

The Effect of Audit Committee Chair Characteristics on Intellectual Capital Performance in Banks: Evidence from an Emerging Economy

El efecto de las características del presidente del Comité de Auditoría sobre el rendimiento del capital intelectual en los bancos: evidencia de una economía emergente

O efeito das características do presidente do Comitê de Auditoria sobre o rendimento do capital intelectual nos bancos: evidência da uma economia emergente

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Abstract

The study aims to examine the impact of audit committee (AC) chair characteristics on intellectual capital performance (ICP) of banks. Accounting and corporate governance data was collected from the annual financial reports of all the listed banks in Saudi Arabia. The information of 12 banks and a total of 72 observations were collected, for the 2014 to 2019 period. The main instrument of ICP measure, which is the dependent variable, is based on the Value-Added Intellectual Coefficient (VAIC) method developed by Pulic (2000). The independent variables are corporate governance (CG) factors perceived to influence AC chair characteristics. These identified variables are activities and qualities commonly associated with the AC chair in the conduct of his duties. The results generally show that AC chair independence and AC chair DUAL have significant positive affect ICP in the context of Saudi Arabian listed banks. Specifically, previous studies have generally concentrated on in-

tellectual capital (IC) and CG, especially on AC characteristics. This study extends the characteristics of the AC chair; by examining the factors, which may influence characteristics and provide some evidence, which plays a vital role in the performance of IC in knowledge-intensive institutions, like banks, in a developing economy. This result calls for a rethink or review of the nomination and subsequent appointment of 'independent directors,' who are truly independent, from whose stock, the AC chair, is appointed.

Keywords: Audit Committee Chair; Banks, VAIC; Intellectual Capital Performance; and Saudi Arabia.

Resumen

El estudio pretende examinar el impacto de las características del presidente del Comité de Auditoría (CA) en el Rendimiento del Capital Intelectual (PCI) de los bancos. Los datos de contabilidad y gobierno corporativo se recogieron de los informes financieros anuales de todos los bancos que cotizan en la

bolsa en Arabia Saudí. Se recogió la información de 12 bancos y un total de 72 observaciones, para el período comprendido entre 2014 y 2019. El instrumento principal de la medida del PCI, que es la variable dependiente, se basa en el método del Coeficiente de Valor Añadido Intelectual (VAIC) desarrollado por Pulic (2000); las variables independientes son los factores de gobierno corporativo (GC) que se perciben como influyentes en las características del presidente del CA. Estas variables identificadas son actividades y cualidades que comúnmente se asocian al presidente del CA en el desempeño de sus funciones. Los resultados muestran, en general, que la independencia del presidente del CA y el DUAL del presidente del CA tienen un efecto positivo significativo en el PCI en el contexto de los bancos cotizados de Arabia Saudí. Específicamente. Los estudios anteriores se han centrado generalmente en el capital intelectual (CI) y el GC, especialmente en las características del CA. Este estudio amplía las características del presidente del CA; al examinar los factores que pueden influir en las características y proporcionar pruebas de que desempeña un papel vital en el rendimiento del CI en instituciones intensivas en conocimiento, como los bancos, en una economía en desarrollo. Este resultado exige un replanteamiento o revisión de la designación y posterior nombramiento de “consejeros independientes” que sean realmente independientes, de cuya acción se nombra al presidente del CA.

Palabras clave: Presidente del Comité de Auditoría; Bancos; Coeficiente de Valor Añadido Intelectual (VAIC); Rendimiento del Capital Intelectual, y Arabia Saudita.

Resumo

O estudo tem como objetivo analisar o impacto das características do presidente do Comitê de Auditoria (CA) no Rendimento do

Capital Intelectual (PCI) dos bancos. Os dados contábeis e de governança corporativa foram obtidos dos relatórios financeiros anuais de todos os bancos listados na bolsa de valores da Arábia Saudita. As informações foram coletadas em 12 bancos e um total de 72 observações para o período entre 2014 e 2019. O principal instrumento de medição do PCI, que é uma variável dependente, é baseado no método do Coeficiente de Valor Agregado Intelectual (VAIC) desenvolvido por Pulic (2000); as variáveis independentes são os fatores de governança corporativa (GC) que são percebidos como influentes nas características do presidente do CA. Essas variáveis identificadas são atividades e qualidades comumente associadas ao presidente do CA no desempenho de suas funções. Os resultados mostram, de um modo geral, que a independência do presidente do CA e o DUAL do presidente do CA, tem um efeito positivo significativo sobre o PCI no contexto dos bancos cotados na Arábia Saudita, especificamente. Os estudos anteriores, geralmente, se concentraram no capital intelectual (CI) e CG, especialmente nas características de CA. Este estudo amplia as características do presidente do CA, ao examinar os fatores que podem influenciar as características e fornecer evidências de que desempenha um papel vital no desempenho do CI, em instituições intensivas em conhecimento, como os bancos, em uma economia em desenvolvimento. Este resultado requer novo planejamento, revisão da nomeação e posterior nomeação de “conselheiros independentes” verdadeiramente independentes, de cuja ação é nomeado o presidente do CA.

