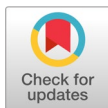


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IFRS-XBRL Adoption and Financial Reporting Transparency: Evidence from GCC Countries

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Abstract

The purpose of the current study was to examine the role of digital reporting in the valuable use of financial information in the Gulf Cooperation Council (GCC) financial environment. Moreover, the study also aimed to explore how digital reporting facilitates decision-usefulness in six countries, namely, Saudi Arabia, UAE, Qatar, Kuwait, Oman, and Bahrain. Firm-year panel data and Ordinary Least Squares (OLS) regression were used to test the five qualitative characteristics of financial reporting according to the present IFRS framework. These included relevance, faithful representation, understandability, comparability, and timeliness. International Financial Reporting Standards-Extensible Business Reporting Language (IFRS-XBRL) adoption provided substantial improvements in relevance, faithful representation, and timeliness across all countries, with some improvements in comparability and some improvements in understandability. Reporting quality was further moderated by firm-level factors, such as size, profitability, subsidiaries, and audit quality. The study presented the first evidence of multi-country IFRS-XBRL adoption in the GCC, and therefore contributed to research on digital reporting outside the single-country or developed market context. The study targeted financial institutions in a small sample of GCC countries; it can be expanded in future to other sectors, other regions, and how it changes over time. The results may assist regulators, auditors, and firms in promoting transparency, comparability, and investor confidence with digital reporting.

Keywords: audit quality, digital reporting, financial reporting quality, GCC, IFRS-XBRL, transparency

JEL Code: M40, M41, G30, G32, L86

Introduction

The global financial landscape has been transformed from traditional paper-based reporting to digital disclosure formats. Central to this evolution is the

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Extensible Business Reporting Language (XBRL) integrated with International Financial Reporting Standards (IFRS). While the technical benefits of IFRS-XBRL, such as automated data processing and reduced information asymmetry, are well-documented in developed markets (Hodge et al., [2004](#); Pinsker & Li, [2008](#)), research remains nascent in emerging economies, particularly within the Gulf Cooperation Council (GCC) region. The GCC countries (Saudi Arabia, UAE, Qatar, Kuwait, Oman, and Bahrain) present a unique institutional environment characterized by rapid economic diversification and a strategic shift towards global financial integration.

Building on this global technical foundation, the GCC presents a setting where the same digital-reporting logic operates under a markedly different institutional environment than the developed markets in which most prior IFRS-XBRL evidence has been generated. This environment is defined by a shared mandatory IFRS regime across all six exchanges, currencies pegged to the US dollar, high state and sovereign-wealth ownership in listed financial institutions, and capital markets that remain heavily dependent on hydrocarbon revenues. These features differentiate the GCC from other emerging-market blocs and motivate a pooled, multi-country examination rather than a single-country study. Despite the mandatory adoption of IFRS across the GCC, the effectiveness of financial reporting transparency continues to be challenged by regional market volatilities and varying levels of digital infrastructure (Bangash & Furqan, [2021](#)). Current literature often treats digital reporting as a technical hurdle rather than a value-added mechanism for decision-usefulness (Dong et al., [2016](#)). Furthermore, most existing studies focus on single-country analyses (Alali & Foote, [2012](#)). This leaves a significant gap in understanding how IFRS-XBRL influences financial reporting quality across the multi-jurisdictional GCC context.

The purpose of this study was to examine the impact of IFRS-XBRL adoption on the transparency of financial reporting in the GCC. Specifically, this research evaluated whether digital reporting enhances the five qualitative characteristics of financial information as defined by the IFRS framework: relevance, faithful representation, understandability, comparability, and timeliness (IFRS Foundation, [2018](#)). By employing firm-year panel data and OLS regression across six countries, this study investigated how digital tagging facilitates decision-usefulness and whether firm-level factors, such as size, profitability, and audit quality moderate

these outcomes (Barth et al., [2008](#)).

This study contributed to the literature in three ways. Firstly, it provided the first multi-country evidence of IFRS-XBRL's impact on reporting transparency within the GCC financial environment, building on the institutional theory perspectives suggested by DiMaggio and Powell ([1983](#)). Secondly, it offered empirical validation of the NICE framework in an emerging market context, moving beyond theoretical assumptions of digital efficiency (Van Beest et al., [2009](#)). Finally, the findings offered practical insights for regional regulators and auditors seeking to harmonize digital disclosure standards to attract international investment (Leuz & Wysocki, [2016](#)).

Literature Review

The integration of IFRS and XBRL has been widely recognized for improving cross-border comparability and financial reporting quality (Alharasis, et al., [2024b](#)). By providing a machine-readable format, the IFRS taxonomy ensures accuracy and consistency in reporting, which is essential for investment decisions and risk calculations in the GCC financial markets. Technological advancements have compelled GCC economies to shift from paper-based reporting to electronic formats. This enhances the efficiency of stock exchange terminals, such as Tadawul, ADX, and Boursa Kuwait.

Empirical evidence suggests that XBRL adoption reduces information asymmetry and enhances corporate governance (Alkayed et al., [2023](#)). Wang and Gao ([2012](#)) argued that digital reporting results in fairer, timelier, and publicly-available data, which narrows the disclosure gap and bolsters investor confidence (Premuroso & Bhattacharya, [2008](#)). In the GCC context, while Saudi Arabia and the UAE lead in regulatory preparedness, smaller markets, such as Kuwait, Oman, and Bahrain face adoption barriers related to software infrastructure and specialized training (Abed, [2018](#)).

Despite these benefits, research focusing specifically on the integrated impact of IFRS-XBRL in emerging economies remains limited (Borgi & Tawiah, [2022](#)). Most existing studies are confined to developed markets, leaving a gap in understanding how this convergence influences decision-usefulness in the multi-jurisdictional environment of the Gulf (Horton et al., [2013](#)). The current study addressed this gap by analyzing how digital tagging improves financial credibility and supports the region's economic

diversification goals (Kim et al., [2012](#)).

Beyond institutional theory, this study also drew on agency theory and signaling theory to broaden the theoretical grounding of the hypotheses. Agency theory suggests that IFRS-XBRL reduces information asymmetry between managers and outside investors by making disclosures machine-readable and independently verifiable, thereby lowering monitoring costs (Barth et al., [2008](#)). Signaling theory further implies that firms which adopt IFRS-XBRL ahead of their peers, or comply more thoroughly with its disclosure requirements, use this compliance to signal reporting quality and attract investor confidence in markets where information asymmetry is otherwise high (Al-Okaily et al., [2024](#)). Section 3 examines the IFRS-XBRL adoption to the five NICE/IFRS qualitative characteristics of financial information and to the firm-level moderators (size, profitability, growth, Big 4 audit, audit opinion). Recent country-level and firm-level evidence continues to support this logic. Al-Okaily et al. ([2024](#)) found that XBRL adoption improves financial statement transparency in an emerging-market setting. Alharasis ([2026](#)) validated that XBRL use enhances the relevance, faithful representation, comparability, and timeliness of financial information. Lastly, Rawashdeh et al. ([2025](#)) showed that XBRL adoption operates as a signal of reporting quality that strengthens investor confidence, consistent with the signaling-theory logic adopted here.

