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Discretionary accruals, Financial Reporting Lag and the role of Managerial Ability: Evidence from a developing market

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Abstract

This study examines the impact of earnings management practices—as measured by companies' discretionary accruals (DACC) level—and managerial ability (MA), on the financial reporting lag. In addition, the study investigates the intermediary effect of executives' managerial ability on the relationship between the discretionary accruals' practices and the companies' financial reporting lag. This study used panel data for a sample of 114 firms listed on the Saudi stock exchange over 2011- 2019, which is analyzed using multiple regression. We found a significant negative effect of MA on both the level of companies' discretionary accruals and financial reporting lag. In addition, we found a negative relationship between DACC and the financial reporting lag. However, we found a significant positive effect of DACC on financial reporting lag during the presence of MA. Our study highlights the importance of having managers with high abilities, especially in emerging markets with weak corporate governance mechanisms, to reduce the motivation for management opportunistic behavior, and help stakeholders detect earnings management practices.

Keywords: Managerial ability, Discretionary accruals, Financial reporting lag, Saudi Arabia, Emerging markets.

I Introduction

Ensuring the timeliness of financial information could have significant implications for business practices and performance (Costello & Wittenberg-moerman, 2011). Issuing timely financial reports can, for instance, reduce the adverse effects of some organizational practices such as insider trading activities by working as a governance mechanism, which can eventually enhance confidence in capital markets (McGee & Yuan, 2008). Further, it conveys a positive signal to different stakeholders, especially investors, about its performance and profits (Adebayo and Adebiyi, 2016). Thus, companies must maintain the timeliness of their financial reports to convey their quality to stakeholders (Al-Ebel et al., 2020). That is, financial information must be provided on time to ensure its relevance and usefulness to stakeholders.

In contrast, the delay in publishing financial reports could be perceived as a negative indicator of their low quality. This, in turn, might contribute to losing the relevance of financial information and the spread of rumors concerning the companies' results and financial status (Agyei-Mensah, 2018). This view indicates the presence of a relationship between the delay of issuing financial reports and earnings quality or the presence of earnings management practices (Asthana, 2014; Agyei-Mensah, 2018; Bryan & Mason, 2020).

However, this relationship between earnings management practices (EMP) and financial reporting lag should not be interpreted as a universal relationship. This study argues that the

activation of governance practices, especially the monitoring role of executive management or managerial ability (MA), could play a part concerning the effect of discretionary accrual (DAAC) on financial reporting lag. This is based on the argument that highly effective managers can efficiently manage and use the available resources in a way that can bring positive organizational outcomes, including high quality of financial reporting (see Abernathy et al., 2018; Baik et al., 2018). To our knowledge, none of the previous studies have examined the anticipated role of managerial ability in the discretionary accruals-financial reporting lag relationship. Thus, the present work examines if executive managers' characteristics, especially MA, can affect discretionary accrual and improve the timeliness of financial reports. Besides, it investigates if the executives' managerial ability might affect the relationship between discretionary accrual and financial reporting lag.

Additionally, we observed that most previous related studies are conducted in developed markets, especially the US market (e.g., Huanga & Sun, 2017; Abernathy et al., 2018; Amirkhani et al., 2020; Cho & Choi, 2021; Haider et al., 2021). This is unfortunate because emerging markets have their own financial and governance features that can affect the quality of financial reporting. Thus, this study brings evidence from an emerging market—the Saudi stock market. We selected the Saudi market as the context of this study due to the Saudi government's great recent concern regarding economic and business development regulations, including the development of accounting and auditing standards and governance requirements (Al-Thuneibat et al., 2016). Although the Saudi market shares some characteristics with other developing markets, such as the emerging nature of the public equity market, it has some unique features that make it worthy of special investigation. These features include being one of the largest oil producers in OPEC (Habbash & Alghamdi, 2017), and the accelerating growth rate of the economy, which represents almost 25 % of the total Arab GDP (Albassam, 2014; Habbash & Alghamdi, 2017).

By analyzing the data, we found a significant negative effect of MA on the level of Saudi companies' discretionary accruals. In addition, we found a negative relationship between DACC practices and the financial reporting lag. However, this latter relationship becomes positive during the presence of MA, highlighting the importance of activating alternative governance mechanisms in emerging markets that are characterized by weak corporate governance structures. In the present case, MA was observed to play an important role in restraining the impacts of discretionary accruals concerning the timeliness of financial reporting.

The paper is structured as follows. Section two presents a background of the Saudi context. Sections three and four clarify the study's theoretical background and literature review and hypotheses development, respectively. Section five outlines research methods. Section six presents data analysis and findings. Finally, section seven concludes the paper.

2 A background

Saudi Arabia is one of the fastest-growing markets in the Middle Esat and North Africa regions. The gross domestic product (GDP) growth rate in Saudi Arabia averaged 70 percent from 2010 until 2021 (Trading economics, 2021). This is mainly because Saudi Arabia is one of the largest oil producers in OPEC (Habbash & Alghamdi 2017). Shipments of oil in the Saudi market account for 87 percent of total exports and 46 percent of GDP. However, recently, the Saudi government started to diversify its economy by investing in other business sectors such as telecommunications, petrochemicals, natural gas exploitation, and power generation (Trading economics, 2021).

