



Determinants of characteristics of top executive management effect on firm performance in the financial sector: Panel data approach

*Determinantes de las características del efecto de la alta dirección
ejecutiva en el desempeño de la empresa en el sector financiero:
enfoque de datos de panel*

Ebrahim Mohammed Al-Matari ^{*1}, Waleed M. Al-ahdal², Najib H. Farhan²,
Nabil Ahmed M. Senan³, Mosab I. Tabash⁴

¹Department of Accounting, College of Business, Jouf University, Kingdom of
Saudi Arabia and Faculty of Commerce and Economics, Amran University, Yemen.

²Faculty of Commerce, Banaras Hindu University, India.

³College of Business Administration, Prince Sattam bin Abdul Aziz University, Kingdom
of Saudi Arabia and Administrative Science College, Al-Baydha University, Yemen

⁴Department of Accounting and Finance & Banking, College of Business, Al Ain University of Science and
Technology: Al Ain, Abu Dhabi, United Arab Emirates.

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Abstract

According to the major role of top management advocated throughout the years in investment support and assurance, enhancing economic progress and development, the present paper presents evidence of the executive management role in Oman in terms of the firms' achievement of performance goals. Therefore, the paper examines the relationship between top executive management characteristics of Omani firms and their performance, with three control variables. The study targets Oman, owing to its unique characteristics, being a developing nation, and the period focused on encompasses the years from 2011-2017. The FGLS regression was employed specifically to test the top executive management characteristics effect on the performance of Omani firms. On the basis of the results, there are positive

* Corresponding author.

E-mail address: : ibrahim_matri@yahoo.com (E. Al-Matari).

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and significant relationships between general experience and account experience from the characteristics, and the performance of the firms. The findings have implications to market managers in light of enhancing the weaknesses in corporate governance.

JEL code: H11, L25, C23

Keywords: Top executive management characteristics; Firm performance and Omani market

Resumen

This investigation had the purpose of doing the exploratory analysis of the intellectual capital (IC) constDe acuerdo con la función principal de la alta dirección defendida a lo largo de los años en el apoyo y la garantía de las inversiones y la mejora del progreso y el desarrollo económicos, el presente documento presenta pruebas del papel de la dirección ejecutiva en Omán en términos del logro de las metas de desempeño de las empresas. Por lo tanto, el documento examina la relación entre las características de la alta dirección ejecutiva de las empresas omaníes y su desempeño, con tres variables de control. El estudio se dirige a Omán, debido a sus características únicas, al ser una nación en desarrollo, y el período en el que se centra abarca los años 2011-2017. La regresión FGLS se utilizó específicamente para probar el efecto de las características de la alta dirección ejecutiva en el desempeño de las empresas omaníes. Sobre la base de los resultados, existen relaciones positivas y significativas entre la experiencia general y la experiencia de la cuenta de las características y el desempeño de las empresas. Los hallazgos tienen implicaciones para los gerentes de mercado a la luz de mejorar las debilidades en el gobierno corporativo.

Código JEL: H11, L25, C23

Palabras clave: Características de la alta dirección ejecutiva; Desempeño firme y mercado omaní

Introduction

Corporate governance refers to the methods, structure and processes that the company follows to manage and direct its business and affairs. The concept works towards improving long-term shareholder value by holding the managers accountable and by improving the performance of the firms. It also minimizes if not eradicates the ownership-control conflict by defining the interests of the shareholders and managers separately. In this paper, the author conducts a review of the literature dedicated to corporate governance practices to determine their

effectiveness in Omani companies. The increasing attention that the corporate governance concept has garnered in recent years may be attributed to the corporation collapses that occurred, which may be listed by the chronology of their years of their collapse as follows; To begin with Commerce Bank collapsed in 1991, followed by Arthur Anderson, Enron, Harris Scarfe, HIH, One. Tel in 2001, Adelphia, Global Crossing, Tyco, and WorldCom in 2002, Parmalat and Yukos in 2003, followed by Marconi in 2005, Goldman Sachs and Northern Rock in 2007, and Fanny Mae, Freddy Mac and Lehman Brothers in 2008 in the U.S. and other European nations. The mentioned companies have been the subject of discussion in many studies in literature (e.g., Al-Matari, 2014; Duke II, Kankpang, & Okonkwo, 2012; Jackling & Johl, 2009; Obiyo & Lenee, 2011).