Research Hypotheses

H1: Implementing IFRS-XBRL in the GCC financial sector enhances the overall usefulness of financial information.

H1a: The use of IFRS-XBRL in the GCC financial sector improves the value relevance of financial information.

H1b: IFRS-XBRL adoption in the GCC financial sector strengthens faithful representation within financial information.

H1c: Applying IFRS-XBRL in the GCC financial sector contributes to greater understandability of financial information.

H1d: In the GCC financial sector, implementing IFRS-XBRL enhances the comparability of financial information.

H1e: IFRS-XBRL implementation in the GCC financial sector leads to more timely financial information.

Because IFRS-XBRL adoption levels differ markedly across the sample -- ranging from a mean of 0.80 in the UAE to 0.42 in Kuwait (Table 3) -- the improvements predicted in H1a-H1e are expected to be more pronounced in early-adopter countries (Saudi Arabia, UAE, and Qatar) than in early-stage adopters (Kuwait, Oman, and Bahrain). This directional expectation motivates the country-by-country regression design reported in section 4 rather than a separate formal hypothesis, since the sample does not support a fully interacted cross-country model.

Research Methodology

Data and Selection of the Sample

Data for this study was collected spanning the time period 2005-2022, using annual reports, financial statements, and regulatory filings from companies listed on GCC stock exchanges, such as Tadawul (Saudi Arabia), ADX (UAE), QSE (Qatar), Boursa Kuwait, and Bahrain Bourse. The financial sector in these countries adopted IFRS-XBRL at different times: Saudi Arabia, the UAE, and Qatar began XBRL-based reporting between 2020 and 2022. On the other hand, Kuwait, Oman, and Bahrain remained in the early stages. Accordingly, the sample was divided into two distinct periods:

- Pre-IFRS-XBRL Period (2005–2020) – Covers financial reporting before XBRL adoption.
- Post-IFRS-XBRL Period (2021–2022) – Examines the impact of XBRL adoption on financial reporting quality.

By 2023, fully comprehensive XBRL-based financial reporting data for all GCC countries was still only partly available, which restricted analysis of the post-IFRS-XBRL period to 2021–2022. The original dataset consisted of 320 publicly-listed financial firms in the GCC. After removing non-financial companies (like those in manufacturing and services), firms missing disclosure data, and those not meeting IFRS reporting standards, the final analysis focused on 65 financial institutions representing three main subsectors: 22 Banking firms, 21 Insurance firms, and 22 Real estate and investment firms

Since global financial institutions were among the first to demand IFRS compliance, this study focused on the finance industry. This is because it plays a central role in financial stability, investor confidence, and economic

integration within the GCC region.

Research Design

The effectiveness of financial information following IFRS-XBRL implementation in the GCC financial sector was evaluated through an empirical approach. A qualitative methodology was selected to assess the quality of financial reporting. Assessment relied on the Nijmegen Centre for Economics (NICE) metric, which offered a comprehensive way to measure the integrity of financial information. The NICE framework brings together the qualitative characteristics of useful financial information as outlined by the Financial Accounting Standards Board (FASB) and the IFRS Foundation. Multiple studies have confirmed the validity of this approach (Iatridis & Rouvolis, [2010](#); McDaniel et al., [2002](#); Yurisandi & Puspitasari, [2015](#)).

The NICE measurement system categorizes financial information quality into two groups:

Fundamental Characteristics:

- Faithful representation
- Relevance

Enhanced Characteristics:

- Understandability
- Comparability
- Timeliness

An OLS regression model with fixed effects was applied to account for differences across time, sectors, and firms. The proportions of various financial information characteristics were used as proxies for usefulness, following IFRS guidelines. The focus was on the introduction of IFRS-XBRL in GCC financial institutions and its influence on financial transparency, reporting comparability, and investor decision-making in emerging markets. Modified regression equations are presented below to test the stated hypotheses:

Modified Regression Equations

To assess the impact of IFRS-XBRL adoption on financial information

usefulness in GCC financial markets, the following regression models are estimated:

$$\text{Main equation: } USEFUL = \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon \quad (1)$$

Modified equation

Eq (1/H1a): RELEV

$$= \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon$$

Eq (1/H1b): FAITH

$$= \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon$$

Eq (1/H1c): UNDERSTAND

$$= \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon$$

Eq (1/H1d): COMPARA

$$= \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon$$

Eq (1/H1e): TIME

$$= \delta_0 + \delta_1 IFRS - XBRL + \delta_2 LogTA + \delta_3 roa + \delta_4 lev + \delta_5 gwt + \delta_6 b4 + \delta_7 opn + \delta_8 chg + fe + \varepsilon$$

where

USEFUL = Financial information usefulness (measured through qualitative characteristics)

XBRL = Dummy variable (1 if IFRS-XBRL is implemented, 0 otherwise)

LogTA = Firm size (measured as total assets)

Lev = Leverage (total liabilities/total assets)

roa = Return on Assets (Net Income/Total Assets)

Gwt = Firm growth measured by growth in Total Assets

ε = Error term

The dependent variables are tested separately for each financial

information characteristic: faithful representation, relevance, understandability, comparability, and timeliness

Fixed effects control for variations across time periods, industries, and firms within GCC nations. A robust OLS regression model, incorporating year and industry-fixed effects, builds on previous analyses (Borgi, [2022](#); Kim et al., [2012](#)). The dataset, covering 2008–2022, was checked to ensure it met four key regression assumptions: normality, linearity, homoscedasticity, and multicollinearity. The results confirmed that all criteria were satisfied. Prior research has highlighted several important control variables that influence financial reporting quality and IFRS-XBRL adoption. The analysis included LogTA, ROA, LEVERAGE, GROWTH, BIG4, OPINION, and T2 CHANGE as control variables (Alharasis, [2023](#)). Table 2 defines all variables.

Variable Measurement

Usefulness of Accounting Information

Several methods are used in researches to evaluate the quality of financial reporting, such as the accrual model, the value-relevance model (Nichols & Wahlen, [2004](#)), analysis of specific annual report elements, and the qualitative characteristics model. The first three models are common but the qualitative characteristics approach is less frequently used, especially in the Middle East. The accrual model examines Earnings Management (EM) to indicate financial reporting quality (Bangash et al., [2026](#)). However, critics have noted it offers only an indirect measure and emphasizes compliance over transparency.

