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The Impact of The Relationship Between Managerial Ability and Earnings Management by Classification Shifting on Transparency of Financial Reporting and Firm Value: An Empirical Evidence from The Saudi Capital Market.

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### Abstract

This research investigates the impact of interaction between managerial ability (MA, hereafter), and earnings management by classification shifting (EMBCS, hereafter) on financial reporting transparency and firm value. This study examines whether highly competent managers are more likely than other managers to intentionally classification shifting as a means of managing earnings. Furthermore, this study also tests economic consequences associated with the inter-relationship between EMBCS practices and MA. We collected data from 125 non-financial firms listed on the Saudi Capital Market from 2015 to 2019. The results demonstrate that a high MA mitigates EMBCS practices. The results also show that the inter-relationship between EMBCS practices and MA reduces the costs of the agency as an indicator of the transparency of accounting information. Moreover, our findings show that the relationship between EMBCS practices and MA has a positive influence on the value of the firms listed on the Saudi Capital Market.

**Key Words:** Classification shifting; Managerial ability; Financial reporting transparency; Agency costs; Firm value.

### 1. Introduction

Accounting information is used by stakeholders to evaluate the company's performance and decision-making. In this respect, quality of earnings is an important feature of financial reporting that affects the efficiency of resource allocation. The management of earnings and quality of earnings are highly examined in the accounting literature.

One of the factors driving the growth of earnings quality studies is the ability of managers to play a role in managing earnings (SeTin and Murwaningsari ,2018). A manager with a valuable capability will be able to use firm resources more effectively and enhance of the earnings quality (Demerjian et al.,2013). Therefore, Managers' ability to develop effective business processes and make value-added decisions is key to business success. In addition, the management is obligated to communicate the firm's performance as outlined in the financial reports to stakeholders.

Corporate management must exercise sound judgment when making financial reporting decisions. With respect to that, there are two types of management judgment. First, management's judgment with respect to the evaluation and display elements of the financial statements, such as estimating economic life and residual value of property assets. Second, management's judgment on the choice of accounting policies and methods of preparing financial reports, such as the method of depreciation and the inventory valuation method (SeTin and Murwaningsari ,2018). As a result, a manager's ability is one of the most critical factors that has been examined intensively in recent years due to the positive effects on the quality of financial reporting and the value of the firm (Arora et al. 2017; García-Meca and García-Sánchez 2018). Understanding the relationship between EMBCS practices and MA is critical for at least two reasons. Firstly, impact of MA on the quality of accounting information can be extended to the information disclosed and its economic impacts on the value of firms (Yan et al.,2021). Secondly, MA has been addressed in the research literature on how MA affects financial reporting quality and forecasting.

A growing body of research is examining the influence of managers' capability on the quality of the information environment about the firm and its impact on the value of the firm. These studies may be divided into three groups. First group includes the studies that have focused on MA as a critical factor affecting the quality of earnings. These research results reveal two conflicting views. The first view showed that high

ability of managers improves quality of earnings measured by accurate accrual estimates, financial restatement, and persistence of earnings (SeTin and Murwaningsari, 2018; Baik et al., 2018; Garcia-Meca and Garcia-Sanchez ,2018; Choi et al., 2015; Demerjian et al., 2013). Similarly, other research has shown reported that increased managerial ability leads to decrease real earnings management practices (Huang and Sun 2017) and fraudulent financial reports (Wang et al., 2017). Moreover, highly competent managers promote quality of accounting information measured by the smoothing of earnings and earnings appropriateness (Baik et al.,2020). Skousen et al., (2019) revealed that increased MA reduces the level of classification shifting through discontinued operations. The second view showed that high ability of managers represent incentive to manage the earnings (Herawaty and Solihah, 2019; Gul et al., 2018).

