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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

Do corporate governance and top management team diversity have a financial impact among financial sector? A further analysis

Ebrahim Mohammed Al-Matari^{1*}

Abstract: The paper examines the connection between the top management team determinants and corporate governance in Saudi Arabia's financial listed companies. The study covers the financial sector for five years from 2014 to 2018. Moreover, feasible general least squares regression is used to run the association between independence variables and dependence variable. In addition, it is used for further analysis to make sure if the main finding results are similar or different. The results of the panel data from the FGLS regression indicated the predictors' effects on the corporate performance. The outcome from the statistical analysis of the model indicated that board size, audit committee independence and audit committee meeting have significantly effect of financial performance. Besides, size, accounting and finance experience and general experience of top management team have significantly association to the financial performance of the Saudi listed firms. Further analyses found that board size, general experience of top management have a negative association with corporate performance. On contrary, the board independence, board commitment, size of TMT, accounting and finance experience of TMT and education level of TMT have a positive significantly relationship with corporate performance. The study provides detailed information for academic in terms of the relationship of good strategy used by top management teams and corporate governance, which should be considered to provide the best practices of such teams. Finally, the outcomes of the study unlock up road for future examinations among developing countries.

Subjects: Accounting; Financial Accounting; Corporate Governance

Keywords: Corporate governance; Top management team diversity; Financial performance and Saudi Arabia Stock

JEL classification: G30; G34; C22

1. Introduction

In the last two decades, accounting work has concentrated mainly on corporate governance. Separating ownership from power is the center of the agency's problems (Berle & Means, 1932; Jensen & Meckling, 1976). This leads to other issues in the efficient management of corporate assets in all stakeholders' interests. Good work in the field of corporate governance has been done by holding the agency relevant issue. Core et al. (1999), organizations that have poor governance

to direct and handle organizations face greater problems with agencies. The problem with the organization allows administrators to receive more private profits and the business eventually gets worse. Companies also required stronger corporate governance to sustain long-term development and sustainability. Strong corporate governance can be accomplished in the company by balancing ownership and control with stakeholders in the company (Belgibayeva & Plekhanov, 2019; Brown & Caylor, 2006; Jensen & Meckling, 1976; E. M. Al-Matari, 2020; Otman, 2014; Roudaki, 2018). This approach could help to build a positive attitude between managers and shareholders and will the problem of agencies in companies (García-Meca & Pedro Sánchez-Ballesta, 2011; García-Meca & Sánchez-Ballesta, 2011; Kyereboah-Coleman, 2007). Moreover, many authors agree that internal and external factors are played an essential role to project both shareholders and stakeholders (Hassan & Halbouni, 2013; E. M. Al-Matari, 2020; Mollah & Zaman, 2015; Reddy et al., 2010). In fact, the current scandals highlighted the importance of corporate governance—these may be exemplified by companies like Enron, WorldCom, Satyam, among others, which called for the need to establish robust corporate governance. The belief is such that companies obtain additional benefits from investors when they adopt corporate governance practices along with the compulsory recommendations (Aggarwal & Williamson, 2006). According to Beiner et al. (2006), La Porta et al. (2002) and Akbar et al. (2016) this could lead to higher demand of shares among investors, and in turn, higher share prices and higher wealth for the shareholders. Therefore, organizations that follow guidelines to the governance code also have a better chance of enhancing their corporate performance.

Based on several studies regarding the relationship between governance and performance (e.g., Arora & Sharma, 2016; Azeez, 2015; Zabri et al., 2016), there is a significant relationship between the two. More specifically, according to Aktan et al. (2018), Alhassan et al. (2015), Bozec et al. (2010) and Ertugrul & Hegde, 2009; Nawaz (2017), high quality governance contributes to the cash flow of the firm, and is manifested in its enhanced performance. Similarly, Baek et al. (2004) revealed that with an increase in corporate governance, there will be increase in shareholders' returns, through the minimization of transaction and agency costs, and thus, it is deemed to be a success factor among financial firms. Other studies (e.g., Ammann et al., 2011; Black et al., 2012; Braga-Alves & Shastri, 2011; Brown & Caylor, 2006) indicated that firms that are better governed display greater performance.

Moreover, the interest of top management team (TMT) in this study can be traced to the influence of the variable on the corporate performance as one of the top extensively examined relationship in the field of strategic management (Al-Matari et al., 2020; Certo et al., 2006; E. M. Al-Matari, 2020). This research is distinct in that it represents the TMT characteristics of the academic community (Finkelstein & Hambrick, 1990) as well as in the financial community (Murray, 2001). The attributes of TMT began being scrutinized in the 1960s in Cyert and March (1963) study, and was extended by Child (1974) work. Child (1974) revealed that corporate competitiveness encompasses not only the human factor but other factors as well, including external factors that top management cannot control. In the 1980s, the RBV considered TMT as a resource of corporate strategy (Wernerfelt, 1984) and by them TMT began attracting the focus of several scholars (e.g., Hambrick & D'Aveni, 1992; Murray, 2001), with analyses built on demographic variables being proxies for the hard to measure TMT social and psychological related phenomenon (Pfeffer, 1987). TMT was a field of research that was viewed by majority of past studies as the top coalition, with the diversity of the members influencing the organization efficiency (Finkelstein et al., 2009). Increased collaboration among the members of TMT in new ventures is directed toward developing an effective relationship with their peers to guarantee the most optimum performance (Li, 2011). The importance of TMT characteristics is evidenced by the researches that proposed its basic role in enhancing the performance of firms (Certo et al., 2006).

In the context of Saudi Arabia, the companies act regulatory measures call for the need of maximizing board committee independence. Also, an efficient and transparent corporate governance of the firm is the secret behind its profitability, growth and ensuing stability and this is why

corporate governance has attracted more and more attention as encouraged by the business world competitiveness throughout nation and international arenas. Based on this, the Saudi Companies Act (2006) has laid more stress on the board, TMT and others committees' role and responsibilities, with their additional roles including financial statements scrutiny and investments and assets evaluation, among others. In the case of Saudi Arabia, the country constitutes 25% of the Gross Domestic Product (GDP) of the Arab world and is one of the world's largest oil exports, and as such, the country is an appropriate context to examine the interaction between corporate governance and TMT with corporate performance, the prior studies was focus on only variables of corporate governance (e.g., Albassam, 2014; Al-Ghamdi & Rhodes, 2015; Alhassan et al., 2015; Buallay et al., 2017; Hamdan et al., 2017; Twairesh, 2014). The gap in literature is minimized by this study as it determines the level of corporate governance, TMT and their determinants in Saudi Arabia, an emerging Arab nation.

