Research in Globalization 5 (2022) 100093

Contents lists available at ScienceDirect

Research in Globalization

journal homepage: www.sciencedirect.com/journal/research-in-globalization

# Quality of financial reporting, external audit, earnings power and companies performance: The case of Gulf Corporate Council Countries

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ARTICLE INFO

*Keywords:*
Quality of Financial Reporting
External Audit
Earnings Power
Companies Performance
GCC Countries

ABSTRACT

Financial statement analysts are concerned about the earnings power of companies, thus reliable information from a quality external audit and financial reporting is important as it will have an effect on the performances of GCC companies. On that note, underpinned by the agency theory, this study examines the effects of financial reporting quality, audit quality, and earnings power on companies' performances of the six Arabian GCC countries (Saudi Arabia, Bahrain, Oman, Qatar, Kuwait, and the United Arab Emirates). Company performance is measured using the accounting measures, i.e., return on assets and market-to-book value (ROA, M/B) and the market measures (Tobin's Q, EPS). The data sample of this study covers the period between 2013 and 2017, (pre-covid-19), across 191 companies, using 1337 company-years observations. The study uses EGLS Panel Data Regression analysis. The results of the study indicate that earnings power, audit quality, and financial reporting quality have positive effects on companies' performance. The agency theory confirms that financial reporting quality and audit quality increases the reliability of financial statements and decreases information asymmetry.

## Introduction

Extant research largely argued that company performance is a key determinant of market value, at both the individual and the economic prosperity levels of countries (Mehari and Aemiro, 2013; Tran et al., 2021). In this regard, the academic accounting research highlights different factors that may have an impact on the performances of these companies. Factors such as governance mechanisms and its effect on companies' performance have been largely investigated in developed countries (Christensen et al., 2010; da Silva and Leal, 2005; Ducassy and Montandrau, 2015; Klein et al., 2005; Wei 2007; Buallay et al., 2017) and developing countries (Ali Al-smadi et al., 2014; Alsmady, 2018; Arora and Sharma, 2016; Boubakri et al., 2005; Ehikioya, 2009; Nahar Abdullah, 2004; Pham and Islam, 2021).

Studies on the developed countries highlighted, among other variables, the corporate governance mechanisms such as ownership structure and its types (Buallay et al., 2017; da Silva and Leal, 2005; Ducassy and Montandrau ,2015; Klein et al., 2005; Wei, 2007; Boubakri et al., 2005; Ehikioya, 2009), as well as board of directors' characteristics such as independency and size (Buallay et al., 2017; Christensen et al., 2010; Klein et al., 2005; Wei, 2007). On the other hand, the developing countries document several studies that show the effects of ownership structure and its types (Ali Al-smadi et al., 2014; Pham and Islam, 2021), audit quality (Ali Al-smadi et al., 2014), auditors' demographic factors and its effect on auditors' skepticism (Sayed Hussin et al., 2019), board size (Ali Al-smadi et al., 2014; Alsmady, 2018), board composition and CEO duality (Nahar Abdullah, 2004; Arora and Sharma, 2016; Ehikioya, 2009).

Agency relationship was used as the fundamental of the argument i.e., the conflicts between the agent and the principle in the companies and its impact on companies' performance (Shleifer and Vishny, 1997). Moreover, the managers have more information about the companies than the existing shareholders and future buyers of the companies' shares (Myers and Majluf, 1984), which created the information asymmetry problem. As a result, the managers used this information to increase their own wealth. A good controlling mechanism is required to mitigate the agency conflict and information asymmetry problem.

In this regard, corporate governance is a mechanism and structure set by the company to control the directors and help achieve the objectives set by the shareholders and other stakeholders. One of the main objectives was to increase the performance of the companies (Fama 1980). Thus, high firm performances and lasting wealth creation for shareholders require a good corporate governance system (Shleifer and Vishny, 1997). In this regard, the quality audit (Ching et al., 2015b; Sayyar, 2015; Ziaee, 2014; Phan et al., 2020; Jusoh et al., 2013) and accounting information (Ball and Shivakumar, 2005; Dechow, 1994;

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https://doi.org/10.1016/j.resglo.2022.100093
Received 17 August 2022; Received in revised form 17 September 2022; Accepted 18 September 2022
Available online 22 September 2022

Hutagaol-Martowidjojo et al., 2019) are important for decision makers and companies' performance.

Thus, this study contributes to the body of literature by investigating these issues in an important region such as the Gulf Cooperation Council (GCC). The motivation of the current study is to highlight an important economy of GCC, whose estimated GDP in 2018 was approximately $3.655 trillion. There was a recommendation to further investigate other factors that could affect companies' performance and in return, affect the global economy (Gerged et al., 2021; Pillai and Al-Malkawi, 2018; Alsayegh et al., 2020). Also, due to the recent economic growth of GCC countries, they have faced many challenges such as weakening of the real GDP, increasing unemployment (Alsayegh et al., 2020), as well as the expectation of oil and gas resources extinction (Kabbani and Mimoune Sunday, 2021). In this regard, the International Monetary Fund (IMF) stated that the GCC countries require a comprehensive reform to help improve the performances of companies and the economy in the coming years.

The are several current related studies in GCC region such as (Al-Malkawi et al., 2014; Zeitun 2014; Abdallah and Ismail 2017; Pillai and Al-Malkawi, 2018; Alsayegh et al., 2020; Al-ahdal et al., 2020). The previous studies of the corporate governance filed in GCC countries have highlighted different mechanisms of governance to solve the agency relationship problem and information asymmetry. Pillai and Al-Malkawi (2018) investigated the impact on internal governance, namely government shareholders, audit types, CEO duality, board size and corporate social responsibility on financial and non-financial companies listed on the stock exchange of the GCC companies. The results supported the significant impact of the internal governance on the companies' performance. Moreover, Abdallah and Ismail (2017) examined the dispersed and concentration ownership on GCC companies' performances and found the dispersed ownership is a better governance mechanism as compared to the concentration ownership effects on companies' performance. Al-Malkawi et al., (2014) found concentration ownership to have a negative impact on the performance on GCC countries and CEO duality, while the board size did not have any significant effects. Though Al-Malkawi et al., (2014) found foreign ownership to have a positive effect on the companies' performances, Zeitun (2014) could not confirm the results of foreign and institutional ownerships effect on companies performance. Moreover, Alsayegh et al., (2020) examined the environmental, social and governance (ESG) effects on sustainability performance in the Asian countries, which also included the GCC countries. The study found that ESG had a significant effect on these companies' performances, such as board structure, executive compensation, board committee activities and political involvement. In addition, Al-ahdal et al., (2020) studied the board accountability, audit committee, transparency and disclosure effects on India and GCC countries and the results did not support the positive effects on the companies' performance. The board accountability and audit committee had an insignificant effect on companies' performance. Transparency and disclosure also had an insignificant negative impact on firms' performances. Moreover, Zeitun (2014) studied the effects of ownership types and concentration on GCC companies' performance. The study on ownership concentration and government ownership had a positive effect on companies' performances.

Studies on GCC countries regarding the audit quality (Assad and Alshurideh, 2020), documented the financial reporting quality, audit quality, and investment efficiency in GCC countries. The results supported a significantly positive relationship between the financial reporting quality and audit quality on investment efficiency. Additionally, Hassan et al., (2018) studied the internal corporate governance and audit quality in GCC countries and suggested that the regulators should force the companies to have good audit quality in order to have a more reliable information. Khasharmeh and Desoky (2018) conducted a study in Bahrain with a key objective of auditor independence and audit quality and proposed that the non-audit services to audit clients may harm auditor independence and audit quality, in which the study result supported the idea. On the other hand, Zureigat (2015) studied the effects of audit quality on IFRS compliance in Saudi Arabia and the results confirmed a significantly positive effect among the variables. In GCC oil and gas businesses, Mnif and Ben Hamouda (2020) investigated the impact of audit quality on managerial preferences between real and accrual earnings management. The findings suggested that, when experienced auditors were appointed, organizations tend to convert from accrual to real earnings management. The effects of audit quality on GCC companies' performances were not studied in the GCC research. As a result, this study fills the gaps and validates the study's second objective, which is to determine the impact of audit quality (proxied by the big four audit firms) on the performance of GCC enterprises.

The above review of the literature did not have a conclusive result, nor did it highlight any important governance in the GCC region. Reliability of accounting information is an important governance function that could have an effect on companies' performance. Zhai and Wang (2016) studied the accounting information quality as a governance function and found that the accounting information quality is a good governance mechanism, whereas other governance mechanisms of listed companies was poor in China. In this regard, Zhongsheng and Hanwen (2008) and Francis et al., (2009) supported an argument that the resources allocation is more efficient when accounting information was higher in quality (Sayed Hussin et al., 2019), which led to better performances in companies. On the other hand, Biddle and Hilary (2006) argued that the accounting information quality had an important role on investment efficiency. The research showed that better accounting information reduced information asymmetry between managers and external capital providers. Moreover, the accounting information quality led to mitigating the imperfections of the contracts between the agent and the principles, while monitoring the managers and their opportunistic behaviors (Zhai and Wang, 2016). In this regard, the effect of accounting information on GCC companies' performances needed more investigation (Dalwai et al., 2015; Al-Malkawi et al., 2014).