The second group consists of studies focusing on the influence of MA on the narrative disclosure in financial reports. Positive evaluation of managers leads to better vocation chances, increased remunerations, and value in the labor market (Yan et al., 2021). For these reasons, managers are concerned with how their ability is perceived in the labor market. A negative assessment of management abilities is likely to have negative results for their career, which can occur in the form of reduced compensation or poor job expectations. Consequently, managers may opportunistically manipulate the content and nature of disclosure to change stakeholders' perception of their ability. In this regard, previous studies have documented that higher ability managers have disclosed more accurate predictive information, (Baik et al. ,2011; Lee, 2012), more readable (Hasan, 2020), more comparability, and using a more positive tone on earnings declarations (Luo and Zhou, 2017). Highly skilled managers also promote the quality of timely financial reporting (Abernathy et al., 2018). Other earlier studies have shown the positive impact of MA on the dissemination of specific accounting information. For instance, Baik et al., (2018) verified a positive and significant relationship between the MA and the quality of the information

environment. Rajabalizadeh and Javad (2022) conclude that there is a positive relationship between the MA and the extent of disclosure of intellectual capital.

The third group consists of studies that investigated the influence of MA on the value of the firm. These studies have shown that highly skillful managers are more valued and play an important role in firm policies that manage resources more efficiently and maximize firm value (Rajabalizadeh and Javad ,2022; Wiratama and Sum ,2021; Bhutta et al.,2021; Gong et al. ,2020; Chuah and Foong ,2019). In contrast, Demerjian et al., (2020) found that firm value was unaffected by MA. In addition, Yan et al., (2021) found that the tone of press releases about the earnings of low MA reduced the firm's share price response.

The findings presented above provided mixed results regard to the impact of MA on earnings quality and firm value. As well, few previous studies have examined the relationship between EMBCS practices as an indicator of earnings quality and MA. In addition, there are three research gaps in previous studies which examine the relationship between the MA and the quality of disclosure. Firstly, earlier studies have used various surrogates that reveal differential dimensions of the quality of disclosure (Angraini and Mahfud,2021). Secondly, it is not clear whether the extent of firm disclosures varies with the level of MA (Angraini and Mahfud,2021). Finally, previous studies have focused on narrative disclosure with insufficient attention to quantitative measurement of the quality of disclosure. Consequently, the literature does not provide evidence on the impact of MA on a comprehensive quantitative measure of the quality of disclosure, such as agency costs. Therefore, this study is intended to fill in the aforementioned gaps by providing empirical answers to the following three questions. First, is there an impact of MA on the EMBCS practices?. Second, does the relationship between EMBCS practices and MA have an impact on agency costs as an indicator of financial reporting transparency?. Third,

does the relationship between EMBCS practices and MA affect the firm's value?

Research hypotheses were established using the upper echelons theory, agency theory and obfuscation theory. This paper assumes that managers with high ability exercise accurate judgements for preparing financial reports, which leads to improving the quality of accounting information. This study developed three hypotheses to examine the impact of the relationship between EMBCS practices and MA on financial reporting transparency and firm value. Based on a sample of non-financial companies listed on the Saudi capital market an over five-year period from 2015 to 2019, research yielded three key results. First, there is a negative and significant relationship between EMBCS practices and MA of firms listed on the Saudi capital market. Second, there is a negative and significant impact on the relationship between EMBCS practices and MA on agency costs of firms listed on the Saudi capital market. Third, there is a significant and positive impact on the relationship between EMBCS practices and MA on the value of firms listed on the Saudi capital market.

This research contributes to the literature on the economic consequences of MA in three ways. Firstly, previous studies investigated the relationship between the MA and the quality of disclosures by examining specific financial communication channels (e.g., carbon information) rather than employing measures that capture the comprehensive quality of the disclosure. Unlike previous research, this study uses agency costs as a comprehensive quantitative indicator for the quality of financial reporting transparency. Secondly, in contrast to previous studies (such as, Wang et al., 2017; Baik et al., 2020; Herawaty and Solihah, 2019), this research investigates the impact of MA on the quality of earnings by using classification shifting practices as an earnings management tool. Finally, this study contributes to a literature that investigates economic consequences of the MA in emerging countries.

The remainder of this paper is structured as follows. The next section of this study discusses the relevant literature, and the research hypotheses. The design and methodology of the research is then discussed. Reports and discussions involving the statistical results of the research are displayed. Finally, we report on our findings and future areas of research.