This paper provides many literary contributions. First, the paper provides evidence on the effect of corporate governance/TMT interaction on the financial performance of the companies listed in Saudi Arabia. It defines the role of strong institutional agencies in changing the governance climate in the developing country like Saudi Arabia. Previous studies among Saudi Arabia, however, focus solely on corporate governance and corporate performance (Abdalkrim, 2019; Albassam, 2014; Al-Ghamdi & Rhodes, 2015; Alhassan et al., 2015; Al-Hussain & Johnson, 2009; Al-Turki, 2006; Buallay et al., 2017; Fallatah & Dickins, 2012; E. M. A. Al-Matari, 2014; Twairesh, 2014).

Second, most emerging-market studies have not attempted to study this relationship by building corporate governance and TMTs between financial firms. Whereas the previous studies focus on non-financial sectors by examining only the relationship between corporate governance and corporate performance (Ahmed Haji, 2014; Arora & Sharma, 2016; Bhatt & Bhatt, 2017; Hassan & Halbouni, 2013; Mardnly et al., 2018; Mayur & Saravanan, 2017).

Third, this study is used to further evaluate the key results whereas this research is similar to a limited number of previous studies to use further analysis to validate the main findings (Arora & Sharma, 2016; Chijoke-Mgbame et al., 2019; Merino et al., 2012; Nawaz, 2017; Tsai et al., 2014).

Fourthly, this research is similar to a few previous studies that use time series regression to check the relation between independence variables and variable dependence (Al-Matari & Mgammal, 2020; E. M. Al-Matari, 2020; Quinonez et al., 2018). Fifth, this study suggested by E. M. Al-Matari (2020) who studied the interaction between board direct and top executive among Oman stock market and he suggested future research to examine more internal corporate governance with top executive. Moreover, he suggested to examine in other country among GCC. Thus, the current study focuses on examined the interaction between internal corporate governance such as, board direct and audit committee with top management team among Saudi Arabia stock market. Sixth, Saudi Arabia has a unique investment and market environment that caters to both local and international investors without advanced conditions but the proposed hypotheses were still not wholly supported. This lack of support may stem from the lack of good practical implications in some firms. Government officials in stock market authority should oversee that that all the companies adhere to the corporate governance code. The Authority should also make sure that the code is up-to-date until it becomes at par with the global corporate governance code for the development of the Saudi firms' performance. Last, this study is clarified the information and knowledge on the relationship between corporate governance, TMT features and CP and establishes the effects of corporate governance reflected by firm's accounting value.

With regard to the remaining parts of the study, a review of the development of literature and hypotheses is presented in Section 2. Section 3, Methodology adopted for the study and analysis of sample articles. Section 4 where the findings of the study are discussed, and Section 5, dealing with the interpretation of the results. The conclusion, limitations and suggestions for future studies are set out in section 6.

2. Literature review and hypotheses development

2.1. Board of directors characteristics

In fact, one of the governance mechanisms that is in the mainstream of the research field of corporate governance is the board of directors (Darko et al., 2016; Hassan & Halbouni, 2013; Reddy et al., 2010). According to Kumar and Zattoni (2018), board of directors is a major governance mechanism that aims to monitor corporate actors and shape strategic decisions with the ultimate objective of increasing the performance of the firms. Boards are designed to achieve a certain purpose, and this is why the directors have to be competent and reputable and successful managers (Cyert et al., 2002). The structure of the board has been attracting much attention as a corporate governance mechanism, with literature expounding on three major board characteristics, the independence of the board (proportion of external directors) (Ahmed & Hamdan, 2015; Aktan et al., 2018; Al-Matari, Al-Swidi, Faudziah, et al., 2014; Arora & Sharma, 2016; Azeez, 2015; Buallay et al., 2017; Zabri et al., 2016), the size of the board as exemplified by the studies of Aktan et al. (2018), Arora and Sharma (2016), Azeez (2015), Mollah and Zaman (2015), Nawaz (2017) and Zabri et al. (2016). Other studies like Aktan et al. (2018), Alhassan et al. (2015), Arora and Sharma (2016), Azeez (2015), Mollah and Zaman (2015), Nawaz (2017) and Zabri et al. (2016) focused on board meeting, while there are neglected to examine the role of board commitment in previous studies.

Empirical findings relating to the relationship between board of directors and CP showed that most of the studies were conducted in developed nations, examining variables in the individual level, while this study minimizes the literature gap by focusing on Saudi Arabia, an emerging economy as recommended by Al-Ghamdi and Rhodes (2015), Al-Matari and Mgammal (2020), Alhassan et al. (2015), Buallay et al. (2017) and Hamdan et al. (2017). The study also focuses on under-examined corporate governance mechanisms, which are, audit committee and top management team characteristics.

The size of the board is the first board of directors' feature examined in this study. Board of directors is viewed as significant monitoring mechanism directed toward management performance and shareholders' interests (Fama & Jensen, 1983). The theory of agency suggests that a smaller board, with reduced management roles, is more effective, performs strategic dialogue, planning and communication processes, but conflicts of interest occur with the membership and most members openly resource provision. (Jensen, 1993; Nanka-Bruce, 2011), with the size of the board referred to as the number of directors on the board (CG mechanisms) through which TMT is monitored on behalf of the shareholders (John & Senbet, 1998). Majority of empirical studies throughout the globe examined the board size-CP relationship and reported a negative relationship between the two variables (E. M. Al-Matari, 2020; Shao, 2010).

Another characteristic of the board is the independence of the board and it has attracted increased attention from the authors. The mechanisms of oversight of management protect the interests of shareholders from the management's self-serving activities and behavior. Hence, the number of directors on the board is expected to positively influence the performance of the firm (Fama & Jensen, 1983; Jensen & Meckling, 1976; La Porta et al., 2002). Similarly, independent director boards operate independently without the control of shareholders, the executive board or other parties and are more likely to oversee the unethical actions of management, because they are economically or mentally opposed to management (Hsu & Petchsakulwong, 2010). Similarly, the external directors composition as board members have to be maintained and improved for the enhancement of the firm's financial performance (Uadiale, 2010). Researchers, to this end, examined the relationship between the two variables and reported a positive relationship (Ahmed & Hamdan, 2015; Chijoke-Mgbame et al., 2019; Heenetigala & Armstrong, 2011; Mahadeo et al., 2012).

Moving on to the next significant board function, which is the board meeting; it represents the number of meetings the board holds within a year. In this regard, the frequency of board meetings could represent the board's ability to provide regular and maintained oversight and advisory roles

to the firm's management. According to Jensen (1993) results, routine tasks are what occupies the meeting of the board and thus, this limits their ability to conduct meaningful control over management, but at the same time the boards have to be relatively inactive as higher activities of the board could indicate damage control made for poor performance. Added to the above, increased activities of the board is a reaction to poor performance which is related with enhanced operating performance in the future, which means there is lag effect going on (Jackling & Johl, 2009). On the basis of the above discussion, this study expects a negative board meetings frequency-CP relationship as studies in developed and developing nations supported this result (e.g., Aktan et al., 2018; Anum Mohd Ghazali, 2010; García-Meca & Pedro Sánchez-Ballesta, 2011; Mollah & Zaman, 2015).

