

The Presence of Controlled Family Members on the Board, Board Size, Board Meetings and Audit Quality in the Kingdom of Saudi Arabia

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ABSTRACT

The aim of this study is to theoretically and empirically provide evidence on the association of the royal family board members, the number of board of directors and the board of director meetings with the choice of auditor for 505 non-financial listed companies in the Saudi Stock Exchange during 2012-2015. This study identifies two types of audit firms: (1) Big-4 and (2) Non-Big-4 auditors. Using pooled logic regression, this study documents the likelihood of Big 4 audit firms being associated with a company which has royal family board members, the number of board of directors and the board of director meetings. The outcomes of this study have significant implications on the issues surrounding auditor independence in the Saudi Arabian setup.

JEL Classifications: M42, M48

Keywords: audit quality; board of director's characteristics; Saudi Arabia

I. INTRODUCTION

In recent times, there is increasing receptiveness for and reconciliation of Saudi Arabia with the worldwide economy, which has created push-and-draw factors that are aiding in the change of the institutional structure, pushing new regulations in the financial, accounting and auditing domains and improving the corporate governance codes. To regulate the auditing profession, Saudi Arabia has enacted external audit laws (e.g., Hawkamah and IFC, 2008; Harabi, 2007; Al-Basteki, 2000; Shuaib, 1999; Arnett and Danos, 1979). Consequently, post the current advancements, Saudi Arabia is recognized as an attractive business environment for local and international investors (e.g., Gulf Base, 2009; Al-Shammari *et al.*, 2008; Al-Hussaini and Al-Sultan, 2008; Bley and Chen, 2006). There has been a surge in enthusiasm within Saudi Arabia about issues around auditor choice decision, which has resulted in expanded demand for the auditing services, thus, prompting a relative move in the cost and demand parameters of the audit service market and resulting in aggressive competition. The regulatory booms in the Saudi economy and the expanded demand for audit services come with a few concerns. In the history of Saudi Arabia, only three reported cases of auditor breach have been accounted for (e.g., Asiri, 2008; Al-Shammari *et al.*, 2008). Al-Shammari *et al.* (2008) indicated that this circumstance does not mirror a decent practice about the audit function. These behavioral practices in the Saudi audit market affect the structure in which audit services are demanded. Additionally, it is contended that the connection between legal origin and financial arrangements in Saudi Arabia mirrored the impact of the role and/or the nature of political framework and its national governance. Besides this, Saudi Arabia is still experiencing a humble enforcement of direction and competition policies and a predominance of three groups of investors, namely: government and its agencies, families, and institutions. This is an aftereffect of the weak investor protection and the non-existence of all around created markets for corporate control (e.g., Chahine and Tohme, 2009; Omran *et al.*, 2008; Hawkamah and IFC, 2008; Harabi, 2007). Under these conditions, agency problems in all probability will emerge between majority and minority shareholders.

The abovementioned worries concerning the audit function, particularly the procedure of auditor choice, raise question marks. One imperative issue about the process of auditor choice is that it varies among different corporations (e.g., Knechel, 2001; Hermanson *et al.*, 1994; Abdel-Khalik, 1993). To some degree, given the distinctions between regulatory structures and audit markets among countries, it can be contended that such distinctions can explain a different process of auditor choice. This infers companies are proficient to demonstrate their inclinations towards particular auditors, wherein these inclinations are diverse and can be arranged into broad patterns (e.g., Francis, Maydew, and Sparks, 1999). However, there is very little information accessible around the thought process in how a company selected one auditor over another (e.g., Knechel, 2001).