## 2. Theory and hypotheses development

Senior management, especially the chief executive officer, is well known as the most powerful player in a business and should have the greatest impact on results (Anggraini and Mahfud,2021). MA is interpreted as the chief executive officer or top management team's capability to efficiently translate firm resources to revenue, earnings, or firm value respectively to its sector peers (Demerjian et al.,2012). MA relates to the scale that managers can appreciate a firm's economic position, business environment, and ability to carefully assess both future chances and firm performance (Arora et al., 2017). Essential skills that lead to MA are (1) Human abilities; it means the feature owned by a manager to work effectively with others. (2) Technical abilities: they involve appropriate technological knowledge and operate technology for various tasks. (3) Conceptual abilities; it implies the ability to see the firm as a one unit and recognize the linkage between different functions in the firm, furthermore, the capability to create ideas and accomplish strategies (Arora et al., 2017).

MA is seen as one of the most significant features of managers that have been the subject of recent accounting studies. A number of researchers have examined the impact of MA on the quality of accounting information and its impact on financial markets. The firm's information environment includes information disclosed in financial statements, annual board reports, social media, and other sources of firm information. Therefore, the quality of the business informational environment is not synonymous with the quality of disclosure. Most MA studies assumed that the quality of disclosure was a proxy of the



quality of the firm's information environment. As a result, the study of the impact of MA on the quality of disclosure should be expanded to include narrative disclosures of financial reports.

Theoretically, if labor market has pre-existing expectations about declining management ability, this motivates managers to distort accounting information by overstating firm performance (Yan et al., 2021; Baik et al., 2018; Demerjian et al., 2012). Classification shifting refers to intended disclosure of expenses or revenues on unsuitable lines on the income statement (Skousen et al., 2019). For example, management can intentionally shift normal operating expenses to extraordinary items to inflate the firm's basic income. As a result, the classification shifting uses as a tool to manage earnings, which attitude a low risk of detection (Skousen et al., 2019). This study uses classification shifting practices as a proxy for the quality of firm earnings and agency costs as an indicator of the quality financial reporting transparency. In other words, this study investigates empirically the impact of MA on EMBCS practices. Furthermore, this paper examines the impact of the interaction between EMBCS practices and MA on agency costs and firm value. Figure 1 shows the framework of the study.

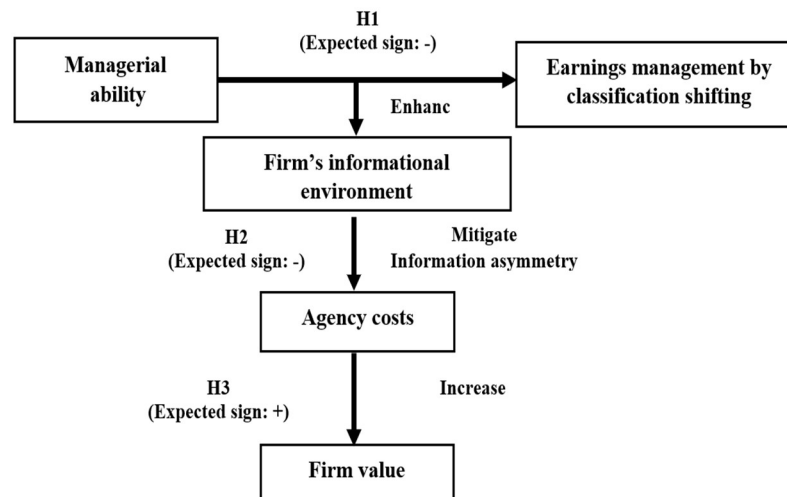


Figure 1. The impact of the interaction between EMBCS practices and MA on agency costs and firm Value.

There are mixed findings from previous research on the relationship between the MA and the quality of accounting information. These studies are described in the following section.

## 2.1 MA and earnings quality

Earnings are an important indicator of management performance. As well, managerial characteristics are a significant factor in determining earnings management practices. Even though managers with high managerial ability can employ their capability to reduce earnings management behavior and enhance earnings quality. These abilities can also be employed in earnings management (Demerjian et al., 2020; Huang and Sun, 2017). Earnings management tools can be categorized under accrual basis, actual activities, and classifications shifting. Accrual accounting and actual activities are the main tools used to manage earnings. In the management of accrual accounting, managers take earnings management measures to achieve desired objectives by manipulating accrual accounting through early revenue recognition and by delaying expenditures. Manipulation of actual activities happens when managers are involved in activities that will modify the timing or structure of firm performance in the future (Oskouei and Zahra, 2020).