Another measure of board characteristic is the commitment of the board and it has also, similar to its other characteristics, attracted attention from numerous authors. The commitment of the board assists in goals achievement and the issues resolution. Board commitment is generally gauged by the attendees to the meetings, meaning to say the meeting attendees' ratio during a year. Attending meetings show the seriousness of the board members of assessing the issues and resolving them to reach informed decisions, achieve objectives and meet the satisfaction of investors. Along a similar line of argument, regular work timeliness obtains the confidence of the investor in the company as commitment illustrates hard work to raise the company's value and attracts potential investments and investors (E. M. A. Al-Matari, 2014; Minwer Al-Rimawi, 2001). Moreover, job distinction offers independence toward bringing about an informed decision and assists corporate performance, providing integrity to the report for relevant individuals without omitting significant information (Jensen & Meckling, 1976). Generally speaking, board commitment reflects the way all the members are obligated to enhance the performance of the firm as a whole (Salancik & Pfeffer, 1980). Board commitment is a significant characteristic but unfortunately, it has been under-examined in literature. Studies that focused on the relationship between board commitment and CP include Cordeiro et al. (2007), Garg (2007), Shao (2010) and Sherman (2004). Based on theory and the literature empirical findings, this study proposes to test the following hypothesis;

H1: The association between the board size and CP is negative.

H2: The connection between non-executive members of the board and CP is positive.

H3: The relationship between frequent board meetings and the CP is negative.

H4: The relationship between the Board 's commitment and CP is positive.

2.2. Audit committee characteristics

The role of the audit committee is to establish and maintain the financial reporting integrity via oversight and control (Abdel-Fattah, 2008; Fama, 1980; Fama & Jensen, 1983). This objective falls short of being achieved unless and until the effectiveness of the audit committee is established. Active audit Committee, based on Section 14 of the Saudi CG Code 2006, shall create an audit committee, comprising at least three non-executive directors and a Director specializing in finance and accounting. It is also pertinent that the audit commitments are directed toward serving corporate regulators to make sure that management is accountable and responsible in front of shareholders and in presenting the actual view of the firms to steer clear of ambiguities and irregularities (Bhatt & Bhatt, 2017; Kumari & Pattanayak, 2017; Mardnly et al., 2018; Reddy et al., 2010; Roudaki, 2018; Wang et al., 2019). Hence, in this study, the characteristics of the audit committee in the form of its size, independence and frequency of meetings serve as combination of corporate governance structure in enhancing the performance of firms.

The size of the audit committee is the first factor considered as a committee attribute, determined by the number of members recommended by Al-Matari et al. (2014) and AlSagr et al. (2018). One of the primary elements of the corporate governance system is the audit committee, and it has a key role of oversight in the internal control framework effectiveness, where it controls and reviews the financial reporting process of the firm and is a conduit among internal auditors, external auditors, management and the board of directors for the establishment of information flow and report transparency (Fama & Jensen, 1983; Jensen & Meckling, 1976; Kim & Yoon, 2007). Kyereboah-Coleman (2007) and Rouf (2011) described the audit committee as the most dependable mechanisms safeguarding the interests of the public. Several studies in this caliber also supported a positive relationship between the size of the audit committee and the performance of the firm (e.g., AlSagr et al., 2018; Bhattra, 2017; Heenetigala & Armstrong, 2011; Swamy, 2011).

The audit independence is the second audit committee characteristic that provides it with its quality level. The independence of the audit committee is gauged via the non-executive members' ratio following studies by Al-Homaidi, Al-Matari, Anagreh, et al. (2021); Kang and Kim (2011) and Nahar Abdullah (2004). Non-executive committee members have a major role in ensuring that the practices of corporate governance in terms of auditing are complied with to provide quality financial reporting (Swamy, 2011). This finding was supported by Anum Mohd Ghazali (2010) and Nahar Abdullah (2004) who related that firms having majority of insider directors and lack audit committee have a higher likelihood to commit financial fraud in comparison to their counterparts with audit committee and more external directors in the same industry and firm size. As a consequence, the agency theory posits that autonomy is granted to reach informed decisions without limitations or conditions, and to detect errors and to report them as the reviewers/directors are not linked to the company. Additionally, the audit committee independence and performance of the firm is expected to be positive as reported by past studies (e.g., Nuryanah & Islam, 2011; Saibaba & Ansari, 2011; Swamy, 2011; Yasser et al., 2011).

Moving on to the third audit committee characteristic, which is the audit committee meeting, in prior studies, meeting frequency has been utilized for the measurement of the committee's activeness (e.g., Al-Homaidi, Al-Matari, Tabash, et al., 2021; Al-Matari, Al-Swidi, Fadzil, et al., 2014b; Anum Mohd Ghazali, 2010). The effectiveness of the audit committee in terms of its oversight role of the process of financial reporting and internal control requires the regular and frequent meetings (Vafeas, 2005). More importantly, audit committee members have to have at least three to four meetings yearly, with the chairman responsible for the meetings control and structure. However, the agency theory, according to Jensen (1993), posits that boards need to be inactive as its proactively is a reflection of negative performance. Hsu and Petchsakulwong (2010) used a truncated bootstrapped regression and revealed a negative audit committee meeting frequency on efficient performance. Thus, this study proposes the empirical testing of the following hypothesis;

H5: The relationship between audit committee size and CP is positive.

H6: The association between audit committee independence and CP is positive.

H7: The connection between audit committee meeting frequency and CP is negative.

2.3. Top Management Team Diversity (TMT)

Dynamic competition forces firms to search and appoint capable leaders who can create strategies of high quality, enhanced profitability and development. TMT studies have laid stress on the key role of the strategic processes of firms on the performance of the firm (Haleblian & Finkelstein, 1993). The importance of the TMT characteristics is reflected in the significant number of studies that focused on its fundamental role in influencing the performance of firms by Buyl et al. (2011),

Certo et al. (2006) and Hutzschenreuter and Horstkotte (2013). In relation to the above, Cai et al. (2013) and Wei and Wu (2013) delved into the TMTs heterogeneous background and behavioral attributes effects on the new ventures performance in the context of China. They called for more studies to examine TMT variables and on this basis, this study focused on the TMT characteristics including, size, accounting and financial backgrounds, professional certificate, level of education, general experience and remuneration. On the whole, I believe that understanding the firm profitability implications and its extension to variables mentioned above is a step forward to contributing to an extensive investigation of the performance effect of corporate governance features related to increased performance, particularly in cases of diversification (Al-Matari et al., 2020; Buyl et al., 2011; Hutzschenreuter & Horstkotte, 2013).