Although corporate governance codes have been established since 1978, after which they proliferated all over the globe, empirical evidence of good governance failed to stave off the advent of the global financial crisis and thus, the question that comes into mind is whether good governance is the answer to the woes of modern firms or it is just the cost of doing business in the global markets of today. In other words, “Is there a relationship between corporate governance and firm performance?” and “Do differences in top management mechanism shed information on the stakeholders of the capital market in terms of identifying firms that perform better?” Questions like these remain debatable as literature has yet to provide a universal conclusive answer. Therefore, in the present study, literature concerning top management is reviewed to provide insight into the top management mechanism-firm performance relationship.

The target of this study is Oman, a developing country that has witnessed several corporate issues, which affected small and major companies alike (National Rice Mills, SADGI and Omani National Investment Company Holding, SAOG, among others). The government of Oman had to intervene to save the above mentioned companies (E. M. A. Al-Matari, 2014).

Following the same line of argument, the financial performance of the firm is important to its stakeholders, especially to shareholders for the going-concern maintenance, enhanced value of business and the provision of basis to distribute dividends, as well as, for the attraction of potential investors (Al-Matari, Al-Swidi, & Fadzil, 2014). In relation to this, a Tobin’s Q value exceeding 1 depicts high value in terms of the firm’s assets and growth.

In addition, higher Q ratio value shows successful firm leverage of investment on its firm value in terms of market-value against book value (Al-Matari et al., 2014; Kapopoulos & Lazaretou, 2007). According to Eberhart (2012) and Lang & Litzenberger (1989), firms with Tobin’s Q value that is higher than 1, expanded their opportunities for investment, indicating that management made effective use of its assets for development. However, in the Omani firms context, from the firm performance percentage in MSM (28%, 30%, 35%, 35%, 28%,

30%, 32% and 32%), Tobin's Q has remained below 1 for the years from 2010 to 2017. Table 1.1 presents the poor performance of the firms.

Table 1

Indicators of Poor Performance

Year	Tobin-Q	Criterion	Citation
2010	28%	<1	
2011	30%	<1	
2012	35%	<1	
2013	35%	<1	
2014	28%	<1	Nuryanah and Islam (2011)
2015	30%	<1	
2016	32%	<1	
2017	33%	<1	

The above statistics is evidence of the poor performance of the Omani Stock Market, justifying the examination of the relationship between top management mechanism and market-based performance of Omani listed firms as recommended in the study by Certo, Lester, Dalton, and Dalton (2006).

According to Walsh and Seward (1990), internal governance mechanisms are basically adopted to make sure that the goals of the shareholders are aligned with those of management and as such, the mechanisms largely depend on the board structure effectiveness in overseeing management activities (Pissaris, Jeffus, & Gleason, 2010). In literature, to major key governance system forms have been developed and presented to serve large-sized firms namely, Anglo-American (outsider system) and Japanese-German type (insider system). Certo et al., (2006) suggested that future studies examine the TMTs-market-based performance relationship and based on this, this work conducts an examination of a major internal governance mechanism, top executive management, and its facilitation of firms performance (Tobin's Q), and management's risk-taking behavior that reflects the firm-risk taking process.

This study considers top executive management as the unit of analysis consisting of a set of executives responsible for decision-making (strategic and organizational) that significantly and directly influences the firm's performance.

In the same line of explanation, the responsibility and accountability of the conduct and performance outcome of the firm lie in the hands of the CEO but other top executive management members also have a major role in achieving the objectives of the firm that influences

the business decisions adopted; for instance, investing in R&D (Alessandri & Pattit, 2014). This calls for the investigation of other members of top management, aside from the CEO to provide insight into the decision-making process of the firm.

Added to the above, the firm performance as influenced by its top executives has been among the top investigated relationships in the field of strategic management. Such topic has remained in the limelight because of the importance of top management team (TMT) and its characteristics in academia (Finkelstein & Hambrick, 1990), in business markets and in financial markets as evidenced by Murray (2001). This was supported by Certo et al., (2006) who stated that studies that highlighted the major influence of TMTs on firms performance have been significant in number.

More specifically, the relationship between top management and firm performance is considered to be one of the extensively examined topics in the field of corporate governance (Barrick, Bradley, Kristof-Brown, & Colbert, 2007; B. B. Nielsen & Nielsen, 2013; S. Nielsen, 2010). In the past 2 decades, agency theory and top management studies have consistently revealed that executive management characteristics have to be aligned with the overall organizational performance (Barrick et al., 2007; Boone & Hendriks, 2009; Daboub, Rasheed, Priem, & Gray, 1995).

