TOP MANAGEMENT CHARACTERISTICS AND PERFORMANCE OF FINANCIAL COMPANIES: THE ROLE OF WOMEN IN THE TOP MANAGEMENT

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Abstract

The top management (TM) is very important to the company. It is concerned with planning, directing, monitoring results, and adjusting strategic plans. This research intends to investigate the connection between TM characteristics and financial company performance. Specifically, this research explores the role of women in this relationship. The sample of the study is 368 firm-year-observations from the listed financial sectors in Saudi Arabia for the 2014–2021 years. The ordinary least squares (OLS) regression analysis is used to determine if TM characteristics have an impact on firm performance. The moderating effect of women in TM on the connection between TM qualities and performance is also tested in this research. This research confirms the primary theories by using attentional tests in conjunction with additional data. We discover that the size of TM has a statistically significant detrimental impact on performance according to the major models. We also find the significant effects of accounting and finance experience of TM, professional certificate of TM, education level of TM, and women in TM on performance. Further analysis reveals that women in TM have a moderator effect on TM characteristics and company performance. The study contains new empirical data to comprehend how management- and governance-specific elements impact the effectiveness of performance in Saudi Arabia enterprises. In addition, the representation of women in TM has an impact on the association between TM characteristics and performance.

Keywords: Top Management Team, Firm Performance, Board Diversity, Saudi Arabia

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1. INTRODUCTION

The position of the firm's top management is garnering greater emphasis as organizations grow more complicated (Al-Matari, 2022; Ginesti, 2019; Kolev & McNamara, 2022; Parola et al., 2015; Zhou et al., 2022). Particularly, there has been a lot of attention on how top management (TM) diversity affects a variety of organizational choices and results (Yang & Wang, 2014). Overall, it is anticipated that diversity among TM, as shown by characteristics like size, accounting and financial experience, professional certification, and educational level that represent top managers' beliefs, cognitions, and perspectives, would improve the performance of organizations (Al-Matari, 2019; Ginesti, 2019; Ozdemir & Erkmen, 2022; Parola et al., 2015).

Performance is influenced by a variety of factors, but this research focuses on the effect that top management characteristics (TMC) have on performance. The results of Hambrick and Mason (1984) were used by scholars to support the notion that top managers are critical to the firm success. In order to answer these issues, research on TMC (Ozdemir & Erkmen, 2022; Suliman et al., 2019; Tanikawa & Jung, 2016; Yun et al., 2020; Zhou et al., 2022) links TMC's properties to outcome factors including company performance. TM seems to have a significant impact on a variety of firm-level behaviors and results (Suliman et al., 2019). The growth and development of a company also depend on TMC's performance (Suliman et al., 2019; Yun et al., 2020).

Although prior research suggests that TM should focus on performance (Al-Matari et al., 2020; Ginesti, 2019; Parola et al., 2015; Suliman et al., 2019; Yun et al., 2020), studies rarely address how TM approval is formed so that it enhances the firms among Saudi companies (Al-Matari et al., 2020). As a result, for many practitioners and researchers, problems like TM approval and team performance continue to be perennial and crucial concerns. The purpose of the current study is to add to this academic discussion by addressing the following research questions:

RQ1: Do top management characteristics affect performance?

RQ2: Does the presence of women in top management affect how top management characteristics and performance work?

Indeed, having women on the board of directors is seen as a sign of excellent corporate governance and one of the elements influencing board diversity (Al-Matari et al., 2020; Boubacar, 2020; Ginesti, 2019). Because female directors are more engaged than male directors, Adams and Ferreira (2009) claim that the inclusion of women on boards improves boards' efficacy. According to Liu et al. (2014), boards with three or more women members have a stronger influence on organizations' success than boards with fewer women. Similarly to this, Strøm et al. (2014) point out that having female administrators boosts the effectiveness of microfinance firms. Women managers also provide financial companies with an excellent line of contact with their mostly female consumers. Based on that, the current study intends to add to the academic discussion by exploring the stated research questions.

There are three key ways in which this study differs from earlier studies. First, prior research on the mechanisms of TM has primarily focused on the direct correlations between TM and performance (Al-Matari et al., 2020; Díaz-Fernández et al., 2014; Yun et al., 2020), but has neglected some potential moderating effects on the correlations, such as the role of women by evaluating both the direct impacts and the moderating effects of TM. Second, while earlier empirical studies (Burkhardt et al., 2020; Díaz-Fernández et al., 2014; Parola et al., 2015) among developed countries have examined TM and performance, this study is one of the few to focus on the Gulf nations, namely Saudi Arabia.

Third, while the majority of empirical studies only use TM as a different variable to test this relationship (Al-Matari et al., 2020; Ginesti, 2019; Parola et al., 2015; Suliman et al., 2019; Yun et al., 2020), this study is distinct in that it also uses other TM measurements that could produce clear results. We can effectively disclose a clear grasp of how team performance and TM approval are genuinely driven by their antecedents and moderators based on the crucial benefits of our study that were previously mentioned.

Our study goal was experimentally pursued using panel-data ordinary least squares (OLS) regressions. The panel had 368 yearly observations covering the 2014–2021 years. Our findings demonstrate that the size of the TM (TMS) has a statistically significant detrimental impact on performance. Also discovered by this research are the beneficial and statistically significant effects of accounting and finance experience, professional certificate, education level of TM, and women in TM on performance. The investigation also reveals that the role of women in TM has a statistically significant impact on performance. As a result, like García-Meca et al. (2015) and Post and Byron (2015), we discovered that as the proportion of women in senior management climbed, so did the company's services. Therefore, the financial performance was favorably impacted by women's increasing involvement in decision-making. In essence, organizations perform better when there is more gender diversity on the board (Campbell & Mínguez-Vera, 2008).

The following is how the paper is set up. The literature is reviewed in Section 2. In Section 3, the study's data and methods are explained. The research findings are then presented and discussed in Section 4. The study results and how they relate to the study contributions are covered in Section 5, along with potential suggestions for future research in Section 6.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Characteristics of top management and corporate performance

Previous literature on the role of TM in firms indicates that the success of enterprises is significantly influenced by TM, who play a crucial role in the management (Al-Matari, 2019, 2022; Al-Matari et al., 2020; Boubacar, 2020; Chenli, 2022; Velinov & Konovalova, 2022; Yun et al., 2020). The level of an economic unit's success in pursuing its ongoing activity to meet its goals is measured by its performance. Since success is a composite metric

that includes effectiveness and efficiency, thus the measurement of success considering both of the elements are more comprehensive rather than using one element only (Al-Matari et al., 2020). Accordingly, the current study concentrates on examining some of the TM-related factors that affect a company's performance, such as the size of the organization, TM's accounting and financial experience, professional credentials, and educational background. Furthermore, according to earlier research that looked at the connection between TM and performance, they discovered mixed results (Al-Matari, 2019; Al-Matari et al., 2020; Belderbos et al., 2022; Boubacar, 2020; Burkhardt et al., 2020; Velinov & Konovalova, 2022; Yun et al., 2020). Thus, in order to validate the association between TMC and performance, the present research investigates the *role of women in TM* as a moderator variable.

