factors that improves the accuracy of financial performance. The number of times the board members meet on a daily basis is referred to as board meetings. The number of meetings is significant because it improves joint and agreed-upon decision-making, increases awareness of the financial and non-financial positions of the companies, and allows them to efficiently improve control efficiency (Eluyela et al. 2018; Saruchi et al. 2018). Numerous studies have found an important association between the number of board meetings and the outcomes of intellectual capital studies (Suhardjanto et al., 2012; Mubaraq & Haji, 2014; Al-Musali & Ismail, 2015; Bhattacharjee et al., 2017; Rodrigues et al., 2017). In their reports, (Mahmudi & Nurhayati, 2014) emphasised that there is no significant relationship. In this regard, the study suggests the following hypothesis.

H₃: There is a significant link between the meeting of board and commercial banks listed on the Bahrain stock exchange's (ICP).

Diversity of Board nationality

Nationality diversity is one of the most prominent and readily detectable facets of diversity (race, gender, and age), while technological skills, schooling, work experience, length of tenure in the business, and personal conduct are the least evident. There are two ways to express the definition of board member diversity in terms of nationality. The first is observable diversity, such as job, gender, educational attainment, and cultural context, and the second is perceptual diversity, such as personal actions and life experience. The proportion of foreign members in the total number of board members may be used to measure nationality diversity. Various nationalities and cultures promote the exchange of ideas and points of view, resulting in organisational productivity (Auh & Menguc, 2005; Al-Musali & Ku Ismail, 2015; Herli et al., 2021). However, Komala & Fuad, (2014) concluded that they could not provide convincing evidence that nationality diversity has an effect on intellectual capital. As a consequence of the study, the following hypothesis is proposed:

H₄: There is a clear correlation between board diversity and the (ICP) of commercial banks listed on the Bahrain Stock Exchange.

Expertise on the Board

It is important for shareholders to ensure that the board of directors is made up of members who are well-educated and informed, and that they strive to improve the organization's operations while protecting shareholders' investments (Ali & Oudat, 2020). Since they have a broad analytical capacity, they have a higher degree of success in making rational and appropriate decisions than others. Furthermore, according to Saeed et al. (2015), each director's experience, abilities, and skills will help the company achieve better results. There is a significant relationship between board experience and (ICP), according to some previous studies (Saruchi et al., 2019). However, Mahmudi & Nurhayati (2014) discovered that the board member's intellectual capital and expertise had no impact. As a result, the latest study indicates the following hypothesis:

H₅: There is no connection between board expertise and the (ICP) of Bahrain Stock Exchange-listed commercial banks.

RESEARCH METHODOLOGY AND DATA

Selection of Samples

The study samples included all Bahrain-listed commercial banks in the 2015–2019 period, which included seven banks, and the research population included all banks in the Kingdom of Bahrain. Both banks are included in the study's population. The governance variables disclosed in the banks' annual reports can be downloaded from the banks' websites as well as the Bahrain Stock Exchange's website.

Evaluating Variables

Intellectual capital

The current research used a value added intellectual coefficient (VAIC) model built by to explore the relationship between independent and dependent variables (Pulic 1998). Many researchers used the model previously to measure the output of intellectual capital, particularly in the banking sector, e.g. (Wang, 2011; Ahuja and Ahuja, 2012; Latif et al., 2012; Qeshtaa, & Ali, (2020). One of the main purposes of this formula is to measure the economic (physical and financial) and intellectual (human and structural) resources in order to generate added value for the business, and algebra is the calculation of the productivity (physical and financial) of working capital growth, as well as the two key elements of intellectual capital (human and structure) and flow:

$$VAIC = CEE + HCE + SCE$$

Whereas:

1. Capital Employed Efficiency (CEE) is a calculation of value-added output divided by the amount of capital employed. For CEE, the following is an estimate: $VA/CE = CEE$
2. Human Capital Efficiency (HCE), a calculation of the added value of human capital efficiency. For HCE, the following is an estimate: $VA/HC = HCE$
3. Structural Capital Output (SCE), a measure of structural capital's value-added quality. For SCE, the following is calculated: $SC/VA = SCE$

The following formula is used to calculate the added value:

OUTPUT – INPUT = VALUE ADDED

The overview variables and their measurement are shown in the table below, based on previous related studies (Mahmudi & Nurhayati, 2014; Al-Musali & Ku Ismail, 2015; Kamath, 2019).