Moreover, the relationship between executive management characteristics and performance originates from the assumptions of the agency theory (Holmstrom, 1979). According to the theory, top management contracts have to be consistently developed between the interests of the agent and the principal (the management and the shareholders). In this regard, a high relationship level between the two can result in the optimum choice and retention of the right management. Notably, the factors in management selection are quite challenging because of the related compensation provided to minimize the negative management selection issues (Arya & Mittendorf, 2005; Darrough & Melumad, 1995).

Studies dedicated to this relationship are based on underpinning theories (Alessandri & Pattit, 2014) and their focus is directed towards top management diversity (e.g., Baixauli-Soler & Sanchez-Marin, 2011; Minichilli, Corbetta, & MacMillan, 2010). Contrastingly, the present work focuses on three top management mechanism measures, which are size professional certificate and accounting experience to examine the diversity of top management on the financial performance of Omani listed firms. This appears to be a simple study attempting to determine and analyze the drivers of financial performance but it is assumed that managerial abilities of top executives would influence the firms' financial performance, and eventually, the work involves complexity. Information on top management-firm performance relationship arises from theories and empirical evidence revealed in developed nations, while those in the developing nations (particularly Oman) remain scarce. Hence, this study examines the relationship between top management characteristics and firm performance.

Institutional setting and hypotheses development

Institutional Setting

This section presents an overview of the executive management characteristics-firm performance relationship. The section conducts a review of the related studies concerning the relationship between the two variables in other countries. The study provides avenues for future studies to contribute to literature and confirm the relationship.

Generally speaking, the executive management is responsible for planning the implementation of objectives as laid down by the organization's administration, for making follow-ups of procedures post-implementation, and for ensuring that it is aligned with the designed objectives, policies and strategies. Added to this, it is also responsible for solving problems that crop up during implementation and contributes to relating the implementation tasks among various departments, based on their roles. Executive management is also responsible of decision-making, depending on the several factors, knowledge and studies of the reality, coupled with each decision's predicted outcomes. The resolutions implementation is related to the clarity of the notion as to the department responsible for the implementation, responsibilities determination and the labor division.

In relation to the above, the agency theory assumes the importance of separating management from ownership, following the argument that managers often act to satisfy their self-interests, which are not always aligned with those of the owners, making a diversion from achieving the main goal of maximizing the returns of shareholders. The theory highlighted two major agency problems, which are adverse selection and moral hazard (Eisenhardt, 1989). More specifically, adverse selection occurs with the agent's misrepresentation of his performance abilities, as a result of which, he gets chosen as the agent, whereas moral hazard occurs in cases where the agent falls short of meeting his responsibilities because of his low commitment. Underperformance of the agent, regardless of the actions taken to the best of the principal's interests, can lead to residual cost as evidenced by Jensen and Meckling (1976), more popularly referred to as agency costs.

Such agency cost, according to Fama (1980) and Jensen and Meckling (1976) can be lessened through the setting up of controls and processes of reporting to consistently oversee the agent's behavior and performance outcomes. The effectiveness of such oversight mechanisms is reflected through the level of information asymmetry between principal and agent. To this end, the agency theory advocates the need for governance studies and the adoption of various corporate governance principles and codes in many countries around the globe. The codes and principles all emphasize on the premise that board independence can be the answer to the principal-agent conflict of interest.

Based on the above argument, the diversity of executive management characteristics may work towards the betterment of the organization, particularly when it concerns perspectives of decision-making, higher creativity and innovation and marketing to future customers (Cox Jr, 1991; Cox & Blake, 1991; Robinson & Dechant, 1997). Evidently, executive management may be referred to as the science that transforms goals and plans to reality and addresses and resolves issues that arise, follows up outcomes and the achievement level, and provides feedback to tweak goals and strategies based on developments and variables of reality outcomes. This process is conducted through a flexible scientific system that assists in realizing the optimum outcomes.

Lastly, the study provides understanding of the relationship between top management characteristics (size, professional certification, general experience and accounting experience) and performance of firms.

Top executive management size and firm performance

In this study, the first characteristic of top executive management (TEM) is its size, which is significant to the organization performance enhancement. The TEM size is considered as one of the top drivers of firm performance (Haleblian & Finkelstein, 1993, Al-Matari, 2019). More specifically, TEMs of large-size are often related with a greater ability to process information – here, information processing presents one of the responsibilities of top management that is pertinent for the organizational performance and running (Henderson & Fredrickson, 1996). The size of top-management can be gauged by using the number of top management taking board positions (Certo et al., 2006).