In addition, audit quality is an important corporate governance mechanism that helps to solve agency conflicts (Assad and Alshurideh, 2020). The higher the audit quality, the greater the reliability of accounting numbers for the decision makers, as well as better monitoring over the opportunistic managers' behavior (Elaoud and Jarboui, 2017). Accordingly, the audit quality has been investigated from different aspects by academic researchers (Al-ahdal and Hashim 2021; Phan et al., 2020; Sayyar 2015; Ching et al., 2015a; Ziaee 2014; Farouk et al., 2014; Sulong et al., 2013; Jusoh et al., 2013; Fooladi and Shukor 2012; Hutchinson and Zain, 2009; Sayyar, 2015; Ching et al., 2015b. Jusoh et al., (2013) and Fooladi and Shukor, (2012) investigated the audit quality on Malaysian companies' performances and found a significantly positive effect on companies' performances. While Sulong et al., (2013) found a significantly negative effect between the audit quality and Malaysian companies performances, they justified that greater audit fees may help to develop a higher client-auditor relationship. Moreover, similar results were found among Indian listed companies (Al-ahdal and Hashim, 2021) Hanoi Securities Trading Floor (Phan et al., 2020), Tehran listed companies (Ziaee, 2014), and Quoted Cement companies in Nigeria (Farouk et al., 2014).

Moreover, the earnings power gives a signal for investors that companies were in a good place to invest more in the future. As stated by Fatma and Hidayat (2019) ptt.5, the concept of *"Earnings power refer to the corporate profit level which a firm is expected to gain in the future"*. Thus, the earnings power is another important factor for investors to evaluate the companies' future-oriented financial stability. In addition, this indicator links the previous period with the future period of the companies' performance. Moreover, the earnings power gives several parties a reasonable indicator that managers of those companies were running their business on behalf of investors, creditors, and the government decision makers, in the best way possible (Herawaty and Solihah, 2019b). Thus, the managers will commit according to the agent-principal contract to maximize the companies' performance.

Therefore, this study intends to bridge the gaps in previous corporate governance studies and contributions of GCC countries economies in several ways. Since minimal research has been undertaken in the area of accounting information quality in GCC countries, the current study will examine the effects of accounting information quality on GCC companies' performances. In addition, this study fills the gaps by determining the impact of audit quality (proxied by the big four audit firms) on the performance of GCC enterprises. On the other hand, the GCC studies did not highlight the effects of earnings power on GCC companies' performance. Moreover, the current study will investigate the effects of earnings power on the performances of companies in the GCC region. This has not been examined yet in the GCC context. Thus, the present study fills the gaps left by other studies by achieving the following objectives:

- Examine the effects of accounting information quality on GCC companies' performances.
- Determine the impact of audit quality on the performance of GCC enterprises.
- Investigate the effects of earnings power on the performances of companies in

To validate the study objectives in this study, we used the agency theory argument. According to Shleifer and Vishny, (1997), the principal (owners) appoints the managers to manage the business and increase the companies' performance. However, the agents (managers) have used the companies' resources and information (Myers and Majluf, 1984) to build their own empire. Therefore, audit quality and accounting information quality are used as governance mechanisms to mitigate the agency problem. In addition, those mechanisms give the shareholders reliable information and reasonable assurances that the financial statements are free from major errors.

Also, this study contributes to the current body of knowledge in various ways. First, the study has selected a critical sample from the world economy, i.e., companies from the GCC countries. Second, the study examines the effects of accounting information quality on GCC companies' performance. The previous studies in GCC countries have highlighted the value relevance of accounting information (Desoky and Mousa, 2014; El-Diftar and Elkalla, 2019; AL-ANI et al., 2021), the accounting information and earnings quality on the gulf banks sector performances. Unfortunately, none of these studies examined the effects of accounting information quality on listed companies' performance within the GCC. Third, the study also tests the effects of audit quality on GCC companies' performance from both the accounting and market measures. The previous studies examined the audit quality on investment efficiency (Assad and Alshurideh, 2020), the effect of audit quality on IFRS compliance (Zureigat, 2015), and the impact of audit quality on managerial preferences between real and accrual earnings management (Mnif and Ben Hamouda, 2020). However, none of these studies examined the effects of audit quality on GCC companies' performance. Lastly, the study examines an essential factor that has not been discussed in previous literatures on GCC companies' performance, which is the earnings power.

The results of this study support the agency theory and confirm the importance of corporate governance mechanisms role in improving companies' performance and to keep the GCC countries' economies stable. Firstly, the results confirm that the big four audit firms acting as a proxy of audit quality, play an essential role in the governance mechanisms and mitigate the agency problem in the GCC companies. The study found a positive effect of audit quality on GCC companies' performances. It measured both the return on equity and Tobin's Q. Secondly, the study found a significant positive effect of accounting information quality on GCC companies' performance for both measures. Thus, the accounting information quality mitigates information asymmetry. It improves the allocation of companies' resources which further enhances companies' performance. Finally, the study found that earnings power significantly affects GCC companies' performance.

The remainder of the paper is organized as follows: the next section discusses related literature and the formulation of hypotheses. Then, there is the collection of data and research design. Thereafter, the results will be presented and analyzed. Lastly, the conclusion and recommendation for future research.

## Literature review & hypotheses development

Companies' performance is an indicator of business success and provides investors with information about its overall health. Moreover, it's a snapshot of its economic health and management performance. In this regard, businesses tend to suffer from an inherent agency problem. When owners hire managers to manage their businesses, the agency issues arise. This is because managers have greater information about the company than the owners themselves and thus use it to grow their own wealth. The managers also have access to more vital information than third parties such as investors and lenders, which have led to information asymmetry problems as well as misleading the users.

Corporate governance is a framework for enhancing the interaction of numerous stakeholders and ensuring that an organization's resources are allocated efficiently. Additionally, it establishes tools and procedures for defining objectives and achieving them (Shleifer and Vishny, 1997).

Thus, the following sub-section discusses the theoretical considerations and preliminary empirical evidence about the relationship between corporate governance mechanisms, precisely the accounting information quality function, audit quality and companies' performances. Additionally, we explain the earnings power and its effects on companies' performances.

### *Audit quality and companies performance*

Several studies suggested that audit quality enhances a company's performance (Al-ahdal and Hashim 2021; Phan et al., 2020; Sayyar 2015; Ching et al., 2015b; Ziaee 2014; Afza and Sajid Nazir 2014; Sulong et al., 2013; Jusoh et al., 2013; Fooladi and Shukor 2012). In this regards, Afza and Sajid Nazir (2014) argued that the quality of the external audits improved a company's success due to investor perceptions. Moreover, they believe that companies audited by big audit firms will reveal accurate, complete, and authentic financial statements, hence bolstering their confidence in these companies. Jusoh et al., (2013) suggested that high audit quality might result in lower agency costs since auditors have served as barometers of the legitimacy and integrity of financial reporting, resulting in lower monitoring expenses and improved companies' performances.

In this context, Sayyar (2015) examined the impact of audit quality, measured by audit fees and audit rotation on Malaysian publicly listed companies from 2003 to 2012. The findings indicate the presence of a positive relationship between audit quality and firm performance, as measured by market-based indicators (Tobin's Q). In contrast, an accounting-based measurement such as the return on assets (ROA) had no effect. However, Ching et al., (2015a) discovered that from 2008 to 2013, audit quality had a positive effect on Malaysian companies' performances as measured by ROA. A similar finding was found in Vietnam by Phan et al., (2020), who examined the influence of audit quality on the profitability of companies. Jusoh et al., (2013) investigated the effects of management and institutional ownership as well as audit quality on the performances of Malaysian public listed companies from 2003 to 2009. The findings confirmed the favorable effects of audit quality on a company's performance in terms of both ROA and Tobin's Q.

Farouk et al., (2014) investigated the effects of audit quality on financial performances in specific industries, namely cement businesses in Nigeria between 2007 and 2011. The findings validated the favorable impacts of audit quality on business success, which was evaluated by net profit margin. Ugwu et al., (2020) investigated the effects of audit

quality on the financial performances of all publicly listed companies in Nigeria. The study was conducted to determine the audit quality based on the size of the audit company, the length of joint audits, and the audit fees. The findings demonstrated the presence of a positive relationship between the size of the audit firms and the performances of companies as measured by ROA. Tarmidi et al. (2019) examined investors' reactions to share investment decisions in a specific industry, namely manufacturing companies listed on the Indonesian stock exchange from 2013 to 2017. The findings revealed that investors have a negative reaction to the audit quality and performances of the company. These findings emphasized the need of examining the influence of audit quality on a company's performance, which will help the market attract more investments. Additionally, Mahendri and Irwandi (2017) examined the impact of audit quality on internet-based financial reporting in 82 industrial firms listed on the Indonesian Stock Exchange. The study concluded that there is no observable influence of audit quality on financial reporting in the sample.

