Unraveling the impact of the new Saudi company regulations: Enhancing financial reporting quality and achieving vision 2030

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ABSTRACT

This research examines the direct and indirect effects of the New Saudi Company Regulations (NCR) on financial reporting quality (FRQ) in the Saudi stock market (Tadawul) from 2015–2017. The final sample comprises 60 companies (180 observations). Such institutional changes are expected to impact FRQ in Saudi Arabia. Thus, this research aims to theoretically and empirically investigate how Saudi company-specific characteristics influence FRQ given the changing institutional environment. The study reviewed the NCR changes against prior study outcomes to assess alignment with recommendations to improve FRQ. The NCR's effect was analyzed through two paths— the direct effect representing institutional pressure on FRQ from the NCR introduction, and the indirect effect whereby NCR initiated FRQ changes through company characteristics. The study only found a direct significant NCR effect on FRQ in Saudi Arabia. This confirms broad institutional pressure to improve financial reporting quality in Saudi companies, enabling the achievement of a core Vision 2030 objective. The findings have implications for Saudi policymakers in evaluating reform effectiveness and identifying needs for further NCR changes. They also contribute to ongoing theoretical discussions and indicate the importance of considering country-specific institutional contexts. Overall, the study helps bridge the gap in the limited existing literature on corporate governance and FRQ in Saudi Arabia versus developed countries.

Contribution/Originality: This study offers new insights into financial reporting quality in Saudi Arabia by investigating the effects of the New Saudi Company Regulations using a comprehensive multi-theoretical framework combining agency theory, institutional theory, and codification theory.

1. INTRODUCTION

Saudi Arabia's strategic position in the Middle East, its large emerging economy, and its membership in the G20 makes it an ideal setting for this study (Piesse, Strange, & Toonsi, 2012). The Saudi stock exchange (Tadawul) was the largest equity market in the Middle East in 2017, with total market value about $452 billion according to Rehman (2018) and World Bank (2018). This massive valuation represented nearly 66% of Saudi GDP that year. The changing institutional environment in Saudi Arabia, exemplified by the launch of Saudi Vision 2030, offers a unique case for this study. Vision 2030 has the objectives of transforming the kingdom from a country dependent on oil to one powered by a knowledge-based economy and attracting foreign investment (Nurunnabi, 2017; Vision 2030, 2016). In response to Vision 2030, the Ministry of Commerce and Investment issued the New Saudi Company Regulations (NCR) in 2015, accompanied by new laws and regulations to improve the investment environment. This study

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investigates the direct and indirect effects of the NCR on financial reporting quality (FRQ) in Saudi Arabia (Al Shetwi, 2020; DeFond & Jiambalvo, 1994).

The research question focuses on the impact of the NCR on FRQ, leading to several sub-questions. Sub-question Q1.1 examines the direct effect of the NCR on FRQ. The Saudi government has taken initiatives to improve financial reporting quality and attract foreign investment, with the issuance of the NCR in 2015 being one of several measures to address deficiencies and lack of clarity in the old Saudi company regulations (OCR). It is important to note that improving the quality of financial reporting in Saudi companies goes beyond the key characteristics of the board of directors and factors that influence audit quality. This is because there is an institutional trend in Saudi Arabia toward enhancing the quality of Saudi company financial reports in general. As a result, sub-question Q1.1 reflects the direct effect of the institutional pressure resulting from this trend and is analyzed by examining changes in FRQ that go beyond the changes in explanatory variables resulting from the introduction of the NCR (from before 2015 to after 2017).

Through sub-questions Q1.2 to Q1.9, this study addresses recent changes introduced by the NCR and their impact on FRQ, considering prior studies and their relevance to FRQ (see Section 2). Sub-question Q1.2 investigates the effect of the NCR on audit committee independence, while sub-question Q1.3 examines the impact on audit committee size, sub-question Q1.4 explores the effect of the NCR on audit committee meeting frequency, and sub-question Q1.5 focuses on the influence of the NCR on audit committee chairperson independence. Sub-question Q1.6 investigates the effect of the NCR on audit firm size, while sub-question Q1.7 examines the impact on board independence. Sub-question Q1.8 explores the effect of the NCR on board size, and sub-question Q1.9 focuses on the influence of the NCR on board meeting frequency. These sub-questions address the indirect effect of the NCR on the relationship between these variables and FRQ due to the introduction of the NCR.

This study provides compelling evidence that the implementation of the NCR has had a direct and significant impact on the improvement of FRQ in Saudi Arabia. The findings shed light on the strong institutional pressure exerted by the Ministry of Commerce and Investment to enhance FRQ in Saudi companies, aligning with the overarching goals of Vision 2030. The study goes beyond the examination of traditional factors, such as the board of directors' characteristics and factors influencing audit quality, revealing that the observed enhancement in FRQ is the result of broader institutional changes brought about by the NCR. These findings not only contribute to the understanding of corporate governance dynamics in the Saudi context but also offer valuable insights for policymakers and stakeholders, emphasizing the positive impact of regulatory reforms on the quality of financial reporting in Saudi companies.

This paper is structured as follows: Section 2 reviews prior academic literature relevant to the research questions. Section 3 examines unique aspects of the New Saudi Company Regulations (NCR) and presents the study hypotheses. Section 4 details the research methodology and data. Section 5 showcases the results and analysis. Section 6 discusses the key findings. Section 7 summarizes the study conclusions. Section 8 highlights the scholarly contributions and managerial implications of this work. Finally, Section 9 acknowledges the limitations of the current study and recommends future research directions.

2. LITERATURE REVIEW

2.1. Financial Reporting Quality

Earnings management is widely recognized as a crucial measure for assessing the quality of financial reporting (Armstrong, 1993; Dechow, Ge, & Schrand, 2010). It has been extensively utilized as an indicator of financial reporting quality (FRQ) in previous studies (Carcello, Neal, Palmrose, & Scholz, 2011; Kamolsakulchai, 2015; Salehi & Shirazi, 2016). Perotti and Wagenhofer (2014) examined different measures of FRQ in non-financial US companies from 1988 to 2007 and found that accruals measurements are the most effective in detecting the quality of earnings.

Similarly, DeFond and Zhang (2014) established that earnings management is a primary proxy for FRQ due to its strong association with audit quality, which aligns with the findings of Jones (1991).

Earnings management has always been a significant concern in corporate regulatory reforms (Smith, 2003) as it allows top management to manipulate earnings to meet expectations (Loomis, 1999). Developing countries and emerging markets face higher levels of earnings management compared to developed countries due to weaker legal enforcement and investor safeguarding (Leuz, Nanda, & Wysocki, 2003). Beuselinck, Cascino, Deloof, and Vanstraelen (2019) and Dyreng, Hanlon, and Maydew (2012) emphasize that earnings management increases in environments with weak legal enforcement. Given that Saudi Arabia is a developing country with a concentration of governmental ownership and limited legal protection for investors, the possibility of earnings management in Saudi companies is significant.

In line with previous literature, this study employs earnings management as a proxy to assess the direct and indirect effects of the New Saudi Company Regulations (NCR) on FRQ in the Saudi context. The regulatory environment in which companies operate has a notable influence on the occurrence of earnings management, and Saudi Arabia's regulatory landscape aligns with the conditions associated with a higher likelihood of earnings management.

Managers may engage in earnings management for their own benefit by exploiting agency problems (Abdul Rahman & Haneem Mohamed Ali, 2006). Managing accruals is commonly employed as it is less conspicuous and harder to detect (Habbash, 2019). From an institutional theory perspective, Li, Selover, and Stein (2011) argue that government regulations can create constraints for companies, motivating managers to manipulate earnings. Therefore, this study employs earnings management as a measure of FRQ in the Saudi context, which is a widely accepted indicator in the existing literature.