Amason and Sapienza (1997) described the size of TMT as a critical group demography element representing the structural and compositional context of the TMT. With the increase in the size of TMT, the diversity of the members' opinions, values and interests are extended as evidenced by Bantel and Jackson (1989), Smith et al. (1994) and Henderson and Fredrickson (1996). Larger-sized TMTs enhance individual judgments that could be useful in rectifying errors during the process of decision-making, and this concept is linked to the notion that TMTs generate more issues of cognition (Amason & Sapienza, 1997). Also, TMTs heighten the number of possible solutions as alternatives to problem evaluation and resolution. Lastly, larger-sized TMTs can contribute more to the perspectives range that are applied during problem evaluation. Furthermore, the size and proactive orientations of TMT remains murky as related in the studies by Escribá-Esteve et al. (2009). More studies are called for by Certo et al. (2006) to look into the intermediate mechanisms between TMT and CP to provide insights into the effective enhancement that the former achieves with the latter.

The second top TMT characteristics is the financial and accounting experience of its members measured through the number of members with financial and accounting experience (Mangena & Pike, 2005). Past studies in this caliber (e.g., Aldamen et al., 2012) showed that TMT comprises of director members with financial knowledge and experience have a positive relationship with the corporate performance. Stated clearly, financial experts, as directors, can have a greater contribution to the growth of the firm owing to their insight into various tasks and processes. They are considered to be more versatile in tackling the external environment for the CP enhancement (Al-Matari et al., 2012a). Added to this, expert members indicate that the team has insights into various inputs (Carmeli & Halevi, 2009) and the values leveraging personalities, values, skills, knowledge and experience complementary to each other. As such, a positive relationship is expected between financial expert TMT and corporate performance such as (Al-Matari et al., 2020; E. M. Al-Matari, 2020). This relationship has been largely ignored in literature in both countries contexts (developed and developing), with empirical studies lacking of the same and suggested by E. M. Al-Matari (2020) to examine this relation.

Members of top management that have academic backgrounds are significant in playing a governance role via oversight and advising (Francis et al., 2015). It is argued that academic directors can actually enhance the efficacy of the board, and in turn, the overall corporate performance. Highly educated executives are more capable of reaching quality decisions owing to their high cognitive abilities of processing and analysis of information and execution of decisions for the management of complex situations (Escribá-Esteve et al., 2009; Papadakis & Barwise, 2002). High education has also been related to higher tolerance level for ambiguities and problems, and higher acceptance of innovation and strategic changes (Wally & Becerra, 2001). This variable suggested by (Al-Matari et al., 2020; E. M. Al-Matari, 2020) who recommended future studies to examine this variable with corporate governance.

Moving to other variable of TMT that could enhance the level of performance. This study is tried to examine the general experience of members on TMT, it represents the number of general experience years of the top management team. It is important for the executive management

to hold experience concerning the different executive decisions that are made from day to day and knowledge regarding operational skills as well as goals implementation (Al-Matari et al., 2020). Authors are of the consensus that knowledgeable or experienced committee members have a direct relationship with committee effectiveness (Bédard, Chtourou, & Courteau, 2004). Moreover, the primary task of audit is to monitor corporate financial reporting and auditing process and thus, audit members have to be able to understand the issues that may crop up (Al-Matari, Al-Swidi, Fadzil, et al. (2014b). The managers' prior experience in other firms and industries is related to increased innovative ideas and the breadth and width of the perspectives held by them (Finkelstein & Hambrick, 1990). TMT members with experience in firms or industries have distinct capabilities (Lee & Park, 2006b) and thus, they have a tendency to make strategies structural, procedural and people changes in comparison to their members that have been internally promoted (Chaganti & Sambharya, 1987; Hatum & Pettigrew, 2006). In fact, an integrator's expertise and knowledge are the main sources of his/her effectiveness as highlighted in the study by Paul R Lawrence and Lorsch (1967a) and Paul Roger Lawrence and Lorsch (1967b), so much so, the integrator has to be enabled to develop competence in order to combine diverse domains of knowledge and information. There are few studies found that general experience of members on TMT has a positive effect on corporate governance (Al-Matari et al., 2020; E. M. Al-Matari, 2020).

TMT professional certificate is another characteristic that is expected to enhance the quality of executive management and, in turn, corporate performance. With regards to the agency theory posit that qualified individuals are more capable of improving CP through their insight into the operations and in accomplishing work of high quality. The variable refers to the number of members in TMT that hold professional certification (CAM, CPA, among others). Top management's professional certificate is contended to improve the quality of the members, with highly qualified members of management being more capable of dealing with issues concerning departments. Thus, this study considers top executive management professional certificate as one of the characteristics to be studied. Prior studies on this topic showed a significant relationship between top management certificate and CP and these included, Baixauli-Soler and Sanchez-Marin (2011), Barrick et al. (2007), Henry et al. (2019a), Minichilli et al., 2010), Nielsen and Nielsen (2013) and Nielsen (2010). The above authors focused on the board's size, experience and female members but not the board members' professional certificate and its connection to the quality of the members. It is noteworthy that studies in this line have largely ignored the examination of the relationship in developed and developing nations as highlighted by Hutzschenreuter & Horstkotte, 2013) and Prawitt, Smith and Wood (2009), with an insignificant number of empirical studies and findings reported (Al-Matari et al., 2020). On the basis of the above discussion and argument, this study proposes the following hypothesis;

H8: There is a positive relationship between TMT size and CP

H9: There is a positive relationship between accounting and financially savvy TMT and CP.

H10: There is a positive relationship between education level of TMT and CP.

H11: There is a positive relationship between general experience of TMT and CP.

H12: There is a positive relationship between professional certificate of TMT and CP.

2.4. Control variables

Past studies have adopted some variables as control variables and these included firm size, leverage, industry and year—this has been exemplified in the studies such as those conducted by Al-Ghamdi and Rhodes (2015), Al-Matari and Mgamal (2020) and Al-Homaidi, Al-Matari, Anagreh, et al. (2021). The studies also considered firms size, debt, industry and years to affect

CP and thus, in the present study, firm size, leverage and bank sector are all tested as control variables.

Firm size as a control variable was justified by the findings of firms with unique features. The potential of firm size and growth to determine the size and structure size is high (Patro et al., 2003). In fact, firm size is related to the size of the board directly and is indirectly proportional to the growth opportunities. The variable affects the performance of the firm and is deemed as a control variable in empirical literature dedicated to CP (Hatum & Pettigrew, 2006). The above contention lead to contention on its measurements exists; for instance, Al-Matari and Alosaimi (2022) and Haniffa and Hudaib (2006) measured size by the natural algorithm of sales (LNSA), while Peng et al. (2010), measured it using the algorithm of the company's assets. This study follows the latter measurement.