There is a considerable number of auditor choice studies (e.g., Che Ahmad *et al.*, 2006; Hudaib and Cooke, 2005; Woo and Koh, 2001; Beasley and Petroni, 2001; Abbott and Parker, 2000; Lennox, 2000; DeFond, 1992; Johnson and Lys, 1990; Francis and Wilson, 1988; Schwartz and Menon, 1985; Palmrose, 1984b). These studies have been portrayed as takes after: (1) They have been vigorously carried out on countries with an Anglo-Saxon enactment, for example, U.S and U.K, and they

intensely consider the agency theory. This impressive consideration has been given to those countries conceivably because of the way that they have comparable auditor environment and developed capital markets. (2) Contradictory and inconclusive results have been found by the past research on auditor choice (e.g., Anderson, Stokes and Zimmer, 1993; Knapp and Elikai, 1988; Eichenseher and Shields, 1989; Schwartz and Menon, 1985). In the most-wide sense, it is difficult to construe from the body of the past research, investigated on the auditor choice, the more imperative factors behind the changes in auditors and their selections (e.g., Lindah, 1994; Anderson, Stokes and Zimmer, 1993). Imperatively, there is no single factor or single cluster of organizational and environmental factors shaping the ideal determinants of an auditor choice decision (e.g., Ginsberg and Venkatraman, 1985). Wallace (1984) demonstrates that there is trouble in arranging the potential factors affecting the auditor choice decision in light of the underlying theories. This is the situation due to: (1) the deficiency of the underlying theories identified with the auditor choice, and (2) the existing overlap between theories.

The clashing and uncertain results are confirmed by the earlier studies on auditor choice, the lack of auditor choice researches looking into Saudi Arabia, the vagueness in the low-announced quantities of auditor outrages and lack of qualified audit reports in Saudi Arabia. The current incremental improvements that have been suggested to the Saudi audit market, the increasing demand for audit services, the distinctive national setting of Saudi Arabia as far as audit markets are concerned, institutional components, diverse levels of investor protection, legal enforcement, ownership structure and culture create the motivation for exploring the auditor choice decision in the Saudi Arabian setting. Many issues remain unclear about the audit market in Saudi Arabia. There has been little consideration for the auditor choice studies in Middle East, specifically in the Saudi setting. However, to the best of the researcher's awareness, no empirical investigations exists, that enables decisive judgments on selection of auditors in Saudi companies. Supporting this, Meyer (2006) contends that management research should carefully consider societies, legal frameworks, geographies, and industry structures. Abdul Rahman and Mohamed Ali (2006) demonstrate that disclosure and accounting are a component of the country's social legacy and qualities, which affect the mentality towards business-related misrepresentation. One imperative viewpoint about Saudi context is the domination of royal family members in publicly held corporations. They hold roughly 10 percent of all boardrooms in listed corporations. It is worth to mention that more than US\$ 240 billion of investment is owned by the Arabian royal families in terms of ownership is in listed companies. Thus, this indicates towards a better sovereign wealth fund and government institutions (Zawya, 2013; Alzahrani and Che-Ahmad, 2015). Alshammari (2014) indicates that royal family ownership is a special classification of dominant ownership type that combines wealth with political power and access to information thus affecting the nature of a company's governance. Hussain, Islam, Gunnasekaran and Maskooki (2002) report that the high-class status of royal family members gives them access to insider information around investee corporations in a noticeable manner, and they can greatly influence the decision-making process. Consequently, the boardrooms with several royal family members may hone an effective impact power over the other members' actions and views (Clark, 2004). Further, they could administer the management to deliberately reduce the capability of wrongdoing and poor management (Al-Ghamdi and Rohdes, 2015). Empirically,

Alzahrani and Che-Ahmad (2015) find a positive and significant association between the presence of royal family members on the board and the performance of the firm in Saudi Arabia. Therefore, the presence of royal family members in boardrooms may prompt a variety in the demand for audit services. Specifically, no historical and empirical research examined the relationship of royal family presence on the board of directors with the choice of auditor choice in Saudi Arabia. In addition, past research focused on board size and meetings with auditor quality have brought about inconclusive and conflicting results (Beasley and Petroni, 2001; Chen and Zhou, 2007; Lee *et al.*, 2004).