2.2. Audit Quality

The definition of audit quality has not been explicitly and universally agreed upon in prior studies. Gaynor, Kelton, Mercer, and Yohn (2016) define audit quality as 'the provision of a higher level of assurance and that the auditors have adequate evidence that the financial reports of the company represent the financial position of the company fairly and reflect the current economic situation of the company' (p. 5). This study adopts a definition of audit quality that is consistent with the perspective of DeAngelo (1981) who defines audit quality as the probability that auditors will detect and report material misstatements or omissions in financial statements. This view aligns with the definition from the Public Company Accounting Oversight Board (2013) which describes high quality audits as those that satisfy investors' requirements for independent, reliable audits and effective audit committee communications. In essence, both definitions equate audit quality with auditors' capacity to provide unbiased assurance of accurate financial reporting.

Audit quality assessment is based on audit inputs, processes, and outcomes (Public Company Accounting Oversight Board, 2013). Bonner (2008) provides a summary of factors that determine audit quality encompassing personal characteristics, tasks, and the environment. Many studies focus on the characteristics of auditors to determine audit quality and their impact on the quality of financial reporting (Baxter & Cotter, 2009; Becker, DeFond, Jiambalvo, & Subramanyam, 1998; De Vlaminck & Sarens, 2015; DeZoort, Hermanson, Archambeault, & Reed, 2002; Gaynor et al., 2016; Inaam & Khamoussi, 2016; Jayanthi, Wen, & Zhao, 2011; Kamolsakulchai, 2015).

Numerous individual characteristics have been identified in the literature that significantly affect audit quality and are related to financial reporting quality. These include audit committee independence and size (Almarayeh, Aibar-Guzmán, & Abdullatif, 2020; Inaam & Khamoussi, 2016; Owens-Jackson, Robinson, & Waller Shelton, 2009), audit committee activity (Al-Matari, Al-Swidi, FADZİL, & Al-Matari, 2012; DeZoort et al., 2002; Owens-Jackson et al., 2009), auditor's financial expertise (Jayanthi et al., 2011; Pike & Mangena, 2005), and audit committee chairperson independence (Al-Absy, Ismail, Chandren, & Al-Dubai, 2020; Leung, Richardson, & Jaggi, 2014; Xiong, 2006). In this

study, we investigate these key characteristics and variables that influence audit quality and their relationship with financial reporting quality to understand the indirect effects of the New Saudi Company Regulations.

3. THE NEW SAUDI COMPANY REGULATIONS (NCR)

The effect of implementing the New Saudi Company Regulations on financial report quality is examined in this section. The NCR can be seen as a form of institutional pressure imposed on companies by regulators. They represent a more comprehensive set of regulations for companies compared to the previous version (the 1965 OCR). They were introduced by the Ministry of Commerce and Investment accompanied by a series of new regulations and laws applicable to various industries, trade, and investment, in line with Vision 2030. The NCR encompasses 227 articles and applies to both listed and non-listed firms in Saudi. This study focuses on the aspects that are relevant to Saudi listed firms, particularly regulations governing relationships among boards of directors, executives, shareholders, and other stakeholders. The primary goals of the NCR are to enhance the investment environment of the Saudi market, attract foreign capital and retain local capital, aligning with the broader objectives of Vision 2030.

Prior studies have highlighted that earnings management, used as a measure of financial reporting quality, undermines the reliability and relevance of financial reports, consequently impacting the efficiency of capital markets (DeFond & Jiambalvo, 1994; Jones, 1991). Therefore, improving FRQ is crucial for enhancing the investment environment in any market (Al Shetwi, 2020).

Table 1 analyzes the recent changes introduced by the NCR in relation to the key characteristics identified in previous studies that are relevant to FRQ. The table also assesses whether the Saudi regulators have made changes in the right direction to enhance the FRQ of Saudi companies.

Table 1. Evaluation of the recent changes in the new corporate regulations and new corporate governmental corporations against prior studies.

Audit quality characteristic	The NCR and the NCGR*	The OCR **	Expected effect on FRQ based on prior literature
Audit committee independence	At least one independent director	Not specified	Positive
Audit committee size	No fewer than three and no more than five	At least three members	Positive
Audit committee meetings	Minimum of four meetings per year	Not specified	Positive
Audit committee financial expertise	No change	At least one director who specializes in finance and accounting	Positive
Audit committee legal expertise	No change	Not specified	Positive
Audit committee chairperson independence	Independent director	Non-executive director	Positive
Audit firm size	Promoting local Saudi firms	Not specified	Positive
Auditor report	Not applicable	Not applicable	Positive
Board of directors' characteristics			
Board independence	1/3 of directors are independent, or at least two independent directors (Whichever one is greater)	One-third of directors are independent	Positive
Board size	No fewer than three and no more than 11	No fewer than three	Positive
Board meeting frequency	At least two meetings per year	Not specified	Positive
Dependent variable			
Financial reporting quality	The introduction of NCR was justified by improving the investment environment of the Saudi market and attracting local and foreign capital as part of Saudi Vision 2030, which aims to improve FRQ	Not specified	N/A

Note: * NCR: New Saudi Company Regulations (2015); NCGR: New Saudi Corporate Governance Regulations (2017), which are a subset of the NCR.
** OCR: Old Saudi Company Regulations issued in 1965.

This study proposes specific hypotheses regarding the characteristics of the board of directors and other factors influencing audit quality, which may have been impacted by the NCR (refer to Table 1). Other variables that influence audit quality are considered control variables. The following subsections provide a literature review concerning the relation between the board of directors' characteristics, factors influencing audit quality, and FRQ within the context of the Saudi NCR. Each variable is accompanied by a corresponding hypothesis.

3.1. Financial Reporting Quality and the NCR

In Saudi Arabia, the measures taken by the Saudi government to improve the quality of financial reports aimed to improve the Saudi inbound foreign investment environment. Issuing the NCR, which was a part of Vision 2030, is one of the multiple measures to address deficiencies and a lack of clarity in the OCR. Improving FRQ in Saudi companies may not be restricted to the key characteristics of the boards of directors or factors that influence audit quality discussed in this study. This is because there is an institutional trend aimed at raising the quality of Saudi company financial reports in general. Therefore, this study considers the year effect in measuring the impact of NCR (before and after its implementation) on FRQ between 2015 and 2017. Using institutional theory is essential to understanding institutional pressures on the dependent variable of this study (FRQ). McGowan (2014) used the concept of coercive isomorphism to test the effect of Sarbanes–Oxley (SOX) on audit work and engagement practices, both pre-SOX (between 2001 and 2004) and post-SOX (between 2008 and 2011). McGowan (2014) argues that applying institutional theory is valuable for assessing the impact of regulatory institutional pressures to gain better insight into how regulatory and legal forces influence adherence to accounting and auditing standards and practices. The regulative pillar of institutional theory spotlights how formal rules, laws, and sanctions shape organizational behavior. Therefore, institutional theory allows the examination of how regulations and governance reforms compel organizations to conform to expected accounting and auditing norms. Using this theoretical lens facilitates understanding of the degree to which regulatory changes lead organizations to comply with mandated governance and reporting practices. Based on the preceding discussion, the following hypotheses are proposed:

H1: There is an increase in FRQ resulting directly from the NCR.

This hypothesis will be accepted if any of the following sub-hypotheses are accepted:

H1a: There is an increase in FRQ in the voluntary year (2016) above and beyond the impact of the changes in all other variables in the model compared with 2015.

H1b: There is an increase in FRQ in the compulsory year (2017) above and beyond the impact of the changes in all other variables in the model compared with 2015.

H1c: There is an increase in FRQ in the compulsory year (2017) above and beyond the impact of the changes in all other variables in the model compared with 2016.

3.2. Audit Committee Independence and the NCR

Studies by Almarayeh et al. (2020); De Vlaminck and Sarens (2015) and Sharma and Kuang (2014) emphasize that the independence of an audit committee enhances the quality of financial reporting. These findings support an agency theory perspective that predicts improved financial reporting quality. Furthermore, the NCR requires Saudi companies to have at least one independent member on the audit committee (see Table 1). Thus, this regulatory requirement may improve the FRQ of Saudi listed companies.