Along with this rapid growth, Saudi Arabia, through the Board of Capital Market Authority, has issued its corporate governance code in 2006 and applied it in 2007, which was modified later in 2010. The corporate governance code included a set of rules and standards to regulate the management of joint-stock companies listed in the Saudi Exchange. Notably, according to this code, the board chairman cannot work in any

other executive positions in the entity. This indicates that CEO duality is not present in Saudi public companies (Baatour et al., 2017). This code aims to protect shareholders' and stakeholders' rights and maintain efficient use of resources and accountability for the stewardship of these resources (Baatour et al., 2017; Habbash, 2019). Thus, the issuance of this code is expected to affect financial reporting quality in Saudi Arabia (Habbash & Alghamdi, 2017).

3 Theory

This study is based on the stakeholder theory. Stakeholders are usually defined as individuals or groups who can influence or be influenced by organizational goals (Mamun et al., 2013). According to the stakeholder theory, shareholders are not the only stakeholders—that is, stakeholders include various interest groups such as shareholders, employees, customers, creditors, suppliers, and the government. The stakeholder theory highlights the significance of moral values in corporate affairs, including the quality and timeliness of financial reports (Ohaka & Akani, 2017).

All those stakeholders should be informed concerning how the company practices influence them. Sharing information with stakeholders will increase the transparency of company activities. The growing information needs of stakeholders have an operational bearing on financial reports, resulting in the quest for timely and credible financial reports. As suggested by the signal theory, the early issuance of financial statements or the timely financial information is perceived by stakeholders as a good indicator of the firm performance or practices, which can maintain stakeholder trust in the company practices (Ohaka & Akani, 2017). It conveys a positive signal to decision-makers and investors about the company's performance and profits (Al-Najjar & Abed, 2014).

In contrast, the late issuance of financial reports convoys negative issues concerning firm practices and performance. The financial report delay may result from disagreements between some stakeholders, such as auditors and corporate management, regarding accounting practices (Asthana, 2014). For example, Asthana (2014) indicated that the delay of the audit report could be the result of discretionary accruals. This is consistent with the idea that discretionary accrual practices could be employed as a tool to mislead stakeholders by delaying financial reports timing and showing better companies' performance in contrast to reality (Agyei-Mensah, 2018; Bryan & Mason, 2020).

According to the stakeholders' perspective, the activation of governance practices can reduce discretionary accruals. So, it is believed that the executive managers' characteristics can reduce discretionary accrual practices and improve the quality of the financial reports (Huanga & Sun, 2017; Cho & Choi, 2021). This is based on the view that highly efficient managers can manage the firm and use the available resources effectively in a way that might also affect financial reporting (Demerjian & McVay, 2012; Demerjian et al., 2013; Abernathy et al., 2018; Baik et al., 2018). In this regard, Bhutta et al. (2021) see that managers with higher ability can positively and significantly impact the company's performance and value. Further, managers with higher capability are anticipated to understand better the company operations, which may minimize the need for discretionary accrual practices due to the fear of losing reputation.

4 Literature review and hypotheses development

4.1 Management ability and discretionary accruals

Managerial ability is an essential managerial characteristic, which can be defined as the ability of managers to make and implement decisions to achieve a higher level of operational efficiency (Demerjian & McVay, 2012; Demerjian et al., 2013). MA is ultimately expected to contribute to higher levels of efficiency, improving the company's performance and achieving competitive excellence. This can be done through the superior business knowledge that higher-ability managers have compared to lower-ability managers, and hence their effective use of available resources in companies.

With this superior knowledge, those managers are expected to contribute to a higher quality of financial reporting (Demerjian & McVay, 2012; Demerjian et al., 2013). Supporting this argument, Ronen & Sadan (1981) indicated that the ability to develop high-quality expectations about future earnings requires a superior ability to forecast changes in firms' economic prospects. Baik et al. (2018) report that firms with high-ability managers have more predictable earnings. Supporters of this view indicated that higher managerial ability is associated with higher earnings quality. In this regard, Huanga & Sun (2017) showed that managers with higher abilities are less likely to participate in earnings management practices. Further, using international (US and EU) evidence, García-Meca & García-S_anchez (2018) found that managerial abilities play a significant role in the quality of financial reporting in banks, and that capable bank managers are less likely to manage earnings opportunistically. Similarly, using US data, Cho and Choi (2021) found that firms with higher managerial ability exhibit a better contemporaneous revenue-expense matching. Using evidence from Australia, Haider et al. (2021) show that managerial ability is positively associated with accounting conservatism.

In contrast, other studies reported a positive relationship between MA and discretionary accruals. For example, Demerjian et al. (2017) found that managers with higher capabilities are more likely to engage in deliberate income smoothing to improve future operational performance. Demerjian et al. (2020) found a positive relationship between MA and engagement in intentional smoothing. Similarly, Amirkhani et al. (2020) found that CEOs with high general ability in US public companies are more likely to utilize discretionary accruals. Eun-Ju (2020) shows that managers with increased capabilities have more incentives to smooth out earnings by reducing earnings volatility. Baik et al. (2020) found that managers with increased capabilities integrate more information about cash flows into current earnings through settlement to improve information about future cash flows and stock prices.