Ziaee (2014) examined the relationship between audit quality and company performance on the Tehran stock exchange and discovered a significant positive correlation. Recently, Hazaea et al. (2020) investigated the influence of audit quality on financial performance in the Arab nations, namely Yemen, and found that audit quality positively affected the companies' performances. Afza and Sajid Nazir (2014) investigated the corporate governance mechanisms that may affect companies' performance in Pakistan, including the quality of external audits. The study confirmed previous findings and found a positive association between audit quality and financial performance as measured by ROA and Tobin's Q. Additionally, Dewi and Monalisa (2016) employed audit quality as a moderating variable for the relationship between Corporate Social Responsibility and financial success as measured by ROA, ROE, and Price to Book Value (PBV). The study discovered that audit quality can influence the relationship and it directly affected companies' performance. Considering the lack of solid empirical findings on the effects of audit quality on the companies' performances, we hypothesize the following:

**$H_1$:** *There is a significant relationship between audit quality and companies' performances in GCC countries.*

Financial reporting quality and companies performance

The financial reporting quality is important for the users to make correct decisions (Assad and Alshurideh, 2020; Hutagaol-Martowidjojo et al., 2019; Elaoud and Jarboui 2017; Zhai and Wang 2016). Moreover, the quality of financial reporting reduces the information asymmetry and risks. In this regard, da Paixão Duarte et al., (2015) and Demerjian et al., (2012) supported the results of the significant effects of accounting information quality on reducing the information asymmetry and increasing the companies' performance. In addition, the accounting information quality reflects the companies proper performances and higher usefulness for forecasting future earnings (Bellovwy and Don 2005). Thus, to make an accurate decision, the decision-makers require more sensitive and high quality information as characterized by (Zhai and Wang, 2016). In this regard, Cheng et al., (2019) argued that accounting information quality caused misrepresentation in accounting information, which boosted investors' confidence on the information while utilizing it.

For investors and cash suppliers, the reliability of the accounting data is critical (Assad and Alshurideh, 2020; Elaoud and Jarboui, 2017; Zhai and Wang, 2016; Biddle and Hilary, 2006; Myers and Majluf, 1984). On the other hand, companies must enhance the trust of information users and get additional resources to improve their performances (Zhongsheng and Hanwen 2008). Therefore, the accounting information quality and companies' performance relationship is important in an environment riddled with uncertainty (Hutagaol-Martowidjojo et al., 2019) whereby the quality of information has decreased systematic market risk (Lambert et al., 2007; Alsufy et al., 2020), while the cost of capital has increased the companies' performances (Machdar et al., 2017). Chan et al., (2006) argued that the higher quality of information reduces the conflict of interest parties and in return positively affects companies' values. Also, Machdar et al., (2017) argued that the quality of accounting information reduced the earnings management practices and positively affected companies' performances.

In this regard, there are several empirical researchers that argued the effects of accounting information and companies' performances (Dechow et al., 2010; Dechow 1994; Machdar et al., 2017; Chan et al., 2006; Hutagaol-Martowidjojo et al., 2019). Thus, we hypothesize the following hypotheses to examine the effects of accounting information quality on GCC companies' performance;

**$H_2$:** *There is a significant relationship between financial reporting quality and companies' performance in GCC countries.*

Earning power and companies performance

Investors need the best return on their invested money. The financial statement has an instrumental variable that can give information about the companies' future returns. For example, earnings power measures the good prospects of higher returns (Fatma and Hidayat, 2019). In this regard, the companies' desire is to gain the best income, which is the main objective for a profit-based organization. In addition, the financial statement analysts will be concerned about the companies' earnings power to determine and forecast the returns in the future.

Therefore, companies with good earnings power will have an effect on companies' performances (Müller 2013; Herawaty and Solihah , 2019b). Zarb (2016) investigated the financial health of airline industry before and after the financial crisis from 2008 to 2009. They compared US and non-US companies and used the earnings power measurement to investigate. The profit persistence of the companies showed the power of the companies to retain over time in their main activities. Thus, when the companies increase their operating activities, assets are utilized more efficiently and in return, positively affect the companies' performances (Biggs, 1984). Hence, we hypothesised the following;

**$H_3$:** *There is a significant relationship between earnings power and companies' performance in GCC countries.*

## Sample selection and data source

The sample target in this research are all companies listed in the GCC nations, namely Saudi Arabia, United Arab Emirates, Qatar, Bahrain, Oman, Kuwait. Data collected from several sources such as the "Gulfbase" database, Thomas Reuters Data stream, and company websites prior to Covid-19, were considered. There were data constraints due to different data volatility affected by the pandemic.

As shown in Table 1, the research spans across seven years from 2011 to 2017. For several reasons, the study includes this year. First, a generalizable result can be produced when the seven-year period is used. Due to various disclosure regulations in the dynamic market, such as GCC countries, the data set after 2017 also differs from the prior one. Additionally, the market downturn brought on by the Covid-19 epidemic will significantly impact the company's performance in the years after 2017. According to the rule of thumb, 191 companies with a total of 1337 company-year data observation is acceptable for the performance of regression modelling. Furthermore, banks were omitted due

**Table 1**
Sample Distribution.

| Country/ Sample | No. of Observations | % of Observations | No. of Companies | % of Companies |
|---|---|---|---|---|
| Saudi Arabia | 483 | 36% | 69 | 36% |
| Oman | 455 | 34% | 65 | 34% |
| United Arab Emirates | 175 | 13% | 25 | 13% |
| Qatar | 98 | 7% | 14 | 7% |
| Kuwait | 63 | 5% | 9 | 5% |
| Bahrain | 63 | 5% | 9 | 5% |
| Total subsample | 1337 | 100% | 191 | 100% |

to different legislations and disclosure standards being applied in those sectors. Companies that have declared bankruptcy on the stock exchanges were not included. The highest and lowest company percentages included in the sample were Saudi Arabia, Kuwait, and Oman, respectively. This is due to the considerable variables measurement in the developed models. Moreover, developing variables measurements will later have an effect on the number of observations included in the model's analysis regressions.

The sample encompasses a wide range of sectors as shown in Table 2.

GCC countries' sample sectors distribution includes Consumer Discretionary, Finance, Energy, Healthcare, Real Estate, Industrial, Basic Materials, Telecommunications, and Technology according to Thomas Reuters. The most represented sectors in the sample are basic materials, followed by real estate, with percentages of 27% and 20% respectively. Other important sectors represented in the sample are financial and consumer discretionary, with 17% and 16% respectively. The smallest sectors represented in the sample with less than 10% are the energy, healthcare, telecommunications, technology, and industry.

## Empirical models and variable definitions

In line with previous studies, the regression analysis used in this study examines the effects of accounting information quality (Elsiddig Ahmed, 2020; Machdar et al., 2017), audit quality (Al-ahdal and Hashim, 2021; Phan et al., 2020; Sayyar 2015; Ching et al., 2015b; Ziaee 2014; Farouk et al., 2014; Afza and Sajid Nazir, 2014; Sulong et al., 2013; Jusoh et al., 2013; Hutchinson and Zain, 2009) and earnings power (Fatma and Hidayat, 2019) on GCC companies' performances. The panel data analysis is an appropriate technique because it has more data information and more variability. Also, panel data allows for more precise inferences of model parameters by minimizing the effect of missing data. As shown in the following regression models, the study employed EGLS of panel data regression analysis to validate the study objectives of examining the effects of accounting information quality ($\mathbf{H_1}$), audit quality ($\mathbf{H_2}$), and earnings power ($\mathbf{H_3}$) on GCC company performance. Equation.1;

$$Performance_{i,t} = b_0 + b_1 AuditQ_{i,t} + b_2 InforQ_{i,t} + b_3 Epowr_{i,t} + b_4 \Delta ROA_{i,t-1} + b_5 \Delta ROA_{i,t-2} + b_6 Leve_{i,t} + b_7 Log(ASS)_{i,t} + b_8 SD_{i,t} + b_9 AG_{i,t} + b_{10} Lag(ROE)_{i,t} + b_{11} MV - equity_{i,t} + e_{i,t.....Eq.1}$$

Then, Equation 1.1. will be tested first to compare the market measurement - ***Tobin's Q*** with another accounting measurement, ***EPS***. In addition, Equation 1.2 verifies companies' performances using ***ROE*** as an accounting measurement and ***M/B*** as a market measure for the samples under the study, as shown below:

**Firstly,**

$$Performance(Tobin's Q/EPS)_{i,t} = b_0 + b_1 AuditQ_{i,t} + b_2 InforQ_{i,t} + b_3 Epowr_{i,t} + b_4 \Delta ROA_{i,t-1} + b_5 \Delta ROA_{i,t-2} + b_6 Leve_{i,t} + b_7 Log(ASS)_{i,t} + b_8 SD_{i,t} + b_9 AG_{i,t} + b_{10} Lag(ROE)_{i,t} + b_{11} MV - equity_{i,t} + e_{i,t...Eq.1.1}$$

Secondly,

$$Performance(\mathrm{ROE/MB})_{i,t} = b_0 + b_1 AuditQ_{i,t} + b_2 InforQ_{i,t} + b_3 Epowr_{i,t} + b_4 \Delta ROA_{i,t-1} + b_5 \Delta ROA_{i,t-2} + b_6 Leve_{i,t} + b_7 Log(ASS)_{i,t} + b_8 SD_{i,t} + b_9 AG_{i,t} + b_{10} Lag(ROE)_{i,t} + b_{11} MV - equity_{i,t} + e_{i,t....Eq.1.2}$$

Table 3 gives a list of the symbols and measurements for each independent and dependent variables used in the previous models.