H2: FRQ has been affected by a change in audit committee independence as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H2a: Audit committee independence has been affected by the NCR.

H2b: FRQ is positively affected by audit committee independence in Saudi Arabia.

H2a is non-directional because the NCR is multi-faceted; hence, the direction of its overall effect on any one factor is difficult to predict. H2b is directional based on prior literature. This approach to setting hypotheses as directional or non-directional is followed for the remaining research sub-questions.

3.3. Audit Committee Size and the NCR

Studies by Baxter and Cotter (2009); Lin and Hwang (2010) and De Vlaminck and Sarens (2015) have postulated a positive relationship between audit committee size and FRQ. However, the NCR do not support Saudi companies to have an audit committee of more than five members (see Table 1).

H3: FRQ has been affected by a change in audit committee size as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H3a: Audit committee size has been affected by the NCR.

H3b: FRQ is positively affected by audit committee size in Saudi Arabia.

3.4. The Frequency of Audit Committee Meetings and the NCR

Studies by Baxter and Cotter (2009); DeZoort et al. (2002); Owens-Jackson et al. (2009) and De Vlaminck and Sarens (2015) found a positive relationship between the frequency of audit committee meetings and FRQ. Further, the NCR forces Saudi companies to meet at least four times per year (see Table 1). Therefore, it is predicted that this regulation will have a positive effect on FRQ.

H4: FRQ has been affected by a change in audit committee meetings as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H4a: Audit committee meeting frequency has been affected by the NCR.

H4b: FRQ is positively affected by audit committee meeting frequency in Saudi Arabia.

3.5. Audit Committee Chair Independence and the NCR

While a limited number of studies (e.g., (Khurram & Zhang, 2019; Leung et al., 2014)) have examined the impact of audit committee chair independence, the specific relationship with financial reporting quality (FRQ) remains underexplored within the literature. For example, Leung et al. (2014) provided evidence that appointing an independent director as audit committee chair positively influenced company performance. Additionally, Khurram and Zhang (2019) identified a positive association between audit committee chair independence and disclosure quality. However, the extant literature has yet to fully investigate the linkage between audit committee chair independence and FRQ measures, particularly within the emerging Saudi Arabian context.

Further, the NCR force Saudi companies to appoint an independent director as an audit committee chair (see Table 1); this may have a positive effect on FRQ.

H5: FRQ has been affected by a change in audit committee chair independence as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H5a: Audit committee chair independence has been affected by the NCR.

H5b: FRQ is positively affected by the audit committee chair independence in Saudi Arabia.

3.6. Audit Firms Size and the NCR

Francis, LaFond, Olsson, and Schipper (2004) and Hoitash, Markelevich, and Barragato (2007) found a positive relationship between the Big Four as an indicator of audit firm size and FRQ. The NCR could have a negative effect on contracting with the Big Four (see Table 1). Contracting with the Big Four international accounting firms as an auditor is positive in terms of FRQ. Therefore, contracting with local Saudi audit firms (not the Big Four) may decrease the quality of financial reports due to the smaller size of local accounting firms.

H6: FRQ has been affected by a change in audit firm size as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H6a: Audit firm size has been affected by the NCR.

H6b: FRQ is positively affected by audit firm size in Saudi Arabia.

3.7. Board Independence and the NCR

Previous studies by Abbadi, Hijazi, and Al-Rahahleh (2016); Alves (2014); Ghafran and O'Sullivan (2017); Jaggi, Leung, and Gul (2009) and Klein (2002) argue that the independence of a board of directors enhances FRQ, which aligns with agency theory predictions. According to the NCR, the new regulation has not significantly changed the independence of the boards of directors; therefore, this regulation should not have a positive effect on FRQ (see Table 1).

H7: FRQ has been affected by a change in board independence as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H7a: Board independence has been affected by the NCR.

H7b: FRQ is positively affected by board independence in Saudi Arabia.

3.8. Board Size and the NCR

Habbash (2019); Mohsen, Ku, and Sitraselvi (2020) and Yu (2008) affirm that a greater number of board members has a positive effect on earnings management as a proxy for FRQ. Regarding the NCR, the new regulation does not support a higher number of board members compared with the old regulation; thus, this regulation should not have a positive effect on FRQ (see Table 1).

H8: FRQ has been affected by a change in board size as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H8a: Board size has been affected by the NCR.

H8b: FRQ is positively affected by board size in Saudi Arabia.

3.9. Board Meeting Frequency and the NCR

A number of empirical studies (such as (Raed, 2021; Xie, Davidson III, & DaDalt, 2003)) prove that the number of meetings held by the board of directors has a positive effect on FRQ. This is because a board that meets regularly can devote time to remedying company issues, such as constraining earnings management, and perform their duties in accordance with shareholders' interests, which is consistent with agency theory. According to the NCR, the new regulation requires the board of directors in Saudi companies to meet at least two times per year. Thus, this regulation should have a positive effect on FRQ (see Table 1).

H9: FRQ has been affected by a change in board meeting frequency as a result of the introduction of the NCR.

Acceptance of this hypothesis requires the acceptance of the following two sub-hypotheses:

H9a: Board meeting frequency has been affected by the NCR.

H9b: FRQ is positively affected by board meeting frequency in Saudi Arabia.

4. DATA AND METHODOLOGY

4.1. Research Design

This research investigates the direct and indirect effects of the New Saudi Company Regulations (NCR) on financial report quality (FRQ) in the Saudi stock market. To accomplish this, a quantitative method utilizing publicly available secondary data is employed to compare pre- and post-NCR implementation. This approach allows testing of the adopted theory using a large and unique sample, leading to more generalized findings for the entire study population.

The study first identifies the most common variables relevant to FRQ through a comprehensive literature review. The analysis of the effect of the NCR is then divided into two paths. The direct effect represents the immediate pressure on FRQ exerted by the Saudi government through the introduction of the NCR, as indicated by the year variables in the main models.

The indirect effect examines how the NCR indirectly influence FRQ by triggering changes in company characteristics that impact FRQ. This is assessed in two steps. First, the study tests if the independent variables, represented by board of directors' characteristics and factors influencing audit quality, significantly changed with the introduction of the NCR. Secondly, it examines whether these characteristics actually affected FRQ in Saudi Arabia during the relevant period.

4.2. Sample Selection and Data Collection

This study focuses on non-financial firms listed on the Saudi stock market from 2015 to 2017, resulting in a final sample of 61 companies with 183 observations. Excluding financial companies is consistent with prior research (Chen, Lin, & Zhou, 2005; Van Tendeloo & Vanstraelen, 2008) due to their distinct corporate governance practices. Additionally, companies following the Islamic calendar (Hijri) and those with a fiscal year starting on April 1 and ending on March 31 are excluded.

The modified Jones model, used as the dependent variable, requires at least 10 years of historical data for each company to accurately estimate parameters for non-discretionary accruals before calculating discretionary accruals in the main period (Dechow, Sloan, & Sweeney, 1995).

Therefore, companies not listed before 2004 were eliminated. Data for the independent variables was collected from annual reports, while data for the dependent and control variables was obtained from Datastream's Eikon database (Elghuweel, Ntim, Opong, & Avison, 2017; Ho, Liao, & Taylor, 2015).