Palavras-chave: Presidente do Comitê de Auditoria, bancos, Coeficiente de Valor Agregado Intelectual (VAIC), Rendimento do Capital Intelectual (PCI), Arábia Saudita.

1. Introduction

Physical capital no longer plays an overbearing role as it used to in the past in most organizations. The banking sector belongs to this group, where knowledge or intellectual capital (IC) plays a crucial role (Buallay et al., 2020; Shih et al., 2010). According to Castro et al. (2019, cited in Buallay et al., 2020, p. 383). “The rise of a knowledge-based economy puts the focus on knowledge and intellectual capital as major production factors responsible for the economic and financial prosperity of nations as well as key drivers of companies’ sustained competitive advantages.” IC is a business asset (Tejedo-Romero and Ferraz Esteves de Araujo, 2016), and recognized as an important part of firms’ value-creating processes (Hamdan et al., 2017; Buallay et al., 2017). It is the key to creating significant effects on shareholder value and building competitive advantage (Rodrigues et al., 2017).

In most jurisdictions, especially in emerging markets, more focus is on IC and corporate governance (CG), as they are the main drivers of banking sector success (Buallay, 2018). KSA Govt has identified corporate governance as a corruption-eliminating tool (Hammad, 2019). Therefore, companies, especially banks, make huge investments in IC-related assets, such as brand development, research, and development (R&D). Intellectual Capital Performance (ICP) facilitates the precise valuation of a firm and helps reduce investors’ uncertainty about its prospects (Holland, 2003). But

not much empirical work has been done on ICP, which has ultimately resulted in increased demand for such more studies (Lev, 2001; Holland, 2006), particularly in the area of factors, which affect ICP, especially of the effect of CG mechanisms on ICP.

CG mechanisms or tools have been widely acknowledged in most organizations, especially as they relate to improving ICP (Hamdan and Mushtaha, 2011). Generally, the audit committee (AC) plays a crucial role in CG practices, especially in the monitoring of management by the board of directors (BOD) (Smith Report, 2003). Prior literature and studies have proven that an effective AC can enhance the financial reporting processes (Mangena and Pike, 2005). In organizations, the AC has precise responsibilities assigned to it by the BOD, i.e., to assess and to examine corporate reporting processes and procedures of the firm, and to interact with the external auditors (Carcello and Neal, 2003). An effective AC is underpinned by purpose, vision, values, and ethics, which are reflected on the behavior and actions of its members and management team, which may cascade throughout the organization. Therefore, leadership and membership of the AC are considered to be very important in most jurisdictions.

Membership and leadership of the AC are critical issues. “Any committee can only be as good as the people that serve on it. In particular, the effectiveness of the audit committee often depends on

a strong, independent chair who has the confidence of both the board and the external auditors and on the quality of the non-executive directors, and one who sets the committee's tone, work style, and agenda." (KPMG International Cooperative, 2019, p.1). Therefore, independence, integrity, and competence should be the foremost qualities of an effective AC chair.

The purpose of this study is to investigate whether or not the independence of the AC chair, who is a key member of the committee, influences ICP. The AC chair independence and leadership in setting the committee's tone, work-style, and agenda, are vital to the committee's effectiveness on ICP in financial institutions, especially banks. This study builds on research, which has examined both ICP and organizational performance (Inkinen, 2015; Singh et al., 2016; Bualay et al., 2020); ICP and value creation (Bualay, 2017; Chaminade and Roberts, 2003); and corporate governance and ICP (Peasnell et al., 2005; White et al., 2007; Bualay, 2018).

Many studies have been undertaken in this area across the globe, especially in developed economies (Mangena and Pike, 2005), but there is still more to be studied on ICP, especially in emerging economies (White et al., 2007). Although a few authors (Siahaan et al., 2015; Mutakin et al., 2015; Eric and Bualay, 2018) amongst others, have provided some evidence on the relationship between AC and ICP, in some developing countries,

there is little evidence of such developments, especially focusing on the composition and structure of the AC in the Gulf Cooperation Council (GCC) countries. Specifically, in the best of my knowledge, this is the first study, which examines the AC chair characteristics and ICP among those banks listed on the Saudi Arabia Stock Exchange (SSE).

This study focuses on Saudi Arabia as it represents one of the important economically, politically, religiously, and culturally significant countries in the Middle East, due to the leadership role it plays in the area. Its unique context also presents an interesting setting where culture plays a predominant role in the corporate decision-making process (Koldertsova, 2011). The country also has a favorable business climate, attributed to its 'Vision 2020' objective of a knowledge-based economy and liberalization of some of its economic policies. Even though economic activities have slowed down, which economists have claimed to be largely due to the effects of security spillovers from the regional crises, there still exist huge investment opportunities for current and potential investors.

The banking sector currently plays a crucial role in the country's economy, by facilitating financial transactions. Nevertheless, these financial institutions are facing a stiff competitive environment and other global business challenges. According to Bualay (2018, p. 2), "*In Gulf countries, where there is competitive environment and globalization business*

challenges,, banks are forced to reshape into becoming knowledge-intensive rather than being traditional to capitalize bank resources, but pay attention especially in the area of intellectual capital (IC)".