Therefore, the objective of this study is to provide theoretical and empirical evidence on the determinants influencing companies in making their decisions of auditor choice in Saudi Arabia. The remainder of the paper is organized as follows. Section II discusses the literature review and the hypotheses development. Section III describes the research methodology. The results and discussions have been highlighted in Section IV. The final section provides conclusions and implications.

II. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

Considering the recommendation of agency theory, distinctive qualities of top managers may clarify the variety in audit quality demand. Past research found that board of directors are the most elevated and expert authority within the organizational level that is mindful to work towards the greatest good of investors, to shield these premiums and to battle against nonqualified management (Siala *et al.*, 2009). Further, the board of directors represents the regular apex of the decision-making system in corporations and are marked with a low-monitoring mechanism over management (Fama and Jensen, 1983). Shareholders appoint their choice control rights over boards as a more effective method for endorsing and monitoring managerial decisions and controlling the management. This ends up as noticeable fundamental for the board of directors to guarantee that investors' interests are protected (Fama and Jensen, 1983). As indicated by Hawkamah and IFC survey of 2008, around 49% of corporations in MENA region (i.e., GCC) consider the obligation regarding corporate governance arrangements in the board are in accordance with good practices. All things considered, the part of the board's role is frequently misunderstood in the MENA region. As indicated by the survey, 89.9% of MENA banks and public corporations expressed that the board and not the management was in charge of setting up corporate goals, which is in opposition to the best practice that management develops and the board reviews and guides corporate strategy. The board fulfills two capacities: monitoring management and providing with master exhortation. The two capacities infer that the board assumes a part in the auditor choice decision (Houqe and Zijl, 2008; Yatim *et al.*, 2006). Therefore, the board of directors can substantially influence the decision of auditor choice. According to the same survey, 36% of the listed companies in MENA countries (i.e., GCC) indicated that the selection of the external audit firm is a competence of the board.

A. Controlled Family Members

There are different classifications to monitor the options for auditor choice or supplements to it (Dupoch, 1984). The substitution affect suggests corporate governance mechanisms have alternatives for each other. Especially, governance mechanisms are substitutable which demonstrates that substitution hypothesis may fundamentally foresee audit quality, where monitoring through the substitution of high external audit quality with internal governance devices so lesser audit quality winds up being plainly recognized. For instance, the demand for higher audit quality might be decreased because of the presence of dynamic audit committee and formal internal audit divisions. Accordingly, members from the royal families are good monitors imposed into the companies' managements as both taking the role of decision makers and owners who may substitute the external monitoring device of demanding high-quality auditors. Abdul Rahman and Mohamed Ali (2006) document the cultural heritage and qualities influences the financial disclosure and accounting profession, which in turn may affect the perceptions towards financial frauds. In the Middle East region (e.g., Saudi Arabia), it is common in the business market of Saudi Arabia to find the domination of royal families over an important firm. They dominate more than US \$240 billion of investment out of US \$319 billion in the publicly listed companies in Saudi Arabia. Furthermore, the royal family members obtain more than 10% of the board seats (Zawya, 2013; Alzahrani and Che-Ahmad, 2015). Importantly, the royal family members may have powerful impact on the actions and views of others in terms of how things should be done and consequently may reduce the potential of wrongdoing and poor management (Clark, 2004; Al-Ghamdi and Rohdes, 2015). Alshammari (2014) indicates that royal family ownership is a special classification of dominant ownership type that combines wealth with political power and access to information within the nature of a company's governance. Hussain, Islam, Gunnasekaran and Maskooki (2002) report that the high-class status of the royal family members gives them access to insider information of investee corporation in a noticeable manner and that they can greatly practice an influence on the decision-making process. An empirical piece of evidence provided by Alzahrani and Che-Ahmad (2015) indicates that the existence of royal family members on the board creates positive impact on the firm's performance.