4.3. Analytical Techniques

Each year of the main data collection period represents a significant event of the NCR (see Figure 1).
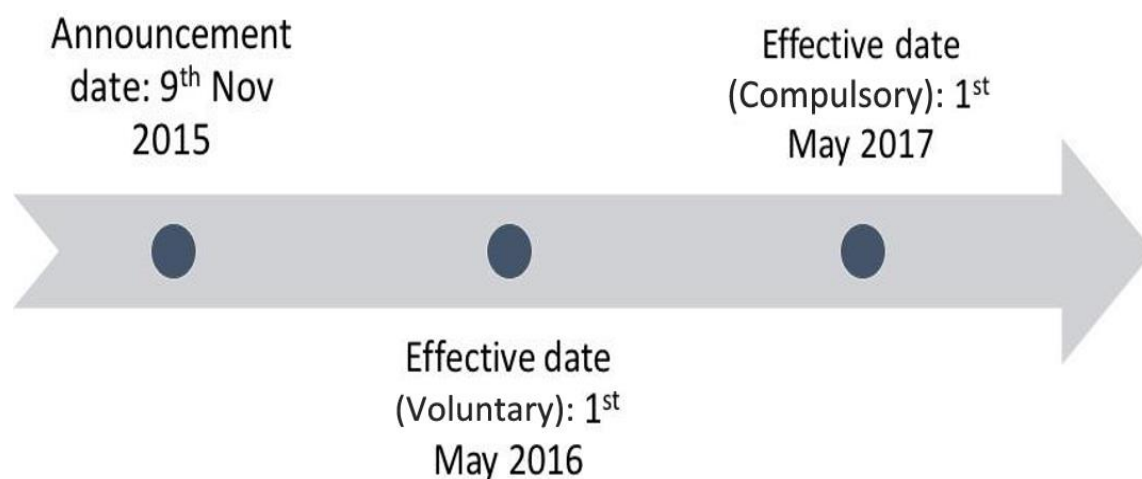
Figure 1. Events timeline.

4.3.1. The Direct Effect of the New Company Regulations

This study employs panel regression to assess the direct effect of the New Saudi Company Regulations on financial reporting quality in the Saudi stock market from 2015 to 2017. The study focuses on two significant events, namely the voluntary year of NCR implementation (2016) and the compulsory year (2017). To measure the direct effect of the NCR, two different analyses are conducted using two model specifications. These models capture the

changes between the base year and the voluntary year, the base year and the compulsory year, and the voluntary year and the compulsory year. The two model specifications are:

$$ABS(DA)_{it} = \beta_0 + \beta_1 ACIND_{it} + \beta_2 ACSIZE_{it} + \beta_3 ACMEETING_{it} + \beta_4 ACEXP_{it} + \beta_5 ACLEGEXP_{it} + \beta_6 AC\_Chair_{it} + \beta_7 AUDITFEE_{it} + \beta_8 Big\_4_{it} + \beta_9 AUDITREPORT_{it} + \beta_{10} BODIND_{it} + \beta_{11} BODSIZE_{it} + \beta_{12} BODMEET_{it} + \beta_{13} OWNERSHIP_{it} + \beta_{14} LEVERAGE_{it} + \beta_{15} ROA_{it} + \beta_{16} LOSS_{it} + \beta_{17} SIZE_{it} + \beta_{18} INDUSTRY_{it} + \beta_{19} T2015vs2016 + \beta_{20} T2015vs2017 + \varepsilon_{it} * \quad (1)$$

$$ABS(DA)_{it} = \beta_0 + \beta_1 ACIND_{it} + \beta_2 ACSIZE_{it} + \beta_3 ACMEETING_{it} + \beta_4 ACEXP_{it} + \beta_5 ACLEGEXP_{it} + \beta_6 AC\_Chair_{it} + \beta_7 AUDITFEE_{it} + \beta_8 Big\_4_{it} + \beta_9 AUDITREPORT_{it} + \beta_{10} BODIND_{it} + \beta_{11} BODSIZE_{it} + \beta_{12} BODMEET_{it} + \beta_{13} OWNERSHIP_{it} + \beta_{14} LEVERAGE_{it} + \beta_{15} ROA_{it} + \beta_{16} LOSS_{it} + \beta_{17} SIZE_{it} + \beta_{18} INDUSTRY_{it} + \beta_{19} T2016vs2015 + \beta_{20} T2016vs2017 + \varepsilon_{it} * \quad (2)$$

* The parameters of Equations 1 and 2 are estimated over a relatively short period, and therefore, the stability of these parameters in future years is uncertain.

4.3.2. The Indirect Effect of the New Company Regulations

To measure the indirect effect of the New Saudi Company Regulations (NCR) on financial reporting quality (FRQ), this study employs a combination of univariate, non-parametric, and multivariate analyses. The focus is on factors influencing audit quality and board of director characteristics.

The analysis of the indirect effect is conducted in two steps. In the first step, various analyses using two model specifications are performed to individually test each variable identified as relevant to FRQ (such as characteristics of the board of directors or factors influencing audit quality).

The aim is to determine whether these characteristics significantly changed after the introduction of the NCR. The two model specifications are:

$$Y_{it} = \beta_0 + \beta_1 T2015vs2016 + \beta_2 T2015vs2017 + \varepsilon_{it} \quad (3)$$

Where:

Y_{it} = characteristics of board of directors or factors that influence audit quality for firm i in year t.

$$Y_{it} = \beta_0 + \beta_1 T2016vs2015 + \beta_2 T2016vs2017 + \varepsilon_{it} \quad (4)$$

Where:

Y_{it} = characteristics of board of directors or factors that influence audit quality for firm i in year t.

The second step is to examine if those variables related to FRQ actually affected FRQ in Saudi Arabia over the relevant period, and this step will depend on multivariate results to assess the direct effect of the NCR on FRQ (Equations 1 and 2).

4.4. Measurements of the Variables

Table 2 provides an overview of the measurement of the explanatory variables used in the study. It presents the variables related to board characteristics, audit quality, and other factors that can potentially influence financial report quality.

Table 2. Measurements of explanatory variables.

Variable type	Variable name	Acronym	Measurement
Dependent variable	Financial reporting quality	ABS(DA)	The quality of financial reports measured through the absolute value of discretionary accruals relative to the asset size ($\|DA_{it}/A_{it-1}\|$) of each company
Independent variables	Audit committee independence	ACIND	Ratio of independent directors to total number of audit committee members
	Audit committee size	ACSIZE	The total count of audit committee members
	Audit committee meetings	ACMEETING	The total count of audit committee meetings
	Audit committee financial expertise	ACEXP	Ratio of auditors with expertise in accounting or finance to the total number of audit committee members**
	Audit committee legal expertise	ACLEGEXP	The proportion of auditors with legal expertise to the total number of audit committee members**
	Chairperson of the audit committee	AC_chair	The independence of the audit committee chair (1 = independent and 0 = other)
	Audit fees	AUDITFEE	The natural logarithm of the total amount paid for audits and professional fees*
	Audit firm size	*Big_4*	The audit firm is one of the big four or not (1 = big four and 0 = other)
	Audit report	*AUDITREPORT*	Audit report opinion (1 = unqualified and 0 = other)
	Year for model 1	T2016vs2015, T2016vs2017	Institutional impact of NCR using 2016 as the base year
	Year for model 2	T2015vs2016, T2015vs2017	Institutional impact of NCR using 2015 as the base year
	Board of directors' independence	BODIND	The proportion of independent directors to total BOD members
	Board of directors' size	BODSIZE	Total count of BOD members
	Board meeting frequency	BODMEET	Total count of BOD meetings
Control variables	Financial leverage ratio	LEVERAGE	Percentage of total debt to total equity ratio
	Return on assets	ROA	The percentage of a firm's profit to total assets (Its overall resources)
	Firm size	SIZE	The size of the firm measured from the natural log of total assets*
	Government ownership	OWNERSHIP	Proportion of shares owned by the government to the total of ordinary shares
	Loss	LOSS	Dummy variable (1 = net income is negative and 0 = other)
	Industry	INDUSTRY	Dummy variables for each industry versus the base industry

Note: * The log is used due to the non-linear relationship commonly used in the literature.
** These variables are be excluded if the data is not available.