### *Dependent variable (company performance)*

A company's performance is critical in evaluating and assessing the effects of the variables on the accounting figures, which also reflects the market's responses to the accounting information disclosure in the financial statements. In this regard, Tayeh et al., (2015) stated in pt. 130

**Table 2**
Industry Classification of GCC countries 2011-2017.

| Sector | Saudi Arabia | Oman | United Arab Emirates | Qatar | Kuwait | Bahrain | Sectors % |
|---|---|---|---|---|---|---|---|
| Consumer Discretionary | 13 | 10 | 3 | 0 | 1 | 4 | 16% |
| Financial | 10 | 17 | 3 | 1 | 0 | 2 | 17% |
| Energy | 4 | 4 | 1 | 3 | 0 | 0 | 6% |
| Healthcare | 2 | 2 | 2 | 1 | 0 | 0 | 4% |
| Real Estate | 9 | 13 | 9 | 4 | 3 | 1 | 20% |
| Industrial | 0 | 1 | 0 | 0 | 1 | 0 | 2% |
| Basic Materials | 26 | 14 | 3 | 3 | 4 | 1 | 27% |
| Telecommunications | 3 | 1 | 2 | 1 | 0 | 1 | 4% |
| Technology | 2 | 4 | 1 | 1 | 0 | 0 | 4% |
| Percentage | 36% | 35% | 13% | 7% | 5% | 5% | 100% |
| Total | 69 | 66 | 24 | 14 | 9 | 9 | 191 |

**Table 3**
Variables and Measurements.

| Variables | Symbol andMeasurement | (Related Studies) |
|---|---|---|
| ***Panel A: Dependent Variable*** | | |
| *Company Performance (Market-Based Measures)* | $Performance_{i,t}$, ***Tobin's Q*** = *Total market value of the company/ Total assets.*<br>$Performance_{i,t}$, **M/B** = *Market Capitalization* / Book Value***<br>**Stock price× number of shares outstanding.*<br>***total assets - total liabilities.* | (Gentry and Shen, 2010; Singh et al., 2018; Fallatah, 2012; Al-Ghamdi and Rhodes, 2015; Butt et al., 2021). |
| *Company Performance (Accounting-Based Measured)* | $Performance_{i,t}$, **EPS** = *(Net income - preferred dividends) ÷ weighted average of common shares outstanding during the period.*<br>$Performance_{i,t}$, ***ROE*** = *Net Income / Shareholder Equity.* | (Gentry and Shen 2010; Ahmed and Hamdan 2015; Danoshana and Ravivathani 2019; Buallay et al., 2021; Ali Al-smadi et al., 2014). |
| ***Panel B: Explanatory Variable*** | | |
| *Audit Quality* | $AuditQ_{i,t}$= *Dummy: equal 1 if the audit firms are one of the big audit firms and 0 otherwise.* | (Jusoh et al., 2013; Al Ani and Mohammed 2015; Ching et al., 2015a; Shahzad et al., 2019; Enekwe et al., 2020; Mnif and Ben Hamouda 2020; Al-ahdal and Hashim, 2021). |
| *Accounting Information Quality* | $InforQ_{i,t}$= $\Delta WC_{i,t} = \gamma_0 + \gamma_1 {}^{*}CFO_{i,t-1} + \gamma_2 {}^{*}CFO_{i,t} + \gamma_3 {}^{*}CFO_{i,t+1} + \gamma_4 {}^{*}\Delta Sales_{i,t} + \gamma_5 {}^{*}PPE_{i,t} + \varepsilon_{i,t,}$<br>*Where* $\Delta WC_{i,t}$ *is the change in non-cash working capital from the year* $t-1$ *to year t, the CFO represents the cash flow of company in t-1, t, t+1 year, respectively* | (Dichev and Dechow 2001; Dechow and Dichev 2002; Francis et al., 2005; Ding et al., 2016; Zhai and Wang 2016; De Meyere et al., 2018). |
| *Earning Power* | $Epowr_{i,t}$=$EarningsPower = \frac{Operatingincome}{Totalassets}$ | (Jin, 2017; Fanani 2010; Yao et al., 2017; Fatma and Hidayat 2019). |
| ***Control Variables*** | | |
| *Change in return of assets* | $\Delta ROA_{i,t-1}$= *The change in return of assets from t to t-1.* | (Farinas and Moreno, 2000; Coad et al., 2018; Coad et al., 2016; Zhai and Wang 2016; Bradshaw et al., 2019b; Black 2001; Bradshaw et al., 2019b; De Meyere et al., 2018; Bradshaw et al., 2019a; Bellemare et al., 2017; Wilkins 2018). |
| *Change in return of assets* | $\Delta ROA_{i,t-2}$= *The change in return of assets from t to t-2.* | |
| *Leverage* | $Leve_{i,t}$=Debt to Equity Ratio $= \frac{\text{Total Liabilities}}{\text{Total Shareholders Equity}}$ | |
| *Natural Logarithm of total assets* | $Log(ASS)_{i,t}$= *Natural Logarithm of total assets.* | |
| *Standard deviation of revenue* | $SD_{i,t}$= *Standard deviation of revenue for firm and year i,t.* | |
| *Firm Age* | $AG_{i,t}$= the *total years from the date of establishment to the year 2017 of sample boundary.* | |
| *Lag of return of equity* | $Lag(ROE)_{i,t}$= *Lagged (past period) values of return of equity.* | |
| *Market value of equity* | $MV-equity_{i,t}$ = *No. Outstanding shares × Price per share.* | |

*"although firm performance has been assessed using a diversity of measures, there is no universal guideline regarding the appropriate choice"*. Therefore, the previous studies have two streams of debates regarding the objectives of measuring the companies' performances. An objective measure means, analysis of the financial data and not a subjective measure.

Firstly, we use the accounting-based measures of the companies' performances, which are obtained from the income statement and statement of the financial position, that reflect the past performance. Its evaluation does not indicate the future performances (Michel and Shaked, 1984; Singh et al., 2018). However, the accounting measures do have an advantage, as it gives a consistent valuation and is not affected by market fluctuations. Moreover, the accounting measures evaluate the actual performances of companies. On the other hand, the market-based performances are measured using the accounting numbers and market value reflections (Ali Al-smadi et al., 2014), which gives an expectation for future performances based on the current performances. Additionally, the market measures represented by the market assessments for companies have the investors responding to the companies' market value (Michel and Shaked, 1984; Singh et al., 2018). Also, the market measures could be affected by uncontrollable events such as economic changes and inflation rates. Thus, each measure has its advantages and disadvantages; Wayne Rockmore and Jones (1996) recommended using both measurements.

Therefore, to enhance the study conclusions regarding the developed hypothesis, this study uses the accounting-based measure and market-based measure to compare the results, the consistency, and the reliability of the regression analysis. Accounting-based measures used to view companies' performances in the previous study were ROE and EPS (Gentry and Shen 2010; Ahmed and Hamdan 2015; Danoshana and Ravivathani 2019; Buallay et al., 2021; Ali Al-smadi et al., 2014). On the other hand, Tobin's Q and market-to-book value ratio were widely used as market-based measures of the companies' performances (Gentry and Shen, 2010; Singh et al., 2018; Fallatah, 2012; Al-Ghamdi and Rhodes, 2015; Butt et al., 2021).

*Explanatory variables*

This study has three main independent variables that have been used in the previous research. Firstly, the audit quality variable has been used to investigate its role as an external governance mechanism (Al-ahdal and Hashim, 2021), which could mitigate the agency problems in the companies (Jensen and Meckling, 1976). In this regard, the big audit firms have more ability and experience than other firms in risk assessment (Shahzad et al., 2019). This leads to higher resource allocation, that in return could affect the companies' performances (Al-ahdal and Hashim, 2021). In this regard, big audit firms have been argued as a good measure of audit quality (Enekwe et al., 2020; Ching et al., 2015a; Al Ani and Mohammed 2015; Mnif and Ben Hamouda 2020; Jusoh et al., 2013).