The size of TM (TMS) makes up the first factor. The number of top managers holding board seats may be used to estimate the TMS (Certo et al., 2006). As an additional factor, Haleblian and Finkelstein's (1993) research showed that the TMS has a major influence on a company's success. Management research has shown that the size of the management team may also have a favorable impact on the effectiveness of the organization (Ginesti, 2019). The execution of these activities is vital for the business's smooth operation and performance. Information processing is a significant responsibility of senior executives (Henderson & Fredrickson, 1996). On top of that, large-sized boards provide diversity that may aid in securing the necessary funding and reducing environmental risk (Al-Matari et al., 2012; Pearce & Zahra, 1992; Pfeffer, 1988). Studies by Jensen (1993) and Lipton and Lorsch (1992) concurred that seven to eight members make up an adequate amount for a board of directors. Boards with eight or fewer members encourage more attention, member engagement, and correct exchanges and debates. Additionally, it is noteworthy that in industrialized countries, research that examined the relationship between TMS and company performance is still rare, and those that do exist have generally contradictory results. A favorable association, for instance, was observed by Hoffman et al. (1997). Al-Matari et al. (2020), Hambrick et al. (1996), and Iaquinto and Fredrickson (1997), however, reported no association. Thus, the current study suggests that:

H1: There is a negative significant relationship between the size of the top management and corporate performance.

The expertise of TM in accounting and finance is the second factor (TMSAACC) to be considered. The number of TM individuals with accounting and finance expertise may be used to gauge the level of accounting and finance experience in the group (Al-Matari et al., 2020). According to the resource dependency theory, financial specialists may help a company expand by providing insight into various processes and duties. As a result, expert board members are seen to be better at navigating the external environment to boost corporate performance (Al-Matari et al., 2012). Expertise also offers teams insights into various inputs (Carmeli & Halevi, 2009) and promotes the exploitation of complementary personalities, values, skills, experience, and knowledge. Therefore, TM's expertise in finance and corporate success has a generally favorable and substantial link with performance. The power of an audit committee's experience in financial experts, who provide high-quality reporting, is analogous to how financial specialists in an audit committee may increase the credibility of financial statements (Badolato et al., 2014; Burrowes & Hendricks, 2005). The present research sets out to examine this variable because of its significance in enhancing the performance of businesses, despite the fact that few studies have addressed the value of the board members' financial and accounting skills. Prior empirical investigations indicated a favorable association between TM's accounting and finance expertise and performance (Al-Matari, 2022; Al-Matari et al., 2020). In contrast, Díaz-Fernández et al., (2014) found no evidence of a meaningful correlation for this relationship. Based on the above considerations, the following hypothesis is put forward:

H2: There is a positive significant relationship between the accounting and finance experience of the top management and corporate performance.

The professional certificate of TM is the third factor (TMPCNO). According to Al-Matari, (2020), the professional certificate of TM is measured. One trait of TM is the possession of a professional certificate, which is said to raise the holders' caliber (Al-Matari et al., 2020). To put it another way, highly qualified TM is better equipped to handle problems inside their departments. Therefore, TM professional certificate is assessed in the current research.

According to the agency theory and the resource dependency theory, competent people are more able to improve the performance of the company due to their sharp perception of how to handle operations and produce high-quality work. Anderson et al. (2011) explored occupational heterogeneity on the board in similar research. Their results showed that investors are on the lookout for diverse directors who can offer a variety of skills and perspectives to their oversight and advisory roles. Additionally, they discovered that professional variety creates opportunities for additional coordination and communication problems, which are mitigated by improved problem-solving, the creation of strategies, and efficient resource usage. Accordingly, this research takes into account the variable, which is known as the proportion of professionally qualified individuals who sit on top executive management boards (Certified Management Accountant [CMA], Certified Public Accountant [CPA], etc.).

According to previous comparable research, there is a strong link between TM certification and business performance (Baixauli-Soler & Sanchez-Marin, 2011; Henry et al., 2019). Notably, research on the connection between TM training and company performance in both developed and developing countries is scarce (Prawitt et al., 2009), and there are almost no empirical studies on the subject (Al-Matari, 2022; Al-Matari et al., 2020). This research contributes by investigating the link between TM and business success by predicting the following hypothesis:

H3: There is a positive significant relationship between the professional certificate of top management and corporate performance.

The fourth factor is TM's degree of education (TMEDUCATIONNO). In the same vein, highly educated individuals are more tolerant of

uncertainty, more adaptable to change, and more likely to be innovative (Al-Matari et al., 2020; Wally & Becerra, 2001). Boards of directors are important players in decisions that might affect a company's existence. Team members' various educational backgrounds and levels of experience and talents may be characterized as a particular requirement for related jobs (Dahlin et al., 2005). It is crucial to keep in mind that one aspect of the board is its educational background (Jung & Ejermo, 2014). However, research on the value of board education is lacking (Adnan et al., 2016). Despite the significance of educational level, there is limited research that has tried to look at how educational level and performance are related. Al-Matari (2019) and Yun et al. (2020) revealed a favorable connection. Díaz-Fernández et al. (2014), on the other hand, observed a negative association. Finally, no link was revealed by Adnan et al. (2016) and Yun et al. (2020). Based on the above discussion, the following hypothesis is put forth:

H4: There is a positive significant relationship between the education level of the top management and corporate performance.

The fifth factor of TM includes TM's overall experience (TMACCXE). It shows how many years TM has gained experience (Li & Huang, 2019). Advocates of the resource dependency theory said that experts are better equipped to create the development of a company since they know how to handle procedures and do activities that might improve its quality. Expert board members are better equipped to take advantage of the outside environment to improve the operation of the company (Al-Matari et al., 2014). According to Henry et al. (2019), board members who share the same beliefs and have similar backgrounds and experiences may get along well and promote correct information for making informed choices. In addition, diverse industry expertise among managers is essential for highly varied organizations (Díaz-Fernández et al., 2014). A manager who has been a part of TM for a while has likely gone through earlier innovations and will likely have a different perspective and experience that will improve the performance of firms compared to someone who just joined TM. This manager is more likely to bring new experience from outside TM and the company (Barkema & Shvyrkov, 2007). Additionally, managers with expertise in relevant strategies might help in the process of formulating strategic decisions (Ruigrok et al., 2006). Directors should also be able to contribute more to decision-making if they have expertise with relevant tactics (Carpenter & Westphal, 2001; Ruigrok et al., 2006). Given the fact that knowledge and experience from prior mergers and acquisitions are ingrained in the organization's personnel, tools, tasks, and networks, such experience accumulation is crucial in the development of firm-level integration skills (Argote & Miron-Spektor, 2011). Additionally, TM with extensive industry knowledge may plan and standardize organizational resources such as human resources, financial resources, materials, and information, and combine them with efficient leadership and moderating controls to meet the company's objectives (Cui et al., 2019). Additionally, compared to their competitors who lack such knowledge, TM with a lot of experience is more likely to be an expert in enterprise management.