5. FINDINGS

5.1. Descriptive Statistics by Year

The study covers a sample period marked by significant events, where 2015 represents the pre-NCR period, 2016 signifies the voluntary and non-mandatory adoption of the NCR, and 2017 reflects the compulsory application of the NCR. To evaluate the influence of the NCR on variables related to FRQ in Saudi listed companies, descriptive statistics for all variables in each year are used (see Table 3).

Table 3. Annual descriptive statistics.

Variable	2015				2016				2017			
	Mean	Median	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median	Max.	Min.
ABS(DA)—The M. Jones model	1.08	0.13	20.77	0.00	0.68	0.12	14.63	0.00	0.89	0.13	21.03	0.00
AC_chair	0.72	1.00	1.00	0.00	0.73	1.00	1.00	0.00	0.70	1.00	1.00	0.00
ACIND	76.83	75.00	100.00	25.00	75.61	75.00	100.00	0.00	74.19	66.67	100.00	33.33
ACSIZE	3.43	3.00	5.00	3.00	3.47	3.00	5.00	2.00	3.53	3.00	5.00	3.00
ACMEETING	5.63	5.00	13.00	3.00	6.03	6.00	12.00	2.00	6.48	6.00	17.00	4.00
BIG_4	0.50	0.50	1.00	0.00	0.40	0.00	1.00	0.00	0.33	0.00	1.00	0.00
AUDITREPORT	0.93	1.00	1.00	0.00	0.95	1.00	1.00	0.00	0.97	1.00	1.00	0.00
BODIND	55.04	55.56	100.00	28.57	54.04	55.56	88.89	33.33	51.13	45.45	90.00	33.33
BODSIZE	8.37	9.00	11.00	5.00	8.37	9.00	11.00	5.00	8.32	9.00	11.00	5.00
BODMEET	5.55	5.00	14.00	2.00	5.47	5.00	15.00	2.00	5.52	5.00	13.00	2.00
OWNERSHIP	0.05	0.00	1.00	0.00	0.05	0.00	1.00	0.00	0.05	0.00	1.00	0.00
LEVERAGE	50.74	30.45	330.47	0.00	51.92	27.79	371.07	0.00	48.14	23.01	338.06	0.00
ROA	7.34	5.35	34.8	−13.03	4.17	4.45	29.24	−39.78	0.18	2.9	31.52	−164.07
SIZE	6.26	6.25	8.45	4.90	6.25	6.17	8.42	4.84	6.22	6.16	8.43	4.21
LOSS	0.15	0.00	1.00	0.00	0.23	0.00	1.00	0.00	0.27	0.00	1.00	0.00

The descriptive findings reveal significant differences in FRQ before and after the implementation of the NCR. In 2016, the average absolute value of discretionary accrual on the Saudi stock market decreased by 37.09% compared to 2015, and in 2017 it decreased by 18.18% compared to 2015. Following the NCR, there were notable changes in audit committee characteristics. The average number of audit committee meetings increased by 7.10% in 2016 and 15.10% in 2017 compared to 2015. Additionally, there was a significant change in audit firm size, as the proportion of companies contracting with Big Four audit firms decreased by 20% in 2016 and 34% in 2017 compared to 2015. Regarding board of director characteristics, the mean board of director independence decreased by 1.81% in 2016 and 7.09% in 2017 compared to 2015. While other characteristics influencing audit quality did not show significant changes in the mean, several characteristics exhibited improvements in their minimum values. For example, the minimum percentage of audit committee independence among all Saudi listed companies increased from 25% in 2015 to 33.33% in 2017. Similarly, the minimum number of audit committee meetings increased from three in 2015 to four in 2017, and the percentage of board of director independence rose from 28.57% in 2015 to 33.33% in 2017.

5.2. Statistical Results Needed to Test the Direct and Indirect Effects of New Company Regulations on Financial Reporting Quality

This study employs panel regression to evaluate the direct effect of the NCR on FRQ in the Saudi stock market from 2015 to 2017. Two different analyses are conducted using two model specifications to measure the direct effect of the NCR. These models examine the changes between the base year and the voluntary year, the base year and the compulsory year, and the voluntary year and the compulsory year. The estimates of these models differ primarily in the variables related to year comparisons. To measure the indirect effect of the NCR on FRQ, the study utilizes univariate, non-parametric, and multivariate analyses, and panel regression was used to assess the direct effect of the NCR on FRQ.

5.3. The Main Accruals Model Results

This section presents the multivariate results of Equations 1 and 2 from the main accruals model used in this study, that is, the modified Dechow et al. (1995) model. Table 4 exhibits the multivariate results of Equations 1 and 2 with discretionary accruals based on the modified Jones model.

Table 4. Parameter estimates of models 1 and 2 with discretionary accruals based on the modified Jones model.

Parameter	Expected direction	B	Std. error	Hypothesis test		Collinearity statistics
				Wald chi-square	Sig.	VIF
(Intercept)	N/A	−12.802	2.729	21.999	0.000***	N/A
2016 vs 2015	−ve	−0.621	0.341	3.313	0.034**	1.4
2017 vs 2015	−ve	−0.604	0.362	2.781	0.048**	1.576
2017 vs 2016	−ve	0.017	0.341	0.002	0.518	1.4
AC_chair	−ve	−0.107	0.420	0.065	0.399	2.026
BIG_4	−ve	−0.292	0.350	0.695	0.202	1.598
AUDITREPORT	N/A	0.303	0.689	0.193	0.660	1.261
Sector_1 vs sector_9	−ve	−0.484	1.064	0.207	0.325	2.913
Sector_2 vs sector_9	−ve	−0.768	0.851	0.813	0.184	9.449
Sector_3 vs sector_9	−ve	−0.589	0.945	0.388	0.267	5.662
Sector_4 vs sector_9	−ve	−0.383	0.949	0.163	0.343	4.392
Sector_5 vs sector_9	−ve	−0.660	0.891	0.548	0.230	7.01
Sector_6 vs sector_9	−ve	−1.233	1.122	1.209	0.136	2.194
Sector_7 vs sector_9	−ve	−2.031	1.100	3.408	0.032**	3.169
Sector_8 vs sector_9	−ve	−0.234	1.522	0.024	0.439	2.041
ACIND	−ve	−0.008	0.009	0.796	0.186	2.522
ACSIZE	−ve	0.529	0.252	4.406	0.981	1.611
ACMEETING	−ve	0.097	0.074	1.722	0.904	1.403
BODIND	−ve	0.017	0.013	1.809	0.910	2.278
BODSIZE	−ve	−0.336	0.121	7.693	0.003***	2.077
BODMEET	−ve	−0.206	0.101	4.181	0.020**	2.113
OWNERSHIP	N/A	4.407	0.812	29.438	0.000***	2.279
LEVERAGE	N/A	−0.006	0.003	3.871	0.049**	1.972
ROA	N/A	−0.035	0.012	9.136	0.003***	1.727
LOSS	N/A	0.651	0.429	2.301	0.129	1.692
SIZE	N/A	2.564	0.372	47.549	0.000***	4.572
R-square	0.559					
QICC	648.676					

Note: Dependent variable: ABS(DA).
** p-value ≤ 0.05, *** p-value ≤ 0.01.

5.4. Additional Analyses and Robustness Tests of Accruals Models

This subsection exhibits the multivariate results of the robustness tests of the accruals model. The tests show that the models are statistically significant, with a moderate explanatory power of $R^2 = 0.474$ for the first robustness

test model (the performance-controlled approach model of Kothari, Leone, and Wasley (2005)), and R² = 0.489 for the second robustness test model (the modified Kothari model).

5.5. The Performance-Controlled Approach Model of Kothari

This study employs the performance-controlled approach model (Kothari et al., 2005) as a robustness test to measure FRQ. Table 5 presents the multivariate results of Equations 1 and 2 with discretionary accruals based on the performance-controlled approach model.

Table 5. Parameter estimates of models 1 and 2 with discretionary accruals based on the performance-controlled approach model.