However, the majority of these studies are conducted in developed markets, especially the US context. A few studies are conducted in emerging markets. For example, using Chinese evidence, Wang et al. (2017) revealed that qualified managers or managers with higher management capacity are associated with less fraud in financial reporting. Using evidence from Tehran Stock Exchange, Oskouei and Sureshjani (2020) found that managers with higher ability engage in less real earnings management practices. Putra et al. (2021) found that the engagement of managers with higher capacity in real earnings management practices is more likely in Indonesian family firms.

In the Saudi context, different results are also reported. Al-Abbas (2009) found no association between corporate governance characteristics and earnings management. Habbash (2012) reported a negative relationship between governance characteristics and earnings management. Al-Thuneibat et al. (2016) indicated that effective governance mechanisms could reduce earnings management practices. Simialrily, Habbash (2019) reported that some corporate governance attributes, namely board size, and independence, are negatively associated with earnings management. However, none of these studies examined the relationship between MA and discretionary accruals. Considering the above-mentioned mixed findings and the shortage of studies conducted in emerging markets, we formulate the first hypothesis as follows*:*

H1. There is a negative relationship between management ability and discretionary accruals.

4.2 Managerial ability and financial reporting lag

Management attributes could influence a wide range of corporate decisions and practices (Bertrand & Schoar, 2003). In this regard, Bamber et al. (2010) found that the background and experience of executive directors could have a substantial influence on firms' reporting policies. Similarly, Ge et al. (2011) and DeJong & Ling (2013) observed that individual managers influence firms' accounting and disclosure policies.

In this way, some studies have discussed the relationship between the ability of executives and the timeliness of financial reporting (e.g., Abernathy et al., 2018; Baik et al., 2018). These studies argued that MA could manifest in shorter financial reporting lag because, in this case, the verification and confirmation of the financial information are expected to be made in a timelier fashion. In other words, managerial ability, as increases, could reduce the time needed to sufficiently discuss, comprehend, and evaluate significant accounting policies and unusual transactions with the auditor (Salterio, 2012), thereby reducing financial reporting lag. Plumlee & Yohn (2010) suggested that the presence of managers with higher ability—with their ability to understand and apply complex standards—is likely to motivate firms to release earnings earlier. In this regard, in the US. Context, Abernathy et al. (2018) found that higher managerial ability is associated with a shorter earnings announcement lag, a shorter audit report lag, and a lower probability of a late US Securities and Exchange Commission filing. They believe that managers with higher capabilities could maintain the organizational systems and controls that provide financial information, indicating that managers with increased capabilities provide timely financial disclosures. Baik et al. (2018) found a positive relationship between managerial ability and the quality of the corporate information environment. Relatedly, focusing on the emerging Omani market, Baatwah et al. (2015) found that CEOs with financial expertise are associated with timely audit reports. Thus, it is believed that higher managerial ability could be related to less delay in issuing financial statements. We contribute to these studies by testing the second hypothesis in the developing Saudi market, as follows:

H2. There is a negative effect of management ability on financial reporting lag.

4.3 Discretionary accruals and financial reporting lag and the intermediary role of managerial ability

Historical accounting research underscored the importance of timely financial information. In this regard, Feltham (1972), for example, demonstrates that a decision-maker's choices and expected payoffs are significantly affected by information timeliness. The delay in issuing financial reports might signal negative concerns regarding the company's performance and practices. In this regard, Agyei-Mensah (2018) indicated that firms' late disclosure and reporting are likely associated with bad news. Supporting this view, Bryan and Mason (2020) observed that the (audit) report delays are associated with US firms' earnings volatility. This is expected to motivate these companies to smooth their earnings. Bryan and Mason (2020) revealed that the degree of smoothing of earnings matters on the reported negative relationship between earnings volatility (audit) report lag. Considering these studies, we believe that firms that engage in discretionary accruals will not need to delay their fanatical reports. Thus, we anticipate that financial reporting lag could be associated with higher levels of discretionary accruals. Hence, we formulated H3 as follows:

H3. There is a negative effect of the level of discretionary accruals on financial reporting lag.

Along with the aforementioned anticipated impact of MA on discretionary accruals (section 4.1) and financial reporting lag (section 4.2), we believe MA would play a part in the relationship between discretionary accruals and financial reporting lag. Thus, we formulate the last hypothesis as follows:

*H4***.** There is a positive effect of the level of discretionary accruals on the financial reporting lag under the management ability of executives.

5 Research methods

5.1 Data and sample

The sample of this study covers listed firms in the Saudi Arabia Stock Exchange during the period 2011-2019. The list of firms is collected from the Saudi stock market reports, and the data used to construct our variables are gathered from companies' financial reports. We excluded companies belonging to the financial sector from our sample and companies having any unusual events during the study period, such as a merger,

splitting the share nominal value, or others. Our final sample is composed of 114 companies with 1026 firm observations. Table 1 shows the companies constituting our study sample and the sectors to which they belong.