Prior research on TM experience and its connection to corporate performance have many been conducted in developed countries (Cui et al., 2019; Simons & Pelled, 1999; Smith et al., 1994), and the majority of the studies found a negative relationship between the variables. A favorable association is found in the following studies (Al-Matari, 2019; Díaz-Fernández et al., 2014; Yun et al., 2020). A study by Parola et al. (2015) found a negative association. The current study proposes the following hypothesis:

H5: There is a positive significant relationship between the general experience of the top management and corporate performance.

2.2. Women in the top management

Studies have shown that having women on boards of directors is advantageous for businesses (Henneke & Lüthje, 2007; Liu et al., 2014; Ozdemir & Erkmen, 2022). In reality, women broaden the range of viewpoints expressed, have an impact on leadership and decision-making, and enhance a company's reputation and longevity (Fauzi et al., 2017). The range of expertise and experience that female and male board members offer to organizations enhances the quality of corporate governance. Women's inclusion as a complete version of board diversity results in more effective decision-making involvement (Baker & Anderson, 2011). Women have unique characteristics that impact a company's strategic direction in a favorable way, which helps it flourish (Lincoln & Adedoyin, 2012). Companies with a strong female presence on their boards of directors (three or more throughout at least four out of five years), do better financially than those with weak female participation (zero throughout at least four out of five years) (Henneke & Lüthje, 2007).

Women on the board of directors are seen as a sign of strong corporate governance and one of the aspects that contribute to board diversity (Boubacar, 2020). Women directors are more active than male directors, hence Adams and Ferreira (2009) contend that having more women on boards makes them more effective. Their findings are in line with those of (Liu et al., 2014), who similarly note that boards with three or more women members had a bigger influence on firms' performance than boards with fewer women. Similar to this, Strøm et al. (2014) highlight that the performance of microfinance firms is enhanced by the presence of women managers. Women managers also serve as a useful conduit for information between microfinance institutions (MFIs) and their mostly female clients.

Numerous studies have looked at the connection between financial company success and TM (Al-Matari, 2019; Ginesti, 2019; Ozdemir & Erkmen, 2022; Parola et al., 2015; Suliman et al., 2019; Tanikawa & Jung, 2016; Yun et al., 2020). Internal TMC factors including company size, accounting and financial expertise, professional certification, and educational background of TM are all included as characteristics of TM. The effect of women in TM on TM's performance, however, has not been investigated empirically. This study's primary objective is to investigate the relationship between TMC and performance, with the secondary objective of examining the position of women in TM. The correlation between gender and performance is

favorable, according to earlier empirical investigations (Carter et al., 2010; García-Meca et al., 2015; Post & Byron, 2015). The presence of women on the board, however, is associated negatively with performance (Boubacar, 2020; Isik et al., 2015; Parola et al., 2015; Smith et al., 2006). Thus, the present study expects the following hypotheses based on the earlier discussion:

H6: Having women in top management has a positive association with corporate performance.

H7: Having women in the top management moderates the relationship between the top management and corporate performance.

3. RESEARCH METHODOLOGY

3.1. Research sample

Annual reports of listed companies in the Saudi Arabia database online, the Saudi Exchange was scoured for the needed study data regarding TM and corporate performance. The study population comprised firms in the financial sector consisting of 46 firms from 2014 to 2021 years, excluding firms with missing data. The total firms-year-observations are 368 firms.

In order to evaluate the link at the corporate level, the financial firms listed on the Saudi Exchange were used as the analysis unit in this study.

3.2. Measurement of the variables

The variables' measurements — dependent, independent, and control variables — are presented in this section. Table A.1 (see Appendix) provides detail of the measurement.

3.3. Models of study

This study used OLS regression to test the direct and non-direct relationship as Breusch-Pagan LM is not significant. Moreover, the results of the test for heteroskedasticity were significant so the study used robust in order to solve this issue. We use the following regression model to investigate the relationship between TMC and financial company performance:

$$ROA_{it} = \alpha_0 + \beta_1 TMS_{it} + \beta_2 TMSAACC_{it} + \beta_3 TMPCNO_{it} + \beta_4 TMEDUCATIONNO_{it} + \beta_5 TMACCXE_{it} + \beta_6 WTM_{it} + \beta_7 FSG_{it} + \beta_8 LVG_{it} + \beta_9 YEARS_{it} + \varepsilon_{it} \quad (1)$$

We describe the following estimate model to see whether the presence of women in TM affects the relationship between TMC and financial company performance:

$$ROA_{it} = \alpha_0 + \beta_1 TMS_{it} + \beta_2 TMSAACC_{it} + \beta_3 TMPCNO_{it} + \beta_4 TMEDUCATIONNO_{it} + \beta_5 TMACCXE_{it} + \beta_6 WTM_{it} + \beta_7 WTM * TMS_{it} + \beta_8 WTM * TMSAACC_{it} + \beta_9 WTM * TMPCNO_{it} + \beta_{10} WTM * TMEDUCATIONNO_{it} + \beta_{11} WTM * TMACCXE_{it} + \beta_{12} FSG_{it} + \beta_{13} LVG_{it} + \beta_{14} YEARS_{it} + \varepsilon_{it} \quad (2)$$

4. EMPIRICAL RESULTS

4.1. Descriptive statistics and correlations

Table 1 shows descriptive statistics and the Pearson correlation among the study variables. The return on assets (ROA) has a mean value of 0.011 percent. Table 1 demonstrates the absence of multicollinearity issues.

The findings of the subsequent phase, which includes calculating the variance inflation factor (VIF) are shown in Table 2. Particularly, VIF values greater than 10 point indicates a multicollinearity problem (Hair et al., 2010). The absence of this problem was shown by the mean value of VIF values at 2.420.

Table 1. Descriptive statistics and correlation analysis

Variable	*Mean*	*Std. dev.*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
ROA (1)	0.011	0.051	1.000								
TMS (2)	7.870	3.082	0.044	1.000							
TMSAACC (3)	3.076	1.840	0.094*	0.706***	1.000						
TMPCNO (4)	1.277	1.124	0.112**	0.224***	0.064	1.000					
TMEDUCATIONNO (5)	2.731	1.558	0.094*	0.512***	0.581***	0.270***	1.000				
TMACCXE (6)	72.793	53.223	0.051	0.644***	0.836***	0.012	0.427***	1.000			
WTM (7)	0.497	0.792	-0.021	0.026	-0.034	-0.039	0.036	0.113**	1.000		
FSG (8)	6.568	0.963	0.123**	0.478***	0.452***	0.075	0.115	0.584***	0.063	1.000	
LVG (9)	0.695	0.152	0.059	0.366***	0.314***	-0.098*	0.024	0.437***	0.026	0.466***	1.000

*Note: ***, **, * significance at the 1%, 5%, and 10% levels.*

Table 2. Test of VIF

Variable	*VIF*	*1/VIF*
TMSAACC	5.000	0.200
TMACCXE	4.540	0.220
TMS	2.450	0.408
TMEDUCATIONNO	1.840	0.543
FSG	1.790	0.558
LVG	1.450	0.688
TMPCNO	1.190	0.839
WTM	1.090	0.917
Mean VIF	2.420	

5. DISCUSSION

5.1. Result of main models

We investigate the direct relationship (Model 1) and indirect relationship (Model 2) between TM (*TMS, TMSAACC, TMPCNO, TMEDUCATIONNO*, and *TMACCXE*) and performance using ROA as the proxy of performance as shown in Table 3.