Several studies in prior literature (e.g., Jensen, 1993; Lipton & Lorsch, 1992) are of the consensus that suitable number of board members consist of seven to eight members and this was also supported by Firsteberg and Malkiel (2014), who noted that eight or less than eight board members facilitate higher focus, participation, effective interactions and productive arguments. Also, large-sized boards have also been argued to lead to enhanced performance of the board owing to the combination of skills, knowledge and expertise contributed by the members. Additionally, large boards provide diverse contributions to obtaining needed resources and mitigate environmental risks as evidenced by Al-Matari, Al-Swidi, Fadzil, and Al-Matari, (2012), Pearce and Zahra (1992) and Pfeffer (1987). However, it is notable that studies that focused on the top management size-firm performance in the developed nations are still few and far between, and what few there are reported inconsistent findings. For instance, Hoffman, Lheureux and Lamont (1997) revealed a positive relationship between

the two while lack of relationship was revealed by others (e.g., Hambrick & D'Aveni, 1992; Iaquinto & Fredrickson, 1997).

Meanwhile, other related studies (e.g., EscibáñezEsteve, SánchezPeinado, & SánchezPeinado, 2009 and Al-Matari, 2019) indicated that the size of top management relationship with proactive orientations is still unclear. To this end, Certo et al (2006) called for further examination of the related mechanisms between the size of top management and firm performance that can shed insight into TMTs effective enhancement of the performance of firms. Because of the lack of empirical studies on the direct top executive management size relationship with firm performance, the present study proposes the following hypothesis for testing;

H1: There is a positive significant relationship between top executive management size and firm performance.

Top executive management professional certificate and firm performance

The next characteristic of TEM examined in this study is professional certificate (TEMPC) and this study argues its enhancement of the quality of executive management, in that highly qualified executive management is argued to hold greater capability in addressing issues that it confronts and accordingly, this necessitates the measurement of executive management qualification.

In other words, highly qualified executive management are more capable of handling issues within departments, and qualification, in this study is measured using professional certificate held by the top executive management members. On the basis of literature, a significant relationship exists between top management certificate and the performance of firms as exemplified by Baixauli-Soler & Sanchez-Marin (2011), Barrick et al (2007), Boone and Hendriks (2009), Daboub et al (1995), Henry, Buyl, and Jansen (2019), Minichilli et al (2010), Nielsen and Nielsen (2013) and Nielsen (2010). The mentioned studies focused on size, experience and female members on the board, but largely ignored professional certificate of the board members and its relations with the performance quality.

Both the agency theory and the resource dependence theory assume that qualified individuals are more adept at improving firm performance, using their precise insight into operational dealings and achieving work of high quality. In this line of study, Anderson et al (2011) studied the board's occupation differences and found that investors frequently gravitate towards diverse talents and views of directors that oversee and advise management. Also, professional diversity leads the way to higher issues of coordination and communication, which is countered by improved problem-solving, development of strategies and resources effective

utilization. Based on this, the study examines this variable and describes it as the number of top management board members that hold relevant certification (e.g., CAM, CPA, etc.).

Studies about executive management qualification-firm performance relationship in developed and developing nations are still scarce (Hutchinson & Zain, 2009; Prawitt, Smith, & Wood, 2009), and reported empirical findings have yet to be reported. Therefore, in this study, the author examines the relationship between top management qualification and firm performance by testing the following formulated hypothesis:

H2: There is a positive significant relationship between top management qualification and firm performance.

Top executive management experience and firm performance

Executive management general experience (TEME) is the third characteristics of TEM examined in this study. The study assumes that a manager having many years under his tenure is in a suitable position to make wise decisions and deal with any issue accordingly and in a timely manner. The variable is represented by the number of years that the members held as managers (Al-Matari, Fadzil, & Al-Swidi, 2014 and Al-Matari, 2019). 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, Fadzil, & Al-Swidi (2014).

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. Such knowledge can be developed and obtained from various sources, aside from books – including experiences. While decisions are made by the executive managers, employees have to have their input in order to boost innovation, thinking, creative solutions and feedback and to inform the employees that they are important to the system of decision-making, and their interests are related to the organization's interests and successful endeavors.

In support of the premise upon which the resource dependence theory is based one, experts have more capability of assisting the firm to grow, owing to their knowledge on the way processes are handled and tasks are achieved in such a way that quality is maintained. In the context of boards, highly expert members are more adept at understanding the external environment and as such, they can enhance firms more than their non-expert counterparts

(Al-Matari, Fadzil, & Al-Swidi, 2014). Also, board members having the same or similar backgrounds, experiences and values may be more comfortable interacting with each other and supporting information for informed decision-making.

Nevertheless, studies that examined experience of top executive management and its relationship with firm performance in developed countries (e.g., Smith et al., 1994), supported a negative relationship, while empirical findings from developing countries have yet to be reported. Thus, in this study, the author proposes the following hypothesis for testing;

H3: There is a significant positive relationship between executive management experience and firm performance.