Moving on to debt ratio, it refers to the total sum of long-term debt and short-term/extended liability as the total asset's percentage. It affects the outcomes of the company, and it is deemed to have a positive effect in that it brings about mitigated cash flow and company control to present more of the market. According to Jensen and Meckling (1976) agency theory, the firm should possess leverage to support its monitoring costs (increase in debt levels), with which effective boards and committees are enabled to control management. The theory posits that as the leverage level increases, the corresponding effectiveness of the board increases. Contrastingly, debt negative effect can originate from the failed or high agency fees of debt (Jensen, 1986). This study gauges leverage using total liabilities over total assets.

In the banking sector, funds are disseminated among industries that lead to the promotion of the economic growth and stabilization of the country's wealth (Shah & Jan, 2014). Thus, it is logical to state that an effective banking sector is capable of absorbing major financial crisis negative influence and be a basis upon which the economic system of the country is supported by (Aburime, 2009). In this study, a dummy variable (1) is used to represent the banking sector and (0) otherwise. Finally, this study used YEARS DUMMAY as control variable, it represented by dummy variable.

Finally, the paper provided conceptual model that explain the relationship between independent variables, control variables and dependent variable as follows as shown in Figure 1:

3. Research method

3.1. Data collection

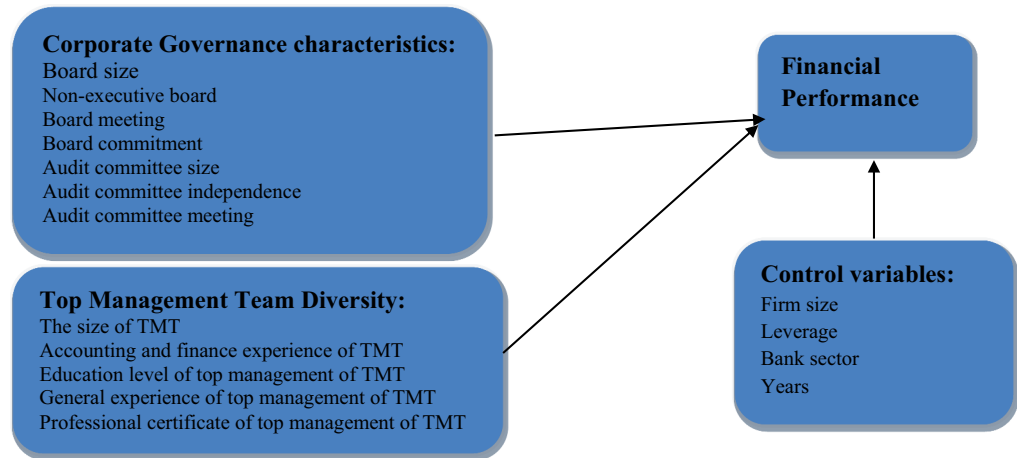
The data from the study are gathered from various sources—the board of directors and the characteristics of the audit committee and TMT diversity were taken from the annual reports of the listed financial firms available in the Saudi Arabian Stock market online database. CP data and information, relating to ROE, are collected from the data stream. This study focuses on ROE that could measures the short-term measurements. Accounting measurement is a great method for figuring out how profitable a business (Al-Matari, Al-Swidi, Fadzil, et al., 2014a).

The study population comprised of listed financial firms numbering namely, banks (12), Diversified Financials (04), and insurance (32) companies), with data spanning from 2014 to 2018. Thus, the observation of data are 240 companies.

3.2. Model specification

The model findings revealed using FGLS method are listed in Table 4 and the models contain all the CG variables used to shed light on the linear relationship between the variables of the Saudi listed firms (CG mechanisms, TMT and CP).

Figure 1. Conceptual model.



$$\begin{aligned}
 ROE_{it} = & \beta_0 + \beta_1 BODSIZE_{it} + \beta_2 BODNONEX_{it} + \beta_3 BODMEETING_{it} + \beta_4 BODCOMMIT_{it} + \beta_5 AUDITSIZE_{it} \\
 & + \beta_6 AUDITINDE_{it} + \beta_7 AUDITCMEETING_{it} + \beta_8 TMSIZE_{it} + \beta_9 TMACFSIZE_{it} + \beta_{10} TMEDUCATION_{it} \\
 & + \beta_{11} TMGEXENUMBER_{it} + \beta_{12} TMPCNUM_{it} + \beta_{13} FIMSILOG_{it} + \beta_{14} LEVGE_{it} + \beta_{15} BankSECTOR \\
 & + \beta_{16} YEARSDDUMMAY + \varepsilon_i
 \end{aligned}
 \tag{1}$$

Model (2) is utilized to analysis the additional measurement of some variables related to corporate governance and TMT with financial performance:

$$\begin{aligned}
 ROE_{it} = & \beta_0 + \beta_1 BODSIZE_{it} + \beta_2 BODINDEPRECE_{it} + \beta_3 BODMEETING_{it} + \beta_4 BODCOMMIT_{it} + \beta_5 AUDITSIZE_{it} \\
 & + \beta_6 AUDITINDE_{it} + \beta_7 AUDITCMEETING_{it} + \beta_8 TMSIZE_{it} + \beta_9 TMACFSIZE2_{it} + \beta_{10} TMEDUCATION2_{it} \\
 & + \beta_{11} TMGEXENUMBER_{it} + \beta_{12} TMPCNUM2_{it} + \beta_{13} FIMSILOG_{it} + \beta_{14} LEVGE_{it} \\
 & + \beta_{15} BankSECTOR + \beta_{16} YEARSDDUMMAY + \varepsilon_i
 \end{aligned}
 \tag{2}$$

3.3. Measurement of the variables

In this section, the measurements of dependent, independent and control variables are presented and discussed.

4. Study findings

4.1. Descriptive analysis

Results are tabulated in Table 2, obtained mean values with their maximum and mean values as shown in the table. The descriptive analysis was limited as it did not include the inter-relationships of the independent variable.

As far as the results are concerned, the mean ROE values reported by Abdalkrim (2019) in KSA and Hassan and Halbouni in UAE (2013), 0.04783 and 0.033, respectively. Moreover, the mean value of BODSIZE reported by (Hassan & Halbouni, 2013; Mollah & Zaman, 2015), 7.42 and 6.7185, UAE and African, respectively. Furthermore, the mean value of BODNONEX is similar to that Chijoke-Mgbame et al. (2019), 8.91. besides, the mean value of the BODMEETING reported Wang et al. (2019), 5.21 among GCC countries. Also, the mean value of AUDITSIZE and AUDITINDE reported by (E. M. A. Al-Matari, 2014), 3.510 and 0.932, respectively, in Omani companies. Likewise, the mean value of TMSIZE is similar to that of previous studies (E. M. Al-Matari, 2020), 5.077. Also, the mean value of TMGEXENUMBER reported by E. M. Al-Matari (2020) is 118.464. last, the mean value of LEVGE is similar to the previous studies (Abdalkrim, 2019), 0.472 in KSA.