The findings in Model 1 indicate that ROA has a negative and statistically significant relationship with TMS (β = -0.002 at p > 0.05), indicating that

the presence of a small TM team improves performance and ROA. The regression findings indicate the efficiency of the small size of TM in achieving organizations' goals and protecting their reputations, consequently enhancing the financial performance of the businesses. The findings support the agency theory's claim that small board size is crucial for minimizing the conflict of interest between shareholders and management, which may improve business performance. Additionally, boards with eight or fewer members encourage greater attention, member involvement, and accurate conversations and disputes.

The findings also indicate that the *TMSAACC* coefficient is positive and statistically significant ($\beta = 0.004$ at $p > 0.1$), indicating that TM's accounting and financial expertise benefits accounting performance. Additionally, this outcome is consistent with earlier research (Al-Matari et al., 2020). Additionally, the findings support the agency theory's and resource dependency theory's claims that board members having more accounting and financial expertise are crucial in minimizing the conflict of interest between shareholders and management. In a similar vein, financial professionals on an audit committee may strengthen the validity of financial statements, which may have a favorable impact on business performance (Burrowes & Hendricks, 2005).

The presence of professional members of TM (*TMPCNO*) improves the performance of the firm since the coefficient is positive and statistically significant for model 1 ($\beta = 0.005$ at $p > 0.05$). This outcome supports the claims made by the resource dependency theory and the agency theory that the board members' diverse backgrounds, experiences, and credentials enable them to make choices more swiftly, which improves the performance of the business.

TM education level (*TMEDUCATIONNO*) coefficients are found favorable and statistically significant for Model 1 ($\beta = 0.003$ at $p > 0.1$). This outcome is consistent with earlier research (Al-Matari, 2019; Yun et al., 2020). This outcome supports the claims made by the resource dependency theory and the agency theory that the board members' diverse backgrounds, experiences, and credentials enable them to make choices more swiftly, which improves the performance of the business.

The findings also indicate that the presence of general experience in TM does not improve the performance of the organization since the coefficient of this factor is negative and statistically insignificant ($\beta = -0.000$ at $p > 0.01$). This outcome is consistent with findings in earlier research (Yun et al., 2020). This finding suggests that performance is not affected by years of experience only because the experience without specialization in a particular sector would cause a disparity in the performance of financial or non-financial organizations.

Interestingly, the findings indicate that the presence of women in TM is positively associated and statistically significant ($\beta = 0.006$ at $p > 0.1$), showing that their presence improves the performance of the organization. This outcome is consistent with earlier research (Carter et al., 2010; García-Meca et al., 2015; Post & Byron, 2015), and supports the unique characteristics of women on the board of directors which provides strong corporate governance culture and one of the aspects that contribute to board diversity (Boubacar, 2020).

We also believe that the presence of women in TM affects the functioning of financial institutions. Table 3 (Model 2) shows the interaction of women on TM (*WTM*) with all variables, including *TMS, TMSAACC, TMPCNO, TMEDUCATIONNO*, and *TMACCXE*. The findings indicate no discernible influence of *WTM* on the association between TM factors and performance. This finding reflects the information gathered throughout the survey which shows that there are relatively few women on TM board. Even though Saudi legislation has promoted female leadership engagement during the previous five years, the ratio is still quite low as shown by the statistics, the percentage of women's representation in recent years has been 14 percent, which shows that the percentage of women's participation is low; where the representation of women is by 22 percent of the council members, and by two women members by 10 percent, which shows that the number is still low when compared to the number of men in the council. As a result, decision-makers in the Saudi market must promote or establish a certain percentage of female representation on the board of directors, which in turn encourages effective involvement and boosts the profitability of businesses.

Table 3. OLS regression results on TMC, *WTM*, and financial performance (ROA)

Variable	*Model 1*	*Model 2*
TMS	-0.002** (-1.99)	-0.002 (-1.54)
TMSAACC	0.004* (1.6)	0.003 (1.04)
TMPCNO	0.005** (2.35)	0.004* (1.71)
TMEDUCATIONNO	0.003* (1.65)	0.002 (0.86)
TMACCXE	-0.000 (-1.2)	-0.000 (-1.03)
WTM	0.006* (1.69)	-0.008 (-0.97)
*WTM * TMS*	-	-0.000 (-0.46)
*WTM * TMSAACC*	-	0.004 (1.24)
*WTM * TMPCNO*	-	0.003 (1.43)
*WTM * TMEDUCATIONNO*	-	0.002 (0.97)
*WTM * TMACCXE*	-	0.000 (-0.57)
FSG	0.008***(2.96)	0.008*** (2.91)
LVG	0.018 (0.75)	0.019 (0.76)
YEARS	Yes	Yes
R^2	0.10	0.11
Prob. > F	0.008	0.0027
Observations	368	368

*Note: ***, **, * significance at the 1%, 5%, and 10% levels.*

5.2. Additional analysis

In this section, we employed additional TMC measurements based on a ratio rather than a number, including (*TMSAACC, TMPCNO, TMEDUCATIONNO*, and *TMACCXE*), to ensure that the performance or the results were consistent with the primary measurements. We then specified the following estimate models (Model 3 for direct relationship; Model 4 for indirect relationship):

$$ROA_{it} = \alpha_0 + \beta_1 TMS_{it} + \beta_2 TMSAACC\_rt_{it} + \beta_3 TMPCNO\_rt_{it} + \beta_4 TMEDUCATIONNO\_rt_{it} + \beta_5 TMACCXE\_rt_{it} + \beta_6 WTM\_rt_{it} + \beta_7 FSG_{it} + \beta_8 LVG_{it} + \beta_9 YEARS_{it} + \varepsilon_{it} \quad (3)$$

$$ROA_{it} = \alpha_0 + \beta_1 TMS_{it} + \beta_2 TMSAACC\_rt_{it} + \beta_3 TMPCNO\_rt_{it} + \beta_4 TMEDUCATIONNO\_rt_{it} + \beta_5 TMACCXE\_rt_{it} + \beta_6 WTM\_rt_{it} + \beta_7 WTM\_rt * TMS_{it} + \beta_8 WTM\_rt * TMSAACC_{it} + \beta_9 WTM\_rt * TMPCNO_{it} + \beta_{10} WTM\_rt * TMEDUCATIONNO_{it} + \beta_{11} WTM\_rt * TMACCXE_{it} + \beta_{12} FSG_{it} + \beta_{13} LVG_{it} + \beta_{14} YEARS_{it} + \varepsilon_{it} \quad (4)$$