Based on the substitution hypothesis, the existence of royal family members as a powerful monitoring device with wealth, political power and access to information impact nature of a company's governance and may substitute the demand for external monitoring device of external auditors. To the best of the researchers' knowledge, an empirical research linking the existence of royal family members with audit quality in Saudi context does not exist. There is still ambiguity on the ground about such an association. Therefore, the current study examines the existence of royal family members on the board of directors to encapsulate its impact on the auditor choice in Saudi context. The foregoing discussions are summarized while expecting a negative association between royal family members sitting on the board of directors and audit quality. The testable hypothesis is stated in a direct form as follows:

Hypothesis 1: Ceteris paribus, there is a negative association between controlled family members on the board of directors and audit quality.

B. Board of Directors' Size

Abdul Rahman and Mohamed Ali (2006) document that members on the board have different abilities or experiences. They have the propensity of enhancing the monitoring of the board and decreasing the degree to which the earnings management takes place or has impact. Chen and Zhou (2007) find that companies with large board members dismissed Andersen earlier and chose Big 4 successor auditor. Connecting board size with auditor choice decision, Beasley and Petroni (2001) find an insignificant relationship between board size and industry-specialist auditor.

The studies empirically linking auditor choice decision with board size are few and have come to inconclusive and contradicting results. In this way, the present study examines the number of the board of directors with the auditor choice in Saudi setting. The foregoing discussions are summarized in expecting a positive association between board size and audit quality. The testable hypothesis is stated in a direct form as follows:

Hypothesis 2: Ceteris paribus, there is a positive association between board of directors' size and audit quality.

C. Board of Directors' Meetings

Number of board meetings and the behavior of each board member in the meeting room is in general, a meeting, which incorporates distinctive factors; for example, encompassing the following gatherings: mindfulness, support amid meetings, readiness before meetings, and post-meeting follow-up). The only publicly observable factor of the board meetings is the number of meetings conducted during the year, found in the annual reports. As indicated by Carcello *et al.* (2002), in issues of financial related detailing process, board activities power of board activities is as they add to the viability of its oversight capacities.

Vafeas (1999) highlights that because of the advisory part the load up meeting time can acquire and change the adequacy of a load up so they can practice their fundamental role for better management and simple access to get information that will prompt for more compelling monitoring. Byrne (1996) and Lipton and Lorsch (1992) report that if the board members want to offer a benefit to shareholders' meeting, they will probably play out their responsibilities. Adams and Ferreira (2007) and Yatim *et al.* (2006) report that a board that exhibits a persistence in releasing its oversight duty is probably going to improve levels of oversight within the financial reporting process. With respect to the board meetings in auditor choice studies, Lee *et al.* (2004) finds an insignificant association between the board meetings and auditor change. As indicated by Hawkamah and IFC survey of 2008, 60% of public corporations in MENA region (i.e., GCC) successfully met on a quarterly premise, and just 15% met between 6 to 9 times each year.

Due to the lack of empirical research on the association of auditor choice with board of directors' meetings and the ambiguity circumstance of such relationship in Saudi Arabia, the current study examines the board of directors' meetings with audit quality in Saudi context. The foregoing discussions are summarized in expecting a

positive association between board size and audit quality. The testable hypothesis is stated in a direct form as follows:

Hypothesis 3: Ceteris paribus, there is a positive association between board of directors' meetings and audit quality.

III. RESEARCH METHODOLOGY

A. Sample and Data

The population of interest comprises all non-financial listed companies on Saudi Stock Exchange (Tadawul) for the periods 2012 - 2015. This selection is the most recent test period for which data was available. A cross-sectional review of audit reports of the sample companies listed on the Saudi Stock Exchange was undertaken. Samples selected are depicted in Table 1.