Accounting Experience of Top Executive Management and Firm Performance

Top executive management's accounting experience is the fourth characteristics of TEM examined in this study and it is measured by the proportion of members with educational backgrounds and experience in the field of accounting and finance (Mangena & Pike, 2005). Studies of this caliber indicated that audit committee members and their previous knowledge and experience have a positive relationship with the firm performance (e.g., Aldamen, Duncan, Kelly, McNamara, & Nagel, 2012; DeFond & Francis, 2005).

In light of the argument put forth by the resource dependence theory, expert individuals in the financial field are more adept at contributing to the firm growth because of the knowledge and experience they hold in addressing the different tasks and processes needed. Board experts have a deeper understanding of the external environment – knowledge needed for improving the performance of the firm (Al-Matari, Al-Swidi, Fadzil, & Al-Matari, 2012).

In general, evidence from literature supports a positive and significant relationship between audit committee directors expertise in finance and the performance of the company. Additionally, highly educated executives are more capable of making informed decisions as they are equipped with the cognitive abilities for the information processing and analysis, and execution of decisions to manage unexpected situations (Escribá-Esteve et al., 2009; Papadakis & Barwise, 2002). In the same line of argument, highly educated members are more tolerant towards ambiguity, they are more open to change and they are inclined towards innovation (Wally & Becerra, 2001 and Al-Matari, 2019).

Hence, the internal audit experience-firm performance relationship calls for more studies both in the developing and developed nations contexts, and to the best of the researcher's knowledge, empirical findings are non-existent. The study proposes testing the following hypothesis;

H4: There is a positive significant relationship between top executive management accounting experience and firm performance.

Control Variables

Control variables have been extensively examined in literature in the topic under discussion, particularly the size of the firm and leverage, and this is exemplified by Al-Matari, Al-Swidi, & Faudziah (2014) and García-Meca & Pedro Sánchez-Ballesta (2011). To begin with, firm size as a control variable was mentioned by findings that examined the various characteristics of companies, with firm size and growth revealed to be the top drivers of board size and structure (Patro, Lehn, & Zhao, 2003). In the same line of study, Haniffa and Hudaib (2006), size measurement was gauged using the natural algorithm of sales (LNSA), while Peng, Li, Xie, & Su (2010), used natural algorithm of the assets of the company to measure the same variable. This study uses the latter measurement.

As for leverage, it has been examined as control variable in Al-Matari, Al-Swidi, & Fadzil, (2013) empirical study. In the present study, the author measures leverages by utilizing the formula of total liabilities over total assets.

Data collection and models

Data Collection

Data concerning top management executive and firm performance were collected from the listed companies' annual reports documented in the Omani Stock Market Database, accessed through the Muscat Securities Market (MSM) (<http://www.msm.gov.om/>). The number of financial firms was 168 firms and the period studied ranged from 2011 to 2017. The firms lacking data were excluded from the population. The data obtained from the sample of the study are presented in Table 2.

Unit of analysis

As for the study's unit of analysis, it is the Omani Stock Market firms, with the relationship examination conducted in the firm level.

Table 2

Sample Distribution

Panel : Observations by year			
Year	Total of sample	Excluded as not available	Number of observations
2011	35	11	24
2012	35	11	24
2013	35	11	24
2014	35	11	24
2015	35	11	24
2016	35	11	24
2017	35	11	24
Total	245	77	168

Model specifications

The FGLS method was run and the results obtained are tabulated in Table 7. The model encapsulates the variables of top executive management and Omani listed firms performance as well as the control variables.

Model TQ: $\beta_0 + \beta_1 \text{TEMS} + \beta_2 \text{TEMPC} + \beta_3 \text{TEME} + \beta_4 \text{TEMAE} + \beta_5 \text{FSIZE} + \beta_6 \text{LVRGE} + \beta_7 \text{BNKSE} + \epsilon_i$

From the above equation, B0 stands for constant, TQ for TQ ratio, TEMS for top executive management size, and TEMPC for top executive management professional certificate. Moreover, TEME stands for top executive management experience, TEMAE for top executive management accounting experience, FSIZE for firm size, LVRGE for leverage, BNKSE for bank sector and lastly, ϵ stands for error term.