Parameter	Expected direction	B	Std. error	Hypothesis test		Collinearity statistics
				Wald chi-square	Sig.	VIF
(Intercept)	N/A	−15.326	7.323	4.379	0.036**	N/A
2016 VS 2015	−ve	−0.572	0.351	2.657	0.052*	1.4
2017 VS 2015	−ve	−0.628	0.345	3.304	0.035**	1.576
2017 VS 2016	−ve	−0.055	0.183	0.091	0.381	1.4
AC_chair	−ve	0.374	0.574	0.425	0.742	2.026
BIG_4	−ve	−0.017	0.388	0.002	0.483	1.598
AUDITREPORT	N/A	0.429	0.625	0.471	0.493	1.261
Sector_1 vs sector_7	−ve	−3.624	5.162	0.493	0.241	2.913
Sector_2 vs sector_7	−ve	−3.291	4.744	0.481	0.244	9.449
Sector_3 vs sector_7	−ve	−3.424	4.999	0.469	0.247	5.662
Sector_4 vs sector_7	−ve	−3.010	4.974	0.366	0.273	4.392
Sector_5 vs sector_7	−ve	−3.344	4.932	0.460	0.249	7.01
Sector_6 vs sector_7	−ve	−4.303	5.008	0.738	0.195	2.194
Sector_8 vs sector_7	−ve	−4.652	6.246	0.555	0.228	3.169
Sector_9 vs sector_7	−ve	−3.557	4.935	0.519	0.236	2.041
ACIND	−ve	−0.016	0.013	1.435	0.115	2.522
ACSIZE	−ve	1.198	0.707	2.871	0.954	1.611
ACMEETING	−ve	0.164	0.114	2.071	0.924	1.403
BODIND	−ve	0.012	0.019	0.360	0.725	2.278
BODSIZE	-ve	−0.412	0.251	2.704	0.050**	2.077
BODMEET	-ve	−0.054	0.203	0.070	0.396	2.113
OWNERSHIP	N/A	−0.305	4.311	0.005	0.944	2.279
LEVERAGE	N/A	−0.009	0.005	3.643	0.056	1.972
ROA	N/A	−0.027	0.018	2.231	0.135	1.727
LOSS	N/A	1.452	0.768	3.578	0.059	1.692
SIZE	N/A	3.025	1.017	8.847	0.003***	4.572
R-square	0.474					
QICC	1392.392					

Note: Dependent variable: ABS(DA).
   * p-value ≤ 0.10, ** p-value ≤ 0.05, *** p-value ≤ 0.01.

5.6. The Modified Kothari Model

As mentioned earlier, this study employs the modified Kothari model as a second robustness test for this study to measure FRQ. Table 6 presents the multivariate results of Equations 1 and 2 with discretionary accruals based on the modified Kothari model.

Table 6. Parameter estimates of models 1 and 2 with discretionary accruals based on the modified Kothari model.

Parameter	Expected direction	B	Std. error	Hypothesis test		Collinearity statistics
				Wald chi-square	Sig.	VIF
(Intercept)	N/A	−18.132	8.454	4.600	0.032**	N/A
2016 VS 2015	−ve	−0.675	0.363	3.454	0.032**	1.4
2017 VS 2015	−ve	−0.698	0.369	3.574	0.029**	1.576
2017 VS 2016	−ve	−0.023	0.220	0.011	0.459	1.4
AC_chair	−ve	0.347	0.610	0.323	0.714	2.026
BIG_4	−ve	−0.003	0.434	0.000	0.497	1.598
AUDITREPORT	N/A	0.377	0.730	0.267	0.605	1.261
Sector_1 vs sector_7	−ve	−2.887	5.134	0.316	0.287	2.913
Sector_2 vs sector_7	−ve	−2.408	4.715	0.261	0.305	9.449
Sector_3 vs sector_7	−ve	−2.479	4.997	0.246	0.310	5.662
Sector_4 vs sector_7	−ve	−2.186	4.944	0.196	0.329	4.392
Sector_5 vs sector_7	−ve	−2.451	4.898	0.250	0.308	7.01
Sector_6 vs sector_7	−ve	−3.153	5.009	0.396	0.265	2.194
Sector_8 vs sector_7	−ve	−3.369	6.416	0.276	0.300	3.169
Sector_9 vs sector_7	−ve	−2.710	4.792	0.320	0.286	2.041
ACIND	−ve	−0.019	0.013	1.932	0.082*	2.522
ACSIZE	−ve	1.329	0.734	3.276	0.964	1.611
ACMEETING	−ve	0.178	0.121	2.145	0.927	1.403
BODIND	−ve	0.017	0.021	0.661	0.791	2.278
BODSIZE	−ve	−0.513	0.271	3.575	0.029**	2.077
BODMEET	−ve	−0.133	0.234	0.321	0.286	2.113
OWNERSHIP	N/A	1.461	4.777	0.094	0.760	2.279
LEVERAGE	N/A	−0.010	0.005	3.327	0.068	1.972
ROA	N/A	−0.035	0.021	2.763	0.096	1.727
LOSS	N/A	1.597	0.813	3.854	0.050**	1.692
SIZE	N/A	3.464	1.186	8.533	0.003***	4.572
R-square	0.489					
QICC	1618.624					

Note: Dependent variable: ABS(DA).
* p-value ≤ 0.10, ** p-value ≤ 0.05, *** p-value ≤ 0.01.

5.7. Testing the Effect of New Company Regulations on Selected Company Characteristics

The main purpose of this study is to analyze the new regulations (2015) issued by the Ministry of Commerce and Investment of the Kingdom of Saudi Arabia. Therefore, this section utilizes the univariate and non-parametric tests (that used the Wilcoxon signed-rank test) to examine the changes of all variables that may have been affected by the NCR, according to the NCR analysis in Section 3 (i.e., independence, size, frequency of audit committee meetings, independence of the audit committee chair, audit firm size, board independence, board size, and board meeting frequency).

5.8. Audit Committee Independence

The following tables provide the univariate and non-parametric results to examine the changes in audit committee independence prior to and after the implementation of the NCR.

Table 7 exhibits the parameter estimates of the model with ACIND.

Table 7. Parameter estimates of the model with ACIND.

Parameter	B	Std. error	Hypothesis test	
			Wald χ2	Sig.
2016 vs 2015	−1.222	2.045	0.357	0.550
2017 vs 2015	−2.639	2.216	1.418	0.234
2017 vs 2016	−1.417	2.416	0.344	0.558

Note: Dependent: ACIND.
* p-value ≤ 0.10, ** p-value ≤ 0.05, *** p-value ≤ 0.01.

Table 8 exhibits the non-parametric test results of the model with ACIND.

Table 8. Non-parametric test of the model with ACIND.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	9.740	−0.051	0.959
2017 vs 2015	28.695	−1.167	0.243
2017 vs 2016	24.789	−0.706	0.480

Note: Dependent: ACIND.

5.9. Audit Committee Size

The following tables provide the univariate and non-parametric results to examine the changes in audit committee size prior to and after the implementation of the NCR.

Table 9 exhibits the parameter estimates of the model with ACSIZE.

Table 9. Parameter estimates of the model with ACSIZE.

Parameter	B	Std. error	Hypothesis test	
			Wald χ2	Sig.
2016 vs 2015	0.033	0.040	0.674	0.412
2017 vs 2015	0.100	0.065	2.338	0.126
2017 vs 2016	0.067	0.062	1.165	0.280

Note: Dependent: ACSIZE.

Table 10 exhibits the non-parametric test results of the model with ACSIZE.

Table 10. Non-parametric test of the model with ACSIZE.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	4.287	−0.816	0.414
2017 vs 2015	13.000	1.500	0.134
2017 vs 2016	10.290	−1.069	0.285

Note: Dependent: ACSIZE.

5.10. Frequency of Audit Committee Meetings

The following tables provide the univariate and non-parametric results to examine the changes in frequency of audit committee meetings prior to and after the implementation of the NCR.

Table 11 exhibits the parameter estimates of the model with ACMEETING.