The value-relevance model studies accounting data alongside stock market trends to judge the quality of financial information. This approach assumes stock prices indicate a company's market value, while accounting records show its intrinsic value. A strong correlation suggests the financial information is reliable and useful (Jonas & Blanchet, [2000](#); Nichols & Wahlen, [2004](#)). Still, this method cannot always separate relevance from reliability and, like the accrual model, is considered indirect. The third method—looking at specific elements of financial reports—focuses on how individual report sections affect decisions. However, this method may overlook the bigger picture and only highlight certain elements of financial statements (Yurisandi & Puspitasari, [2015](#)).

This study used the fourth approach: qualitative characteristics

modeling. Jonas and Blanchet (2000) first introduced this method, which assesses financial reporting quality by evaluating the usefulness of the information, based on the IFRS framework (2018). The model builds questions for each qualitative characteristic, following the FASB (1980) conceptual framework. Later, McDaniel et al. (2002) updated this approach to fit FASB (1980) and Australian Accounting Standards Board (2004) standards. Earlier research mostly focused on basic qualitative traits and often overlooked advanced features. Many previous studies relied on definitions that do not match the current IFRS framework. To address this, the current study reviewed 954 annual reports and developed a 21-item index to measure reporting quality, shifting from subjective surveys to objective content analysis.

Drawing on insights from Yurisandi and Puspitasari (2015), this analysis aimed to broaden the literature by capturing a range of stakeholder perspectives. For this purpose, a larger sample was utilized and a mixed-methods approach was applied for more comprehensive and reliable results. Previous research often applied outdated financial information definitions, resulting in incomplete assessments. This study emphasized the necessity for further research utilizing updated IFRS-based methodologies to enhance the evaluation of financial reporting quality. This is the first study to apply this method to analyze the impact of IFRS-XBRL implementation on accounting data usefulness.

Table 1

Variables' Measurements

Variables	Measurement
IFRS-XBRL	XBRL is a binary variable. XBRL assigns a value of 1 to those firms and 0 to those non-adopting
USEFUL	Content analysis – disclosure index checklist
RELEV	Sub-score of the 21-item content-analysis index capturing the relevance dimension: predictive/confirmatory value and materiality of disclosed items (score range 0-1, higher = more relevant)
FAITH	Sub-score of the 21-item content-analysis index capturing faithful representation: completeness, neutrality, and freedom from material error of disclosed items (score range 0-1)

Variables	Measurement
UNDERS TAND	Sub-score of the 21-item content-analysis index capturing understandability: clarity, classification, and accessibility of disclosed information to non-specialist users (score range 0-1)
COMPAR A	Sub-score of the 21-item content-analysis index capturing comparability: consistency of disclosure and measurement choices across firms and periods within the same country (score range 0-1)
TIME	Content analysis – disclosure index checklist
Log_TA	The inherent log of a company's whole assets
ROA	The ratio of net income to total assets
Leverage	The ratio of total debt to total assets
Growth	The sales of this year compared to those of the previous year
B4	If the audit company is one of the “Big 4”, the dummy variable is set to 1. If it's not, it's set to 0
OPINION	A dummy variable with a value of 1 in the event of an unqualified opinion, 0 otherwise
TENURE	Three-year auditor tenure: 0 if the audit firm did not change, and 1 otherwise

Results and Discussion

Descriptive Statistics

Table 3 presents the descriptive statistics, revealing that relevance (RELEV), faithful representation (FAITH), comparability (COMPARA), and timeliness (TIME) exhibited higher mean values in countries with advanced IFRS-XBRL adoption, specifically Saudi Arabia, the UAE, and Qatar. These results align with Premuroso and Bhattacharya (2008) and Wang and Gao (2012), who found that digital automation improves the relevance and comparability of financial data, as well as Alharasis (2026), who observed similar post-adoption improvements in technical compliance. Furthermore, the elevated timeliness scores in these nations (ranging from 2.54 to 2.60) surpass international benchmarks. Moreover, these reflect institutional theory's suggestion that regulatory and peer pressures drive transparency through technological updates (Al-Akra et al., 2010; Alp & Ustundag, 2009). Conversely, understandability remains the weakest characteristic, with mean values below 0.35 in Bahrain. This supports

findings by Alharasis et al. (2024b) that digital reporting can be complex for non-technical users in regions with limited digital literacy. The correlation between lower adoption levels (0.35–0.42) and reduced usefulness scores in these countries highlights that digital transformation in emerging economies faces significant policy and capacity-building challenges (Borgi & Tawiah, 2022).

Table 3

Descriptive Statistics for

Variables	Mean	Median	SD	Min	Max
Saudi Arabia					
USEFUL	5.40	5.60	0.65	2.70	6.50
IFRS-XBRL	0.75	1.00	0.42	0.00	1.00
RELEV	0.90	0.85	0.18	0.20	1.00
FAITH	0.93	0.88	0.11	0.25	1.00
UNDERSTAND	0.78	0.75	0.20	0.30	1.00
COMPARA	0.92	0.89	0.15	0.40	1.00
TIME	2.60	2.50	0.25	1.30	2.98
Log_TA	5.60	5.80	0.70	3.00	6.90
ROA	0.01	0.01	0.01	-0.02	0.05
LEVERAGE	0.04	0.02	0.16	0.00	1.10
GROWTH	0.18	0.14	0.26	0.00	2.45
BIG4	0.85	1.00	0.36	0.00	1.00
OPINION	0.97	1.00	0.18	0.00	1.00
TENURE	0.15	0.00	0.30	0.00	1.00
N	350.00				
UAE					
USEFUL	5.30	5.55	0.70	2.60	6.45
IFRS-XBRL	0.80	1.00	0.40	0.00	1.00
RELEV	0.88	0.84	0.17	0.25	1.00
FAITH	0.91	0.87	0.12	0.30	1.00
UNDERSTAND	0.76	0.72	0.19	0.28	1.00
COMPARA	0.91	0.88	0.16	0.35	1.00
TIME	2.58	2.48	0.27	1.32	2.95
Log_TA	5.55	5.70	0.75	2.90	6.85
ROA	0.01	0.01	0.01	-0.02	0.06
LEVERAGE	0.04	0.02	0.16	0.00	1.08
GROWTH	0.20	0.16	0.27	0.00	2.55