Regardless of the tool for earnings management, this study relies on agency theory to differentiate between opportunistic and beneficial practices of earnings management. There are two perspectives for explaining earnings management practices. Earnings management can be advantageous because managers can practice their judgment to enhance the value of earnings information and disclose personal information to stakeholders. The beneficial behavior of earnings management focuses on providing a sign of current and future performance of the firm (Simamora ,2019). On the other hand, management can use the flexibility offered by accounting standards to manage earnings unethically, which leads to distortions in the earnings disclosed (Jiraporn, et al. 2008). The upper echelons theory suggests

that managerial characteristics determine the performance and decision of the firm (Putra et al., 2021). Management characteristics are a key element in deciding policy and strategy, as managers are the main players in managing and implementing company decisions. One of the attributes is managerial ability (Putra et al., 2021). Agency theory and resource theory suggest that there are two lines of research that explain and empirically examine the impact of MA on earnings quality.

The first stream includes studies that support the hypothesis of opportunistic earnings management for managers with high ability. The opportunistic behavior of earnings management aims to maximize the benefit of management function by distorting accounting information (Menicucci, 2020). As for the opportunist hypothesis, some studies indicate that there is a significant and negative relationship between the MA and earnings quality that measured by accrual accounting and real activities (Romadhon and Indra ,2020; Huang and Sun ,2017).

The second stream consists of studies that support the hypothesis of efficiency earnings management for managers with high ability. Under the efficiency hypothesis, some studies confirm that MA adds value to the firm through efficient use of resources and improving the competitive advantages of the firm. As a result, managers with superior abilities are more likely to develop and maintain more effective internal control, improving the quality of financial reporting (Lee ,2015). Therefore, managers with higher ability provide higher earnings quality and less are more inclined to financial restatement (Oskouei and Zahra ,2020; Baik et al.,2020; Demerjian et al., 2020; Abernathy et al., 2018; SeTin and Murwaningsari , 2018; Petkevich and Prevost 2018; Luo and Zhou, 2017; Wang et al. 2017; Huang and Sun, 2017; Demerjian et al., 2013; Baik et al.,2011). Simamora, (2022); Qi et al., (2018) and Huang, and Sun, (2017) find a significant and negative relationship between a manager's ability and real earnings management. While Lukita, (2022) demonstrated significant and positive impacts of MA on the quality of earnings, measured by sustainable earnings. In the same direction, Demerjian et al., (2020) find (a) that high ability managers are far more

likely to be involved in intentional earnings smoothing, (b) intentional earnings smoothing correlates with enhanced future firm performance. Baik and David, (2020), show that there is an a direct relationship between the MA and income smoothing. Baik et al. (2018) state that there is a positive impact of high ability managers on the accuracy of earnings forecasting. Skousen et al., (2019) revealed that increased MA reduces level of classification shifting through discontinued operations. Juliani and Siregar (2019) documented that MA has a negative impact on quality earnings persistence and earnings predictability. Demerjian et al., (2020) documented that highly capable managers are more probably to provide smooth earnings and reduce the likelihood of breaking debt obligations.

Managerial ability indicates the capability of managers to understand business activities and economic decisions that enable them to efficiently transform the firm's own resources into revenues (Hasan, 2020; Demerjian et al.,2012). The theory of upper echelons proposes that variations in the executive's values and cognitive forms result in different decisions particularly in complex situations (Bamber et al., 2010; Hambrick and Mason, 1984). This theory shows that managerial features have both financial and non-financial consequences. In addition, the theory of obfuscation suggests that managers may be engaged in obfuscating information by reducing the transparency of financial reporting in order to weaken negative reactions in financial markets (Hasan, 2020). Managers tend to obscure information when businesses suffer from poor financial outcomes (Dempsey et al., 2012). There is no agreement with respect to the relationship between MA and quality of financial reporting. Logically, firms with greater managerial capability can improve the quality of financial reporting.