Table 11. Parameter estimates of the model with ACMEETING.

Parameter	B	Std. error	Hypothesis test	
			Wald χ2	Sig.
2016 vs 2015	0.400	0.234	2.933	0.087*
2017 vs 2015	0.850	0.348	5.970	0.015**
2017 vs 2016	0.450	0.263	2.929	0.087*

Note: Dependent: ACMEETING.
* p ≤ 0.10 ** p ≤ 0.05.

Table 12 exhibits the non-parametric test results of the model with ACMEETING.

Table 12. Non-parametric test of the model with ACMEETING.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	73.053	1.909	0.056*
2017 vs 2015	68.513	2.343	0.019**
2017 vs 2016	62.704	1.276	0.202

Note: Dependent: ACMEETING.
* p ≤ 0.10 ** p ≤ 0.05.

5.11. Audit Committee Chair Independence

The following tables provide the univariate and non-parametric results to examine the changes in audit committee chair independence prior to and after the implementation of the NCR.

Table 13 exhibits the parameter estimates of the model with AC_chair.

Table 13. Parameter estimates of the model with AC_chair.

Parameter	B	Std. error	Hypothesis test	
			Wald χ2	Sig.
2016 vs 2015	0.017	0.029	0.335	0.563
2017 vs 2015	−0.017	0.050	0.111	0.739
2017 vs 2016	−0.033	0.047	0.504	0.478

Note: Dependent: AC_chair.

Table 14 exhibits the non-parametric test results of the model with AC_chair.

Table 14. Non-parametric test of the model with AC_chair.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	1.732	−0.577	0.564
2017 vs 2015	7.500	−0.333	0.739
2017 vs 2016	6.364	0.707	0.480

Note: Dependent: AC_chair.

5.12. Audit Firm Size

The following tables provide the univariate and non-parametric results to examine the changes in audit firm size prior to and after the implementation of the NCR.

Table 15 exhibits the parameter estimates of the model with BIG_4.

Table 15. Parameter estimates of the model with BIG_4.

Parameter	B	Std. error	Hypothesis test	
			Wald χ^2	Sig.
2016 vs 2015	−0.100	0.039	6.667	0.009***
2017 vs 2015	−0.167	0.048	12.000	0.001***
2017 vs 2016	−0.067	0.032	4.286	0.038**

Note: Dependent: BIG_4.
** $p \leq 0.05$ *** $p \leq 0.01$.

Table 16 exhibits the non-parametric test results of the model with BIG_4.

Table 16. Non-parametric test of the model with BIG_4.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	4.287	2.449	0.014**
2017 vs 2015	8.696	−3.162	0.001***
2017 vs 2016	2.500	2.000	0.045**

Note: Dependent: BIG_4.
** $p \leq 0.05$ *** $p \leq 0.01$.

5.13. Board Independence

The following tables provide the univariate and non-parametric results to examine the changes in board independence prior to and after the implementation of the NCR.

Table 17 exhibits the parameter estimates of the model with BODIND.

Table 17. Parameter estimates of the model with BODIND.

Parameter	B	Std. error	Hypothesis test	
			Wald χ^2	Sig.
2016 vs 2015	−0.995	1.553	0.411	0.522
2017 vs 2015	−3.904	1.709	5.218	0.022**
2017 vs 2016	−2.908	1.269	5.254	0.022**

Note: Dependent: BODIND.
** $p \leq 0.05$.

Table 18 exhibits the non-parametric test results of the model with BODIND.

Table 18. Non-parametric test of the model with BODIND.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	26.772	−0.112	0.911
2017 vs 2015	51.010	−2.147	0.032**
2017 vs 2016	39.353	−2.084	0.037**

Note: Dependent: BODIND.
** $p \leq 0.05$.

5.14. Board Size

The following tables provide the univariate and non-parametric results to examine the changes in board size prior to and after the implementation of the NCR.

Table 19 exhibits the parameter estimates of the model with BODSIZE.

Table 19. Parameter estimates of the model with *BODSIZE*.

Parameter	B	Std. error	Hypothesis test	
			Wald χ²	Sig.
2016 vs 2015				1.00
2017 vs 2015	−0.050	0.121	0.170	0.680
2017 vs 2016	−0.050	0.080	0.394	0.530

Note: Dependent: BODSIZE.

Table 20 exhibits the non-parametric test results of the model with BODSIZE.

Table 20. Non-parametric test of the model with *BODSIZE*.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	9.520	−0.158	0.875
2017 vs 2015	20.230	−0.025	0.980
2017 vs 2016	11.911	−0.504	0.614

Note: Dependent: BODSIZE.

5.15. Board Meeting Frequency

The following tables provide the univariate and non-parametric results to examine the changes in board meeting frequency prior to and after the implementation of the NCR.

Table 21 exhibits the parameter estimates of the model with BODMEET.

Table 21. Parameter estimates of the model with BODMEET.

Parameter	B	Std. error	Hypothesis test	
			Wald χ2	Sig.
2016 vs 2015	−0.083	0.218	0.147	0.702
2017 vs 2015	−0.033	0.275	0.015	0.903
2017 vs 2016	0.050	0.247	0.041	0.839

Note: Dependent: BODMEET.

Table 22 exhibits the non-parametric test results of the model with BODMEET.

Table 22. Non-parametric test of the model with BODMEET.

Parameter	Std. error	Standardized test statistic	Sig.
2016 vs 2015	67.395	0.015	0.988
2017 vs 2015	67.038	−0.552	0.581
2017 vs 2016	4.803	0.147	0.883

Note: Dependent: BODMEET.

6. DISCUSSION

As mentioned earlier, there are two different pathways (direct and indirect) that are considered to examine whether FRQ has been affected by the introduction of the NCR. Table 23 show a summary of all hypotheses and findings for this study.

Table 23. Summary of all hypotheses (H) and findings of this study.

Explanatory variables	Research sub-Q of RQ1	H	Sub H	Sub H status	H status	Answer the research. sub-Q	Answer RQ 1
Direct path							
Financial reporting quality	$Q_{1.1}$	H_1	H_{1a}	Accepted	Accepted	Yes	
			H_{1b}	Accepted			
			H_{1c}	Rejected			
Indirect path							
Audit committee independence	$Q_{1.2}$	H_2	H_{2a}	Rejected	Rejected	No	
			H_{2b}	Rejected			
Audit committee size	$Q_{1.3}$	H_3	H_{3a}	Rejected	Rejected	No	
			H_{3b}	Rejected			
Frequency of audit committee meetings	$Q_{1.4}$	H_4	H_{4a}	Accepted	Rejected	No	Yes
			H_{4b}	Rejected			
Audit committee chairperson independence	$Q_{1.5}$	H_5	H_{5a}	Rejected	Rejected	No	
			H_{5b}	Rejected			
Audit firm size	$Q_{1.6}$	H_6	H_{6a}	Accepted	Rejected	No	
			H_{6b}	Rejected			
Board independence	$Q_{1.7}$	H_7	H_{7a}	Accepted	Rejected	No	
			H_{7b}	Rejected			
Board size	$Q_{1.8}$	H_8	H_{8a}	Rejected	Rejected	No	
			H_{8b}	Accepted			
Board meeting frequency	$Q_{1.9}$	H_9	H_{9a}	Rejected	Rejected	No	
			H_{9b}	Accepted			

Note: a, b, and c refer to the sub-hypotheses.

This study examines the impact of the NCR on FRQ in the Saudi Arabian context. Among the research sub-questions, sub-question Q1.1 is answered affirmatively, indicating that efforts are being made to improve FRQ through means other than changes in board of directors' characteristics or factors influencing audit quality during the period from 2015 to 2017 (see Table 23).

Certain characteristics of the board of directors and factors influencing audit quality exhibit a significant relationship with FRQ in Saudi Arabia during the aforementioned period (represented by H2b to H9b). However, the changes in these characteristics, such as board size (BODSIZE) and board meetings (BODMEET), are not statistically significant over the same period (represented by H1a to H8a). This lack of significant change can be attributed to several reasons.