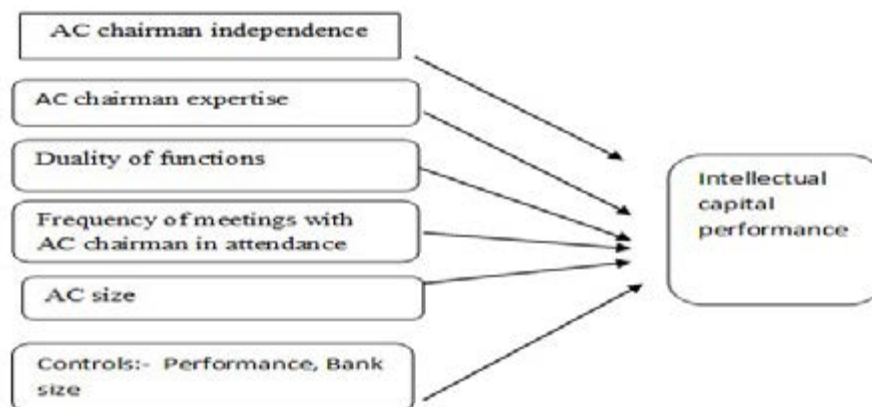
The choice of the scope of this study is in line with the need for a country-specific study. According to Afifuddin and Siti-Nabiha (2010, p. 30), "Case studies provide an opportunity for researchers to retain the holistic and meaningful characteristics of real-life events." Highlighting the importance of AC, and specifically, independence, the head of the committee, is crucial to all stakeholders within and outside the organization. It is, therefore, essential to study how this factor, among some others, affects ICP.

This study contributes to the ICP and CG literature in several ways. First, we extend the AC chair characteristics include the independence of the AC chair, by dissecting the factors, which may influence independence and provide some evidence that it plays a vital part in the performance of IC in knowledge-intensive institutions, like banks, in a devel-

oping economy. Hence, the result of this study provides the view that AC chair is an important contributor to AC efficiency, who frequently engages with important corporate governance stakeholders (Free et al., 2021). Secondly, this study uses the VAIC model, which can measure IC and the efficiency of its individual components. Knowing the individual contribution of these assets (components) will enable management to intervene in the most efficient business areas. For the banks where knowledge or IC plays a crucial role, knowing the existence of such an intangible asset will strongly influence their strategic decisions and their stakeholders when value is attached to such assets.

The rest of this paper is organized as follows. Section 2 presents a review of relevant literature. The research methodology adopted is presented in section 3. Section 4 displays the analysis and report of the empirical results. Conclusion, recommendations, and potential for future studies are presented in section 5.

Figure 1 Conceptual model of AC chair and intellectual capital performance



2. Literature Review

CG studies have identified the important role the AC plays in modern corporations. Most modern organizations have, therefore, recognized the usefulness of an active AC in building confidence for users of the financial statement and the process of its generation. The soundness of the company's internal control system is most often reflected on its corporate decision making.

Generally, the usefulness of an AC depends on its features (Li et al., 2012). A combination of expertise and experience is essential for an AC to carry out its statutory functions effectively and efficiently (Madi et al., 2014; Wan-Hussin et al., 2018). These qualities refer to the attributes, who members, especially, the head of the committee, should possess. According to Baxter and Cotter (2009), AC independence is a key and essential quality, which defines the committee's level of competence and effectiveness in the process of monitoring the company's accounting and financial system.

An AC is not only expected to ensure the integrity of the financial reporting and auditing processes, as well as the CG system, but also to serve as the company's moral and ethical compass (Kantudu and Samaila, 2015). Saddled with such an enormous statutory task, the committee should be headed by a man or woman endowed with integrity and its related attributes, like independence of thought and robustness of character in order to take financial and other strategic long-

term decisions, like IC development, without fear or favor, or any influence from within and outside the organization.

AC's performance and independence are directly linked to the AC chair. Depending on how sound the head is, it will give direction to the committee, as "the piper dictates the tone." Therefore, the independence of the head (sound mind) is a mirror of how independent the committee (sound body) will be. We can, therefore, assume that an independent AC chair may translate into an independent AC. On the contrary, it might be difficult to assume an independent AC without an independent chairman.

2.1 AC chair independence and intellectual capital performance

AC's duties are unique and specific, unlike BODs, which oversees the general interests of the company. The AC is mainly responsible for overseeing the company's financial reporting process. It also has the secondary duty of acting as a go-between the internal audit unit and the external auditors. These duties relate to the process of producing reliable and useful financial statements, on which investors and other outsiders can rely in order to make financial and other investment decisions. It is therefore very clear that the head of such an important committee must be independent, objective, and effective as the success or failure of the committee depends on his good leadership.

The AC chair must not only be seen as independent, but also must also act independently with regards to the affairs of the company. “He is expected to demonstrate courage to deal with tough issues and support other members to do the same, especially in probing management on areas where subjectivity is inherent (e.g., choice of accounting policies and estimates made in arriving at the figures recorded in the financial statements)” (KPMG International Cooperative, 2019, p.2). There is no doubt, therefore, that the head of such an important committee must not only be experienced in finance and accounting-related matters, but also must be independent to make decisions or advice management on such matters regarding the organization, especially long-term strategic decisions, such as human resource development, and particularly, IC-related issues.