Based on the above, this study proposes that there is a relationship between EMBCS practices and MA. On that basis, we present the following hypotheses for empirical testing.

***H1: There is a significant and negative relationship between EMBCS practices and MA of firms listed on the Saudi capital market.***

## **2.2 MA and disclosure quality.**

Earlier studies used agency theory, resource theory and legitimacy theory to empirically examine the impact of MA on the quality of disclosure. For example, some previous studies have focused on agency theory to examine the impact of MA on the nature, extent, and tone of disclosure. The vast majority of market models use earnings to predict future business performance (Yan et al.,2021). But much of the change remains unexplained by quantitative data. In fact, previous research shows that quantitative information only gives stakeholders a partial picture of the firm's performance (Brockman et al., 2017; Davis et al., 2012). Moreover, the announcement of earnings is a key tool to inform stakeholders about the firm's performance. An important feature of the content of news announcements on profits is largely voluntary, which offers managers the liberty to communicate quarterly results to stakeholders as they see fit. Many studies rely on narrative disclosures to determine whether MA a change the tone to communicate firm performance information (Yan et al.,2021; Fanani and Zakiyyah, 2020). Yen et al., (2021) states that managers with a weak ability use tone and nature of information disclosed in financial reports to bluff external stakeholders about their capabilities. In other words, diminishing MA promotes opportunistic manipulation of the accounting disclosure content. Baik et al., (2018) have created an information environment index consisting of four proxies for the quality of the information environment: bid–ask spread, trading volume, analyst following, and analyst forecast errors. According to the informational environment index, Baik et al., (2018) documented a positive and significant relationship between the MA and informational environment quality. By contrast, Fanani and Zakiyyah (2020) showed that there is no response between MA, the tone of the disclosure of earnings and market response.

Also, some studies have examined the relationship between the MA and disclosure of specific accounting information. For example, Rajabalizadeh and Javad (2022) show that MA is significantly and negatively associated with the scope of intellectual capital disclosure. Daradkeh et al., (2022) have documented that highly qualified managers tend to disclose more information on climate change. Lee, (2022) examined the impact of MA as a moderating variable of the relationship between voluntary disclosure of carbon emissions information and credit ratings. Lee, (2022) concludes that there is a positive and significant relationship between voluntary disclosure of carbon emissions and credit ratings.

In the context of resource theory, some studies examined the relationship between MA and the characteristics of the quality of accounting information. For example, Hasan, (2020) demonstrates that MA is significantly positively correlated with the readability of accounting information. Abernathy et al., (2018) discuss and test that managers with higher capability are more able to maintain the systems and controls underlying the firm's financial information environment. Abernathy et al., (2018) stated that there is a significant and negative relationship between the capability of managers and timeliness of financial reporting. Likewise, Eissa and Tarek (2021) confirm a negative and significant relationship between MA and financial statements lag. Chen and Jennifer (2020) results suggest that (1) there is no correlation between management ability and estimate of total capital expenditures, (2) Managers with greater capability, are able to estimate the projections of considerable magnitude, but not significantly different from what they expect to spend in the following year or years.

In summary, previous studies have documented a positive and significant impact of MA on disclosure quality indicators. Within the limits of the researcher's knowledge, no previous studies have empirically investigated the effect of MA on the transparency of financial reporting as an indicator of the quality of disclosure. In light

of the above, the present study suggests that the relationship between EMBCS practices and MA has a significant positive impact on agency costs as an indicator of the transparency of financial information. On this basis, the following assumption was developed for the empirical test.

***H2: The relationship between EMBCS and MA has a significant and positive impact on financial reporting transparency for firms listed on the Saudi capital market.***