Table 1
Sample selection (2012-2015)

	Total Cases
Total listed companies	700
Banking, insurance, or diversified financial services	(188)
Outliers and incomplete data	(7)
Total companies selected	505

As depicted by Table 1, the total listed companies ranging from the period 2012 to 2015 were 700 cases. The excluded 188 companies are related to sectors incorporating banking, insurance or diversified financial services. As for the outliers and companies with incomplete data, seven cases were excluded. The final sample consists of 505 companies. The auditor choice model used in this study is adopted from prior studies to accommodate the audit quality in the Saudi setting. We include several control variables, which have been found to be associated with audit quality. These variables are firm size (LASSET), firm performance (ROA), and leverage (LEV).

With respect to the relationship of firm size (LASSET) and audit quality (AQ), promoters of the agency theory contend that the variety in firm size clarifies an alternate demand of audit quality (e.g., Wallace, 1980, 1984; Fama and Jensen, 1983a,b; Jensen and Meckling, 1976). Firm size is one of the key determinants that affects the auditor choice decision (e.g., Karim and Zijl, 2008; Copley and Douthett, 2002; Haskins and Williams, 1990; Johnson and Lys, 1990; Palmrose, 1984a). Also, Woo and Koh (2001), Simunic and Stein (1987), Healy and Lys (1986), Palmrose (1984), for instance, find a positive and significant association of the firm size with name-brand auditor. Predictable with this, Citron and Manalis (2000) find that client size is emphatically related with the selection of Big-Six audit firms at 10 percent significant level in Greece. Besides, larger clients may get more consideration from large audit firms (e.g., Berton, 1995). Beasley and Petroni (2001) report a significant relationship between industry-specialist auditor and firm size. Similarly, Lee *et al.* (2004) documents a positive relationship between name-brand auditor and firm size. Further, Johnson and Lys (1990), utilizing the model of auditor size, report a significant

and positive relationship before the switch and a significant negative relationship after the switch. This study relies on the assumptions of agency theory and expands the theoretical arguments and empirical findings of the prior studies discussed above by expecting a positive association between firm size and audit quality.

Regarding firm performance (ROA), audit quality (AQ), agency theory (e.g., Wallace, 1980, 1987; Fama and Jensen, 1983; Jensen and Meckling, 1976) and information suppression hypothesis (e.g., Grayson, 1999) conjuncture that there is a connection between firm performance and the auditor choice decision. Further, Schwartz and Menon (1985) demonstrate that, in line with the recommendation of the agency theory and the information suppression hypothesis, the change in a company's financial condition may create a change in the coveted bundle of audit services. Similarly, Woo and Koh (2001) report that auditors who are working with higher audit quality saw perceived audit and business risk will expand the audit procedures and apply more conservative accounting treatments. If there is a distressed circumstance, the incumbent auditor may resign. Besides, it is proving that organizations with unsound financial conditions may choose another auditor in the quintessence of getting more favorable audit reports (e.g., Citron and Taffler, 1992; Haskins and Williams, 1990). Further, Lindah (1994) and Johnson and Lys (1990) report that one sign of financial related trouble is a loss which may prompt auditor change. This study depends on the assumptions of agency theory, information suppression hypothesis expanding the theoretical arguments and empirically findings of the prior studies discussed above by expecting a positive association between firm performance and audit quality.