Recognizing the importance of the need for independence and objectivity amongst AC members, most CG regulations are particular about the composition and appointment of members, more so about who heads the committee. The AC chair must be appointed from amongst its directors and must be a non-executive director, with the majority on the committee being independent directors. Studies have shown that independent directors normally support long-term managerial decisions, which can enhance the future performance and growth of the company (Gabrielsson and Huse, 2005). Hence, it is reasonable to

expect that an independent director, in this case, an independent AC chair, by giving advice and counsel, is more likely to support IC-related long-term strategies and to encourage ICP.

The significance of the AC chair leadership in setting the committee’s workstyle and agenda, is vital for the committee’s effectiveness. To succeed in this endeavor, and to provide good leadership, the chairman must first appreciate the committee’s duties and responsibilities. The AC chair be prepared to devote quality time, which usually will depend on the size and type of business, and he should also possess abilities, such as financial, leadership, and business skills. The AC chair is often the key contact between the committee members and board members, as well as senior management and auditors. Therefore, the independence of that office and that of the person, who occupies it, is a necessary condition for the AC to perform his duties and responsibilities efficiently and effectively, and in turn, to enhance ICP.

It could be deduced from previous studies (Hamdan et al., 2017; Buallay, 2018 and Wan-Hussin et al., 2021) and regulatory practices in some jurisdictions that the AC chair, as an independent director, if truly independent in all actions, relating to the organization, especially in financial matters, will influence organizational strategies and outcomes positively. These outcomes include, among others, IC-related strategies or performance, such as investing in human resources, R

& D, information technology, brand building and systems, and processes (Ahuja and Ahuja, 2012). Some prior studies have identified factors, which influence the AC independence (e.g., Madi et al., 2014). This study extends this line of study, by examining the association between the AC chair characteristics, such as, the chair independence, expertise, duality of functions, frequency of meetings, and committee size (as measures of effectiveness) and ICP. These identified variables are activities and qualities commonly associated with the AC chair in the conduct of duties.

2.2 Financial expertise of AC chair

The efficiency of an AC is enhanced by the financial expertise of committee members, which includes the chairman of the committee. Baxter and Cotter (2009) stressed that this quality is essential for members to do their job effectively and efficiently. Ensuring the right composition of the AC is vital. However, it can be challenging. Requirements vary across jurisdictions. However, generally, there must be at least one member who is financially literate (Buallay, 2017; Bamahros and Wan-Hussin, 2015). Though some authors, like Lisic et al. (2011), have noted that the presence of financial experts on the committee is a necessary condition, it is not enough to guarantee an effective AC, as the powers of the committee in most companies depends on the management style of the company concerned. Nevertheless, knowledge and

experience are needed like in any endeavor, because one cannot give what one does not have.

Previous studies have established a positive relationship between the financial literacy levels of AC members, mainly of the AC chair and financial reporting quality (Kent et al., 2010; Be´dard and Gendron, 2010; Jaafar et al., 2016). In line with this reasoning, Baxter and Cotter (2009) opined that relevant knowledge of AC members in financial matters will increase the level of activities and responsibilities of the committee that will result in improving the reliability of earnings quality. In all these, the AC chair bears the full responsibility; therefore expected to have good financial/accounting knowledge and know more of the workings of the committee as the head among equals.

The business and technological environment is now more complex and this demands more of the AC chair. Today, the AC chair role is broader than just financial reporting; hence, a wide range of experience and skills are now required to play the role (KPM International Cooperative, 2019). AC chair should be able to demonstrate and see the big picture, differentiate the big from small, and be focused on what matters more. Out-of-the-box thinking is important to bring a new perspective to financial and other issues. AC chair should have the ability to probe in-depth into issues, and then communicate in plain, non-technical language to get the message across.

These requirements highlighted above may only be achieved by one who has a sound financial and/or accounting background and knowledge. Therefore, the chairman should have appropriate skills, competencies and expertise to head such a technical committee as opined by Kent et al. (2010). The knowledge, preferably in finance/accounting and other business issues, will enable him to guide and to influence decisions related to IC and other company matters. This knowledge can empower him to lead effectively. As the saying goes, 'Knowledge is power'.

2.3 Duality of functions

Another factor that might likely influence the independence and effective functioning of the AC chair could emanate from the role play that may result in conflict of interest. The Saudi Arabia CG regulations only mention the prohibition of duality of the posts of chairman of the BODs and chief executive officer (CEO), but is silent concerning that of the AC chair. The AC chair should not only be seen to be independent, but office should not be combined with that of the chairman of BODs. In other words, these two offices should not be occupied by the same person. The board reviews the AC reports. Therefore, allowing the board chairman, who is also the AC chair, may impair objectivity of the board's review of the AC reports. Secondly, allowing such an arrangement will lead to concentration of so much financial and other strategic decision-making powers in one

person. In addition, the benefit of not merging the two offices into one is what will enable the AC chair to have enough time to face the statutory responsibilities of the committee.