Table 1. Summarized operationalization of the of the study variables

ROE	=	Return on equity, it calculated by net profits on equity of the shareholder (Al-Matari & Alosaimi, 2022; Al-Homaidi, Al-Matari, Anagreh, et al., 2021).
BODSIZE	=	The size (number) of the Board of Directors reflects the total number of board members (Ibrahim & Al-Matari, 2022).
BODNONEX	=	Non-executive board (%), it represents the number of independent non-executive directors to the total number of directors on the board (Al-Homaidi, Al-Matari, Tabash, et al., 2021).
BODMEETING	=	Board meeting (number), it represents the frequency of board meetings during a year.
BODCOMMIT	=	Board commitment (%), the commitment of the board is measured by the attendee of the meeting. It meant by ratio of attendance for all the members during a year.
AUDITSIZE	=	Audit committee size (number), it represents the number of audit committee members (Ibrahim & Al-Matari, 2022).
AUDITINDE	=	Audit committee independence (%), it represents the number of audit committee members on the audit committee that are non-executives (Al-Homaidi, Al-Matari, Tabash, et al., 2021).
AUDITCMEET~G	=	Audit committee meeting (number), it represents the frequency of the committee's meetings in a year (Al-Homaidi, Al-Matari, Tabash, et al., 2021).
TMSIZE	=	The size of top management team (number), it represents the number of the members of top management team (Al-Matari et al., 2020).
TMACFSIZE	=	Accounting and finance experience of top management team (number), it represents the number of members of the top management team who hold Accounting and finance experience (E. M. Al-Matari, 2020).
TMEDUCATION	=	Education level of top management team (number), it represents the number of members of the top management team who are highly educated (Masters degree or above) (Al-Matari et al., 2020).
TMGEXENUMBER	=	General experience of top management team (years), it represents the number of general experience years of the top management team (Al-Matari et al., 2020).
TMPCNUM	=	Professional certificate of top management team (Number), it represents the number of members of the top management team who hold professional certificates (Al-Matari et al., 2020).
FIRMSIZENUM	=	Firm size, total assets (Al-Matari & Alosaimi, 2022; Al-Homaidi, Al-Matari, Tabash, et al., 2021).
FIMSIOLOG	=	Firm size log it is calculated through the log of the total assets of the firm (Al-Matari & Alosaimi, 2022).
LEVGE	=	Leverage, it is calculated through total debts over total assets (Al-Matari & Alosaimi, 2022).
BankSECTOR	=	Bank sector, it is represented by dummy variable '1' if the firm is bank and by '0' otherwise (Al-Matari & Alosaimi, 2022).
BODINDEPRECE	=	Board independence ((%), it represents the number of independent directors to the total number of directors on the board.
TMACFSIZE2	=	Accounting and finance experience of top management team (%), it represents the percentage of members of the top management team who hold Accounting and finance experience.
TMEDUCATION2	=	Education level of top management team (%), it represents the percentage of members of the top management team who are highly educated (Masters degree or above).
TMPCNUM2	=	Professional certificate of top management team (Number), it represents the percentage of members of the top management team who hold professional certificates.
YEARSDDUMMAY	=	YEARS, it represented by dummy variable (Al-Matari, 2021).

The next step involves the determination of the variance inflation factor (VIF), the results of which are shown in Table 2. In particular, VIF values exceeding 10 indicate a multicollinearity issue (Hair et al., 2010). The VIF values ranged from 1.15 to 4.06, indicating the absence of such issue.

The correlation coefficients analysis showing statistical coefficients of the correlation matrix of 0.9 and over, represents a serious collinearity issue as explained by Hair et al. (2010). Table 3 shows no multicollinearity as none of the variable's correlations exceeded 0.9 in the model—all the correlations were less than 0.900 and hence, no multicollinearity issue exists.

4.2. Regression results

In the selection to employ either pooled estimation or random effects model, the Breusch–Pagan LM test is conducted. Thus, the outcome of Prob > chi2 is less than 0.05 as provided in Table 4, so the random effects models is more suitable over the pooled OLS model. However, the next step involves the use of Hausman test to select whether to proceed with using fixed effects or random effects (Hausman, 1978). The Hausman test is utilized when examining whether or not a correlation exists between the explanatory variables and the error term (Baltagi, 2008). In case the p-value is produced, the null hypothesis is rejected, and the appropriate model is the fixed effects one. The Hausman test is thus conducted. Based on the test, fixed effect was appropriate to analyze data of ROE model (refer to Table 4). Finally, to address the problem of heteroscedasticity in the data, this model is run cross-sectional time-series FGLS regression in order to solve this exit (refer to Table 4). This study is similar to other prior studies including Baltagi (2008), Bel and Esteve (2018), Gruskin et al. (2019), Liu et al. (2019), Que (2018), Sonora (2019) and Van Dan and Binh (2019) that opted for FGLS to test the relationship of independent/dependent variables. The nature of the data urges the focus on a separate set of financial sectors, where the inference is limited to a certain behavior and therefore the FGLS was found to be appropriate.

4.3. Further analysis

Other measures of some variable, such as board independence, accounting and finance experience, educational level, general experience and professional certificate, are used as percentage in this section. The results as a general rule support the main regression. Further analysis follows the same tools used in the main regression.

The first step used to determine the regression between OLS and GLS is acceptable, the results through LM testing are Prob > chi2 less than 0.05 as shown in Table 7. Which means, the Random Effects are sufficient. Instead, it used Hausman testing to determine which one is suitable. Based on Hausman test results, the Prob > chi2 has more than 0.05 as shown in Table 7. That is, fixed regression is sufficient. However, the Breusch–Pagan/Cook–Weisberg test results tend to have heteroskedasticity, as shown in Table 7. Thus, to solve this problem, it is easier to use Cross-sectional FGLS time series regression. As far as the FGLS regression is concerned, the results have shown that the board size, the general experience of top management, has a negative association with corporate performance. On the contrary, the Board's independence, the Board's commitment, the size of TM, the accounting and finance experience of TMT and the educational level of TMT have a significant positive relationship with corporate performance. The remaining variables have no link to corporate performance.