Concerning the relationship of firm leverage (LEV) and audit quality (AQ), agency hypothesis suggests that companies change in their demand for audit quality based on the degree of their leverage (e.g., Wallace, 1980, 1987; Fama and Jensen, 1983; Jensen and Meckling, 1976). As exhibited by past research, Lennox (1999a, 1999b, 2000) reports that leverage effectively affects audit reporting in companies based out of UK. By a similar method for token, Chow (1982) proposes that higher the proportion of debt in a company's capital structure, higher is the possibility of potential for wealth transfers from bondholders to shareholders. Accordingly, an independent auditor is required to improve the dependability of accounting information used to verify covenant compliance (e.g., Woo and Koh, 2001). Building on this, companies needing financing will initially check with local banks or financial institutions. Evidence indicates towards the fact that companies can decrease its interest rate by selection of a Big 6 audit firms (e.g., Mansi *et al.*, 2009). Moreover, DeFond (1992) and Eichenseher and Shields (1989) confirm a positive relationship between auditor size and leverage. Similarly, Lee *et al.* (2004), Woo and Koh (2001), and DeFond (1992) report a significant positive relationship between leverage and selection/change among Big 4/non-Big 4 audit firms. In accordance with this, DeFond (1992) reports a significant positive link between auditor independence and leverage. With respect to auditor change model, Lee *et al.* (2004) and Woo and Koh (2001) report a significant positive relationship between leverage and auditor switch. Similarly, DeFond (1992) reports a significant positive association between leverage and a combined audit quality model. This study takes into consideration the assumptions of agency theory and expands the theoretical arguments and empirical findings of the prior studies discussed above by expecting a positive association between firm leverage and audit quality.

B. Model Specification

An agency cost framework is used to develop a model of auditor choice, i.e., the likelihood of a company using a quality-differentiated auditor. There are differences in the agency cost associations of the variables included in the study. The dependent variable is a dichotomous, nonmetric scale, measurement (either companies hire Big 4 audit firms or non-Big 4 audit firms). The pooled logistic regression model is utilized to estimate the binary nature of the dependent variable in this study:

$$\text{Prob (Big 4 = 1)} = \beta_0 + \beta_1 \text{ROYAL} + \beta_2 \text{BDSIZE} + \beta_3 \text{BDMEET} + \text{Control variables} + e \quad (1)$$

where Prob (Big 4 =1) = the estimated conditional probability of choosing Big 4 audit firm is a function of royal family representation, board size, board meetings, firm size, firm performance and leverage; BDROYAL = number of royal family members on the board; BDSIZE = number of board of directors' members; and BDMEET = number of board of directors' meetings during the year. Control variables include LASSET = \log_{10} of the total assets; ROA = return on assets; LEV = total debt to total equity; and e = Error term.

IV. RESULTS AND DISCUSSIONS

A. Descriptive Analysis

Table 2 provides descriptive statistics and univariate test results for the variables classified by type of audit firms (Big-4/Non-Big-4).

Table 2
Descriptive statistics

	Mean	Min	Max.	Std.Dev
Panel A: Continuous variables				
BDROYAL	0.30	0	4	0.636
BDSIZE	8.44	3	17	1.651
BDMEET	5.35	1	17	2.234
Control variables				
LASSET	10268134317.3663	1313042	340041000000	35767574896.20725
ROA	.3922	-.79	83.77	4.63547
LEV	20.6399	-23.54	5147.60	310.52155
Panel B: Dichotomous variable				
	Frequency	Percent %		
Big 4	328	65		
Non-Big 4	177	35		
Total	505	100		

Table 2 shows that a level of significant variation exists among companies included as a sample in this study. Panel A of Table 2 shows that the range of BDROYAL is from 0 to 4 with an average of 0.30 and a standard deviation of 0.636.

About BDSIZE, it ranges from 3 to 17 with an average of 8.44 and a standard deviation of 1.651. As for the BDMEET, it ranges from 1 to 17 with an average of 5.35 and a standard deviation of 2.234. With respect to the control variables, the mean of FSIZE is S.R 10268134317.3663 with a maximum of S.R 340041000000 and a minimum of S.R 1313042 and a standard deviation of S.R 35767574896.20725. The range of ROA is from 83.77 to -.79 with a mean of .3922 and standard deviation of 4.63547. The LEV ranges from 5147.60 to -23.54 with an average of 20.6399 and a standard deviation of 310.52155.

Panel B of Table 2 exhibits that 328 firms (about 65 percent) in the sample are audited by Big 4 audit firms and 177 (about 35 percent) are audited by Non-Big 4 audit firms.