Variable	Abbreviation of Variable	Measurement
-Intellectual Capital Performance	ICP	-The value-added factor of intellectual capital
-Board size	BOSIZE	-Full number of Board of Directors members
-Independency of Board	BOINDP	-The independence of the board is calculated by the ratio between the independent directors and the overall directors
-Frequency of Board Meetings	FRMEET	-Absolute number of meetings held in one year
-Nationality Diversity	NATD	-The dummy variable with a value of 1 is that there is a variety of nationalities among board members and a value of 0 otherwise.
-Educational level Diversity	EDLD	-Number of directors with expertise in accounting and financial qualifications divided by the total number of board members
-Bank Size	BASIZE	-Overall Assets Log

Models of regression

The following regression model was created to investigate the relationship between (BC) and intellectual capital production, as well as to test the study hypotheses:

$$ICP = \beta_1 + \beta_2 BOSIZE + \beta_3 BOINDEP + \beta_4 BOMEET + \beta_5 EDULEVEL + \beta_6 NATILEVEL + \beta_7 BASIZE + \varepsilon$$

Where β_1 represents the intercept expression, β_2 – β_7 represents the slope of the controls and (IVS) independent variables, and ε is the random error.

FINDINGS

Descriptive Statistics of Variables

Table 2 shows the dependent and independent variables, starting with the dependent variable (ICP), which shows that intellectual capital has a minimum of 0.27 and a maximum of 4.86 performance at an average level of 2.5488. Second, the table shows the results of descriptive analysis for independent variables, which indicate that Bahraini commercial banks are willing to follow high-quality governance systems, with a high percentage of diversity in educational level among board members, as well as enough diversity in nationality and members of the board of direct supervision. The average board of directors in Bahrain had 10, 60 members, with a minimum of 9 and a maximum of 13. On the other hand, educational diversity ranges from 0.40 to 0.74, with an average of 0.5611 and a standard deviation of 0.33, indicating that it is usually modest. The nationality diversity measurement ranges from 0.17 to 0.48, with an average of 0.4047 and a standard deviation of 1.262, indicating that nationality diversity decreases on average. According to a report, in preparation for selecting identical directors of different educational levels (Al-Musalli & Ku Ismail, 2012). However, each year's overall number of board meetings is statistical, implying

that commercial banks follow corporate governance recommendations (at least four meetings per year).

Pearson Correlation Testing

The Pearson correlation test was used to look at the interrelationship of the variables and see if there was any chance of problems resulting from correlation. Pearson's correlation coefficients for the variables in the study are shown in Table 2. The correlation coefficients are less than 0.07, according to the Hair review (Hair et al., 2017). Until the relationship between the study variables reaches 0.07, it is not a cause for concern. As a result, Variable correlation has no trouble calculating regression coefficients.

Variables	ICP	BOSIZE	BOINDP	FRMEET	NATD	EDLD	BASIZE
ICP	1						
BOSIZE	0.137	1					
BOINDP	.530**	.343*	1				
FRMEET	-0.245	-0.032	-.344*	1			
NATD	0.101	0.183	-0.223	.373*	1		
EDLD	-.489**	-0.215	-0.025	0.126	-0.263	1	
BASIZE	.625**	.618**	.365*	-0.129	0.236	-.722**	1

Regression Analysis

Table 2 shows that the independent combined variable relationship with (ICP) in commercial banks listed on the stock market for the study sample is statistically significant, with a determination coefficient test R² of about.652 and an adjusted R² of about.577, indicating that these independent variables combined are statistically significant. It accounts for about.577 of the variation in intellectual capital-output among commercial banks.