Firstly, Saudi companies may require more time to effectively comply with the NCR. For example, the average percentage of audit committee chairs (AC_chair) on the Saudi stock market remained relatively constant from 2015 to 2017, indicating that companies were not fully complying with Article 54 of the NCR. This suggests that more time is needed for companies to fully adhere to the regulations. Additionally, the implementation of regulations related to the contractual relationship between Saudi companies and audit firms may also require more time to reach full compliance.

Furthermore, the findings indicate that the NCR alone may not have a significant impact on certain variables. For instance, although there is a positive relationship between board meetings (BODMEET) and FRQ in the Saudi context, the NCR did not lead to an increase in the minimum number of board meetings. Similarly, the NCR did not have a significant effect on the use of the Big Four audit firms in terms of FRQ during the study period.

Another explanation for the limited impact of the NCR on board characteristics and factors influencing audit quality is that the regulations codified existing practices. The maximum and minimum number of audit committee members (ACSIZE) and board size (BODSIZE) remained consistent before and after the NCR implementation, aligning with the regulations' requirements. This suggests that the NCR formalized existing practices rather than introducing significant changes.

Non-compliance with the NCR regulations by some Saudi companies can also explain the limited impact on board characteristics and factors influencing audit quality. For example, a considerable percentage of companies did not appoint an independent director as the chair of their audit committees despite the NCR's requirement for independence.

Lastly, some NCR regulations may need further improvement. For instance, the requirement of at least one independent director on audit committees falls short compared to regulations in other countries, such as the US Securities and Exchange Commission's requirement of at least three independent directors.

Adopting a multi-theoretical perspective that combines agency theory, institutional theory, and codification theory provides a comprehensive understanding of the direct and indirect effects of the NCR on FRQ in the Saudi context. While agency theory explains the role of corporate governance mechanisms in improving FRQ, institutional theory highlights the influence of institutional pressures on organizational practices. The codification theory suggests that some NCR regulations codify existing practices. These findings contribute to a deeper understanding of the impact of the NCR on FRQ in Saudi Arabia.

7. CONCLUSION

The findings of this paper provide strong evidence of a significant direct effect on financial report quality (FRQ) in Saudi Arabia following the implementation of the New Saudi Company Regulations (NCR). These results highlight the institutional pressure exerted by the Ministry of Commerce and Investment in the Kingdom of Saudi Arabia to enhance FRQ in Saudi companies, aligning with the objectives of Vision 2030 to improve the investment environment. Importantly, the study reveals that the improvement in FRQ is not solely attributed to changes in board of directors'

characteristics or other factors influencing audit quality. It surpasses the effects of all other variables considered in the model.

Regarding the indirect pathway, the study concludes that the NCR have not had a significant impact on FRQ through changes in board of directors' characteristics or other factors influencing audit quality. This suggests that the observed improvement in FRQ is primarily driven by other mechanisms and is not specifically linked to these variables.

The improvement in FRQ in Saudi Arabia can be understood through the lens of institutional theory, which emphasizes the coercive institutional pressures imposed by the Saudi government to enforce specific practices. The NCR and Saudi Vision 2030 exert institutional pressures aimed at elevating the quality of financial reporting in Saudi listed companies. This institutional framework has played a crucial role in driving the observed improvements in FRQ.

Overall, the findings of this study shed light on the effectiveness of the NCR in enhancing FRQ in Saudi Arabia and underscore the importance of institutional pressures in driving these improvements. These insights contribute to the understanding of corporate governance and financial reporting practices in the Saudi context, providing valuable implications for policymakers and researchers.

8. RESEARCH IMPLICATIONS AND CONTRIBUTIONS

8.1. Research Contributions

This study contributes to the understanding of corporate governance in the Saudi context by reviewing the relevance of various theories used in prior research (Al-Matari et al., 2012; Al-Thuneibat, Al-Angari, & Al-Saad, 2016; Alshetwi, 2016; Alzharani & Aljaaidi, 2015; Habbash & Alghamdi, 2017). It is the first study to examine the relationship between variables commonly used in the literature to influence audit quality and their association with FRQ and board of director characteristics in the context of the New Saudi Company Regulations. By evaluating the recent changes in the NCR and assessing their alignment with prior studies, the study provides insights into whether Saudi regulators have made effective changes to improve FRQ through key characteristics. The study also employs multiple theoretical perspectives, including agency theory, institutional theory, and codification theory, to justify the findings regarding the impact of the NCR on FRQ. Therefore, this comprehensive use of a multi-theoretical perspective to examine the effect of the NCR on FRQ in Saudi Arabia contributes to the understanding of corporate governance in the Saudi context among policymakers and interested researchers.

8.2. Research Implications

The findings of this study have significant implications for the growth of the Saudi economy and the financial reporting performance of Saudi companies. They provide valuable feedback for policymakers, offering a comprehensive assessment of whether the New Saudi Company Regulations have achieved their intended purpose. The results also show the absence of an indirect effect on FRQ through changes in board of directors' characteristics or factors influencing audit quality resulting from the NCR's introduction. Section 6 of the study provides multiple reasons for Saudi regulators to evaluate the current situation following the implementation of the NCR.

Regarding the direct effects of the NCR on FRQ, the findings suggest that the Saudi government is on the right track to enhance the investment environment and achieve the strategic goals of Vision 2030 by improving FRQ in Saudi companies. The study emphasizes the importance of the Saudi government's continued efforts to realize these goals.

In terms of the indirect effects of the NCR on FRQ, the study identifies specific aspects of corporate regulations that Saudi regulators should focus on for potential future changes. The findings highlight a significant positive relationship between certain board of directors' characteristics, such as board size (BODSIZE) and number of board

meetings (BODMEET), and FRQ in Saudi Arabia between 2015 and 2017. This suggests that regulators should consider enhancing the existing requirements for these characteristics to further improve FRQ in Saudi companies.

For stakeholders of Saudi companies, this study contributes to the understanding of audit committees, the role of boards of directors and their impact on FRQ. The findings provide valuable insights for shareholders, investors, and financial analysts, helping them better comprehend the factors influencing FRQ in Saudi listed companies. Additionally, the study reveals a continual improvement in FRQ in Saudi Arabia throughout the period from 2015 to 2017.

9. LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

This study employed panel regression to examine the direct and indirect effects of the NCR on FRQ in the Saudi stock market from 2015 to 2017. However, there are some limitations that can be addressed in future research. One limitation is that the study only measured the effect of the NCR up to two years after its introduction, which may not capture the full impact of the regulations. Future studies could consider comparing the period before the implementation of the NCR with a later period, such as 2022, to allow for changes in factors influencing audit quality and board of director characteristics to emerge.

Another limitation is the relatively short history of the Saudi capital market, resulting in limited data availability. The study used 10 years of historical data (covering 11 financial years) for each company before computing discretionary accruals during the main period (2015–2017). Additionally, certain variables, such as audit committee expertise and legal expertise, were not disclosed in the annual reports of Saudi listed companies, particularly in the earlier years. However, disclosure practices improved in 2017, with more companies providing information on the qualifications and expertise of directors. Similarly, the disclosure of audit fees varied among companies. These limitations led to the exclusion of certain variables from the analysis. Future studies could explore the relationship between these variables and FRQ, especially considering the enhanced transparency, accountability, and sustainability practices in the Saudi business environment.

The significant changes brought about by Saudi Vision 2030 have created an environment ripe for research contributions. Future studies could investigate other factors and variables impacted by the NCR, such as capital formation, director remuneration, general assemblies, and board authorities. This study enhances our understanding of the institutional context of corporate governance and FRQ in Saudi Arabia as an emerging economy. Continued research will be valuable in tracking the evolution of the Saudi corporate governance landscape and its impact on FRQ.

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