Table 4. OLS regression results on TMC, *WTM*, and financial performance (ROA)

Variable	*Model 3*	*Model 4*
TMS	0.000 (-0.13)	-0.001 (-0.59)
TMSAACC_rt	-0.008 (-0.42)	-0.021 (-0.97)
TMPCNO_rt	0.058*** (3.18)	0.047** (2.44)
TMEDUCATIONNO_rt	0.017 (1.2)	0.013 (0.78)
TMACCXE_rt	0.038** (2.24)	0.039 **(2.03)
WTM_rt	0.018 (0.82)	-0.053 (-1.29)
*WTM_rt * TMS*	-	-0.007 (-0.56)
*WTM_rt * TMSAACC*	-	0.065 **(2.51)
*WTM_rt * TMPCNO*	-	0.024 (1.29)
*WTM_rt * TMEDUCATIONNO*	-	0.002 (0.16)
*WTM_rt * TMACCXE*	-	-0.001* (-1.75)
FSG	0.006** (2.48)	0.006 **(2.39)
LVG	0.012 (0.54)	0.015 (0.63)
YEARS	Yes	Yes
R^2	0.10	0.12
Prob. > F	0.0015	0.0005
Observations	368	368

*Note: ***, **, * significance at the 1%, 5%, and 10% levels.*

We examine the direct and indirect link between TM (*TMS, TMSAACC_rt, TMPCNO_rt, TMEDUCATIONNO_rt, TMACCXE_rt*, and *WTM_rt*) and performance (ROA), whereby the results are reported in Table 4.

The findings for the direct relationship demonstrate that the coefficient of TMS is negative and statistically insignificant (β = -0.000 at p > 0.1). This result concurs with the result of Iaquinto and Fredrickson (1997). Additionally, the result does not support the agency theory's claim that small board size is vital for reducing the potential for conflict of interest between shareholders and management, which might improve business performance.

The presence of TM with expertise in accounting and finance does not improve accounting measurement since the coefficients of *TMSAACC_rt* are negative and statistically insignificant (β = -0.008 at p > 0.1). Additionally, this outcome is consistent with earlier research (Díaz-Fernández et al., 2014). The findings also support the agency theory's and resource dependency theory's claims that the board's accounting and financial expertise is crucial in reducing the potential for conflicts of interest between the shareholders and management, which might enhance the business performance.

The presence of professional certificates for TM improves the performance of the firm (β = 0.058 at p > 0.01) as the coefficient of *TMPCNO_rt* is positive and statistically significant in Model 3. This result supports the claims made by the resource dependency theory and the agency theory that the board members' diverse backgrounds, experiences, and credentials enable them to make choices more swiftly, which improves the performance of the business.

The findings indicate that the presence of *TMEDUCATIONNO_rt* does not improve the performance of the firm since its coefficients are positive and statistically insignificant for ROA (β = 0.017 at p > 0.1). This outcome is consistent with earlier research (Adnan et al., 2016; Yun et al., 2020). This outcome does not support the claims made by the resource dependency theory and the agency theory that the board members' diverse backgrounds, experiences, and credentials enable them to make swift judgments that have a favorable impact on the success of the business.

The findings imply that the presence of general experience in TM improves the performance of the firm since the coefficients of this factor are positive and statistically significant for ROA (β = 0.038 at p > 0.05). This outcome concurs with earlier research (Al-Matari, 2019; Yun et al., 2020). Additionally, TM with substantial industry knowledge may organize and standardize organizational resources such as human resources, financial resources, materials, and information and combine them with efficient leadership and moderating controls to fulfill the firm's objectives (Cui et al., 2019).

The findings indicate that the presence of women in TM does not improve the performance of the organization. Instead, the coefficients of women in TM are positive but statistically insignificant for ROA (β = 0.018 at p > 0.1). This outcome is consistent with earlier research (Boubacar, 2020; Parola et al., 2015; Smith et al., 2006). Additionally, the findings do not support the agency theory's claim that small board size is vital for reducing the potential for conflict of interest between shareholders and management, which might improve business performance.

We also believe that the presence of women in TM affects the functioning of financial institutions. Table 4 (Model 4) displays the findings of the interactions between *WTM_rt* and various TM measurements, including *TMS, TMSAACC_rt, TMPCNO_rt, TMEDUCATIONNO_rt*, and *TMACCXE_rt*. There are positive and statistically significant for the interaction between *WTM_rt * TMSAACC* (β = 0.065 at p > 0.05). The interaction between *WTM_rt * TMACCXE*, on the other hand, has a negative and statistically significant effect on ROA (β = -0.001 at p > 0.01).

The link between TM variables and performance is not significantly impacted by the interaction between *WTM_rt * TMS, WTM_rt * TMPCNO*, and *WTM_rt * TMEDUCATIONNO*. This finding is reflected by the relatively few women on the TM board. Even while Saudi legislation has promoted female leadership engagement during the previous five years, the ratio is still quite low (about 14 percent). In fact, the women representation is about 22 percent of the council members, and the two women members are about 10 percent, which shows that the number is still low when compared to the number of men in the council. As a result, decision-makers in the Saudi market must promote or establish a certain percentage of female representation on the board of directors, which in turn encourages effective involvement and boosts the profitability of businesses.

6. CONCLUSION

TM has been a prevalent subject for the financial problem in an organization. Although there is some evidence of the impact of TM on firms' financial performance (Yeh et al., 2011), there is limited empirical evidence on how the presence of women in

TM may affect this relationship. Prior research has shown that having women in TM helps businesses financially, which ultimately improves the profitability of the businesses (García-Meca et al., 2015; Post & Byron, 2015). Others discovered that women in high management reported the worst market performance (Boubacar, 2020; Isik et al., 2015; Parola et al., 2015). Our study explores whether having women in TM adds value to our sample organizations by improving their financial performance in response to the conflicting findings in previous studies. The paper then examines how women in TM contribute to the literature on TM and firm performance and, more crucially, how these two strands of women's effect on TM interact based on the agency theory and resource dependency theory. Our findings highlight that small size of TM leads to better performance. Other than that, the findings also show the favorable performance for TM having accounting and finance expertise, professional qualification, and higher educational level.

Additionally, we discover that *TMPCNO_rt* and *TMACCXE_rt* considerably increase ROA. Additionally, the relationship between *WTM_rt * TMSAACC* and ROA is advantageous. The interaction *WTM_rt * TMACCXE*, on the other hand, has a detrimental impact on ROA. Furthermore, the primary analysis's regression results demonstrate that our findings imply that TM is a useful and effective conduit for enhancing financial performance. Additionally, our research provides additional evidence that women in TM have some contribution to the organization's performance, which is consistent with the agency theory's point of view. Our findings have very significant practical and policy ramifications. First, our study recommends TM with specified expertise and educational level can also protect organization wealth, despite the opinions of many scholars and practitioners that a board of directors and an audit committee are two foundations for an effective governance structure.