Regression Results

Table 2 summarizes the regression results for the relationship between (B.C.) and (ICP) for commercial banks in Bahrain from 2015 to 2019. The table shows a close relationship between the board of directors' size and the profitability of Bahrain commercial banks ($t = -3.017$, P. V. 005 0.05). (ICP).

This result suggests that increasing the number of board members in Bahrain commercial banks would substantially negatively impact the (ICP). The negative association between board size and (ICP) may explain that small boards are easier to make decisions than big boards. The current results are in line with those of other researchers who have discovered a significant association between likes and likes (Alizadeh et al. 2014; Attarit 2016; Herdjiono & Sari, 2017). The alternative hypothesis, on the other hand, is accepted, and H1 is denied. The table also shows that there is a strong significant relationship between board independence and (ICP)($t = 3.199$, P. V. 003 0.05), indicating that higher board independence leads to higher intellectual capital performance because independent members will intervene in the financial reporting process and improve disclosure and transparency for shareholders and stakeholders (Gabrielsson & Huse, 2005; Al-Musalli & Ismail, 2012). H2 is also decided upon, as there is a direct link between board independence and intellectual capital output. The relationship between the number of board meetings and human capital performance is shown in the table as ($t = -.490$, P.V.,.628 0.05) for the

relationship between the number of board meetings and human capital output (which means no matter how many times a board member has had discussions each year). The result is compatible with (Mahmudi & Nurhayati, 2015), but not with (Al-Musali & Ismail, 2015; Rodrigues et al. 2017; Bhattacharjee 2017). As a result, H3 is rejected, while the alternative theory is accepted, implying essential connections. Furthermore, the fourth hypothesis is dismissed from the table, as a result, shows an insignificant association between the diversity of board nationality and (ICP) ($t = -.215$, $P. V., .831$ 0.05), implying that variety of board members would not improve (ICP) in Bahrain commercial banks. The outcome was as anticipated (Komala & Fuad, 2017). On the other hand, the fifth hypothesis is strongly supported in this analysis, as the table shows that there is no significant association between board knowledge and (ICP) ($t = -1.064$, $P. V., .296$ 0.05). This means that the directors' diversity of experience, abilities, and skills would not lead to high (ICP) in Bahrain commercial banks. This finding is consistent with the study of (Mahmudi & Nurhayati, 2015), which found no correlation between intellectual capital and board member expertise. The bank size was found to have a positive and vital impact on the (ICP) ($t = 2.829$, $P. V. 009$ 0.05), indicating that the larger the bank, the better the (ICP) in the sense of Bahrain commercial banks. The findings are consistent with previous research, such as (Al-Musali & Ismail, 2015), which found a positive and significant relationship between bank size and profitability (ICP).

CONCLUSION

This research aimed to provide new empirical proofs for the relationship between (BC) stated and defined by board size, board independence, number of board meetings, diversity of board nationality, and board expertise, and (ICP) of commercial banks as measured by CEE, HCE, and SCE. Panel data and multiple regression were used in the study to explore the relationship between variables. This study's findings show that board size, board independence, and bank size all have a significant relationship with business performance (ICP). Although there is no significant relationship between the number of board meetings, the board's diversity, the rationality and competence of the board, and the performance of intellectual capital for Bahraini commercial banks, Bahrain has excellent government policies aimed at boosting the country's economy. The government supports companies in obtaining a highly skilled and competent board of directors, which would lead to a strong economy in the immediate future. Because of the companies' high-quality IC culture, the economy will expand dramatically. The study recommends that commercial banks and stakeholders pay more attention to the output of intellectual capital and its components while keeping all financial aspects in mind, as reliable information is given, resulting in increased trust in financial reports.

Furthermore, stakeholders such as investors, lenders, creditors, and debtors should understand the term IC and its meaning in making better business investment decisions. The current study's biggest drawback is that it only looks at a few commercial banks. The research can be extended to include other forms of banks, such as investment banks and other industries.

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