Can the AC chair head any other committee within the same company? The answer will depend on the specific settings (size, complexity, and circumstances of the business). However, what is clear is that whatever additional positions the AC chair may hold, independence should not be compromised, and more importantly, the possibility of conflict of interests should be avoided. For the AC chair to exercise independent judgment in the duties, the CG codes of most jurisdictions (e.g., the UK, Australia, and Malaysia) favor the separation of the offices of the AC chair and that of BODs.

2.4 AC size

The size of a team is likely to affect the willingness of its leader. This is more so in situations where technical issues (e.g., financial) are involved. The financial literacy level of AC members is considered to be as an asset as it could enhance the quality of the members' contributions. Previous studies have established the link between AC size and earnings quality, as well as monitoring of financial and corporate disclosure practices (Al-Musalli and Ismail, 2012; Hamdan et al., 2013; Allegrini and Greco, 2013; Bamahros and Wan-Hussin, 2015; Bamahros and Wan-Hussin 2016).

According to the resource dependence theory, a larger board, in this instance, a larger AC, is more likely to include more members, who are experienced in financial/accounting matters and other abilities, who can help obtain and secure IC resources (Abeysekers, 2010). This large pool of experienced members is likely to aid the head of the committee to identify and to solve financial and other corporate reporting issues (Li et al., 2012). In this regard, in terms of the number of members on the committee and their independence, CG regulations, in most jurisdictions, are quite specific as to who should be on the committee.

Committee members mitigate individual member's deficiency in business and financial skills through collective decision-making practices. This action enhances the quality of their overall performance. This, in turn, to a large extent, has an impact on the confidence level, integrity, objectivity, and independence of the committee in making decisions. According to Vincent et al. (2010), such a combination of experience and expertise of the committee members could help in developing and sustaining ICP.

2.5 Frequency of meetings

The number or frequency of meetings by AC members is considered to be a measure of their activities and due diligence (DeZoort et al., 2002; Wan-Hussin and Bamahros, 2013; Bamahros and Wan-Hussin, 2015; Bamahros and Wan-Hussin, 2016). The AC chair activity level shows

his due diligence, which is symbolized through his association with his committee members via regular meetings. The number of times the AC chair is able to call committee meetings that meet or exceed the statutory requirement, is a manifestation of the level of independence as well as the seriousness AC chair attaches to that office. An overbearing board chairman on whom power is concentrated may tend to dictate and influence the activities of the committee, thereby compromising its independence and effectiveness.

The successful accomplishment of responsibilities and duties of the AC could only be achieved through its frequent meetings. Prior studies have also established a positive link between the number of meetings and growth and profitability, and higher quality financial statements (Yatim et al., 2006; Sharma et al., 2009; Bamahros and Wan-Hussin, 2015). The chair presence in every committee meeting is crucial. AC chair should check the dates and agenda of the committee meetings, to ensure commitment in terms of time. The AC chair is of no value if he cannot be present in the meetings. Finally, for an AC chair to maintain independence and relevance, should be a proactive leader, experienced in finance/accounting matters, have high integrity and possess a good understanding of audit committee practices. These qualities, among others, could put him in a position where AC chair could influence long-term strategic decisions, by including ICP of the company.

This study also considered the number of independent directors on the AC as a possible factor, which might influence the AC chair independence. There is no doubt that independence of AC chair, as well as thoughts and actions of fellow members will definitely affect the chair ability to take independent decisions. The influence will be more glaring in situations where decisions are reached through voting or consensus. However, this variable, AC Independence, was dropped in the analysis due to its closeness to the other variables, 'whether or not the AC member is an independent director.' High inter-correlations (multicollinearity) among the predictor variables should be avoided as much as possible in a model (Judge et al., 1982).

2.6 Intellectual capital

Several definitions and measurements have been proffered by authors as to what IC is, but the central theme among all is that IC is a valuable intangible asset, especially for knowledge-intensive industries. Companies, which have access to this asset, have been identified as performing better in some instances (Rodrignes et al., 2017). Hamdan et al. (2017) posited that it enhances the value-creating process of most organizations. Over the last few decades, awareness regarding IC indicators has increased and continues to increase (Chapman, 1997). IC is important, especially in modern economies, which are driven by knowledge. It is essential for survival in today's competitive business world.

Over the years, the definition of IC has broadened from its earlier definition of just knowledge that can be transformed into value (Edvinsson and Malone, 1997) to a more inclusive one that cuts across several aspects of knowledge and its utilization and application (Ze'ghal and Maaloul, 2010; Alipour, 2012; Chen et al., 2014). Herman and Kauranen (2005) identified IC as the sum of the competencies of employees, by comprising individual skills, experiences, and knowledge. This definition is similar to the one provided by Starovic and Marr (2003, p.2), that it is, "the possession of knowledge and experience, professional knowledge and skill, good relationships, and technological capacities, which when applied will give organizations competitive advantage".

Similarly, Ze'ghal and Maaloul (2010), like other authors, viewed IC as a value-creating asset. Petty and Guthrie (2000) also considered IC as the combination of factors - human capital, e.g., skills, knowledge, personality characteristics, and abilities, possessed by employees separately, as well as collectively in firms. Petty and Guthrie (2000) described IC as the knowledge base of an organization's workforce, while El-Banany (2008) identified IC as that which makes some employees better than some others in terms of their contribution to the success of the organization.