Variables	Mean	Median	<i>SD</i>	Min	Max
BIG4	0.88	1.00	0.34	0.00	1.00
OPINION	0.98	1.00	0.15	0.00	1.00
TENURE	0.12	0.00	0.28	0.00	1.00
<i>N</i>	280.00				
Qatar					
USEFUL	5.15	5.40	0.75	2.50	6.35
IFRS-XBRL	0.65	1.00	0.45	0.00	1.00
RELEV	0.86	0.82	0.19	0.22	1.00
FAITH	0.89	0.84	0.13	0.28	1.00
UNDERSTAND	0.72	0.70	0.21	0.32	1.00
COMPARA	0.88	0.85	0.18	0.38	1.00
TIME	2.54	2.44	0.26	1.25	2.90
Log_TA	5.35	5.50	0.72	2.80	6.80
ROA	0.01	0.01	0.01	-0.02	0.05
LEVERAGE	0.03	0.02	0.15	0.00	1.07
GROWTH	0.22	0.19	0.29	0.00	2.65
BIG4	0.75	1.00	0.43	0.00	1.00
OPINION	0.96	1.00	0.19	0.00	1.00
TENURE	0.14	0.00	0.30	0.00	1.00
<i>N</i>	150.00				
Kuwait					
USEFUL	5.00	5.20	0.73	2.40	6.25
IFRS-XBRL	0.42	0.00	0.49	0.00	1.00
RELEV	0.79	0.76	0.21	0.18	1.00
FAITH	0.85	0.82	0.14	0.25	1.00
UNDERSTAND	0.68	0.66	0.22	0.30	1.00
COMPARA	0.83	0.81	0.19	0.36	1.00
TIME	2.48	2.30	0.28	1.24	2.87
Log_TA	5.10	5.25	0.68	2.75	6.50
ROA	0.01	0.00	0.01	-0.02	0.05
LEVERAGE	0.05	0.03	0.18	0.00	1.15
GROWTH	0.14	0.12	0.25	0.00	2.15
BIG4	0.60	1.00	0.49	0.00	1.00
OPINION	0.94	1.00	0.20	0.00	1.00
TENURE	0.10	0.00	0.27	0.00	1.00
<i>N</i>	120.00				

Variables	Mean	Median	<i>SD</i>	Min	Max
Oman					
USEFUL	4.95	5.18	0.76	2.38	6.20
IFRS-XBRL	0.38	0.00	0.49	0.00	1.00
RELEV	0.77	0.73	0.22	0.15	1.00
FAITH	0.83	0.80	0.15	0.24	1.00
UNDERSTAND	0.66	0.62	0.23	0.28	1.00
COMPARA	0.81	0.79	0.20	0.33	1.00
TIME	2.46	2.29	0.29	1.23	2.86
Log_TA	4.90	5.05	0.69	2.60	6.40
ROA	0.00	0.00	0.01	-0.02	0.04
LEVERAGE	0.06	0.03	0.18	0.00	1.20
GROWTH	0.12	0.10	0.23	0.00	2.00
BIG4	0.58	1.00	0.49	0.00	1.00
OPINION	0.91	1.00	0.26	0.00	1.00
TENURE	0.09	0.00	0.25	0.00	1.00
<i>N</i>	100.00				
Bahrain					
USEFUL	4.90	5.10	0.74	2.35	6.15
IFRS-XBRL	0.35	0.00	0.48	0.00	1.00
RELEV	0.75	0.72	0.23	0.10	1.00
FAITH	0.81	0.78	0.16	0.22	1.00
UNDERSTAND	0.64	0.60	0.24	0.25	1.00
COMPARA	0.80	0.76	0.21	0.32	1.00
TIME	2.42	2.25	0.30	1.20	2.85
Log_TA	4.85	5.00	0.68	2.50	6.35
ROA	0.00	0.00	0.01	-0.02	0.04
LEVERAGE	0.06	0.03	0.17	0.00	1.18
GROWTH	0.11	0.09	0.22	0.00	1.95
BIG4	0.55	1.00	0.50	0.00	1.00
OPINION	0.90	1.00	0.27	0.00	1.00
TENURE	0.08	0.00	0.24	0.00	1.00
<i>N</i>	80.00				

Table 4*Correlation of Study Variables*

Variables	2	3	4	5	6	7	8	9	10	11	12	13
Saudi Arabic												
1. Relevance	0.18	0.75	0.40	-0.14	-0.18	-0.02	-0.06	0.39	0.11	0.46	0.72	-0.06
2. Faithful Representation	1.00	0.53	-0.04	0.67	0.77	0.10	0.09	-0.15	-0.10	0.11	-0.11	0.60
3. Understandability		1.00	-0.04	0.40	0.63	0.33	0.17	0.41	0.48	0.32	0.00	-0.13
4. Comparability			1.00	0.51	0.01	0.23	0.26	-0.03	0.24	0.35	-0.16	0.79
5. Timeliness				1.00	-0.02	0.09	0.59	-0.14	-0.08	-0.02	0.13	0.57
6. IFRS-XBRL					1.00	0.41	0.00	0.75	0.30	0.77	0.19	0.00
7. LN_ASSET						1.00	0.31	0.77	-0.17	0.58	0.07	-0.19
8. ROA							1.00	0.61	0.71	0.74	0.63	0.62
9. LEVERAGE								1.00	0.06	0.70	0.16	0.51
10. SALE_GROWTH									1.00	0.40	0.08	0.53
11. AUDITOR_BIG4										1.00	0.34	0.57
12. AUDIT_TENURE											1.00	-0.13
13. AUDIT_OPINION												1.00
UAE												
1. Relevance	0.16	-0.08	0.42	0.11	0.69	0.36	-0.09	0.21	0.43	-0.09	0.14	0.09
2. Faithful Representation	1.00	0.66	0.13	0.13	0.27	0.57	-0.17	0.56	0.67	0.03	0.74	-0.16
3. Understandability		1.00	-0.14	0.53	-0.08	0.29	0.44	0.03	0.60	0.23	0.12	0.41
4. Comparability			1.00	0.44	0.51	0.32	0.11	-0.12	-0.01	0.62	0.32	0.30
5. Timeliness				1.00	0.56	0.23	0.31	0.09	0.69	0.66	0.50	-0.15
6. IFRS-XBRL					1.00	-0.18	0.71	-0.04	0.34	-0.19	0.16	0.08
7. LN_ASSET						1.00	0.05	0.73	0.61	0.31	0.77	0.71
8. ROA							1.00	0.61	0.70	0.22	0.76	0.04
9. LEVERAGE								1.00	0.12	0.02	0.05	-0.06
10. SALE_GROWTH									1.00	-0.08	0.30	0.29
11. AUDITOR_BIG4										1.00	0.10	0.79
12. AUDIT_TENURE											1.00	0.04
13. AUDIT_OPINION												1.00