In addition, the study regression model has the accounting information quality variable. In this study, we followed other studies in measuring the accounting information quality, which was first proposed by Dechow and Dichev (2002) and extended by McNichols (2002) and was also used by several other researchers (Dichev and Dechow 2001; Dechow and Dichev 2002; Francis et al., 2005; Ding et al., 2016; Zhai and Wang 2016; De Meyere et al., 2018). Equation is as follows;

$$\Delta WC_{i,t} = \gamma_0 + \gamma_1 {}^{*}CFO_{i,t-1} + \gamma_2 {}^{*}CFO_{i,t} + \gamma_3 {}^{*}CFO_{i,t+1} + \gamma_4 {}^{*}\Delta Sales_{i,t} + \gamma_5 {}^{*}PPE_{i,t} + \varepsilon_{i,t,}$$

The symbol used in this proxy is as follows:

$\Delta WC_{i,t}$; is the change in non-cash working capital from year $\boldsymbol{t\text{-}1}$ to year $\boldsymbol{t}$.

$CFO_{i,t}, CFO_{i,t-1}, CFO_{i,t+1}$; is the cash flow from operations in years **t, t-1** and $\mathbf{t_{+1}}$.

$\Delta Sales_{i,t}$; is the change in net sales in year t compared to year $\mathbf{t\text{-}1}$.

$PPE_{i,t}$; is the gross value of property, plant and equipment.

Earnings power is the other main independent variable used in the models. The user of financial statements often looks for companies that have earned strong profits (Jin, 2017), since these earnings show the

quality of the company's profit and its ability to generate higher retained earnings for investors (Fanani 2010; Yao et al., 2017). Furthermore, the earnings power of a corporation displays its ability to create income in the future. The study by Fatma and Hidayat (2019) states the measuring of earnings power as follows;

$$\text{Earnings Power} = \frac{\text{Operating income}}{\text{Total assets}}$$

*Control variables*

The study also included several control variables that have been argued in the previous studies. Equation1, Equation 1.1, and Equation 1.2 have the same control variables as the difference between the models is the dependent variable measurement. Thus, the study includes firms, countries, and other controlled variables.

Company size, age, and leverage were used as the controlled variables in all models. Previous studies argued that large companies have a higher ability in controlling the risk diversity, thus perform better than smaller companies. The study used the natural logarithm of total assets ($Log(ASS)_{i,t}$) to control the differences among the companies. According to the passive learning models, the failure boundary will decrease with the function of the firms age (Farinas and Moreno, 2000). Thus, following previous studies (Coad et al., 2018; Coad et al., 2016), this study uses the firms age as a control variable. This is measured by the total years from the date of establishing the company, to the last year of the sample period in this study. Moreover, the models included the leverage variable ($Leve_{i,t}$) which is measured by total liabilities divided by total shareholders' equity to control the financial risk (Zhai and Wang 2016; Bradshaw et al., 2019b).

Also, this study includes other countries as a control variable. According to Black (2001), the difference among countries in corporate governance practices and different disclosures and legislations will affect the companies' market value and companies' performances. Thus, this study includes the market value of the firms ($MV-equity_{i,t}$), measured by *No. Outstanding shares* × *Price per share.* Moreover, the standard deviation amongst the countries' companies affect the perception of investors for future investment (Bradshaw et al., 2019b; De Meyere et al., 2018), which in return may have a different effect on the companies' performances among countries. Thus, this study includes the standard deviation of control variable ($SD_{i,t}$) measured by the standard deviation of revenue for firm and year *i,t.* Previous studies argued the change in previous years' returns may affect the current companies' performances.

Finally, the companies have a strong change in return in the previous years' as compared to other companies and will have higher investment opportunities and external resources (Bradshaw et al., 2019a), which could in return have an effect on the companies' performances during each period (Purnamasari, 2015). Therefore, this study controls the change in return on assets over the time period by inserting the change in return of assets for the past period by the ($\Delta ROA_{i,t-1}$ (and ($\Delta ROA_{i,t-2}$) which is the change in return of assets from t to $t_{-1}$ and t to $t_{-2}$. Also, the lagged variable of the return on assets in the current year could have an effect on the regression estimation and control for endogeneity biased parameter estimates (Bellemare et al., 2017), as well as control of autocorrelation in the error term (Wilkins 2018).

## Empirical Results

*Diagnostics Test*

The study highlighted several diagnostics tests before using the regression analysis. Firstly, we investigated the data outlier and found it was not substantial when the data sample was winsorized. Thus, to mitigate the outliers effect, we winsorized all continuous variables in the regression analysis models at 1% and 99% (Alsayegh et al., 2020). Then, the study investigates the descriptive analysis to test the kurtosis and skewness of the variables used in the analysis. According to Kline (1998), normality is presented when the skewness is less than +3 and the kurtosis value does not exceed +8. The variables in Table 4 refer to all the variables within this range of skewness and kurtosis. A similar study was supported by Alsayegh et al., (2020) and Al-ahdal et al., (2020). Jarque-Bera test was used to confirm the normality of the error term of the models, and the results supported the normality with a probability of more than 0.10%, which indicates that the residual is normally distributed for all models.

Secondly, the intercept term, $\boldsymbol{E(ut)=0}$, is included in all models. Also, the assumption of homoscedasticity, $\boldsymbol{var(ut) = \sigma 2 < \infty}$ is also tested using the Breusch-Pagan-Godfrey. The results confirm that the chi-

**Table 4**
Descriptive Analysis.

| Variables | Mean | Median | Maximum | Minimum | Std. Dev. | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|
| *Tobin's Q* | 6.19 | 3.14 | 43.64 | -0.46 | 9.53 | 2.59 | 7.77 |
| *EPS* | 0.37 | 0.13 | 3.82 | -9.49 | 0.76 | 0.76 | -0.24 |
| *ROE* | 0.16 | 0.11 | 35.95 | -5.80 | 2.37 | 2.42 | 7.38 |
| *M/B* | 0.71 | 0.62 | 15.59 | -35.00 | 1.99 | -2.57 | 6.51 |
| $AuditQ_{i,t}$ | 0.29 | 0.00 | 1.00 | 0.00 | 0.45 | 0.95 | 1.90 |
| $Epowr_{i,t}$ | 0.06 | 0.05 | 0.33 | -0.19 | 0.07 | 0.42 | 4.55 |
| $InforQ_{i,t}$ | -5.73 | 1.35 | 40.24 | -36.31 | 27.35 | -0.14 | 7.51 |
| $ch-ROA_{i,t-1}$ | -0.01 | -0.01 | 0.26 | -0.23 | 0.04 | 0.23 | 7.57 |
| $ch-ROA_{i,t-2}$ | -0.07 | -0.07 | 0.34 | -0.40 | 0.10 | 0.18 | 4.83 |
| $Leve_{i,t}$ | 0.76 | 0.35 | 26.32 | -30.17 | 2.36 | 1.69 | 7.48 |
| $Log(ASS)_{i,t}$ | 5.96 | 6.03 | 11.55 | 1.18 | 1.91 | 0.13 | 2.92 |
| $SD_{i,t}$ | 13.84 | 23.05 | 48.85 | 0.05 | 29.05 | 1.84 | 6.42 |
| $AG_{i,t}$ | 24.67 | 22.00 | 65.00 | 4.00 | 13.06 | 0.89 | 3.52 |
| $Lag(ROE)_{i,t}$ | 0.06 | 0.06 | 0.33 | 0.28 | 0.08 | 0.10 | 4.75 |
| $MV-equity_{i,t}$ | 1510.05 | 348.62 | 83190.00 | 0.13 | 4681.48 | 2.68 | 7.28 |
| Observations | 1330 | 1330 | 1330 | 1330 | 1330 | 1330 | 1330 |

**Notes**: $Performance_{i,t}$ is the dependent variable using accounting (**ROE, M/B**) and market measure (**Tobin's Q and EPS**), respectively. $AuditQ_{i,t}$ is = Dummy: equal 1 if the audit firms are one of the big audit firms and 0 otherwise. $Epowr_{i,t}$ is $=EarningsPower = \frac{Operatingincome}{Totalassets}$, $InforQ_{i,t} = \Delta WC_{i,t} = \gamma_0 + \gamma_1{}^*CFO_{i,t-1} + \gamma_2{}^*CFO_{i,t} + \gamma_3{}^*CFO_{i,t+1} + \gamma_4{}^*\Delta Sales_{i,t} + \gamma_5{}^*PPE_{i,t} + \varepsilon_{i,t}$, Where$\Delta WC_{i,t}$ is the change in non-cash working capital from the year to year t, the CFO represents the cash flow of company in t-1, t, t+1 year, respectively. $ch-ROA_{i,t-1}$ and are the change in return of assets from t to t-1 and t-1, respectively. $Leve_{i,t}$ =. Natural Logarithm of total assets. $SD_{i,t}$ = Standard deviation of revenue for firm and year I,t. $AG_{i,t}$ = the total years from the date of establishment to the year 2017. $Lag(ROE)_{i,t}$ = Lagged (past period) values of return of equity. $MV-equity_{i,t}$ = No. Outstanding shares × Price per share.