Table 1 Sample companies

Sector	Number of Companies	%
Real estate management and development	10	8.7%
Investment and financing	4	3.5%
Media and Entertainment	2	1.7%
Applications and technology services	2	1.7%
Consumer Services	10	8.7%
Telecom	4	3.5%
Commercial and professional services	3	2.6%
Healthcare	7	6.1%
Capital Goods	12	10.5%
long-term goods	6	5.2%
Energy	5	4.3%
Public utilities	2	1.7%
Medicines	1	0.8%
Basic Materials	15	13.2%
Transportation	5	4.3%
Food production	12	10.5%
Food fragmentation	4	3.5%
Retail of luxury goods	8	7%
Total	114	100%

5.2 Variables measurement

As outlined in Table 2, financial reporting lag is measured based on the financial report delay period—the period between the end of the company's fiscal year and the time of publishing its financial reports (Bryan & Mason, 2020; Al-Ebel et al., 2020).

We follow Demerjian and McVay (2012) in measuring managerial ability by estimating how efficient managers use the company resources (see also Haider et al., 2021, Bhutta et al., 2021, Baik et al., 2020; Huanga & Sun, 2017). We firstly estimated the firm efficiency based on data envelope analysis (DEA) by industry and year along with these studies. This is done using seven input variables: net property, plant and equipment (PPE), net operating leases (OpsLease), net research and development, goodwill, and other intangible assets acquired and capitalized, cost of goods sold (COGS), and

general and administrative expenses (SG&A). Only one output variable (Net sales) is used, as shown in equation 1. The efficiency measure can take the value between zero and one. Companies with efficiency less than one will need to cut costs or increase revenue to improve efficiency. Thus, the following formula is used:

$$Max\ (DEA) = \frac{Sales}{COGS + SG\&A + PPE + INTAN + R\ \&\ D + GOODWILL + OTHERINTAN} \quad (1)$$

Then, because the overall company efficiency scores can be attributed to both the manager and the company—which may result in an underestimation or overestimation of the manager's ability—the company's overall competency has been divided between the company and management. As such, the main characteristics of the company that are expected to help or hinder management efforts, including total assets, market share, positive free cash flow, and age, are excluded from the calculated firm efficiency in equation (1) by using the following equation:

$$Firm\ Efficiency = \beta 0 + \beta 1\ Ln\ Total\ Assets + \beta 2\ Market\ Share + \beta 3\ Positive\ Free\ Cash\ Flow + \beta 4\ Ln\ Age + \beta 5\ Business\ segment\ concentration + \beta 6\ Foreign\ currency\ indicator + Year + Industry + E \quad (2)$$

Where Ln_Total assets represent the total assets of a firm at the end of a fiscal period. Market Share represents the percentage of revenues (sales) earned by a firm within its industry group during a fiscal period. Positive Free Cash Flow is a dummy variable equals one if a firm's free cash flow is not negative, and free cash flow is calculated as profit before depreciation and amortization minus change in working capital and capital expenditures at the end of a fiscal year period. Ln Age represents the number of years a firm has been listed on the Saudi Stock Exchange at the end of a fiscal period. Business Segment Concentration represents the ratio of individual business segment sales to total sales of all segments, and if there is no information on segments, a concentration of 1 is given to a firm. Foreign Currency Indicator is a dummy variable equals one if a firm reports a non-zero value for foreign currency adjustment. E represents error. Then, MA is the residual value of the company's efficiency model.

We followed Dechow et al. (1995) in calculating discretionary accruals according to the following equation:

$$TACC_{it} = \beta 1(1/Assets_{it-1}) + \beta 2\ (\Delta Rev_{it} - \Delta Rec_{it})/Assets_{it-1} + \beta 3\ PPE_{it}/Assets_{it-1} + E_t \quad (3)$$

Where $TACC_{it}$ represents the total actual accruals of a company (i) during a period (t) and is calculated as net income after tax minus net operating cash flows. $Assets_{it-1}$ represents the total assets of a company (i) at the end of the period (t-1). ΔRevit represents the amount of change in the revenue (i.e., revenues of the current period minus revenues of the previous period) of the company (i) during the period (t). $\Delta\ Rec_{it}$ represents the change in receivables (i.e., the current period's receivables minus the prior period's receivables) of a company (i) during period (t). PPE_{it} represents the property, plant, and equipment (total tangible fixed assets) of the company (i) at the end of the period (t). E_t represents the estimated discretionary accruals for each year in the same industry. The discretionary benefits are calculated as residuals of the equation by subtracting the non-discretionary accruals from the actual total.

We also used a set of control variables that affect the relationship between the dependent and independent variables: company size, leverage, book value per share, rate of return on total assets, and earnings per share. Firm size (F_SIZE) is calculated as the natural logarithm of the total book value of the firm's assets. Firm leverage (F_LEV) is calculated as the natural logarithm of the long-term debt divided by the total book value of the firm's assets. Book value

of the common stock (*S_BVA*) is calculated as the total book value of the company's assets divided by the average number of company's common stocks. The rate of return on total assets (ROA) is calculated as net income divided by the total book value of the company's assets. Finally, earnings per share (S_EAR) is calculated as net profit after taxes divided by the average number of the company's ordinary shares. Table 2 identifies the study variables and their measurement methods.