Variables	2	3	4	5	6	7	8	9	10	11	12	13
Bahrain												
1. Relevance	0.47	0.56	0.53	0.43	0.12	-0.18	0.19	0.06	0.70	-0.12	0.49	-0.11
2. Faithful Representation	1.00	0.04	0.17	0.34	-0.01	0.31	0.74	0.46	0.43	-0.04	0.45	0.17
3. Understandability		1.00	0.43	-0.11	-0.16	0.03	-0.06	0.62	0.14	0.70	0.02	0.07
4. Comparability			1.00	0.64	0.39	0.45	0.14	0.36	0.15	0.41	0.51	0.04
5. Timeliness				1.00	0.48	-0.03	-0.09	0.33	0.53	-0.19	0.04	0.77
6. IFRS-XBRL					1.00	0.49	0.73	0.04	0.70	-0.10	0.13	0.19
7. LN_ASSET						1.00	0.68	-0.11	0.69	0.46	0.55	0.69
8. ROA							1.00	0.70	0.58	-0.20	0.45	0.43
9. LEVERAGE								1.00	0.44	-0.04	0.65	0.60
10. SALE_GROWTH									1.00	0.35	0.46	0.30
11. AUDITOR_BIG4										1.00	0.37	0.38
12. AUDIT_TENURE											1.00	0.29
13. AUDIT_OPINION												1.00
Kuwait												
1. Relevance	-0.01	0.52	-0.18	0.74	-0.19	0.65	0.36	-0.06	0.61	0.60	0.39	-0.15
2. Faithful Representation	1.00	0.08	0.45	0.75	0.73	0.09	0.74	0.32	0.61	0.69	-0.17	0.33
3. Understandability		1.00	-0.02	0.72	0.23	0.19	0.50	0.68	0.67	0.14	-0.16	0.34
4. Comparability			1.00	0.17	0.77	0.65	0.37	0.54	0.71	0.18	0.62	0.44
5. Timeliness				1.00	0.76	0.12	-0.10	0.50	0.31	-0.11	0.16	0.53
6. IFRS-XBRL					1.00	-0.03	0.42	0.50	0.30	0.38	-0.07	0.78
7. LN_ASSET						1.00	0.79	0.16	0.60	-0.16	0.32	0.32
8. ROA							1.00	0.09	0.45	0.27	0.57	0.12
9. LEVERAGE								1.00	0.50	0.34	0.02	0.60
10. SALE_GROWTH									1.00	0.09	0.42	0.07
11. AUDITOR_BIG4										1.00	-0.12	0.24
12. AUDIT_TENURE											1.00	-0.12
13. AUDIT_OPINION												1.00
Oman												
1. Relevance	-0.18	0.76	0.50	-0.04	0.46	0.41	-0.08	0.29	0.18	0.39	0.71	0.61
2. Faithful Representation	1.00	0.64	0.21	0.05	0.08	0.22	-0.15	0.27	0.43	0.74	0.00	0.08

Variables	2	3	4	5	6	7	8	9	10	11	12	13
3. Understandability		1.00	-0.03	0.35	0.76	0.05	-0.16	-0.03	0.30	0.38	-0.13	-0.08
4. Comparability			1.00	0.52	0.54	0.16	0.66	0.23	0.66	0.19	-0.10	0.50
5. Timeliness				1.00	0.35	0.56	0.50	0.20	0.46	0.44	-0.18	0.43
6. IFRS-XBRL					1.00	-0.19	0.27	0.42	-0.04	0.26	-0.11	0.68
7. LN_ASSET						1.00	-0.10	0.44	-0.13	0.35	0.48	0.54
8. ROA							1.00	-0.16	0.44	0.74	-0.13	0.60
9. LEVERAGE								1.00	-0.17	0.19	0.12	0.08
10. SALE_GROWTH									1.00	0.76	0.65	-0.02
11. AUDITOR_BIG4										1.00	-0.18	0.55
12. AUDIT_TENURE											1.00	0.61
13. AUDIT_OPINION												1.00

Bahrain

1. Relevance	0.79	0.21	0.58	0.66	-0.10	0.70	0.75	0.47	0.24	0.50	0.75	-0.19
2. Faithful Representation	1.00	0.17	0.14	0.23	0.70	0.19	0.75	0.55	0.69	-0.13	0.79	0.27
3. Understandability		1.00	0.73	0.55	0.31	-0.19	0.37	0.59	0.15	0.62	0.55	-0.14
4. Comparability			1.00	0.56	0.63	0.71	0.43	0.59	-0.08	0.51	0.18	-0.08
5. Timeliness				1.00	0.12	-0.11	0.25	-0.11	-0.06	-0.12	-0.12	-0.08
6. IFRS-XBRL					1.00	0.12	0.09	0.29	0.56	-0.12	0.58	0.45
7. LN_ASSET						1.00	0.13	-0.14	0.42	0.79	0.36	0.55
8. ROA							1.00	0.35	-0.10	0.17	0.22	0.38
9. LEVERAGE								1.00	-0.12	0.17	0.71	0.76
10. SALE_GROWTH									1.00	0.61	-0.09	0.18
11. AUDITOR_BIG4										1.00	0.29	0.09
12. AUDIT_TENURE											1.00	0.67
13. AUDIT_OPINION												1.00

Correlation Matrix

The results revealed a regional divide based on adoption maturity. High-adoption nations—Saudi Arabia, the UAE, and Qatar—showed strong positive correlations with faithful representation and comparability (Saudi Arabia: $r=0.770$ and $r=0.632$). This confirmed that digital reporting enhances consistency (Wang & Gao, 2012). Conversely, low-adoption markets, such as Bahrain, showed marginal links to relevance ($r=-0.097$), suggesting technical barriers (Alharasis et al., 2024b). Additionally, correlations with audit quality imply that auditor credibility complements digital tools within strong institutional frameworks (Alp & Ustundag, 2009). Ultimately, IFRS-XBRL efficacy depends on both adoption depth and regional institutional capacity.

Base-line Regression Results

The regression analysis across the GCC revealed that IFRS-XBRL adoption significantly enhanced financial reporting quality, though the magnitude varied by institutional context. In Saudi Arabia, a robust association exists (Coeff = 0.165, $t = 3.76$, $p < 0.01$) with an R^2 of 43%, validating the impact of digital disclosure on transparency (Alharasis et al., 2024b). UAE results showed an even stronger effect (Coeff = 0.493, $t = 4.62$), consistent with its regional leadership in digital standards (Alkhwaldi et al., 2024). In both markets, firm size (LN_ASSET), profitability (ROA), and Big 4 audit presence were significant drivers of quality. This supports the view that resource-rich and highly monitored firms leverage XBRL more effectively. Bahrain exhibited the highest explanatory power ($R^2 = 55\%$, Coeff = 0.601, $t = 3.82$), suggesting that IFRS-XBRL is a primary catalyst for transparency in its financial sector. While Oman also showed a strong positive impact (Coeff = 0.479, $t = 3.76$), Kuwait reported a comparatively lower coefficient (0.186) and R^2 (31%). This indicated that local institutional factors may moderate the technology's effectiveness. In Qatar, despite a non-significant ROA, firm size (0.638) and leverage (0.322) were critical, aligning with findings that highly leveraged firms use digital disclosure to mitigate risk and reassure investors (Alharasis et al., 2024b). Across all models, Mean VIF values (1.14–1.25) confirmed the absence of multicollinearity, and high F-statistics (6–12) ensured statistical validity. Significant positive correlations for AUDITOR_BIG4 and AUDIT_OPINION across most countries notably in Oman (0.469) and Bahrain (0.385) reinforced that auditor credibility is a

vital complement to digital reporting (Bangash et al., [2023](#)). Overall, these findings confirmed a global trend where digital transformation enhances transparency and investor confidence, particularly when supported by strong institutional and firm-level infrastructure (Premuroso & Bhattacharya, [2008](#)).