**Table 5**
Correlation Matrix.

| | ***Tobin's Q*** | $AuditQ_{i,t}$ | $Epowr_{i,t}$ | $InforQ_{i,t}$ | $ch-ROA_{i,t-1}$ | $ch-ROA_{i,t-2}$ | $Leve_{i,t}$ | $Log(ASS)_{i,t}$ | $SD_{i,t}$ | $AG_{i,t}$ | $Lag(ROE)_{i,t}$ | $MV-equity_{i,t}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Tobin's Q*** | | | | | | | | | | | | |
| $AuditQ_{i,t}$ | 0.150506258 | | | | | | | | | | | |
| $Epowr_{i,t}$ | 0.296170873 | -0.1453265 | | | | | | | | | | |
| $InforQ_{i,t}$ | 0.002431812 | 0.011628775 | -0.0912453 | | | | | | | | | |
| $ch-ROA_{i,t-1}$ | -0.028702143 | 0.053249815 | 0.078602491 | 0.072616841 | | | | | | | | |
| $ch-ROA_{i,t-2}$ | -0.26752391 | 0.142680929 | 0.569161498 | 0.035506885 | 0.607523339 | | | | | | | |
| $Leve_{i,t}$ | -0.135267537 | -0.058346767 | -0.089544133 | 0.028454345 | -0.06430994 | 0.06900167 | | | | | | |
| $Log(ASS)_{i,t}$ | -0.077186537 | -0.362088836 | 0.093151717 | -0.02115738 | -0.02309354 | -0.066352042 | 0.193005568 | | | | | |
| $SD_{i,t}$ | -0.08071314 | -0.129646407 | 0.018355115 | -0.227085294 | 0.013144713 | 0.049456126 | 0.092645846 | 0.420727818 | | | | |
| $AG_{i,t}$ | 0.255814259 | 0.191626796 | 0.10791139 | -0.017309724 | -0.006889712 | -0.127731892 | -0.159198773 | -0.071928114 | -0.115107414 | | | |
| $Lag(ROE)_{i,t}$ | 0.341762065 | -0.141528303 | 0.817860684 | -0.024013142 | -0.345352776 | -0.829246909 | -0.109933962 | 0.080996742 | -0.027742042 | 0.136535655 | | |
| $MV-equity_{i,t}$ | -0.022736593 | -0.139613288 | 0.119211628 | -0.24410044 | -0.01041562 | -0.053793624 | 0.007854499 | 0.496851844 | 0.734818413 | -0.043826392 | 0.079145123 | |

**Notes**: $Performance_{i,t}$ is the dependent variable using accounting (**ROE, M/B**) and market measure (**Tobin's Q and EPS**), respectively. $AuditQ_{i,t}$ is = Dummy: equal 1 if the audit firms are one of the big audit firms and 0 otherwise. $Epowr_{i,t}$ is $= EarningsPower = \frac{Operatingincome}{Totalassets}$, $InforQ_{i,t} = \Delta WC_{i,t} = \gamma_0 + \gamma_1{}^*CFO_{i,t-1} + \gamma_2{}^*CFO_{i,t} + \gamma_3{}^*CFO_{i,t+1} + \gamma_4{}^*\Delta Sales_{i,t} + \gamma_5{}^*PPE_{i,t} + \varepsilon_{i,t}$, Where$\Delta WC_{i,t}$ is the change in non-cash working capital from the year to year t, the CFO represents the cash flow of the company in t-1, t, t+1 year, respectively. $ch-ROA_{i,t-1}$ and are the change in return of assets from t to t-1 and t-1, respectively. $Leve_{i,t}$ =. Natural Logarithm of total assets. $SD_{i,t}$ = Standard deviation of revenue for firm and year I,t. $AG_{i,t}$ = the total years for the date of establishment to the year 2017. $Lag(ROE)_{i,t}$ = Lagged (past period) values of return of equity. $MV-equity_{i,t}$ = No. Outstanding shares × Price per share.

square with (1) more than 0.05, indicates that there is no heteroscedasticity problem for all the models. Also, the autocorrelation assumption ***cov, (ui, uj)*** $= \boldsymbol{0}$, residual diagnostics was conducted using Durbin–Watson (**DW**) test for autocorrelation. The DW test for all the models indicated the results range between 0.425 and 1.18, which meant that there was no autocorrelation problem, as stated in previous studies (Al-ahdal et al., 2020; Al-ahdal and Hashim 2021). Also, the assumption of non-stochastic of independent variables $\boldsymbol{cov,(u_i,x_t)=0}$ (multicollinearity), which means the independent variables are not highly correlated was tested using the variance inflation factor (***VIF***). The results are presented in Tables 6 & 7 for each variable in each model and confirm that all variables have a mean with less than 10, which indicates that there are no multicollinearity problems (Al-ahdal and Hashim 2021; Abdeljawad et al., 2020; Al-ahdal et al., 2020).

*Descriptive analysis and correlation matrix*

Descriptive analysis is used to provide basic information about the sample target. Table 4 presents the descriptive analysis of all variables included in the analysis, which is presented in the form of mean, median, maximum, minimum, standard deviation, skewness, and kurtosis.

The skewness and kurtosis explained in section 5.1 of the diagnostics test, confirms the normality for all variables under the study. In addition, the average (median) of company performance as presented by Tobin's Q, EPS, ROE and M/B are 6.19 (3.14), 37% (13%), 16% (11%), and 71% (62%) respectively. The M/B shows that the outstanding share price is quite high in the GCC countries market which indicates an active market for investment. Moreover, the Tobin's Q indicates the market value of the companies (which are divided into the total assets) had six times the total assets of the companies in GCC countries. This indicates that the values of the company were increasing on average. The results are quite consistent with other studies in the GCC region (Al-ahdal et al., 2020; Alsayegh et al., 2020; Pillai and Al-Malkawi 2018).

The explanatory variables are the audit quality, accounting information quality, and earnings power, and have an average and (median) value of 29% (0.00), -5.73(1.35) and 6% (5%), respectively. The descriptive analysis of audit quality shows that 29% of the companies in this study have appointed the big audit firms in GCC countries which is quite consistent with the studies of Mnif and Ben Hamouda (2020), Assad and Alshurideh (2020), and Hassan et al., (2018). Moreover, the accounting information quality proposed by Dechow and Dichev (2002) and extended by McNichols (2002) measured the accounting information quality, and the unsigned mean (median) 5.73(1.35), which indicated a low value as compared to Assad and Alshurideh (2020) and Hamdan, (2020). Thus, the companies under this sample integrated less accrual error and have a higher accounting information quality. Finally, the earnings power mean (median) value had indicated 6% (5%) which means that the companies with an operating income contribute more in earnings with a good percentage compared to the other resources income.

The control variables in the models such as a change in the ROA for t-1 and t-2 have a mean (median) of -0.01(-0.01) and -0.07(-0.07), respectively. This shows that the previous year's performance has a negative sign as compared to the current years' performance. Moreover, the leverage mean (median) value is 76% (35%) which means that the GCC companies have higher liabilities compared to the shareholders' equity. Also, the log (total assets), standard deviation of revenue, age, and market value of equity mean (median) values are 5.96(6.03), 13.84 (23.05), 24(22), and 1510(348) market value, respectively.

The results of the correlation matrix are presented in Table 5. From the table, we can confirm that there is no critical multicollinearity issues with the data presented. Asteriou and Hall (2007) argued that the value of less than 90% does not cause a problem in the regression analysis. Moreover, the results also indicate a positive sign between the audit quality, accounting information quality, and earnings power on the company performance measures, which will be further confirmed after

**Table 6**
The Regression Analysis of Eq.1.1.

$$Performance(Tobin^{'}sQ/EPS)_{i,t} = b_0 + b_1 AuditQ_{i,t} + b_2 InforQ_{i,t} + b_3 Epowr_{i,t} + b_4 \Delta ROA_{i,t-1} + b_5 \Delta ROA_{i,t-2} + b_6 Leve_{i,t} + b_7 Log(ASS)_{i,t} + b_8 SD_{i,t} + b_9 AG_{i,t} + b_{10} Lag(ROE)_{i,t} + b_{11} MV - equity_{i,t} + e_{i,t..Eq.1.1}$$

| EPS | | | Tobin's Q | | |
|---|---|---|---|---|---|
| Variable | *Coefficient* | *VIF* | *Variable* | *Coefficient* | *VIF* |
| $AuditQ_{i,t}$ | 0.049222* (1.662605) | 1.028644 | $AuditQ_{i,t}$ | 1.647955*** (7.768091) | 1.637981 |
| $InforQ_{i,t}$ | 0.000116*** (5.694567) | 1.022632 | $InforQ_{i,t}$ | 0.00012*** (2.076955) | 2.641325 |
| $Epowr_{i,t}$ | 1.149466*** (3.077021) | 2.623818 | $Epowr_{i,t}$ | 7.187396*** (4.181751) | 4.064105 |
| $ch-ROA_{i,t-1}$ | 4.943709*** (12.84182) | 5.042379 | $ch-ROA_{i,t-1}$ | 28.92784*** (10.81437) | 2.432327 |
| $ch-ROA_{i,t-2}$ | -0.061985 (-0.291658) | 3.061539 | $ch-ROA_{i,t-2}$ | -8.734214*** (-4.958697) | 6.22632 |
| $Leve_{i,t}$ | -0.000389 (-0.083638) | 1.028359 | $Leve_{i,t}$ | -0.113644*** (-4.091347) | 1.495505 |
| $Log(ASS)_{i,t}$ | 0.134098*** (6.859697) | 1.278737 | $Log(ASS)_{i,t}$ | 0.152322*** (5.502163) | 3.673522 |
| $SD_{i,t}$ | 0.00000742 (0.187125) | 1.357743 | $SD_{i,t}$ | 0.000354*** (2.968635) | 9.50252 |
| $AG_{i,t}$ | 0.008535*** (3.052103) | 1.078053 | $AG_{i,t}$ | 0.126774*** (28.48592) | 2.155689 |
| $Lag(ROE)_{i,t}$ | 4.88845*** (12.60373) | 3.548958 | $Lag(ROE)_{i,t}$ | 35.94303*** (14.79905) | 6.8744 |
| $MV-equity_{i,t}$ | 0.000015*** (2.641023) | 1.499325 | $MV-equity_{i,t}$ | 0.0000207 (1.511526) | 8.24833 |
| ***C*** | -0.841324*** (-6.311974) | NA | ***C*** | 0.706136*** (2.630704) | NA |
| ***Obs.*** | 1330 | | **Obs.** | 1330 | |
| ***Adjusted $R^2$*** | 0.389684 | | ***Adjusted $R^2$*** | 0.485945 | |