Sample distribution

The distribution of the sample financial firms, numbering 35, are presented in Table 3, from where 11 firms were notably excluded for lack of data for the years studied. Owing to the need to balance between panel variable time for the panel data, all the 11 firms were excluded, and as such, the remaining useable firms were 24 studied for the period of 7 years, constituting 168 firm observations. To clarify, this study used panel data set obtained from 24 Omani financial firms constituting 168 observations spanning seven years from 2011 to 2017. The structure of the sample was limited to financial firms as their non-financial counterparts have unique laws that may affect the relationships of the study variables.

Measurement of the variables

This section provides the variables (dependent, independent and control variables) measurements.

Table3

Summary of the operationalization of the variables used in the study Variable

	Abbreviation	Operationalization
Dependent Variable		
Tobin's Q Ratio	TQ Ratio	The natural log of audit fees paid to the external auditors
Experimental Variables		
Top Executive Management Size	TEMS	It has been defined by the number of top executive management.
Professional Certificate of top executive management	TEMPC	Proportion of members with Professional Certificate of top executive management.
Experience of top executive management	TEME	How many years of Top Executive experience
Accounting Experience of top executive management	TEMAE	Proportion of members with experience in accounting or finance of Top Executive experience
Control Variables		
Firm size	FSIZE	The log of a firm's total assets
Leverage	LVRGE	Total debts over total assets
Bank Sector	BNKSE	Bank dummies

Results

Descriptive statistics

The calculated Tobin's Q is 1.01% (refer to Table 4), indicating that the mean of the firms TEMS, TEMPC, TEME and TEMAE are 5.077, 0.421, 117.798 and 0.716 in percentage, with a maximum (minimum) of 11.000 (2.000), 1.000 (0.000), 334.000 (25.000) and 1 (0.333) in percentage. As for the control variables namely FSIZE, LVRGE and BNKSE, the mean

values were 4.673, 1.018 and 0.417 respectively, with maximum (minimum) values of 13.025 (3.091), 15.313 (0.028) and 1.000 (0.000) respectively.

Table 4

Descriptive statistics (n = 168)

Variable	Obs	Mean	Std. Dev.	Min	Max
Tobin's Q Ratio (TQ Ratio)	168	1.010	0.618	0.110	3.250
Top Executive Management Size (TEMS)	168	5.077	2.370	2.000	11.000
Professional Certificate of top executive management (TEMPC)	168	0.421	0.244	0.000	1.000
Experience of top executive management (TEME)	168	117.798	76.620	25.000	334.000
Accounting Experience of top executive management (TEMAE)	168	0.716	0.209	0.333	1.000
Firm size (FSIZE)	168	4.673	0.927	3.091	13.025
Leverage (LVRGE)	168	1.018	1.799	0.028	15.313
Bank Sector(BNKSE)*	Firms	Percentage			
	24	41.67			

Note: Bank Sector is dichotomous variable, so we omitted the mean and standard variation as it has no meaning.

Pearson correlation

The results of the Pearson Correlation analysis of the top executive management characteristics relationship with firm performance of the 24 Omani listed financial firms, for a 7 year span (2011 to 2017) are presented in Table 3, while the correlation matrix developed for the variables are presented in Table 5. The results indicated lack of significant correlations among the independent variables.

As for the correlation coefficients analysis, a high statistical coefficient of correlation matrix was found at 0.9 and over, which shows considerable collinearity (Hair Jr, Black, Babin, Anderson, & Tatham, 2010). The matrix (refer to Table 3), indicated no multicollinearity as

there was no significant correlations (over 0.90) among the variables in the model. Hence, the matrix evidences no issue of multicollinearity in the study model.

Table 5

Pearson correlation (n = 168)

Variable	1	2	3	4	5	6	7	8
1. TQ Ratio	1.000							
2. TEMS	-0.070	1.000						
3. TEMPC	0.047	-0.440	1.000					
4. TEME	0.031	0.651	-0.129	1.000				
5. TEMAЕ	0.252	-0.332	0.151	-0.253	1.000			
6. FSIZE	0.149	-0.055	-0.027	-0.029	0.110	1.000		
7. LVRGE	0.010	0.168	-0.243	-0.012	0.202	0.096	1.000	
8. BNKSE	-0.030	0.315	-0.117	-0.184	0.123	0.015	-0.040	1.000

Tests of heteroskedasticity and autocorrelation

According to Hair Jr et al (2010), among the violations in regression analysis of cross-sectional data is heteroscedasticity as this leads to higher t and f values, and in turn, the high tendency to reject the null hypotheses, which would otherwise be acceptable. This shows that the independent variables do not consistently explain the variation in the dependent variable, limiting the way the impacts of the regressor are interpreted.