Alipour (2012) defined IC as the class of intangible assets possessed by an organization, which creates value for its owners. Tan et al. (2008) referred to IC

as that which influences employees, especially their culture and education within a company. Finally, Chen et al. (2014, cited in Buallay, 2018, p. 186), gave a more comprehensive definition; they asserted that, "IC involves all knowledge-related intangible assets embedded in an organization that include intellectual competencies, intellectual property, and intellectual resources."

As important as IC is, because of its value-creating ability (Serenko and Bontis, 2013), there is still the challenge of its creation, valuation, and reporting. This inability to measure IC components of companies, often creates a gap between what is reported and the actual market value (Rahman, 2012). Attempts have been made, by adopting relevant International Accounting Standards (IAS), e.g., IAS 38, to ensure the proper measurement and reporting of IC, but there is still a need to explore what influences its performance (Chen et al., 2014), especially in banks.

The need for independence of the AC chair has been mentioned earlier as part of the principles of a sound CG, as it is the importance of IC in banks as a value-creator. Therefore, it is interesting to explore how the former affects the performance of the latter. The main research question in this study is as follows:

Do an audit committee chair characteristics influence intellectual capital performance in banks in the context of Saudi Arabia?

3. Methods

3.1 Data and Sample

All the banks listed on the SSE were selected. The main objective of using all the listed banks is to ensure statistical power in the tests and to also enhance maximum data availability. Accounting and corporate governance data was collected from the annual financial reports of these listed banks. Annual financial reports of companies are frequently produced documents, which provide a platform through which firms can establish their image in the eyes of stakeholders and effectively communicate with investors (Campbell, 2000). This financial information is deemed to be more accurate and reliable (Brennan, 2001). Information for 12 banks and a total of 72 observations were collected, for the 2014 to 2018 period. According to Holloway (1997), the sample, generally, should be between 4 and 40 participants.

3.2 Description and measurement of variables

3.2.1 Measuring Intellectual Capital Performance

The ratio between each of the three types of capital and value-added, results in capital employed efficiency (CEE), human capital efficiency (HCE), and structural capital efficiency (SCE). These three measures of efficiency are then added to get an overall measure of efficiency, and expressed mathematically as: $VAIC = CEE + HCE + SCE$ in order to generate Value Added (VA): $VA = OP$ (Operating profits)

+ EC (Total employee expenses) + D (Depreciation) + A (Amortization).

Though several criticisms have been raised concerning the assumptions, which are used as the basis for calculations (Lev, 2001; Andriessen, 2004), this method is still the most frequently used ICP measure in most accounting and finance literature (Komnenic and Pokrajcic, 2012). Many researchers still recommend it as the most appropriate method to measure ICP (Joshi et al., 2010; Chan, 2009), as it provides the means to measure IC and the efficiency of its individual components.

3.2.2 Independent variables

The independent variables (AC chair characteristics) are measured by a set of variables:

- i. AC chair expertise; chairman with accounting/financial expertise: Yes = 1, No = 0
- ii. Duality; Both AC chair and Board chairman: Yes = 1, No = 0
- iii. Frequency of meetings; number of AC meetings with AC chair in attendance.
- iv. AC size; number of AC members
- v. Independent director (AC chair); whether AC chair is an independent director: Yes = 1, No = 0

3.2.3 Control variables

A previous study (Buallay et al., 2017) has also used bank size measured by the natural log of total assets and financial performance as control variables.

3.2.4 Study model

The study used regression to describe and to test the relationships between the outcome variable (ICP) and predictor variables (AC chair characteristics)

$$ICP = \alpha + \beta_1 EXPT + \beta_2 DUAL + \beta_3 ACMEET + \beta_4 ACSIZE + \beta_5 INDD + \beta_6 BASIZE + \beta_7 FINPRM + \varepsilon.$$

Where,

EXPT = AC chair expertise; DUAL = Both AC chair and Board chair; ACMEET = Average number of AC meetings with AC chair in attendance; ACSIZE = AC size; INDD = AC chair is an independent director; BASIZE = bank size; FINPRM = financial performance; α is the constant; β_1 to β_7 are the slopes of the independent and control variables and ε = error term.

Some tests were carried out in order to ascertain the usability of the data set. Normality tests show that the data for the study are normally distributed. The presence of homoskedasticity was also tested and found to be within the limits. Finally, high inter-correlations (multicollinearity) among the predictor variables were avoided as much as possible. This was assessed by a correlation analysis (matrix) among predictors (See Table 2).

4 Results

4.1 Descriptive (statistics) analyses

Table 1 reports the descriptive statistics of the sample. The mean value of VAIC is 4.081, which is in line with earlier studies (e.g., Al-Musalli and Ku Ismail, 2012). Almost 76% and less than 5% of AC chairs in Saudi Arabia have knowledge of

finance /accounting and play dual roles (i.e., both the positions of chairman of AC and board), respectively. AC size is about four members on average, and a maxi-

imum of eight members. Members meet on an average of five times in a financial year, and more than 94% of AC chairs are independent directors.