Table 2 Variables' measurement

Variable	Term	Measurement
Dependent Variables		
DACC	Discretionary accruals	The residual value obtained from the previous equation 3.
REP_GAP	Financial reporting lag	The difference between the period from the end of the financial year and the date of issuing the company's financial report.
Independent Variables		
CEO_MA	Managerial ability	The residual value obtained from equation 2.
*DACC*CEO_MA*	Discretionary accruals adjusted by managerial ability	The residuals value obtained from equation three multiplied in the residuals value obtained from equation 2.
Control Variables		
F_SIZE	Firm size	The natural logarithm of the total value of book assets.
F_LEV	Firm leverage	The ratio of total debt over the book value of total assets.
S_BVA	Stock book value	The total book value of the company's assets divided by the average number of common stocks of the company.
ROA	Rate of return on total assets	Net income divided by the total book value of the company's assets.
S_EAR	Earnings per share	Net profit after taxes divided by the average number of ordinary stocks of the company.

5.3 The study models

To test the hypotheses related to the effect of the managerial ability on both discretionary accruals (H1) and the financial reporting lag (H2), the effect of DACC on financial reporting lag (H3), and the effect of DACC on financial reporting lag during the presence of MA (H4), we use multiple linear regression analysis according to the following models:

$$DACC_{i,t} = B0 + B1\ CEO\_MA_{i,t-1} + B2\ F\_SIZE_{i,t} + B3\ F\_LEV_{i,t} + B4\ S\_BVA_{i,t} + B5\ ROA_{i,t} + B6\ S\_EAR_{i,t} + + 8\ INDUSTRY + ø\ YEAR + E_{it} \quad (4)$$

$$REP\_GAP_{i,t} = B0 + B1\ CEO\_MA_{i,t-1} + B2\ F\_SIZE_{i,t} + B3\ F\_LEV_{i,t} + B4\ S\_BVA_{i,t} + B5\ ROA_{i,t} + B6\ S\_EAR_{i,t} + 8\ INDUSTRY + ø\ YEAR + E_{it} \quad (5)$$

$REP\_GAP_{i,t}= B0+ B1\ DACC_{i,t-1}+ B2\ F\_SIZE_{i,t}+ B3\ F\_LEV_{i,t}+ B4\ S\_BVA_{i,t}+ B5\ ROA_{i,t}+ B6\ S\_EAR_{i,t}+ 8\ INDUSTRY+ ø\ YEAR+ E_{it}$ (6)

$REP\_GAP_{i,t}=B0+ B1\ DACC_{i,t-1}+ B2\ DACC_{i,t-1}*CEO\_MA_{i,t-1}+ B3\ CEO\_MA_{i,t-1}+ B4\ F\_SIZE_{i,t}+ B5\ F\_LEV_{i,t}+B6\ S\_BVA_{i,t}+B7\ ROA_{i,t}+B8\ S\_EAR_{i,t}+ 8\ INDUSTRY+ ø\ YEAR+E_{it}$ (7)

Where $DACC_{i,t}$ reflects the discretionary accruals for the company (i) in the year (t). $CEO\_MA_{i,t-1}$ reflects the executives' managerial ability for the company (i) in the year (t-1). $REP\_GAP_{i,t}$ reflects the period of delay in the financial report for the company (i) in the year (t). $DACC_{i,t-1}*CEO\_MA_{i,t-1}$ reflects the discretionary accruals adjusted by the managerial ability for the company (i) in the year (t). $F\_SIZE_{i,t}$ reflects the size of the company (i) at the end of the year (t). $F\_LEV_{i,t}$ reflects the leverage of company (i) at the end of the year (t). $BVA_{i,t}$ reflects the book value of common stock for the company (i) in the year (t). $ROA_{i,t}$ reflects the rate of return on total assets for the company (i) in the year (t). $S\_EAR_{i,t}$ reflects the earnings per ordinary stock for the company (i) in the year (t).

6 Empirical Findings

6.1 Descriptive statistics

In Table 3, we explain the descriptive statistics of the study variables. It is found that the results of discretionary accruals and managerial ability are close to each other. This is evident from the low standard deviation. In contrast, the high value of the standard deviation for financial reporting lag indicates significant variances in its values.

Table 3 Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Dev.
$REP\_GAP_{i,t}$	912	47	69	58	31.52
$DACC_{i,t}$	865	-8.58	2.05	-4.030	1.812
$CEO\_MA_{i,t-1}$	912	0	1	.40	.490
$DACC_{i,t-1}*CEO\_MA_{i,t-1}$	865	-9.756	9.983	1.787	3.777
F_SIZE	912	9.856	21.12	14.637	1.606
F_LEV	912	.0120	1.197	.3947	.2173
S_BVA	912	.2638	73.81	16.940	8.744
ROA	912	-5.82	4.40	1.116	1.962
S_EAR	912	-9.95	9.99	1.192	2.265

As per Table 4, we tested the presence of multicollinearity between the independent variables of the study, where the variance inflation factor (VIF) was calculated for each of the independent variables. It is clear from the table that the value of VIF is less than ten and close to zero. So, it is evident that there is no multicollinearity issue between the study's independent variables.