**Notes**: $Performance_{i,t}$ is the dependent variable using accounting (**ROE, M/B**) and market measure (**Tobin's Q and EPS**), respectively. $AuditQ_{i,t}$ is = Dummy: equal 1 if the audit firms are one of the big audit firms and 0 otherwise. $Epowr_{i,t}$ is $= EarningsPower = \frac{Operatingincome}{Totalassets}$, $InforQ_{i,t} = \Delta WC_{i,t} = \gamma_0 + \gamma_1{}^{*}CFO_{i,t-1} + \gamma_2{}^{*}CFO_{i,t} + \gamma_3{}^{*}CFO_{i,t+1} + \gamma_4{}^{*}\Delta Sales_{i,t} + \gamma_5{}^{*}PPE_{i,t} + \varepsilon_{i,t}$, Where$\Delta WC_{i,t}$ is the change in non-cash working capital from the year $t-1$ to year t, the CFO represent the cash flow of company in t-1, t, t+1 year, respectively. $ch-ROA_{i,t-1}$ and $ch-ROA_{i,t-2}$ are the change in return of assets from t to t-1 and t-1, respectively. $Leve_{i,t}$ = Debt to Equity Ratio $= \frac{\text{Total Liabilities}}{\text{Total Shareholders Equity}} Log(ASS)_{i,t}$ . Natural Logarithm of total assets. $SD_{i,t}$ = Standard deviation of revenue for firm and year i,t. $AG_{i,t}$ = the total years for the date of establishment to the year 2017. $Lag(ROE)_{i,t}$ = Lagged (past period) values of return of equity. $MV-equity_{i,t}$ = No. Outstanding shares × Price per share.
Numbers between parentheses are t-statistics.
*,**,*** Significance at the 10%, 5%, and 1% levels, respectively.

**Table 7**
The Regression Analysis Results of Eq.1.2.

$$Performance(\text{ROE/MB})_{i,t} = b_0 + b_1 AuditQ_{i,t} + b_2 InforQ_{i,t} + b_3 Epowr_{i,t} + b_4 \Delta ROA_{i,t-1} + b_5 \Delta ROA_{i,t-2} + b_6 Leve_{i,t} + b_7 Log(ASS)_{i,t} + b_8 SD_{i,t} + b_9 AG_{i,t} + b_{10} Lag(ROE)_{i,t} + b_{11} MV - equity_{i,t} + e_{i,t....Eq.1.2}$$

| M/B | | | *ROE* | | |
|---|---|---|---|---|---|
| Variables | *Coefficient* | *VIF* | *Variables* | *Coefficient* | *VIF* |
| $AuditQ_{i,t}$ | 0.156066*** (6.974611) | 1.230616 | $AuditQ_{i,t}$ | 0.009431*** (3.235531) | 1.250185 |
| $InforQ_{i,t}$ | 0.0000379** (1.070049) | 1.028423 | $InforQ_{i,t}$ | 0.00014*** (2.07697) | 1.62761 |
| $Epowr_{i,t}$ | 4.254005*** (8.468332) | 8.800348 | $Epowr_{i,t}$ | 0.778565*** (16.31927) | 2.958924 |
| $ch-ROA_{i,t-1}$ | 4.107682*** (6.138728) | 4.646516 | $ch-ROA_{i,t-1}$ | 1.090353*** (16.32881) | 2.372631 |
| $ch-ROA_{i,t-2}$ | 0.692689*** (2.308764) | 6.413794 | $ch-ROA_{i,t-2}$ | 0.225202*** (4.8672) | 4.77426 |
| $Leve_{i,t}$ | 0.004036 (0.412286) | 1.243147 | $Leve_{i,t}$ | -0.033978*** (-12.41409) | 1.809604 |
| $Log(ASS)_{i,t}$ | 0.10144*** (13.74459) | 1.780671 | $Log(ASS)_{i,t}$ | 0.012319*** (13.6869) | 1.662664 |
| $SD_{i,t}$ | -0.0000307 (-0.518594) | 2.152978 | $SD_{i,t}$ | 0.00000937*** (2.41938) | 4.012775 |
| $AG_{i,t}$ | 0.004792*** (6.334276) | 1.140159 | $AG_{i,t}$ | 0.000616*** (4.632275) | 1.187926 |
| $Lag(ROE)_{i,t}$ | 3.012495*** (5.255049) | 12.31705 | $Lag(ROE)_{i,t}$ | 1.007299*** (15.09936) | 5.594334 |
| $MV-equity_{i,t}$ | -0.000025*** (-5.065168) | 2.280742 | $MV-equity_{i,t}$ | -0.00000181*** (-3.746706) | 4.381044 |
| ***C*** | 0.002625 (0.051285) | NA | **C** | -0.017178*** (-2.650665) | NA |
| ***Obs.*** | 1330 | | **Obs.** | 1330 | |
| ***Adjusted $R^2$*** | 0.394349 | | **Adjusted $R^2$** | 0.419725 | |

**Notes**: $Performance_{i,t}$ is the dependent variable using accounting (**ROE, M/B**) and market measure (**Tobin's Q and EPS**), respectively. $AuditQ_{i,t}$ is = Dummy: equal 1 if the audit firms are one of the big audit firms and 0 otherwise. $Epowr_{i,t}$ is $= EarningsPower = \frac{Operatingincome}{Totalassets}$, $InforQ_{i,t} = \Delta WC_{i,t} = \gamma_0 + \gamma_1{}^{*}CFO_{i,t-1} + \gamma_2{}^{*}CFO_{i,t} + \gamma_3{}^{*}CFO_{i,t+1} + \gamma_4{}^{*}\Delta Sales_{i,t} + \gamma_5{}^{*}PPE_{i,t} + \varepsilon_{i,t}$, Where$\Delta WC_{i,t}$ is the change in non-cash working capital from the year $t-1$ to year t, the CFO represent the cash flow of company in t-1, t, t+1 year, respectively. $ch-ROA_{i,t-1}$ and $ch-ROA_{i,t-2}$ are the change in return of assets from t to t-1 and t-1, respectively. $Leve_{i,t}$ = Debt to Equity Ratio $= \frac{\text{Total Liabilities}}{\text{Total Shareholders Equity}} Log(ASS)_{i,t}$ . Natural Logarithm of total assets. $SD_{i,t}$ = Standard deviation of revenue for firm and year i,t. $AG_{i,t}$ = the total years for the date of establishment to the year 2017. $Lag(ROE)_{i,t}$ = Lagged (past period) values of return of equity. $MV-equity_{i,t}$ = No. Outstanding shares × Price per share.
Numbers between parentheses are t-statistics.
*,**,*** Significance at the 10%, 5%, and 1% levels, respectively.

running the regression models in the following section.

*Regression analysis*

Table 6 and 7 provides the regression analysis results on the effects of audit quality, accounting information quality and earnings power on GCC companies' performance. Table 6 presents the results for equation 1.1 that used the market measurement of GCC companies performance with adjusted $R^2$ of EPS and Tobin's Q of 38% and 48%, which presents an excellent fit of Pseudo $R^2$ value of the models, according to McFadden (1997). The similar results were found by other researchers such as Kareem Al Ani (2021), El-Diftar and Elkalla (2019) and Yasser et al., (2017).

In testing the hypothesis ($H_1$), the relationship between audit quality and companies' performance in GCC countries for both market measurement ***EPS*** and ***Tobin's Q***, Table 6 results show a positively significant effect, (*coefficient=0.049, p>0.10*) and (*coefficient=1.64, p>0.01*), respectively. The results support the argument by Shleifer and Vishny (1997), where, good governance mechanisms, such as audit quality, help in solving the agency conflict. Thus, the results highly recommend the companies to appoint big audit firms which gives higher control over the managers and mitigates sharking behaviors, and thereby increasing the companies' performances. Moreover, Assad and Alshurideh (2020) argued that the audit quality helped companies in the GCC region to increase the investment efficiency, which the GCC countries governance regulators should encourage (Hassan et al., 2018). This is consistent with the findings of earlier researchers, (Sayyar 2015; Ching et al., 2015b; Jusoh et al., 2013; Fooladi and Shukor 2012).