Table 1

Descriptive statistics

Variables	Mean	Max	Min	S. Dev	Skewness	Kurtosis
VAIC	4.081	8.058	1.998	1.201	1.774	-0.624
EXPT	0.766	1	0	0.953	0.892	1.663
DUAL	0.042	1	0	1.009	0.685	1.058
AC MEET	5.133	7	3	3.918	1.094	1.324
AC SIZE	3.903	8	3	2.239	0.443	1.035
ACINDD	0.947	1	0	0.842	0.887	1.792
BAKSIZE	3315	6948	2005	4.337	1.482	-0.812
FIN PRM	4468	8462	3117	5.885	3.115	-0.365

VAIC: Value added intellectual coefficient; EXPT = AC chair expertise; DUAL = Both AC chair and Board chair; ACMEET = Average number of AC meetings with AC chair in attendance; ACSIZE = AC size; INDD = AC chair is an independent director; BAKSIZE = bank size; FINPRM = financial performance.

4.2 Empirical results and analysis

The data was analyzed in two parts, first, to estimate the level of collinearity among the variables, and, second, to estimate the main analysis, by using multiple regressions.

4.2.1 Correlation

Table 2 presents the correlation matrix for the variables in the model. This test was carried out in order to ascertain the level of multicollinearity among the independent variables, by using the pair-wise correlation matrix, as a very high level may produce spurious results. Table 2 indicates a mixture of negative and positive weak correlations between ICP and other independent and control variables in the model, except for AC chair expertise (EXPT) and AC chair as an inde-

pendent director (INDD). The correlation coefficient for this pair is high at 0.696, though not perfect. The assumption of 'no correlation' is met since correlation is less than 0.90 (Tabachnick and Fidel, 2013). An overall consideration of the result of the correlation analysis indicates that the variables are virtually free from multicollinearity.

4.2.2 Regression Analysis

The main research question in this study is, "Do an audit committee chair characteristics influence intellectual capital performance in banks in the context of Saudi Arabia?" (i.e., could these features be a proxy for improved ICP?). Table 3 shows the results of the multiple regression analysis of the study: ICP and the AC chair characteristics (AC chair expertise;

AC chair duality; frequency of AC meetings with AC chair in attendance and AC

chair is an independent director), and control variables (bank size and financial performance).

Table 2

Correlation (Matrix) Analysis

	VAIC	EXPT	DUAL	ACSIZE	INDD	ACMEET	BAKSIZE	FINPRM
VAIC	1.000							
EXPT	-0.163	1.000						
DUAL	0.095	0.344	1.000					
ACSIZE	-0.412	0.375	0.289	1.000				
INDD	-0.365	0.696	0.399	0.389	1.000			
ACMEET	0.392	0.355	0.295	0.318	0.449	1.000		
BAKSIZE	0.361	0.276	0.201	0.335	0.227	0.305	1.000	
FINPRM	-0.305	-0.371	-0.296	0.7002	-0.376	-0.268	-0.331	1.00

VAIC: Value added intellectual coefficient; EXPT = AC chair expertise; DUAL = Both AC chair and Board chair; ACMEET = Average number of AC meetings with AC chair in attendance; ACSIZE = AC size; INDD = AC chair is an independent director; BAKSIZE = bank size; FINPRM = financial performance.

5. Discussion

Generally, the results reveal that the model has moderate explanatory power at 0.33 and statistical significance at 0.049 ($R^2 = 0.33$ and $p\text{-value} = 0.049$). The $p\text{-value}$ is less than 5%. Therefore, the AC chair independence has a significant and strong positive effect on ICP of Saudi Arabian listed banks. This result is in line with some of the findings of Buallay (2018), who used a broader set of variables (audit committee characteristics) on GCC banks. Nevertheless, this finding is not in line with the work of Attarit et al. (2017), who also failed to detect a significant relationship.

This study reveals that more than 94% of AC chair of banks in Saudi Arabia are independent directors. This high proportion does not also translate into a better ICP. The influence of AC chair as an in-

dependent director on ICP is statistically significant (0.049). The process of nomination and subsequent appointments of chair and members into the AC by the board is also a contributory factor. Most bank boards are family controlled as a result of the share ownership structure. In examining the effects of the specific predictor variables (AC chair independence) on ICP, it is important to critically evaluate and to offer possible reasons for these relatively ??? findings in the context of Saudi Arabia. Previous studies have established the role and importance of CG mechanisms in shaping corporate IC strategies (Li et al., 2008; Cerbioni and Parboneti, 2007).

There are possible reasons, which can be adduced for this relationship in the case of Saudi Arabia. For instance, the country's corporate sector is influenced

by several cultural underpinnings and skewed ownership structures of banks, among some others, which affect the corporate decision-making process (Koldertsova, 2011), and even the appointment of the BOD. The board dictates the selection and appointment of committee members, by including the AC chair. The CG code of Saudi Arabia also mentions the board's composition and AC chair.

The concentrated ownership structure of Saudi Arabian companies, especially banks, has its roots in how these financial institutions were formed. Individual families started and owned these banks and kept controlling shares even after going public. Families, directly or indirectly, own a very high percentage of equity shares of most banks and keep the most control. Therefore, executive directors, even including independent directors, are usually members of the same family or lineage. Under this scenario, two of the most important CG variables, i.e., ownership and board structure, which directly affect nomination and appointment onto committees, have been compromised.