Table 3
Spearman correlation analysis

	BDROYAL	BDSIZE	BDMEET	LASSET	ROA	LEV
BDROYAL	1					
BDSIZE	.130**	1				
BDMEET	-.012	.060	1			
LASSET	-.048	.402**	.051	1		
ROA	.023	.010	-.031	-.017	1	
LEV	-.102*	.041	-.081	.303**	-.102*	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

Table 3 shows the correlation among variables. Since there is no correlation, value in the correlation matrix exceeds 0.80 or 0.90 and all the correlations are less than 0.40, which means that there is no multicollinearity problem.

B. Multivariate Analysis

The descriptive and univariate analysis provides support to the prediction that there are differences in the audit quality chosen between companies audited by Big-4 and those audited by Non-Big-4 audit firms. However, the descriptive analysis does not consider any interrelationship among the independent variables and is, therefore, somewhat limited.

Multivariate logistic regression was used to evaluate the level of effect the test variables have on the decision of either choosing Big 4 audit firms or otherwise. Table 4 reports the estimated model coefficients, the associated significance test results and hold out the accuracy rates for the model. The p -values associated the chi-square with 6 degrees of freedom are statistically significant at 1% level ($p = 0.000$), indicating a good fit. In addition, Table 4 portrays the Hosmer-Lemeshow's Goodness of Fit Test. In this study, the Hosmer-Lemeshow test statistics are greater than .05 (0.064), indicating that both models' fit is acceptable. The Cox and Snell R^2 value for the model is 0.165. The Nagelkerke R^2 value model is 0.227 and for the post-auditor-change model is 0.233. To conclude, the above measures indicate that the model can differentiate the companies that have chosen Big 4 audit firms from those have chosen non-Big 4 audit firms.

Table 4
Results of logit regressions for auditor choice (Big-4/Non-Big-4)

Variables	Expected sign	Coef.	z	P> z
BDROYAL	-	-.429	6.580	0.010
BDSIZE	+	.147	4.051	0.044
BDMEET	+	-.092	3.872	0.049
Control variables				
LASSET		1.203	38.027	0.000
ROA		.055	3.701	0.054
LEV		.000	1.635	0.201
Constant		-11.130	43.284	0.000
Log Likelihood	516.65			
Hosmer-Lemeshow	0.06			
Chi ² (6)	83.18			
Prob > Chi ²	0.00			
Nagelkerke R ²	22.70			
Coxsnell R ²	16.50			
Correctly Classified (%)	73.40			

The results of the pooled logic regression show a negative coefficient for BDROYAL (-.429) and statistically significant (p -value = 0.005, one-tailed significance)¹. This result is consistent with the prediction of substitution hypothesis of agency theory. Hence, this result provides support for hypothesis H₁. This implies that the existence of royal family members on the board of directors means more powerful impact in terms of internal monitoring and, consequently, it substitutes the external monitoring demand for higher audit quality in Saudi context. This result is consistent with Alzahrani and Che-Ahmad (2015). With respect to the association of BDSIZE and AQ, the results of this study illustrate a positive coefficient (.147) and statistically significant (p -value = 0.022, one-tailed significance). This result is in line with the suggestion of agency theory and the previous empirical research (Chen and Zhou, 2007; Abdul Rahman and Mohamed Ali, 2006). This result provides support to hypothesis H₂. An explanation for this result may point towards the fact that the increase in the number of board of directors gives a tendency of improving the monitoring role of the board in hiring higher audit quality in the Saudi setting. As for the association of BDMEET and AQ, the results reveal a negative coefficient (-.092) and statistically significant (p -value = 0.025, one-tailed significance). This result is inconsistent with the prediction of agency theory. Hence, this result does not provide a support for hypothesis H₃. A justification to this result may be attributed to what has been documented by Aljifri and Moustafa (2007). They indicate that a typical Arab firm does not select their board members optimally which often results in lack of coordination, communication and decision-making issues. These are barriers to internal improvements in the effectiveness of corporate governance practices including demanding high quality of audit. Therefore, board of directors do not use the limited time they have together for exchanging meaningful ideas. Various formalities and presentation of reports may take a big portion of the board meetings than utilizing this time to efficiently monitor management that, in turn, may influence the level of audit quality demand (Lipton and Lorsch, 1992).