Table 4 Collinearity test

Variable	$DACC_{i,t}$		$REP\_GAP_{i,t}$		$REP\_GAP_{i,t}$		$REP\_GAP_{i,t}$	
	Tol.	VIF	Tol.	VIF	Tol.	VIF	Tol.	VIF
$DACC_{i,t-1}$					.725	1.380	.722	1.385
$CEO\_MA_{i,t-1}$	.829	1.206	.827	1.210			.740	1.351
$DACC_{i,t-1}$*$CEO\_MA_{i,t-1}$							.871	1.148
$F\_SIZE_{i,t}$	.677	1.478	.675	1.481	.588	1.702	.575	1.739
$F\_LEV_{i,t}$	.767	1.304	.766	1.306	.777	1.287	.758	1.319
$S\_BVA_{i,t}$	.678	1.476	.675	1.481	.658	1.519	.643	1.556
$ROA_{i,t}$	.869	1.151	.869	1.151	.872	1.147	.866	1.155
$S\_EAR_{i,t}$	.746	1.341	.745	1.342	.759	1.318	.737	1.358

Table 5 Correlation matrix

	$REP\_GAP_{i,t}$	$DACC_{i,t}$	$CEO\_MA_{i,t-1}$	$F\_SIZE_{i,t}$	$F\_LEV_{i,t}$	$S\_BVAi_{,t}$	$S\_EAR_{i,t}$	$ROA_{i,t}$
$REP\_GAP_{i,t}$	1							
$DACC_{i,t}$	-.008	1						
$CEO\_MA_{i,t-1}$	-.205***	-.011*	1					
$F\_SIZE_{i,t}$	-.086**	-.480***	.002	1				
$F\_LEV_{i,t}$	-.038	.100**	.007	.376***	1			
$S\_BVAi_{,t}$	-.066*	-.342***	.023	.376***	.264***	1		
$S\_EAR_{i,t}$	-.108***	-.007	.183***	.110***	.062*	.373***	1	
$ROA_{i,t}$	-.045	-.003	.118***	.120***	.063*	.147***	.324***	1

*** Correlation is significant at 0.001, ** Correlation is significant at 0.01, * Correlation is significant at 0.05.

Table 5 shows the coefficients of the relationship between the study variables. The results show that discretionary accruals are significantly negatively correlated with managerial ability. This reflects the decline in earnings management practices through discretionary accruals if executive managers have higher management ability (Haider et al., 2021; cf. Demerjian et al., 2017, Baik et al., 2020). It also emphasizes managers' ability to achieve a higher level of operational efficiency without the need for discretionary accruals practices (Demerjian and McVay, 2012; Demerjian et al., 2013). The results also showed a significant negative correlation between managerial ability and financial reporting lag. This indicates that the delay in financial reporting is linked to the weakness of managers' capabilities (see Baik et al., 2018). The results also show a negative

correlation between discretionary accruals and financial reporting lag (Agyei-Mensah, 2018).

6.2 The Main analysis

6.2.1 The effect of managerial ability on both discretionary accruals and financial reporting lag

Table 7 summarizes the results of the linear regression analysis related to equations 4 and 5 (see section 5.3), i.e., the relationship between MA and both discretionary accruals (H1) and financial reporting lag (H2). Focusing on Model 1, F Test equals 53.615 with a significance < 0.001. Further, a significant effect is found for executives' managerial ability (the independent variable) and the size of the company, the degree of financial leverage, the book value of the common stock, the rate of return on assets and earnings per share (control variables) on the dependent variable (the discretionary accruals). The correlation coefficient equals 0.526, indicating that the association between the executives' managerial ability and discretionary accruals equals %52.6. The coefficient of interpretation is .276, meaning that independent and control variables can interpret %27.6 of the change in the dependent variable. We also found a significant negative effect of executives' managerial ability on discretionary accruals (P < 0.05). This means that managers with high capabilities can help in providing high-quality financial reports, and this is evident through the reduction of discretionary accruals. Hence, the results show that discretionary accruals are significantly negatively (positively) affected by the increase (decrease) in the executives' managerial ability. This, in other words, means that the availability of executives with high managerial capabilities could prevent the opportunistic behavior of the management. This result supports García-Meca & García-Sánchez (2018), Huanga and Sun (2017), and Wang et al. (2017), who reported that managers with higher ability are less likely to engage in earnings management practices. However, this finding is different from other studies such as Baik et al. (2017) and Demerjian et al. (2017, 2020), who reported a positive relationship between MA and engagement in income smoothing practices. Our different finding supports the view that emerging markets need alternative governance mechanisms to enhance the quality of financial reporting therein (Bremer & Ellias, 2007; Diab et al., 2021).