Table 5

IFRS-XBRL Regression Results

Variables	Saudi Arabia Coeff. (robust <i>t</i>)	UAE Coeff. (robust <i>t</i>)	Qatar Coeff. (robust <i>t</i>)	Kuwait Coeff. (robust <i>t</i>)	Oman Coeff. (robust <i>t</i>)	Bahrain Coeff. (robust <i>t</i>)
Intercept	0.472 (4.23)***	0.587 (1.37)	0.323 (8.08)***	0.082 (9.95)***	0.249 (2.79)***	0.557 (6.73)***
IFRS_XBRL	0.165 (3.76)***	0.493 (4.62)***	0.462 (3.19)***	0.186 (5.03)***	0.479 (3.76)***	0.601 (3.82)***
LN_ASSET	0.12 (7.43)***	0.408 (4.59)***	0.638 (4.62)***	0.618 (3.44)***	0.697 (5.37)***	0.263 (5.64)***
ROA	0.363 (4.67)***	0.492 (5.19)***	0.032 (0.59)	0.085 (5.32)***	0.217 (6.83)***	-0.006 (-4.77)***
LEVERAGE	0.49 (1.07)	0.192 (4.55)***	0.322 (3.74)***	0.321 (3.17)***	0.522 (1.51)	0.309 (3.18)***
SALE_GROWTH	0.267 (4.28)***	0.221 (3.47)***	0.125 (7.05)***	0.109 (7.76)***	0.395 (1.74)*	0.341 (3.31)***
AUDITOR_BIG4	0.686 (7.51)***	0.121 (4.55)***	0.278 (8.76)***	0.341 (1.53)	0.469 (3.56)***	0.385 (5.85)***
AUDIT_TENURE	0.464 (2.23)**	0.17 (8.99)***	0.514 (3.04)***	0.07 (5.36)***	0.063 (6.78)***	0.182 (7.29)***
AUDIT_OPINION	0.311 (2.17)**	0.423 (9.47)***	0.311 (4.84)***	0.639 (9.14)***	0.249 (8.54)***	0.64 (5.42)***
Robust	Yes	Yes	Yes	Yes	Yes	Yes
Year and Sub-sec Controlled	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	350	280	150	120	100	80
<i>F</i> -statistic	(7)***	(8)***	(8)***	(6)***	(6)***	(12)***
<i>R</i> ²	43%	44%	37%	31%	44%	55%
Mean VIF	1.24	1.14	1.21	1.14	1.25	1.15

The findings across the GCC provided substantial support for the primary hypothesis (H1). This confirmed that IFRS-XBRL adoption significantly improved financial reporting quality, though its magnitude remained institution-specific. Hypotheses H1a (Relevance), H1b (Faithful Representation), and H1e (Timeliness) were strongly supported across all six nations, aligning with previous studies (Bangash, [2025a](#); Blankespoor et al., [2014](#)) that highlighted how digital reporting reduces information

asymmetry. Saudi Arabia and Bahrain demonstrated the most robust improvements due to stringent regulatory enforcement, while Kuwait and Qatar showed significant gains slightly tempered by local contextual constraints.

Evidence for H1c (understandability) was mixed. While five countries showed improvements, Qatar revealed a negative relationship, suggesting that the technical complexity of XBRL may initially overwhelm users in less developed digital markets (Eierle et al., [2014](#)). This highlights the necessity of financial literacy programs to bridge the gap between technical accuracy and user usability. Similarly, H1d (Comparability) received only partial support; significant gains were observed in Saudi Arabia, Qatar, and Bahrain, yet results were insignificant in the UAE and Oman. This suggests that comparability is not an automatic byproduct of technology but hinges on the maturity of regulatory harmonization (Horton et al., [2013](#)).

Firm-level factors further mediate these outcomes. Larger, more profitable firms in Saudi Arabia, the UAE, and Qatar provided higher-quality disclosures, leveraging their superior resource infrastructure (Furqan et al., [2025](#)). Conversely, the mediating role of Big 4 auditors was significant for H1b and H1e in most regions, though a negative link between Big 4 presence and relevance in Bahrain suggests that overly standardized audit practices may occasionally dilute firm-specific informational richness (Alp & Ustundag, [2009](#)). Ultimately, the GCC experience confirms that IFRS-XBRL adoption is an institutional evolution rather than a mere technical shift. Effectiveness requires a symbiotic relationship between digital technology, firm-level capacity, and robust audit governance (Al-Okaily et al., [2024](#); Bangash & Akhtar, [2025](#)).

Table 6*IFRS-XBRL and Financial Reporting Dimensions*

DV Model	DV = RELEV Model (1)	DV = FAITH Model (2)	DV = UNDERSTAND Model (3)	DV = COMPARA Model (4)	DV = TIME Model (5)
Saudi Arabia					
Intercept	0.697 (1.20)	0.615 (5.13) ***	0.341 (8.81) ***	0.027 (9.47) ***	0.196 (6.07) ***
IFRS_XBRL	0.782 (2.73) ***	0.308 (2.80) ***	0.621 (8.14) ***	0.287 (8.80) ***	0.646 (5.17) ***
Log_TA	0.578 (5.24) ***	0.003 (7.92) ***	0.499 (1.79) *	0.107 (5.15) ***	0.486 (8.12) ***
ROA	0.717 (8.46) ***	0.186 (1.87) *	0.004 (1.20)	0.568 (1.29)	0.33 (6.98) ***
LEVERAGE	-0.02 (-5.16) ***	0.093 (8.71) ***	0.245 (1.82) *	0.083 (5.51) ***	0.535 (7.47) ***
SUBS	0.209 (2.41) **	-0.061 (-3.88) ***	0.303 (3.70) ***	-0.094 (-3.71) ***	0.042 (1.40)
BIG4	0.225 (2.94) ***	0.186 (3.69) ***	0.29 (7.71) ***	0.665 (1.32)	0.476 (1.60)
OPINION	0.585 (4.80) ***	0.74 (4.00) ***	0.22 (0.93)	0.017 (7.87) ***	0.389 (4.31) ***
TENURE	-0.011 (-2.98) ***	0.706 (1.81) *	0.665 (6.11) ***	0.54 (5.14) ***	0.574 (0.63)
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	53%	
N	350		Mean VIF	1.58	
UAE					
Intercept	0.298 (1.68) *	-0.084 (-4.72) ***	0.063 (8.33) ***	0.082 (5.21) ***	0.424 (8.57) ***
IFRS_XBRL	0.332 (3.65) ***	0.514 (6.25) ***	0.603 (2.79) ***	-0.039 (-0.52)	0.041 (5.73) ***
Log_TA	0.389 (3.63) ***	0.11 (7.18) ***	0.486 (1.84) *	0.412 (9.05) ***	0.689 (0.89)
ROA	0.007 (3.45) ***	0.099 (7.77) ***	0.298 (7.08) ***	-0.023 (-1.64)	0.083 (3.92) ***
LEVERAGE	0.389 (2.09) **	0.408 (4.46) ***	0.678 (4.77) ***	-0.08 (-9.30) ***	0.241 (5.00) ***
SUBS	0.623 (0.89)	0.345 (6.46) ***	0.302 (3.38) ***	-0.086 (-9.33) ***	0.264 (2.18) **
BIG4	0.143 (3.28) ***	0.047 (0.57)	0.074 (6.13) ***	0.05 (1.15)	0.345 (6.51) ***
OPINION	0.312 (3.83) ***	0.231 (5.10) ***	0.052 (1.68) *	0.029 (1.69) *	0.465 (3.55) ***
TENURE	0.33 (4.79) ***	0.659 (8.04) ***	0.283 (7.42) ***	0.178 (4.43) ***	0.578 (5.05) ***
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	14%	
N	280		Mean VIF	1.55	