5. Discussion of results

Based on the results of the FGLS regression shown in Table 5 that the size of the board is significantly negatively associated with financial performance at level 0.05 as expected, this finding is similar to previous studies (E. M. Al-Matari, 2020; Mollah & Zaman, 2015; Shao, 2010). As described above, the more efficient the performance, strategic discussions, teamwork and communication are, with the claims of the Agency's theory that the smaller the board is. Moving on to the non-executive board has no effect on the financial performance of the stock market in Saudi Arabia. Outside directors are appointed by management or controlling shareholders to

Table 2. Descriptive statistics and variance inflation factor

Variable	Mean	Std. Dev.	Min	Max	VIF	1/VIF
ROE	0.299	0.185	0.040	0.960	-	-
BODSIZE	8.812	1.517	5.000	12.000	2.03	0.493
BODNONEX	4.037	1.545	0.000	6.996	1.21	0.827
BODMEETING	5.498	1.839	3.000	12.000	1.15	0.870
BODCOMMIT	0.905	0.035	0.778	0.981	1.99	0.503
AUDITSIZE	3.506	0.823	2.000	6.000	1.54	0.648
AUDITINDE	0.776	0.167	0.250	1.000	1.27	0.789
AUDITCMEET~G	5.951	2.030	1.000	12.000	1.29	0.776
TMSIZE	7.335	2.935	2.000	14.000	3.08	0.325
TMACFSIZE	2.963	1.805	1.000	9.000	4.06	0.246
TMEDUCATION	2.620	1.541	0.000	7.000	2.72	0.367
TMGEXENUMBER	146.804	74.938	33.000	440.000	3.36	0.297
TMPCNUM	1.355	1.025	0.000	4.000	1.38	0.727
FIRMSIZENUM (SR)	53,100,000.000	112,000,000.000	97,635.000	449,000,000.000	2.85	0.350
LEVGE	0.338	0.355	0.003	0.959	2.28	0.439
BankSECTOR*	Percentage				1.77	0.564
	24.5					
Mean VIF	2.13					

Table 3. Pearson Correlation for Continuous Variable (n = 240)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1-ROE	1.000														
2-BODSIZE	-0.083	1.000													
3-BODNONEX	-0.073	0.010	1.000												
4-BODMEETING	0.006	0.176***	-0.071	1.000											
5-BODCOMMIT	0.067	0.626***	0.065	0.186***	1.000										
6-AUDITSIZE	-0.095	0.362***	0.195***	0.025	0.335***	1.000									
7-AUDITINDE	0.203***	0.028	-0.137**	-0.094	-0.045	-0.288***	1.000								
8-AUDITCMEET-G	0.261***	0.073	0.045	0.117*	0.287***	-0.019	0.182***	1.000							
9-TMSIZE	-0.318***	0.057	0.046	-0.055	-0.008	0.043	-0.134**	-0.151**	1.000						
10-TMACFSIZE	-0.126**	0.024	-0.051	-0.006	-0.048	-0.037	-0.084	-0.108*	0.698***	1.000					
11-TMEDUCATION	-0.008	-0.029	-0.075	0.016	-0.064	-0.100	-0.119*	-0.092	0.521***	0.677***	1.000				
12-TMGEXENUMBER	-0.333***	0.098	0.098	-0.133**	0.036	0.084	-0.105*	-0.126**	0.746***	0.635***	0.290**	1.000			
13-TMPCNUM	0.033	0.033	0.002	-0.088	-0.056	-0.029	0.039	0.068	0.177***	0.049	0.309***	0.112*	1.000		
14-FIMSIOLOG	-0.303***	-0.028	0.018	-0.07	-0.149*	-0.063	-0.011	-0.127**	0.476***	0.550***	0.216***	0.593***	0.044	1.000	
15-LEVGE	-0.428***	-0.067	0.009	0.037	-0.112*	-0.041	-0.098	-0.175***	0.362***	0.466***	0.225***	0.434***	-0.140**	0.397***	1.000

Note: all variables have described in Table 1; significant level as follow: (*) p < 0.10; (**) p < 0.05 and (***) p < 0.01, respectively.

Table 4. Tabulate the detailed results- model (1)

Breusch and Pagan Lagrangian Multiplier Test		Hausman Test		Breusch–Pagan/Cook– Weisberg test for heteroskedasticity Test	
chibar2(01)	33.62	chibar2(17)	8.68	chibar2(1)	27.82
Prob > chibar2	0.0000	Prob > chibar2	0.9498	Prob > chibar2	0.0000

enhance performance with the help of directors' professional competencies and to send a positive signal to firm investors (Al-Matari et al., 2022; Srinidhi et al., 2014).

The board meeting has no association with the financial performance of the stock market in Saudi Arabia. This relationship may stem from the premise that the frequency of meetings of the Board in Agency Theory is considered to be complementary rather than qualitative. Clearly, the higher the frequency of meetings of the Board, the more the Board plays an unsuitable role in operations rather than a supervisory role, and the Board 's function is essentially to oversee management and not to manage the organization. Moreover, results have shown that there is no significant relationship between board commitment and corporate governance. This finding can be attributed, despite the frequency meeting, to the lack of effectiveness of the board meeting. The lack of effectiveness can be reflected in weak decision-making on the critical issue affecting the overall organizational direction.

Likewise, the size of the audit committee is not a corporate governance group. It should consist of professional, expert and well-informed members and should have enough authority to ensure the effectiveness of AC (Mohiuddin & Karbhari, 2010). As regards the proposed relationship between independence and corporate performance of the Audit Committee, there is an significant positive relationship between independence of the Audit Committee and corporate performance. Past studies support this finding of a positive audit committee independence-CP relationship and these included Dey (2008), Nahar Abdullah (2004), Nuryanah and Islam (2011), Saibaba and Ansari (2011), Swamy (2011) and Yasser et al. (2011). This positive committee independence-CP result may stem from the fact that non-executive members independent members of the committee play a major role in ensuring that the practices of corporate governance of auditing are complied with and this influences the financial report clarity, authenticity and transparency (Swamy, 2011).