From an agency perspective, the BOD is seen as a disciplining mechanism on the discretionary behavior of managers, but when the board's composition and size seem to be related to the alignment of shareholders (family members), corporate strategies, by including IC strategies, tend to take a back seat. The 'independent directors may no longer be independent, the same is true for the AC chair when making strategic corporate decisions.

The effects of the specific variables with various degrees of influence (from significant to none) on ICP are discussed below. There is no significant (0.231) relationship between AC chair financial expertise and ICP. This means that the financial expertise of the AC chair does not translate into more effective ICP. This may be as a result of the authority residing solely on top management to take strategic IC decisions. A review of the results reveals that more than 75% of AC chairs have financial expertise (as per definition of expertise in this study). However, in the real world, expertise in an area may not only be attained by study alone, but it also includes time and experience on the job. As a result of ownership structures of banks in Saudi Arabia, appointments onto boards and committees are based on family connections and not on 'real expertise.'

The study also shows that the positions of the board chair and AC chair are separate in most banks in Saudi Arabia. The AC chair not playing a dual role is significant (0.019) in explaining ICP. In other words, this separation of functions does not result in a better ICP.

Furthermore, there is no observed significant relationship between AC size and ICP. A larger AC member does not translate into better ICP. It is generally assumed that long-term corporate policy decisions, by including IC issues, are better analyzed with a bigger number of members on the committee (Li et al., 2012). The contrary view is that an AC

with less members can make faster and better decisions, which may improve ICP. The conclusion is that the AC size has no significant influence on ICP in the context of Saudi Arabia.

Finally, the number or frequency of AC meetings with the chairman in attendance is not significant (0.479) in explaining ICP in the context of Saudi Arabia. This finding confirms the theory that the committee is likely to accomplish assigned statutory responsibilities when AC members meet regularly. The chair presence in every committee meeting is crucial. AC

chair convening and attending AC meetings with good knowledge of AC practices, not only shows the independence but also enhances ability to take or influence strategic IC decisions, among others.

The control variables (bank size and financial performance) show significantly positive levels of relationship with ICP. The relationship between bank size is significantly positive at a 1% level with ICP, and the other control variable financial performance also shows a significant relationship at a 1% level with ICP. Details of the results are in Table 3

Table 3
Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ACEXPT	0.579	0.319	0.466	0.642
DUAL	6.796	2.837	2.40	0.019**
ACMEET	1.013	1.423	-0.71	0.479
ACSIZE	1.122	3.740	-0.3	0.765
ACINDD	0.573	0.265	2.16	0.049**
BASIZE	1.786	0.657	2.72	0.008***
FINPRM	0.004	0.0001	4.08	0.000***
C	46.812	7.767	6.03	0.000***
R-squared	0.33			
Adjusted R-squared	0.26			
S.E. of regression	0.133			
Sum squared residue	0.636			
Durbin-Watson stat	0.875			
F-stat:	2.749			
Prob (F-statistic)	0.049			

Note: Significance at: Note: *, ** and *** denoted significant level at 1%, 5% and 10%, respectively.

6. Conclusion

The purpose of this study is to examine the effect of AC chair characteristics on ICP in an emerging economy. The cumu-

lative effects of AC chair independence, and AC chair DUAL have a significant influence on ICP in the context of Saudi

Arabian listed banks. The independent or predictive variables show different degrees of influence on ICP.

The predictive variables of AC chair financial expertise, AC size and the number or frequency of AC meetings with the chairman in attendance do not have a significant influence on ICP in the context of Saudi Arabian listed banks. As expected, this finding is in line with earlier studies. The regression result also shows that the influence of the AC chair as an independent director on ICP is statistically significant. Some studies have attributed this influence to the process of nomination and subsequent appointment of AC chair and other independent directors.

Finally, the control variables in this study show significant levels of relationship with ICP. The different directions of the predictor variables despite the findings generally indicate that the impact of AC chair characteristics, although positive, is weak in affecting ICP in the context of Saudi Arabian listed banks.

The AC chair independence and leadership in setting the committee's tone, workstyle, and agenda, is vital to the committee's effectiveness on ICP in financial institutions, especially banks, as it has been established in prior studies. This study also suggests that the AC chair with financial expertise does not matter in the ICP. Saudi Arabia's CG code should be reviewed vis-a-vis the process of nomination and subsequent appointment of membership, especially the AC chair, regardless of the ownership struc-

ture of these banks. Above all, the regulatory authorities should insist on the appointment of independent directors, who are independent as the AC chair is usually appointed from this group of directors.

This study has attempted to examine the case of Saudi Arabia as a member of GCC countries. Despite the similarities of members in this block, each country still has its own contextual realities and unique characteristics, and therefore, generalization should be done with caution. Nevertheless, the results and conclusions of this study could assist companies to reconsider the appointment of the head of the AC, who is independent, and knows the role he plays in the corporate reporting system in order to develop IC.

Research opportunities still exist in this area. First, there could be the decomposition of the VAIC and the examination of the impact AC chair independence have on each of these components. Secondly, future research may segregate Saudi Arabian banks into either public or private and investigate how the efficient utilization of IC in each group is affected by the independence of the AC chair.

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