Regarding Model 2, F Test equals 21.705 with a significance < 0.001. The correlation coefficient equals 0.367, indicating that the association between the executives' managerial ability and financially reporting lag equals 36.7%. The interpretation coefficient equals 0.135, meaning that independent and control variables can interpret %13.5 of the change in the dependent variable. We also found a significant negative effect of executives' managerial ability on financial reporting lag (P < 0.05). This means that the availability of financial reports that are more appropriate and beneficial to investors' decisions depends on the presence of managers with high ability. This is evident by providing them on time (i.e., by the lower delay in issuing the financial report). In other words, financial reporting lag is significantly negatively (positively) affected by the increase (decrease) in the executives' managerial ability. Hence, the higher executives' managerial ability can decrease delays in issuing the companies' financial reports. This finding supports the view that MA is associated with a higher quality of financial reporting (e.g., Bamber et al., 2010; Baik et al., 2018), including the timeliness of issuing financial statements (see Plumlee & Yohn, 2010; Abernathy et al., 2018; Baik et al., 2018).

Table 7 Managerial ability, discretionary accruals, and financial reporting lag

Variables	*Model 1* Depend Variable *($DACC_{i,t}$)*	*Model 2* Depend. Variable *($REP\_GAP_{i,t}$)*

	Coefficients	*t*-value	Coefficients	*t*-value
$CEO\_MA_{i,t-1}$	-1.57	-.785*	-3.564	-1.855*
F_SIZE	-9.39	-13.651***	-3.344	-5.065***
F_LEV	39.91	.827	26.92	5.827***
S_BVA	-.918	-7.277***	.186	1.544
ROA	.001	1.973*	1.079	.229
S_EAR	.000	3.374**	-1.344	-3.039**
Constant	1.443	15.834***	75.761	8.663***
Industry and year dummies	Yes		Yes	
R	.526		.367	
R-squared	.276		.135	
F. Test	53.615***		21.705***	
Observations N	865		912	

*** Correlation is significant at 0.001, ** Correlation is significant at 0.01, * Correlation is significant at 0.05.

6.2.2 Financial reporting lag, discretionary accruals, and the modified role of managerial ability

Table 8 summarizes the results of the linear regression analysis related to equations 6 and 7 (section 5.3), i.e., the relationship between discretionary accruals and financial reporting lag in one hand (H3), and the modifying role of MA in this relationship in the other hand (H4). Focusing on Model 3, it is found that F. Test equals 22.727 with significance < 0.001. The correlation coefficient reveals a significant relationship between the discretionary accruals and financial reporting lag which equals 0.373. The interpretation coefficient is 0.139, which means that the independent variables and the control variable can interpret 13.9% of the change in the dependent variable. A significant effect of the discretionary accruals (as an independent variable), the company size, the financial leverage degree, the common stock book value, and the rate of return on assets and earnings per share (as control variables) is found on the dependent variable (the financial reporting lag). In particular, we found a significant negative effect of the discretionary accruals on financial reporting lag. This finding suggests that firms that engage in DACC are less likely to have financial reporting lags. This result supports Bryan and Mason (2020), who reported a relationship between earnings smoothing and (audit) reporting lag.

In Model 4, F. Test equals 18.082 with significance < 0.001. The correlation coefficient reveals a significant relationship between discretionary accruals adjusted by managerial ability and financial reporting lag equals 0.374. The interpretation coefficient equals 0.14, meaning that the independent variables and the control variable can interpret 14% of the change in the dependent variable. We found a significant positive effect of discretionary accruals adjusted by managerial ability on the financial reporting lag. This means that the existence of MA has diminished the previously mentioned adverse impact of DACC concerning financial reports lag. This indicates that higher MA will reveal DACC and restrain their effects on the organization and its reporting practices. This finding reaffirms the importance of MA as an

alternative governance mechanism in the Saudi stock market—as an emerging market where corporate governance is not highly effective (see Bremer and Ellias, 2007). As previously indicated, in this kind of market, alternative governance mechanisms, such as MA, are crucial to enhance and maintain financial reporting quality (Baik et al., 2018).

Table 8 Discretionary accruals, financial reporting lag, and the modifying role of MA

Variables	Dependent variable: financial reporting lag			
	Model (3)		*Model (4)*	
	Coefficients	*t*-value	Coefficients	*t*-value
$DACC_{i,t-1}$	-5.8997	-2.056*	6.3747	2.239*
$CEO\_MA_{i,t-1}$			-2.923	-3.470**
$DACC_{i,t-1}*CEO\_MA_{i,t-1}$			2.6340	1.139*
F_SIZE	-3.687	-5.205***	-3.899	-5.463***
F_LEV	26.440	5.768***	26.695	5.759***
S_BVA	.122	.991	.118	.956
ROA	8.1551	.172	1.6929	.359
S_EAR	-1.3449	-3.051**	-1.2259	-2.761**
Constant	78.735	8.243***	84.064	8.658***
Industry and year dummies	Yes		Yes	
R	.373		.374	
R-squared	.139		.140	
F. Test	22.727***		18.082***	
Observations N	912		912	