The findings also indicate that the meetings of the audit committee have an significant positive connection to corporate performance at level 0.10. The frequency of board meetings will boost the company's efficiency as regular meetings offer more resources for tracking and reviewing managerial performance (Hsu & Petchsakulwong, 2010). As a result, the size of top management has a negative, significant link to corporate governance at level 0.05. This finding argues that size may limit the exchange of information between managers and reduce their planning effectiveness and analytical processes in low-functioning environments as illustrated by Escribá-Esteve et al. (2009). In addition, the result found that accounting and finance experience of top management team has a positive significant link to corporate governance at level 0.01. This finding is similar to previous studies (Al-Matari et al., 2020; E. M. Al-Matari, 2020). This result supported the need for expert and experienced board members to be more adept at addressing and addressing environmental issues in order to enhance the company's performance (Al-Matari et al., 2012a). As a consequence, the education level of the top management team has not been associated with corporate governance. The rationale for the results is that the numbers held by Master and PhD among companies are small, while academic directors have the capacity to improve the efficiency of the board and, ultimately, the performance of the firm as a whole (Francis et al., 2015). Furthermore, the general experience of the top management team has a negative, significant link to corporate performance at level 0.05. The possibility that general experience does not focus on specialization, which does

Table 5. Cross-sectional time-series FGLS regression- model (1)

Variable	Coef.	z
BODSIZE	−0.014	−2.16**
BODNONEX	−0.006	−1.41
BODMEETING	0.002	0.57
BODCOMMIT	0.195	0.73
AUDITSIZE	0.003	0.3
AUDITINDE	0.097	2.34**
AUDITCMEETING	0.007	1.92*
TMSIZE	−0.008	−2.23**
TMACFSIZE	0.022	3.41***
TMEDUCATION	0.002	0.28
TMGEXENUMBER	0.000	−2.21**
TMPCNUM	0.010	1.46
FIMSILOG	0.019	1.09
LEVGE	−0.535	−11.98
BankSECTOR	Included	
YEARSDUMMAY	Included	
_cons	0.342	1.3
Number of obs	240	
Number of groups	49	
Time periods	5	
Wald chi2(19)	411.65	
Prob > chi2	0.0000	
Coefficients	generalized least squares	
Panels	heteroskedastic	
Correlation	no autocorrelation	

Note: all variables have described in Table 1; significant level as follow: (*) $p < 0.10$; (**) $p < 0.05$ and (***) $p < 0.01$, respectively.

not help to improve work and to create creativity and innovation at work, and is sometimes a burden on the company. Lastly, as a result, the professional certificate of the top management team did not have any association with corporate performance. This result emerged because the number of professional holders of certificates in Saudi companies is very small, with the aim of appointing professional holders of certificates that enhance the quality of their work by the senior executive management (Henry et al., 2019b).

6. Conclusion, limitations and suggestions for future studies

To summarize, this study succeeded in examining the relationships between corporate governance mechanisms, which are board of directors and audit committee in terms of their characteristics (board size, board independence, board meeting, board commitment, and audit committee size, audit committee independence and audit committee meeting) along with TMT characteristics (size, accounting and finance experience, education level, general experience and professional certificate) on the financial performance of Saudi public-listed firms. The target sample comprised of non-financial sector firms, using data for the years from 2014 to 2018. Finally, with respect to Table 5, this study found board size, size and general experience of top management have significantly negative association with corporate performance. On contrary, there are a positive and significant between audit committee independence, audit committee meeting and accounting and finance experience of top management team and corporate performance. In the same

Table 6. Cross-sectional time-series FGLS regression- model (2)

Variable	Coef.	z
BODSIZE	−0.011	−1.76*
BODINDEPRECE	0.062	2.15**
BODMEETING	0.003	1.11
BODCOMMIT	0.437	1.76*
AUDITSIZE	0.004	0.46
AUDITINDE	0.121	3.13***
AUDITCMEETING	0.006	1.64
TMSIZE	0.008	2.29**
TMACFSIZE2	0.264	5.88***
TMEDUCATION2	0.086	1.99**
TMGEXENUMBER	0.000	−2.73**
TMPCNUM2	0.050	1.19
FIMSILOG	0.014	0.92
LEVGE	−0.536	−13.68***
BankSECTOR	Included	
YEARSDUMMAY	Included	
_cons	−0.122	−0.48
Number of obs	240	
Number of groups	49	
Time periods	5	
Wald chi2(19)	528.72	
Prob > chi2	0.0000	
Coefficients:	generalized least squares	
Panels:	heteroskedastic	
Correlation:	no autocorrelation	

Note: all variables have described in Table 1; significant level as follow: (*) $p < 0.10$; (**) $p < 0.05$ and (***) $p < 0.01$, respectively.

content, the further analysis found the little different results than main measurement of some variables as provided in the Table 6. The board independence, board meeting, board commitment, and audit committee size, education level of tom management and professional certificate of top management have no association to corporate performance of Saudi Arabia financial sector.

As mentioned, this study is motivated by the gap in literature on the study variables' relationships in the context of Saudi Arabia, an emerging nation. This study contributes to the understanding of corporate governance characteristics that determine corporate performance, particularly in a country characterized by a distinct culture and business and market environment.

Table 7. Tabulate the detailed results- model (2)

Breusch and Pagan Lagrangian Multiplier Test		Hausman Test		Breusch–Pagan/Cook– Weisberg test for heteroskedasticity Test	
chibar2(01)	37.53	chibar2(17)	9.83	chibar2(1)	19.79
Prob > chibar2	0.0000	Prob > chibar2	0.9107	Prob > chibar2	0.0000

This study is unique as it examined the association among the corporate governance mechanisms characteristics and TMT characteristics and their role in corporate performance. As discussed previously, academic research has demonstrated that the role of the top management board contributes to the enhancement of the company's performance and the implementation of its strategic plans. Moreover, it was mentioned that there are very few studies in the Arab world in general and in the Gulf Cooperation Council countries in particular; therefore, the study recommends that researchers study this relationship in the Gulf Cooperation Council countries in general and Saudi Arabia in particular in order to improve the proven results. On the part of practitioners, data collection revealed that the number of board members is insufficient; hence, the number must be examined alongside the availability of appropriate knowledge in all members, which aids in making accurate decisions on time. Furthermore, practitioners should rethink the regulations in order to establish a gender balance, as it was found that the number of women is modest.

Despite its numerous contributions to both theory and practice, this study has its limitations that have to be enumerated for consideration and resolution by future studies. The first limitation concerns the examination between the relationships of board directors, audit committee and top management team characteristics on CP but in this regard, there are other corporate governance and TMT dimensions like executive committee, remuneration committee, and risk committee. The second study limitation is concerned with the examination of the direct relationship of the independent variables with corporate performance, and as such, the author suggests that future studies consider exploring the relationships through culture, SRC, and other variables that can enhance the performance level. The third limitation is the use of CP proxies (ROE), in light of which future authors can consider and examine other proxies other than the examined ones. The fourth limitation is related to the Saudi stock market, with which future authors can shift their focus to other GCC stock markets. This study examined the relationship of variables in the financial sector, and as such, future studies can include the non-financial sector and provide a clearer insight into the Saudi stock market. In addition, this study is limited in its testing of the variable's relationship in Saudi Arabia along—future authors can embark on examining two GCC countries with similar structures. Finally, this study strongly suggests future research to examine the impact of corporate governance index and performance as previous studies that done among developed countries.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Availability of data and materials

Data is obtained from the listed financial firms' annual reports, available in the Saudi Arabian Stock market online database (<https://cutt.us/o2Q6a>).

Correction

This article has been republished with minor changes. These changes do not impact the academic content of the article.

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