Therefore, in the present study, the author ran two heteroscedasticity tests to detect the issue and they are Breusch and Pagan (1979) and Cook and Weisberg's (1983) tests. The model tests show heteroscedasticity ranking, where the differences are non-persistent, as a result of which, heteroscedasticity was addressed by employing standard errors as suggested by prior studies (e.g. Eicker, 1963; Huber, 1967; White, 1980). Table 6 presents the results obtained from the heterokedasticity and autocorrelation tests, and from the table, it is evident that Prob>chi2 did not exceed 5% and thus, the issue of heterokedasticity and autocorrelation did not exist.

Moving on to the panel dataset, it covers duplicated observations that were placed on similar autocorrelations (Wooldridge, 2010), necessitating the carrying out of autocorrelation

test for the identification of potential issues in first-order time series autocorrelation. Based on the test results, no issue of autocorrelation was revealed in the models.

Table 6

Tests of heteroskedasticity and autocorrelation

Cross-sectional time-series FGLS regression	
Coefficients: generalized least squares	
Panels:	heteroskedastic
Correlation: no autocorrelation	
Estimated covariances	= 24
Estimated autocorrelations	= 0
Estimated coefficients	= 8
Number of obs	= 168
Number of groups	= 24
Time periods	= 7
Wald chi2(7)	= 32.03
Prob > chi2	= 0.0000

Cross-Sectional Time-Series FGLS Regression

The nature of data is confined to a specific industry type and the inference is limited to limited behavior and as such, FGLS regression was deemed to be appropriate to be utilized. According to (Baltagi, 2008), fixed-effects model can be examined on the basis of the diagnostic examination test results. The study also carried out the Hausman specification test, with the firm effects justified to be used rather than random effects (prob<chi2 less than .05). This shows the rejection of the null hypothesis, owing to the insignificant differences found throughout the firms.

As a result, the study adopted fixed effects regression as the second alternative as recommended by (Gujarati, 2009). Additionally, due to the autocorrelation, a cross-sectional time-series FGLS regression involving panels, heteroskedastic, corr (independent) (xtgls) was opted for instead of fixed effects regression following the suggestion of Quinonez, Saenz, and Solorzano (2018).

Based on the empirical findings, top executive management general and accounting experience positively and significantly related with the performance of the firms, but size and professional certificate of TEM lacked such relationship with the performance of the firms (refer to Table 7).

Table 7

Cross-sectional time-series FGLS regression (n = 168)

Variable	Predicted sign	Model TOBINSQ
Top Executive Management Size (TEMS)		-0.039 (-1.10)
Professional Certificate of top executive management (TEMPC)		0.055 (0.36)
Experience of top executive management (TEME)		0.002 (2.19)**
Accounting Eexperience of top executive management (TEMAE)		0.871 (3.87)**
Firm size (FSIZE)	Control	0.020 (0.37)
Leverage (LVRGE)	Control	0.015 (0.61)
Bank Sector (BNKSE)	Control	0.129 (1.22)

Notes: ***, **, and * indicate a level of significance at the 1%, 5%, and 10% level, respectively.

Discussion of results

As mentioned, the time-series FGLS regression was found suitable and was thus conducted and the regression results indicated support for two hypotheses and rejection of the other two. This section provides a detailed discussion of the results.

In the first hypothesis, the study proposed a positive and significant relationship between executive management size and firm performance (Tobin's Q), but the results rejected the hypothesis. This shows that the size of the TEM has minimal if no contribution to enhancing the performance of the financial firms in Oman. This result is not aligned with the Omani code of corporate governance of Oman (2002), where all-listed firms are mandated to choose their board members based on their role of oversight of processes and operations, to enable them to reach informed decisions towards maximizing the wealth and value of shareholders. The same result was however supported by Hambrick and D'Aveni (1992) and Iaquinto, Al-Matari, 2019 and Fredrickson (1997) empirical findings.

The lack of significant relationship found in this study between the size of TEM and Tobin's Q can be related to the argument that large-sized boards does not necessarily mean that the entire members work towards the stakeholders' best interests (Shao, 2010) and therefore, no effect of board effectiveness based on size was noted. This result may also be related to the CEO as leader of the board activities, which would lead to informational asymmetry as the CEO may confine the board's monitoring role (Kamardin, 2009).

Moving on to the next examined TEM characteristic, which is professional certificate of TEM, this study proposed that TEM professional certificate has a positive and significant relationship with performance of firms (Tobin's Q). But the results rejected the proposed hypothesis (refer to Table 5), which indicates that the variable holds little weight compared to others in its relationship with the firms' performance. This result underlines the practices and credentials of top management in Omani firms, which are often overlooked even in light of the code of corporate governance, and hence, its role in enhancing the performance of firms is generally belittled.