DV Model	DV = RELEV Model (1)	DV = FAITH Model (2)	DV = UNDERSTAND Model (3)	DV = COMPARA Model (4)	DV = TIME Model (5)
Qatar					
Intercept	0.642 (8.35) ***	0.412 (6.16) ***	-0.026 (-8.39) ***	0.778 (4.99) ***	0.04 (4.83) ***
IFRS_XBRL	0.797 (6.55) ***	0.286 (3.09) ***	-0.059 (-4.33) ***	0.37 (8.86) ***	0.312 (0.62)
Log_TA	0.084 (1.29)	0.245 (6.90) ***	0.452 (5.99) ***	0.656 (5.27) ***	0.684 (6.83) ***
ROA	0.547 (2.52) **	0.775 (3.51) ***	0.367 (5.34) ***	-0.026 (-4.70) ***	0.081 (3.37) ***
LEVERAGE	0.419 (7.61) ***	0.546 (8.07) ***	0.611 (9.21) ***	0.05 (7.69) ***	0.363 (1.51)
SUBS	0.217 (5.91) ***	0.696 (5.46) ***	-0.007 (-2.00) **	-0.007 (-9.20) ***	0.663 (7.78) ***
BIG4	0.786 (2.15) **	0.71 (7.50) ***	0.569 (8.85) ***	0.285 (2.17) **	-0.067 (-3.08) ***
OPINION	0.617 (8.16) ***	0.519 (3.61) ***	-0.026 (-5.38) ***	0.279 (2.88) ***	0.153 (7.15) ***
TENURE	0.258 (9.01) ***	0.677 (8.11) ***	-0.035 (-8.93) ***	-0.046 (-3.72) ***	0.163 (9.43) ***
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	32%	
N	150		Mean VIF	1.31	
Kuwait					
Intercept	0.728 (7.84) ***	-0.069 (-6.21) ***	0.587 (7.62) ***	0.104 (1.24)	0.451 (6.54) ***
IFRS_XBRL	0.409 (5.34) ***	0.747 (6.79) ***	0.52 (4.59) ***	0.641 (2.15) **	0.712 (7.49) ***
Log_TA	0.738 (4.45) ***	0.497 (3.42) ***	0.373 (0.62)	-0.027 (-8.49) ***	0.437 (3.19) ***
ROA	0.406 (5.49) ***	0.67 (1.86) *	0.157 (2.44) **	0.153 (1.08)	0.305 (3.12) ***
LEVERAGE	0.21 (4.10) ***	0.224 (6.46) ***	0.445 (4.94) ***	0.229 (5.08) ***	0.732 (0.73)
SUBS	0.388 (2.03) **	0.635 (7.43) ***	0.24 (5.45) ***	0.213 (6.04) ***	-0.042 (-2.45) **
BIG4	0.155 (6.33) ***	0.667 (7.45) ***	0.243 (9.29) ***	0.782 (0.66)	0.521 (5.53) ***
OPINION	0.442 (5.44) ***	0.708 (6.32) ***	0.2 (0.79)	0.2 (4.44) ***	0.299 (1.56)
TENURE	0.725 (0.99)	0.682 (7.38) ***	0.147 (2.17) **	0.33 (3.83) ***	0.257 (6.36) ***
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	14%	
N	120		Mean VIF	1.56	
Oman					
Intercept	0.132 (1.21)	-0.014 (-7.02) ***	0.569 (8.03) ***	0.345 (7.85) ***	0.246 (1.17)
IFRS_XBRL	0.391 (7.65) ***	0.499 (8.30) ***	0.198 (3.35) ***	0.008 (0.87)	0.634 (8.92) ***
Log_TA	0.474 (2.22) **	-0.05 (-5.56) ***	-0.097 (-5.33) ***	-0.048 (-8.88) ***	0.641 (4.33) ***
ROA	0.098 (9.47) ***	-0.003 (-5.06) ***	0.734 (3.05) ***	-0.051 (-3.30) ***	0.682 (1.79) *