*** Correlation is significant at 0.001, ** Correlation is significant at 0.01, * Correlation is significant at 0.05.

6.3 Additional Analysis

As shown in Table 9, the Wilson-Mann-Whitney Test was performed to reexamine the effect of managerial ability on the level of discretionary accruals and the delay in issuing the financial reporting. Regarding the impact of MA on $DACC_{i,t}$, it is found that the Mann-Whitney U Test equals 1.798, and the Wilcoxon W Test equals 4.689. In addition, the Z-Score value through which the equivalent values in the original data are corrected equals -2.136. The statistical significance values (Asymb. Syg.) indicate that the difference between the two groups (i.e., higher-MA and lower-MA) was large and statistically significant. Further, the mean ranking rate for higher-MA equals 617.02, while the average rank for lower-MA equals 661.84. This means that the level of Discretionary Accruals is more significant in the case of a decrease in executives' managerial ability than in the case of an increase in executives' managerial ability, which supports our previous results concerning the impact of

MA on DACC. In addition, this result is supported by the significance of the k. Simonov Z test, which indicates that the distribution of data related to executives' managerial ability is abnormal, and hence the whole test is needed and correct.

Regarding the effect of MA on $REP\_GAP_{i,t}$, it is found that the Mann-Whitney U test equals 1.375 and the Wilcoxon W Test equals 2.648. In addition, the Z-Score value through which the equivalent values in the original data are corrected is -3.633. The statistical significance values (Asymb. Syg.) indicate that the difference between the two groups (i.e., higher-MA and lower-MA) was large and statistically significant. The mean ranking rate for higher-MA equals 525.31, while the average rank for the lower-MA is 596.16. This means that the financial reporting lag is more significant in the case of a decrease in executives' managerial ability than in the case of an increase in executives' managerial ability, which is consistent with the previous results relating to the impact of MA on $REP\_GAP_{i,t}$. In addition, this result supports the significance of the K. Smirnov Z test, which indicates that the distribution of data related to executives' managerial ability is abnormal. Hence, the whole test is needed and correct.

Table 9 Additional analysis

	Discretionary Accruals		Financial Reporting Lag	
	$CEO\_MA_{i,t-1}$ (+)	$CEO\_MA_{i,t-1}$ (-)	$CEO\_MA_{i,t-1}$ (+)	$CEO\_MA_{i,t-1}$ (-)
Mean Rank	617.02	661.84	525.31	596.16
Mann -Whitney U	1.798		1.375	
Wilcoxon W	4.689		2.648	
Z	-2.136		-3.633	
Asymp. Sig.	.033		.000	
K.Smirnov Z	2.890		2.189	
Asymp. Sig.	.000		.000	

7 Conclusion

Using evidence from the Saudi stock market—as an emerging developing market—this study examined the modifying role of managerial ability on the relationship between discretionary accruals and financial reporting lag. This study provides practical evidence on the negative impacts of managerial ability on discretionary accruals. This indicates the reduction of management's opportunistic behavior (through discretionary accruals) in companies with higher capabilities. This finding supports the link between managers with higher ability and financial reporting quality (Demerjian & McVay, 2012; Demerjian et al., 2013). Hence, this finding confirms the literature that supports the relationship between MA and lower earnings management practices (e.g., Huanga & Sun, 2017; García-Meca & García-S_anchez, 2018; Cho & Choi, 2021). In contrast, the present finding is different from other studies reporting a positive relationship between MA and discretionary accruals, such as Demerjian et al. (2017, 2020), Eun-Ju (2020), and Baik et al. (2020). Our different finding stresses the crucial need for effective governance mechanisms (including higher managerial ability). This is especially important in emerging markets characterized by weak governance systems compared to the situation in developed and stable markets such as the US, Australian and European markets—to improve the quality of financial

reporting (Bremer & Ellias 2007; Diab et al., 2021).

Besides, we found that the delay in issuing financial reporting is lower in companies having managers with higher abilities. This finding supports the reported negative relationship in the literature between MA and financial reporting lag (e.g., Baatwah et al., 2015; Abernathy et al., 2018) and studies supporting the positive relationship between MA and quality of financial reporting (Baik et al., 2018). Finally, we found a negative relationship between discretionary accruals and financial reporting lag. This relationship has been modified with the presence of executives with higher managerial ability. That is, our results revealed the existence of a positive relationship between discretionary accruals and financial reporting lag during the presence of managers with higher capacity. This implies that managers with higher ability can restrain the impact of discretionary accruals concerning the timeliness of financial reporting. This is due to the role of MA in revealing and curbing the discretionary accruals, which can reduce their effects on the timing of issuing financial reports.

This study contributes to the literature in two main respects. Firstly, it clarifies that the relationship between discretionary accruals and financial reporting lag is not universal; instead, it is affected by MA. Secondly, it contributes to the shortage of studies conducted in emerging markets as most of the present literature is conducted in developed markets, especially the US market. The finding of this study is expected to direct the attention of investors and regulators in the developing Saudi market—and other emerging markets with similar institutional settings—to the important positive rule of MA in containing adverse organizational (reporting) practices such as DACC and delays in issuing financial reports. Based on the findings of this study, it is suggested that companies must enhance the managerial capacity of executives, for example, through learning curves and developing their skills.

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