In contrast to the above two results, the results supported a positive and significant relationship between general experience of TEM and Tobin's Q, which means hypothesis H3 is supported (refer to Table 5). This may be related to the agency theory and resource dependence theory arguments that experience is a pre-requisite to making informed decisions and of discerning errors that should be addressed for the companies enhanced performance. In the context of boards, highly expert members are more adept at understanding the external environment and as such, they can enhance firms more than their non-expert counterparts (Al-Matari, Fadzil, & Al-Swidi, 2014).

The study also proposed a positive and significant relationship between TEM accounting experience and performance of firms, represented by Tobin's Q, and the results showed support for the hypothesis (refer to Table 5). This result is aligned with the global code of corporate governance as well as the Omani code of corporate governance. It may thus be argued, based on the result, that qualified managers and directors can minimize financial fraud through their oversight role and enhance their investors informed decision-making when it comes to

the investment-making process (e.g., Aldamen, Duncan, Kelly, McNamara, & Nagel, 2012; DeFond & Francis, 2005). In the same line of argument, highly educated members are more tolerant towards ambiguity, they are more open to change and they are inclined towards innovation (Wally & Becerra, 2001).

Conclusion

Effective corporate governance has been increasingly being stressed on in the public, private and regulatory sector, specifically focusing on the function of one of the significant CG components, which is top executive management (TEM). Generally speaking, there has been a notable increase in the public concern regarding the organizations performance level, which calls for the examination of TEM function in fraud determination. Therefore, this study took the initiative and became a pioneering study to examine TEM characteristics and its relationship with performance of firms in Oman, a developing nation, with unique features and characteristics.

In addition, the uniqueness of the present study lies in its presentation of empirical evidence on the impact of the TEM characteristics (size, professional certificate, general experience and accounting experience) on the performance of Omani listed financial firms for the years from 2011 to 2017. The FGLS regression was adopted for the examination of the direct relationships of TEM characteristics with firm performance and on the basis of the empirical findings, TEM experience (general and accounting) significantly and positively related with the performance of the firms (Tobin's Q). However, the findings also showed that TEM size and professional certificate did not have positive significant relationships with Tobin's Q.

Moving on to the potential contributions of the study to theory and practice – this study uniquely presents the relationship between TEM and performance in Oman, a developing and emerging economy, taking into consideration size, professional certificate, experience and accounting experience of TEM.

The findings are particularly of interest as Oman is the first GCC country to adopt the Code of Corporate Governance, justifying its selection as the context within which the examination of the relationships between characteristics of TEM and firm performance are conducted. Moreover, the study also contributes by minimizing the gap in literature made by the scarcity of studies that examined the relationship between firm performance and TEM. The findings are expected to contribute to the body of knowledge regarding executive management and the performance of firms in the Middle Eastern countries and other developing nations. The study findings are also expected to minimize the gap in literature as it highlights the significant governance standards of firms relating to TEM in financial firms.

Practically, this study provides enriching information on the relationships between TEM

and performance of firms to regulators, investors and the public for their consumption and informed decision-making. The findings contribute to enhancing the understanding of practitioners regarding executive management mechanisms that could enhance performance and the academics knowledge on the topic. The study significance is in highlighting and stressing on the driving factors that contribute to the enhancement of firms performance. Lastly, the study findings are expected to be invaluable to the Omani policy-makers as to the regulations that have to be established to improve the performance of firms, and in turn, the overall economy of the country.

Limitations and suggestions for future research

Similar to other study of its kind, this study has its limitations, with the first being the focus on the Omani stock market firms. Future authors are recommended to examine the variables relationships other than the present context (e.g., in other GCC countries). The second limitation lies in the selected TEM characteristics (size, professional certificate, experience and accounting experience), whereby the Chi2 (7) is 32.03 (refer to Table 4), indicating that other factors that were not included in the examination do contribute to firm performance enhancement. In this regard, future researchers are urged to examine such factors, which may include TEM education, international experience, foreign member on TEM, government relationship, remuneration, among others. With regards to the study's third limitation, the number of years studied spanned 7 years from 2011 to 2017 – this can be extended by future studies to a decade or more.

Furthermore, the study is limited in terms of its examination of direct relationships between TEM characteristics and performance of listed firms. To this end, future authors can include third variables namely, government code, corporate social responsibility, among other variables to test their contribution to the direct relationship strength. Finally, the study variables were examined in the context of financial firms in Oman, and in this regard, future authors may shift their focus to non-financial firms, the findings of which may be compared to those obtained from their financial counterparts

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