V. CONCLUSIONS AND IMPLICATIONS

The main objective of this study is to examine the association of royal family members on the board, board size, and board meetings with audit quality of 505 observations listed on Saudi Stock Exchange (Tadawul) between 2012–2015. This study identifies two audit firm types: (1) Big-4 auditors and (2) Non-Big-4 auditors. Using the pooled logic regression, this study finds that the likelihood that Big 4 audit firms is chosen decreases with the increase in the number of royal family members holding the board of director position. This result provides support to the substitution hypothesis in the Saudi setting. The substitution affect suggests corporate governance mechanisms have alternatives for each other. Especially, governance mechanisms are substitutable which demonstrates that substitution hypothesis may fundamentally foresee audit quality, where monitoring through the substitution of high external audit quality with internal governance devices so lesser audit quality winds up plainly recognized. Therefore, the demand for higher audit quality in Saudi context is decreased through the presence of powerful monitoring device in the form of royal family members on the board as an internal monitoring mechanism substitute for the external one. This result is in line with the empirical evidence reported by Alzahrani and Che-Ahmad (2015).

Constraints of the study lie in the auditor choice model which is developed by predicting an association between agency cost factors and auditor choice decision. One implication of this study is that auditor choice model is designed to demonstrate a relationship and not a causal association. It may be the case that large audit firms demand large auditees with high financial performance. Ahmad *et al.* (2006) report that the audit engagement process is probably going to be more mind boggling than just inferred in the auditor choice model and is probably going to experience several phases before audit firms accept to sign the audit engagement with the auditee.

One vital implication of these findings identifies with the issue of auditor independence in Saudi Arabia. Saudi government, securities exchange, accounting and auditing regulators would improve and add new pieces of knowledge from this study as far as the degree to which regulations, laws, decrees and resolutions are actualized by both auditees and auditors. The consequences of the current study are that banks could obtain the results of this study in assessing the financial position of the companies in the Saudi setting. Importantly, the audited financial statements contain information that benefit the banks to rely on mandating bond covenants. In addition to this, credit decisions made by banks are resolved in view of audited financial statements. Along these lines, audit opinions are the very pinnacle of imperative for any lending institution. The audited financial statements are of importance to the investors as well as financial analysts to identify the issues concerning bonds, interest rates and every other related decision in Saudi business environment. Similarly, expanded comprehension and prediction of corporations' events are essential to this user group.

A wide range of audit firms would benefit by an expanded comprehension of the audit market condition in the Saudi setting. This open door would help them in assessing the respectability of proceeding with their present strategies and policies to pull in new clients, hence upgrading the positive strategies and policies while correcting the negative ones. For example, the audit firm may decide to alter its audit proposal, change the audit team or staff, or potentially make any other sensible alteration that would build its opportunity to remain with the current client and draw in new ones.

Further, the findings of this study will be important for the analysts and scholarly group because of an absence of systematic researches investigating the auditor choice issues in the Saudi context and therefore, this study would provide reliable pieces of information about GCC markets to rely on.

There are several opportunities for future research. First, introduce other agency cost variables that are empirically found to have an association with auditor choice such as firm growth, complexity and new financing. Second, introduce corporate governance mechanisms such as other board of directors, audit committee characteristics and ownership types. Further, future studies may realize the importance of replicating the current study to identify its validity in different GCC country settings, in a different time span and with a different sample in terms of size and type. Therefore, the current study may work as a premise for future research to rely on in making a deep understanding of the GCC audit market services.

ENDNOTE

1. The two-tailed values have been divided by 2 to generate one-tailed significant values.

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