Second, our study's findings may contribute to resolving the seeming contradiction in the literature about TM impact by indicating that having women in TM is contributing to Saudi Arabia's financial enterprises' performance and that strong TM may reduce potential risk. Third, our results show that an organization's performance is substantially impacted by TM qualities. Finally, our findings complement efforts by Saudi Arabia regulatory organizations to promote women in top leadership positions in businesses. Like all previous research, this study has some limitations. First, this study looked at the relationship between TM characteristics and performance. Future research should include additional factors, other TM characteristics, or performance. Second, this study focused on the relationship in financial institutions in Saudi Arabia, to add to the contribution in this field, future studies should analyze these connections in other Gulf nations or other developing countries. Comparative studies are necessary to see whether the findings hold in other nations.

REFERENCES

1. Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2). https://doi.org/10.1016/j.jfineco.2008.10.007
2. Adnan, M. F., Sabli, N., Rashid, M. Z. A., Hashim, A., Paino, H., & Abdullah, A. (2016). The impact of educational level of board of directors on firms' performance. In M. A. Abdullah, W. K. Yahya, N. Ramli, S. R. Mohamed, & B. E. Ahmad (Eds.), *Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014)* (pp. 37–48). Springer. https://doi.org/10.1007/978-981-10-1458-1_4
3. Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, *36*(12), 3213–3226. https://doi.org/10.1016/j.jbankfin.2011.10.020
4. Al-Matari, E. M. (2019). Do characteristics of the board of directors and top executives have an effect on corporate performance among the financial sector? Evidence using stock. *Corporate Governance*, *20*(1), 16–43. https://doi.org/10.1108/CG-11-2018-0358
5. Al-Matari, E. M. (2022). Do corporate governance and top management team diversity have a financial impact among financial sector? A further analysis. *Cogent Business & Management*, *9*(1), Article 2141093. https://doi.org/10.1080/23311975.2022.2141093
6. Al-Matari, E. M., Al-Ahdal, W. M., Farhan, N. H., Senan, N. A. M., & Tabash, M. I. (2020). Determinants of characteristics of top executive management effect on firm performance in the financial sector: Panel data approach. *Contaduría y Administración*, *65*(4). http://doi.org/10.22201/fca.24488410e.2020.2414
7. Al-Matari, E. M., Al-Swidi, A. K., & Fadzil, F. H. B. (2014). Audit committee characteristics and executive committee characteristics and firm performance in Oman: Empirical study. *Asian Social Science*, *10*(12). https://doi.org/10.5539/ass.v10n12p98
8. Al-Matari, Y. A., Al-Swidi, A. K., Fadzil, F. H. B. F. H., & Al-Matari, E. M. (2012). Board of directors, audit committee characteristics and the performance of Saudi Arabia listed companies. *International Review of Management and Marketing*, *2*(4), 241–251. https://www.econjournals.com/index.php/irmm/article/view/303
9. Ames, D. A., Hines, C. S., & Sankara, J. (2018). Board risk committees: Insurer financial strength ratings and performance. *Journal of Accounting and Public Policy*, *37*(2), 130–145. https://doi.org/10.1016/j.jaccpubpol.2018.02.003
10. Anderson, A. E., Karandikar, U. C., Pepple, K. L., Chen, Z., Bergmann, A., & Mardon, G. (2011). The enhancer of trithorax and polycomb gene Caf1/p55 is essential for cell survival and patterning in Drosophila development. *Development*, *138*(10), 1957–1966. https://doi.org/10.1242/dev.058461
11. Argote, L., & Miron-Spektor, E. (2011). Organizational learning: From experience to knowledge. *Organization Science*, *22*(5), 1121–1367. https://doi.org/10.1287/orsc.1100.0621
12. Badolato, P. G., Donelson, D. C., & Ege, M. (2014). Audit committee financial expertise and earnings management: The role of status. *Journal of Accounting and Economics*, *58*(2–3), 208–230. https://doi.org/10.1016/j.jacceco.2014.08.006
13. Baixauli-Soler, J. S., & Sanchez-Marin, G. (2011). Organizational governance and TMT pay level adjustment. *Journal of Business Research*, *64*(8), 862–870. https://doi.org/10.1016/j.jbusres.2010.09.011