In testing hypothesis ($H_2$), the relationship between financial reporting quality and companies' performances in GCC countries using both market measurement of ***EPS*** and ***Tobin's Q*** is undertaken. Results on Table 6 show a positively significant effect (*coefficient=0.00, p>0.01) and (coefficient=0.00, p>0.01*), respectively. Zhai and Wang (2016) argued that financial reporting quality is a good governance mechanism which helps to reduce the information asymmetry and agency problem. Also, Francis et al., (2009) supported the financial reporting quality that lead to higher resources allocation, thereby increasing the companies' performances (Zhai and Wang 2016; Sayed Hussin et al., 2019). Thus, this result shows the importance of financial reporting quality in the GCC countries, which will help improve the future investment due to more trust in the information where decisions are made (Zhongsheng and Hanwen, 2008). This is consistent with the findings from earlier researchers, (Dechow et al., 2010; Dechow 1994; Machdar et al., 2017; Chan et al., 2006; Hutagaol-Martowidjojo et al., 2019).

Finally, hypothesis ($H_2$) is tested, where the relationship between earnings power and companies' performance in GCC countries with both market measurements, ***EPS*** and ***Tobin's Q*** is executed**.** Table 6 shows the results of a positively significant effect (*coefficient=1.14, p>0.01) and (coefficient=7.18, p>0.01*), respectively. This result supports the argument that earnings power is a good signal that companies' managers are running the business in the best way and thereby monitoring the managers' behaviors (Herawaty and Solihah, 2019a). This is consistent with the findings from earlier research which concluded that the earnings power affect positively on companies' performance, (Müller 2013; Herawaty and Solihah 2019b).

Table 7 shows the results of the running equation 1.2, that examines the relationship between the independent variables as indicated in hypothesis ($H_1$), ($H_2$) and ($H_3$) using the accounting biased proxy of the GCC companies' performances (M/B, ROE). The results confirm the similar results and shows a positive relationship amongst audit quality, financial reporting quality and earnings power in the GCC companies' performances as measured by the M/B and ROE.

The audit quality, financial reporting quality and earnings power have positive and significant associations with the M/B proxy of performance at a level of 1% (*coefficient=0.15, coefficient=0.00 and coefficient=4.25*), respectively. Also, the audit quality, financial reporting quality and earnings power have a positive and significant association with the ROE proxy of performance at 1% level (*coefficient=0.00, coefficient=0.00 and coefficient=0.77*), respectively**.**

The differences between the market and accounting measures results appears amongst the control variables in the running models. Firstly, the relationship between the previous one year return on assets ($ch-ROA_{i,t-1}$), leverage ($Leve_{i,t}$), log of total assets ($Log(ASS)_{i,t}$), standard deviation of revenue ($SD_{i,t}$), company age ($AG_{i,t}$) and lag of ROE ($Lag(ROE)_{i,t}$) variables have the same results amongst all proxy of the companies' performances via market measures (***EPS, Tobin's Q***) and accounting measures (***M/B, ROE***), respectively. This is consistent with the findings from earlier research that have similar results between the accounting and market measurements (Jusoh et al., 2013; Dewi and Monalisa, 2016; Afza and Sajid Nazir, 2014.

However, the differences in the relationship between the two previous years' return on assets ($ch-ROA_{i,t-2}$) have a negative and significant relationship with the companies' performances, as measured by Tobin's Q at 1% level (*coefficient=-8.73*). Meanwhile, $ch-ROA_{i,t-1}$ and $ch-ROA_{i,t-2}$ have a positively significant relationship with the M/B and ROE at 1% level (*coefficient=0.69, coefficient=0.22*). Also, the relationship between the market value of the company ($MV-equity_{i,t}$) has a positively significant relationship with the market measure proxy EPS at 1% level (*coefficient=0.00)*. However, it has a negatively significant relationship with both the accounting measures with the proxy of performance via M/M and ROE at 1% level *(coefficient=0.00, coefficient=0.00)*. Those differences confirm the consistency and reliability of the study analysis results, where the inverse relationship between accounting and market measures were found. In previous years, ($ch-ROA_{i,t-2}$), which is an accounting measure, negatively affected the market measure reflection. On the other hand, reverse results were found, where the market value of equity ($MV-equity_{i,t}$) shows negative effects with an accounting measure proxy of a company's performance. Finally, the previous years' accounting measure does not have enough information for future oriented decision-making processes of investors. These results are supported by previous studies (Michel and Shaked, 1984; Singh et al., 2018).

## Conclusion

This study examines the effects of financial reporting quality as a governance mechanism within the GCC companies' performances. Moreover, in this study, we investigate the effects of external audit quality on the GCC companies' performances. The effects of earnings power on the companies' performances are also investigated. The market and accounting basis measurement of companies' performances is used to present the different results of the selected models in this study. To validate the study objectives of testing the three-research hypothesis, data was collected from several resources such as the "Gulfbase" database, Thomas Reuters Data stream and the companies' websites prior to the Covid-19 pandemic (2011 to 2017). The unbalance data regression is used to validate the study objectives, based on 191 companies with a total of 1337 company-year observations from Saudi Arabia, United Arab Emirates, Qatar, Bahrain, Oman, Kuwait. According to Shleifer and Vishny (1997), the inherent agency problems amongst companies, such as those in the Gulf Cooperation Council (GCC), needed strong governance mechanisms to reduce the impact of inflation on corporate performances and economic health. Furthermore, Myers and Majluf (1984) asserted that managers have more information about their firms than the current shareholders and prospective buyers, resulting in the information asymmetry problem in the marketplace. In addition, Herawaty and Solihah (2019a) concluded the concept of earnings power as a good indicator that a company's manager was running the firm in the most efficient manner, and that this may be used to monitor the managers' actions.

The study found financial reporting quality, audit quality and

earnings power to be good governance mechanisms that mitigated the agency problem and thereby enhanced the companies' performances within the GCC countries. Particularly, the study found a positively significant effect of financial reporting quality within the GCC companies' performances on accounting and market-based measurements. Thus, this study recommends companies to improve the quality of financial reporting, as it helps countries under the study to increase the stability of their economy in the future. Also, the study finds a positively significant effect of audit quality within the GCC companies' performances on accounting and market-based measurement. These results strongly advocate organizations to use the big four audit firms to receive critical assurance services and ensure the highest auditing standards are adhered to. The quality of financial reporting and auditing contributes to the reduction of information asymmetry and reduction of managerial control over the companies' operations. This governance mechanism encourages managers to be more disciplined in order to fulfill the shareholders' goal while mitigating the risk of sharking behaviors, which might have a detrimental impact on the performances of companies. Finally, the study finds a positively significant effect of earnings power within the GCC companies' performances. The earnings power gives a signal for current shareholders and future investors that the company has strong operating activities.

### *Implication of the Study*

The study's practical implication is that, with an effective governance mechanism, such as audit quality and accounting information quality, companies' performances can be improved. Large audit companies are critical in regulating manager behavior and enhancing the reliability of financial information. Additionally, the quality of accounting information is vital for the external user to make good decisions in terms of investments to be made in the GCC region. These circumstances will affect both individual enterprises and the GCC economies in the future.

In this study, the findings provide valuable feedback to the policymakers, governance regulators, companies, accountants, and auditors, suggesting a revamp and improve the quality of their financial reporting, while recommending the big four audit firms that demonstrate high quality of audit services. This will assist firms in the GCC nations to have a more effective oversight over their management, as well as improving the disclosure in their financial statements. Furthermore, the likelihood of increased competitiveness to improve information quality. Increased confidence in the financial statement enhances investment prospects in the region, as a result of the increased faith in financial statements. The findings of this study also pave the way for more research in this field, particularly in areas such as analyzing the relationship between financial reporting quality and audit quality as well as investment potentials in the GCC nations. These countries might benefit from having a more stable market due to the anxiety on the future scarcity of oil supplies.

### *Limitation and Future Research*

The current study suffers from several significant limitations. Firstly, increasing the number of cross-section firms and the period of the most recent years, which includes the Covid-19 pandemic and its effect on GCC companies' performance. There are limited findings on the financial reporting quality, external audit quality and earnings power, but other internal and external governance mechanisms effects within GCC countries such as the optimal size of board of directors, duality, board independence, audit committee characteristic, ownership types and concentrations are highly recommended for future research. In addition, the audit quality was measured using a dummy variable as a stand-in for the big four accounting and auditing firms. Still, other researchers utilized other measurements, such as audit fees and industry-specialized auditors, which are recommended for further investigation. In addition, it is strongly recommended to use different control variables on national and corporate levels to achieve an estimation with a lower error margin.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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