DV Model	DV = RELEV Model (1)	DV = FAITH Model (2)	DV = UNDERSTAND Model (3)	DV = COMPARA Model (4)	DV = TIME Model (5)
LEVERAGE	0.705 (5.96) ***	0.362 (3.80) ***	0.31 (5.55) ***	0.735 (3.45) ***	0.78 (3.11) ***
SUBS	0.341 (6.19) ***	0.101 (3.14) ***	0.733 (1.31)	0.419 (7.16) ***	0.239 (2.18) **
BIG4	0.124 (5.38) ***	0.471 (2.95) ***	0.061 (5.03) ***	0.681 (7.53) ***	0.016 (3.29) ***
OPINION	0.605 (3.04) ***	0.565 (5.10) ***	0.425 (2.03) **	-0.07 (-1.19)	0.579 (1.61)
TENURE	0.58 (6.21) ***	0.264 (5.00) ***	0.654 (9.40) ***	0.632 (7.28) ***	0.765 (5.92) ***
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	11%	
N	100		Mean VIF	1.46	
Bahrain					
Intercept	-0.091 (-3.72) ***	0.695 (3.77) ***	0.466 (1.34)	0.358 (8.63) ***	0.295 (3.77) ***
IFRS_XBRL	0.741 (6.76) ***	0.475 (6.89) ***	0.581 (7.83) ***	0.592 (1.72) *	0.738 (3.46) ***
Log_TA	0.707 (1.27)	0.113 (1.14)	0.593 (7.49) ***	0.395 (5.24) ***	0.325 (5.04) ***
ROA	0.018 (2.63) ***	0.016 (0.83)	0.101 (6.49) ***	0.728 (0.63)	0.206 (8.53) ***
LEVERAGE	0.408 (0.59)	0.562 (7.54) ***	-0.026 (-8.43) ***	-0.07 (-9.02) ***	0.511 (7.77) ***
SUBS	0.187 (4.95) ***	0.649 (5.51) ***	0.264 (5.84) ***	0.057 (7.33) ***	0.441 (4.16) ***
BIG4	-0.077 (-5.84) ***	0.426 (0.54)	0.748 (7.38) ***	0.476 (2.99) ***	0.125 (0.67)
OPINION	0.376 (1.45)	0.469 (7.77) ***	0.696 (1.64)	0.252 (3.65) ***	0.502 (4.00) ***
TENURE	0.435 (4.66) ***	0.455 (8.06) ***	0.344 (7.05) ***	0.213 (6.44) ***	0.148 (4.62) ***
Std. error adj.	Yes		F-statistic	(12) ***	
Year Controlled	Controlled		R ²	27%	
N	80		Mean VIF	1.29	

Conclusion

This study examined how the adoption of IFRS- XBRL has had an impact on financial information usefulness in GCC financial sector. The analysis used firm level data of the six countries- wherein the usefulness of financial reporting was assessed using the qualitative characteristics of the IFRS framework- namely, relevance, faithful representation, understandability, comparability, and timeliness. Using the regression method on the country level data, this study presented solid regional evidence in the little-known institutional context.

The results support the preconception that the implementation of IFRS-XBRL works wonders in boosting the quality of financial reporting, especially its relevance, faithfulness, and timeliness. In terms of comparability and understandability, it is less clear and balanced, though, as harmonization across different institutional settings is not so easy. The cross-country divergence is apparent: Saudi Arabia, Qatar, and Bahrain showed the best improvements, which can be ascribed to better regulatory enforcement and quality of audit over extended periods. Whereas, UAE and Oman did not reflect much improvement despite the fact that technology adoption was higher compared to other countries. Kuwait showed contradictory findings that support the idea that national governance mechanisms should be brought into an analysis of the outcomes of digital reporting adoption.

This study is a contribution towards the increasing literature on financial reporting and the digital transformation. This is because it showed that IFRS-XBRL adoption is not by chance but it is an institutional change. As GCC economies continue their rapid modernization, the use of digital reporting systems is becoming increasingly important for enhancing financial transparency, supporting investor decision-making, and promoting greater regional economic integration. This evidence can be used to complement international accounting research beyond the developed world to the emerging markets. Moreover, it can offer policymakers insights to use digital reporting as a concept connecting accountability and governance.

Implications

The findings of this study provided critical theoretical, practical, and policy insights into the IFRS-XBRL framework. Theoretically, the results validated the IFRS conceptual framework by confirming that technology-

enabled reporting enhances the qualitative characteristics of financial information. This expands the view that digital efficiency is contingent upon institutional preparedness and audit governance. Practically, IFRS-XBRL adoption offers a dual advantage: it enables managers to reduce reporting errors and provide reliable disclosures while granting investors and analysts access to structured data that facilitates cross-company comparability and efficient capital allocation. From a policy perspective, GCC regulators should view IFRS-XBRL as a fundamental driver of transparency. Beyond mandating adoption, authorities must provide technical guidance, specialized training, and incentives to maximize impact. Furthermore, fostering cross-border cooperation among GCC regulators is essential to harmonize reporting practices, mitigate inconsistencies, and attract Foreign Direct Investment (FDI), ultimately promoting sustainable economic growth across the region. Concretely, three actions would translate these findings into practice: (i) phased XBRL taxonomy training programs for supervisory staff and preparers in the early-stage-adopter markets (Kuwait, Oman, and Bahrain), where understandability scores remain lowest; (ii) a standing cross-border GCC XBRL harmonization working group, coordinated across Tadawul, ADX, QSE, Boursa Kuwait, and Bahrain Bourse, to align taxonomy elements and tagging conventions; and (iii) staged compliance incentives (e.g., reduced filing fees or expedited review) for financial institutions that voluntarily exceed minimum XBRL tagging requirements ahead of the regional mandate.

Limitations and Future Research

Such a study is limited in many ways as any empirical research. The data used comprised firms in the financial sector in GCC only and thus, this limited the outcome measures to the financial sector in the GCC. Second, the study controlled the firm characteristics and audit variables but unobservable elements of institutional variation, for instance enforcement intensity and/or cultural dimensions, may affect the findings (Bangash et al., [2024](#)). Third, the study concentrated on one-time period, and thereby, it might fail to cover the entire dynamics of IFRS-XBRL adoption. Fourth, the analysis was based on 65 financial institutions. While this yielded a sizeable panel of firm-year observations across 2005-2022, the modest cross-sectional count limited the precision of country-specific estimates and the ability to conduct a fully interacted cross-country test. Fifth, the post-XBRL window (2021-2022) was short because comprehensive XBRL-

based data was not yet available for all six countries at the time of writing.

This constrains causal inference and would be revisited as more post-adoption years become available. Sixth, the current analysis did not yet include a dedicated endogeneity treatment (e.g., propensity-score matching or a staggered difference-in-differences design) or a formal robustness-check battery beyond the reported OLS with fixed effects. These are acknowledged as open items being pursued in a follow-up analysis. Seventh, inter-coder reliability for the 21-item content-analysis index has not yet been reported; a planned double-coding exercise on a random subsample of annual reports would allow us to report a Cohen's kappa or Krippendorff's alpha in a future version. Future research would overcome these limitations in a number of ways. Extending the research on other non-financial sector in other GCC countries or beyond might offer a bigger picture of the process of IFRS-XBRL. In post-2024 longitudinal studies, the emerging impact of digital reporting in supporting financial transparency could be recorded in post-COVID-19 shock environments (Bangash, [2025b](#)). Comparative research on the GCC countries, and other regions with other institutional frameworks could be an enriching input to theory in determining the contextual factors that govern successful adoption. Besides, further studies can be conducted on how IFRS-XBRL would engage other digital technologies and disruptions, such as blockchain, AI, and big data analytics to reshape financial reporting ecosystems further.

Author Contribution

Israfil Bangash: sole author

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data used in this study consisted of firm-level observations compiled from publicly available databases and company financial reports. However, the data and supporting materials used in this study would be made available by the corresponding author upon reasonable request, subject to any applicable licensing restrictions of the original data providers.

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