14. Baker, H. K., & Anderson, R. (Eds.). (2011). *Corporate governance: A synthesis of theory, research, and practice*. Wiley. https://doi.org/10.1002/9781118258439
15. Barkema, H. G., & Shvyrkov, O. (2007). Does top management team diversity promote or hamper foreign expansion? *Strategic Management Journal*, *28*(7), 663–680. https://doi.org/10.1002/smj.604
16. Belderbos, R., Lokshin, B., Boone, C., & Jacob, J. (2022). Top management team international diversity and the performance of international R&D. *Global Strategy Journal*, *12*(1), 108–133. https://doi.org/10.1002/gsj.1395
17. Boone, C., & Hendriks, W. (2009). Top management team diversity and firm performance: Moderators of functional-background and locus-of-control diversity. *Management Science*, *55*(2), 165–180. https://doi.org/10.1287/mnsc.1080.0899
18. Boubacar, H. (2020). Women's presence in top management and the performance of microfinance institutions in West Africa. *International Journal of Social Economics*, *47*(2), 207–222. https://doi.org/10.1108/IJSE-06-2019-0365
19. Burkhardt, K., Nguyen, P., & Poincelot, E. (2020). Agents of change: Women in top management and corporate environmental performance. *Corporate Social Responsibility and Environmental Management*, *27*(4), 1591–1604. https://doi.org/10.1002/csr.1907
20. Burrowes, A., & Hendricks, A. (2005). Independent financial experts: From wished for to wistful thinking. *Managerial Finance*, *31*(9), 52–62. https://doi.org/10.1108/03074350510769866
21. Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, *83*(3), 435–451. https://doi.org/10.1007/s10551-007-9630-y
22. Carmeli, A., & Halevi, M. Y. (2009). How top management team behavioral integration and behavioral complexity enable organizational ambidexterity: The moderating role of contextual ambidexterity. *The Leadership Quarterly*, *20*(2), 207–218. https://doi.org/10.1016/j.leaqua.2009.01.011
23. Carpenter, M. A., & Westphal, J. D. (2001). The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. *Academy of Management Journal*, *44*(4), 639–660. https://www.jstor.org/stable/3069408
24. Carpenter, M. A., Geletkanycz, M. A., & Sanders, W. G. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management*, *30*(6), 749–778. https://doi.org/10.1016/j.jm.2004.06.001
25. Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, *18*(5), 396–414. https://doi.org/10.1111/j.1467-8683.2010.00809.x
26. Certo, S. T., Lester, R. H., Dalton, C. M., & Dalton, D. R. (2006). Top management teams, strategy and financial performance: A meta-analytic examination. *Journal of Management Studies*, *43*(4), 813–839. https://doi.org/10.1111/j.1467-6486.2006.00612.x
27. Chenli, M. (2022). Top management team cognition and strategic decision performance: The mediating role of team conflict. *Journal of Psychology in Africa*, *32*(4), 319–325. https://doi.org/10.1080/14330237.2022.2066370
28. Cui, Y., Zhang, Y., Guo, J., Hu, H., & Meng, H. (2019). Top management team knowledge heterogeneity, ownership structure and financial performance: Evidence from Chinese IT listed companies. *Technological Forecasting and Social Change*, *140*, 14–21. https://doi.org/10.1016/j.techfore.2018.12.008
29. Dahlin, K. B., Weingart, L. R., & Hinds, P. J. (2005). Team diversity and information use. *Academy of Management Journal*, *48*(6). https://doi.org/10.5465/amj.2005.19573112
30. Díaz-Fernández, M. C., González-Rodríguez, M. R., & Pawlak, M. (2014). Top management demographic characteristics and company performance. *Industrial Management & Data Systems*, *114*(3), 365–386. https://doi.org/10.1108/IMDS-04-2013-0210
31. Elamer, A. A., & Benyazid, I. (2018). The impact of risk committee on financial performance of UK financial institutions. *International Journal of Accounting and Finance*, *8*(2), 161–180. https://doi.org/10.1504/IJAF.2018.093290
32. Fauzi, F., Basyith, A., & Foo, D. (2017). Committee on board: Does it matter? A study of Indonesian Sharia-listed firms. *Cogent Economics & Finance*, *5*(1), Article 1. https://doi.org/10.1080/23322039.2017.1316547
33. García-Meca, E., García-Sánchez, I.-M., & Martínez-Ferrero, J. (2015). Board diversity and its effects on bank performance: An international analysis. *Journal of Banking & Finance*, *53,* 202–214. https://doi.org/10.1016/j.jbankfin.2014.12.002
34. Ginesti, G. (2019). Top management characteristics and intellectual capital performance in small Italian companies. *Corporate Governance, 19*(6), 1153–1166. https://doi.org/10.1108/CG-10-2018-0305
35. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Pearson Education.
36. Haleblian, J., & Finkelstein, S. (1993). Top management team size, CEO dominance, and firm performance: The moderating roles of environmental turbulence and discretion. *Academy of Management Journal*, *36*(4), 844–863. https://www.jstor.org/stable/256761
37. Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, *9*(2), 193–206. https://doi.org/10.2307/258434
38. Hambrick, D. C., Cho, T. S., & Chen, M.-J. (1996). The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly, 41*(4), 659–684. https://doi.org/10.2307/2393871
39. Henderson, A. D., & Fredrickson, J. W. (1996). Information-processing demands as a determinant of CEO compensation. *Academy of Management Journal*, *39*(3), 575–606. https://www.jstor.org/stable/256656
40. Henneke, D., & Lüthje, C. (2007). Interdisciplinary heterogeneity as a catalyst for product innovativeness of entrepreneurial teams. *Creativity and Innovation Management*, *16*(2), 121–132. https://doi.org/10.1111/j.1467-8691.2007.00426.x
41. Henry, L. A., Buyl, T., & Jansen, R. J. G. (2019). Leading corporate sustainability: The role of top management team composition for triple bottom line performance. *Business Strategy and the Environment*, *28*(1), 173–184. https://doi.org/10.1002/bse.2247
42. Hoffman, J. J., Lheureux, R. A., & Lamont, B. T. (1997). The effect of "inner" and "outer" TMT size on the performance of international firms. *Journal of Managerial Issues, 9*(1), 121–134. https://www.jstor.org/stable/40604133

43. Hutchinson, M. R., & Zain, M. M. (2009). Internal audit quality, audit committee independence, growth opportunities and firm performance. *Corporate Ownership & Control*, *7*(2), 50–63. https://doi.org/10.22495/cocv7i2p4
44. Iaquinto, A. L., & Fredrickson, J. W. (1997). Top management team agreement about the strategic decision process: A test of some of its determinants and consequences. *Strategic Management Journal*, *18*(1), 63–75. https://doi.org/10.1002/(SICI)1097-0266(199701)18:1<63::AID-SMJ835>3.0.CO;2-N
45. Isik, M., Timuroglu, K., & Aliyev, Y. (2015). The relationship between teamwork and organizational trust. *International Journal of Research in Business and Social Science, 4*(1), 113–132. https://doi.org/10.20525/ijrbs.v4i1.33
46. Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, *48*(3), 831–880. https://doi.org/10.1111/j.1540-6261.1993.tb04022.x
47. Jung, T., & Ejermo, O. (2014). Demographic patterns and trends in patenting: Gender, age, and education of inventors. *Technological Forecasting and Social Change*, *86,* 110–124. https://doi.org/10.1016/j.techfore.2013.08.023
48. Kolev, K. D., & McNamara, G. (2022). The role of top management teams in firm responses to performance shortfalls. *Strategic Organization*, *20*(3), 541–564. https://doi.org/10.1177/1476127020962683
49. Li, P.-Y., & Huang, K.-F. (2019). The antecedents of innovation performance: The moderating role of top management team diversity. *Baltic Journal of Management*, *14*(2), 291–311. https://doi.org/10.1108/BJM-07-2017-0202
50. Lincoln, A., & Adedoyin, O. (2012). Corporate governance and gender diversity in Nigerian boardrooms. *International Journal of Humanities and Social Sciences, 6*(11), 3286–3292. https://publications.waset.org/12991/pdf
51. Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *Business Lawyer*, *48*(1), 59–77. https://theliptonarchive.org/wp-content/uploads/1056040_1.pdf
52. Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, *28,* 169–184. https://doi.org/10.1016/j.jcorpfin.2013.11.016
53. Nuscheler, D., Engelen, A., & Zahra, S. A. (2019). The role of top management teams in transforming technology-based new ventures' product introductions into growth. *Journal of Business Venturing*, *34*(1), 122–140. https://doi.org/10.1016/j.jbusvent.2018.05.009
54. O'Neill, T. A., Allen, N. J., & Hastings, S. E. (2013). Examining the "pros" and "cons" of team conflict: A team-level meta-analysis of task, relationship, and process conflict. *Human Performance*, *26*(3), 236–260. https://doi.org/10.1080/08959285.2013.795573
55. Ozdemir, O., & Erkmen, E. (2022). Top management team gender diversity and firm risk-taking in the hospitality industry. *International Journal of Contemporary Hospitality Management*, *34*(5), 1739–1767. https://doi.org/10.1108/IJCHM-06-2021-0719
56. Parola, H. R., Ellis, K. M., & Golden, P. (2015). Performance effects of top management team gender diversity during the merger and acquisition process. *Management Decision*, *53*(1), 57–74. https://doi.org/10.1108/MD-03-2014-0141
57. Pearce, J. A., II, & Zahra, S. A. (1992). Board composition from a strategic contingency perspective. *Journal of Management Studies*, *29*(4), 411–438. https://doi.org/10.1111/j.1467-6486.1992.tb00672.x
58. Pfeffer, J. (1988). A resource dependence perspective on intercorporate relations. In M. S. Mizruchi & M. Schwartz (Eds.), *Intercorporate Relations: The Structural Analysis of Business* (pp. 25–55). Cambridge University Press. https://doi.org/10.1017/CBO9780511570841.002
59. Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, *58*(5). https://doi.org/10.5465/amj.2013.0319
60. Prawitt, D. F., Smith, J. L., & Wood, D. A. (2009). Internal audit quality and earnings management. *The Accounting Review*, *84*(4), 1255–1280. https://doi.org/10.2308/accr.2009.84.4.1255
61. Ruigrok, W., Peck, S. I., & Keller, H. (2006). Board characteristics and involvement in strategic decision making: Evidence from Swiss companies. *Journal of Management Studies*, *43*(5), 1201–1226. https://doi.org/10.1111/j.1467-6486.2006.00634.x
62. Simons, T., & Pelled, L. H. (1999). Understanding executive diversity: More than meets the eye. *Human Resource Planning*, *22*(2), 49–52. https://go.gale.com/ps/i.do?p=AONE&u=googlescholar&id=GALE|A55473117&v=2.1&it=r&sid=AONE&asid=05cbd758
63. Smith, K. G., Smith, K. A., Olian, J. D., Sims, H. P., Jr., O'Bannon, D. P., & Scully, J. A. (1994). Top management team demography and process: The role of social integration and communication. *Administrative Science Quarterly, 39*(3), 412–438. https://doi.org/10.2307/2393297
64. Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *International Journal of Productivity and Performance Management*, *55*(7), 569–593. https://doi.org/10.1108/17410400610702160
65. Strøm, R. Ø., D'Espallier, B., & Mersland, R. (2014). Female leadership, performance, and governance in microfinance institutions. *Journal of Banking & Finance, 42*, 60–75. https://doi.org/10.1016/j.jbankfin.2014.01.014
66. Suliman, A., Rao, A. S., & Elewa, T. (2019). CEO transformational leadership and top management team performance: Study from GCC. *Measuring Business Excellence*, *23*(1), 63–79. https://doi.org/10.1108/MBE-09-2018-0077
67. Tanikawa, T., & Jung, Y. (2016). Top management team (TMT) tenure diversity and firm performance: Examining the moderating effect of TMT average age. *International Journal of Organizational Analysis*, *24*(3), 454–470. https://doi.org/10.1108/IJOA-02-2014-0739
68. Velinov, E., & Konovalova, N. (2022). Top management team diversity and firm performance in digital era. *Polish Journal of Management Studies*, *26*(2), 396–410. https://doi.org/10.17512/pjms.2022.26.2.24
69. Wally, S., & Becerra, M. (2001). Top management team characteristics and strategic changes in international diversification: The case of U.S. multinationals in the European community. *Group & Organization Management*, *26*(2), 165–188. https://doi.org/10.1177/1059601101262003

70. Yang, L., & Wang, D. (2014). The impacts of top management team characteristics on entrepreneurial strategic orientation: The moderating effects of industrial environment and corporate ownership. *Management Decision*, *52*(2), 378–409. https://doi.org/10.1108/MD-03-2013-0140
71. Yeh, Y.-H., Chung, H., & Liu, C.-L. (2011). Committee independence and financial institution performance during the 2007–08 credit crunch: Evidence from a multi-country study. *Corporate Governance: An International Review*, *19*(5), 437–458. https://doi.org/10.1111/j.1467-8683.2011.00884.x
72. Yun, L., Wan, J., Wang, G., Bai, J., & Zhang, B. (2020). Exploring the missing link between top management team characteristics and megaproject performance. *Engineering, Construction and Architectural Management*, *27*(5), 1039–1064. https://doi.org/10.1108/ECAM-12-2018-0566
73. Zhou, Y., Zhou, Y., Zhang, L., Zhao, X., & Chen, W. (2022). Effects of top management team characteristics on patent strategic change and firm performance. *Frontiers in Psychology*, *12,* Article 762499. https://doi.org/10 .3389/fpsyg.2021.762499

APPENDIX

Table A.1. Operationalization of the research variables in brief

Variable (abbreviation)	***The measurement of the variable***
Return on assets (ROA)	It is measured by net profits on total assets.
The size of TM (TMS)	It is measured through the number of members of TM.
Accounting and finance experience of TM (TMSAACC)	It is measured through the number of members of TM who hold accounting and finance experience.
Professional certificate of TM (TMPCNO)	It is measured through the number of members of TM who hold professional certificates.
Education level of TM (TMEDUCATIONNO)	It is measured by the number of members of TM who are having Master's degree or/and above.
General experience of TM (TMACCXE)	It is measured through years number of general experiences of TM.
Women in TM (WTM)	It is measured by the number of women members of TM.
*WTM * TMS*	The interaction between women in TM * the size of TM.
*WTM * TMSAACC*	The interaction between women in TM * accounting and finance experience of TM.
*WTM * TMPCNO*	The interaction between women in TM * professional certificate of TM.
*WTM * TMEDUCATIONNO*	The interaction between women in TM * education level of TM.
*WTM * TMACCXE*	The interaction between women in TM * general experience of TM.
TMSAACC_rt	Accounting and finance experience of top management (ratio), represents the number of members of TM who hold accounting and finance experience to the total size of TM.
Professional certificate of TM (ratio) (TMPCNO_rt)	It is measured by the number of members of TM who hold professional certificates to the total size of TM.
Education level of TM (ratio), (MEDUCATIONNO_rt)	It is measured by the number of members of TM who are having Master's degree or above) to the total size of TM.
General experience in TM (ratio) (TMACCXE_rt)	It is measured by the number of general experiences of TM years of TM to general experience.
Women in TM (ratio) (WTM_rt)	It is measured through the number of women members of TM to the size of TM.
*WTM_rt * TMS*	The interaction between women in TM (ratio) * the size of TM (number).
*WTM_rt * TMSAACC*	The interaction between women in TM (ratio) * accounting and finance experience of TM (ratio).
*WTM_rt * TMPCNO*	The interaction between women in TM (ratio) * professional certificate of TM (ratio).
*WTM_rt * TMEDUCATIONNO*	The interaction between women in TM (ratio) * education level of TM (ratio).
*WTM_rt * TMACCXE*	The interaction between women in TM (ratio) * general experience of TM (ratio).
Firm size_log (FSG)	It is measured through the total assets log.
Leverage (LVG)	It is measured by total debts/total assets.
YEARS (YEARS)	It is measured by a dummy variable.