### **2.3 MA and firm value.**

A firm's primary goal is to maximize its value. There are various resources to generate value for the firm, such as financial assets and intangible assets. Managers who have the ability to efficiently manage and design business processes make appropriate decisions to maximize the value of the business (Wiratama and Sum,2021). Preceding studies reported that MA plays an essential role in rising firm value ( Rajabalizadeh and Javad ,2022; Rossi et al., 2021; Wiratama and Sum ,2021 ; Bhutta et al.,2021; Gong et al. ,2020; Chuah and Foong ,2019; Petkevich and Andrew, 2018). In other words, highly skilled managers are more valued and play an important role in firm policies that manage resources more efficiently and maximize firm performance. MA is an essential factor in increasing the value of the company, particularly in times of financial crisis (Park and Chunggyu,2021; Gong et al., 2020). Therefore, the growth in the firm's value is due to the rise in share prices supported by management's ability to manage the firm's resources and provide quality financial reports (Tangke et al., 2021). On the other hand, Afia and Arifah (2020) found that firm value was not impacted by MA. Tangke et al., (2021) indicated that Management ability has a positive, but not significant impact on the firm's value. As well, firms with higher ability managers face greater financial distress because of increasing agency costs, increased risk of stock market collapse, and cost of capital (Mishra, 2014).

In summary, previous studies have yielded mixed evidence of the relationship between the MA and firm value. This study postulates that information risk is an a critical channel that links MA to the value of the business through more efficient financing providers and reduced cost of debt capital. Accounting information is vital for the sustainability of efficient capital markets. The demand for accounting information results from the asymmetry of information and conflicts among stakeholders (Yan et al.,2021). EMBCS practices increase information asymmetry between managers and other stakeholders (Yan et al.,2021). As a result, increasing the manager's ability to mitigate the information asymmetry by reducing EMBCS practices. In other words, the lack of managerial ability leads to increased EMBCS practices to improve the capital market impression of the firm. This behavior from low-ability managers increases asymmetry of information and costs of the agency. This study suggests that a relationship between EMBCS practices and MA has a significant and positive impact on the company's value. On this basis, the following assumption was developed for the empirical test.

***H3: There is a significant and positive impact of interactivity between EMBCS practices and MA on the value of firms listed on the Saudi capital market.***

### **3. Research design**

#### **3.1 Models and variables**

##### **3.1.1 Classification Shifting Measure**

The purpose of McVay (2006) was to develop an a methodology for measuring classification shifting. McVay (2006), discusses that core earnings of special items to be excessive during the period when special item is reported. As a result, if management exercised classification shifting, amount of core earnings and unexpected core earnings for period t increase with special items for period t. McVay (2006)



suggested that unexpected core earnings (UCE, hereafter) is a proxy for EMBCS. UCE is the difference between reported and estimated Core Earnings, where estimated core earnings (ECE) is calculated using coefficients of  $\beta_i$  ( $i = 0, 1, \dots, 6$ ) from model (1). Where reported core earnings (CE) are defined as gross profit minus selling, general and administrative expenses divided by sales.

$$CE_{it} = \beta_0 + \beta_1 CE_{it-1} + \beta_2 ATO_{it} + \beta_3 ACC_{it-1} + \beta_4 ACC_{it} + \beta_5 \Delta SALES_{it} + \beta_6 SALES_{PER}_{it} + \varepsilon_{it} \quad (1)$$

$$UCE_{it} = CE_{it} - ECE_{it}. \quad (2)$$

### 3.1.2 MA measure

Every firm has many of the resources that are used to generate revenue. Management needs to be able to make optimal use of the firm's resources and use those resources to maximize earnings. The firm considers it efficient if it produces the maximum return from the minimum quantity of labor, capital, and other inputs (or resources) (Demerjian et al., 2013). Therefore, most previous studies have used the firm's resource efficiency as a measure of MA (Imeni et al., 2021; Demerjian et al., 2013). Previous studies used a DEA-based method (DEA, hereafter) developed by Demerjian et al., (2012), for measuring MA (Imeni et al., 2021; Luu et al., 2020; Luo and Zhou, 2017). DEA is a frontier analysis that calculates efficiency as the ratio of weighted outputs to weighted inputs. According to Demerjian et al., (2012), this study measures MA in two steps. The first step, aims to estimate firm efficiency (DEA) through development and solve following optimization problem:

$$\text{Max } v_0 = \frac{\text{Sales}}{v_1 \text{CGS} + v_2 \text{SGA} + v_3 \text{NPPE} + v_4 \text{NOL} + v_5 \text{RandD} + v_6 \text{GW}} \quad (3)$$

Model (3) is designed to maximize output (sales) from the next six inputs:

- Cost of goods sold (CGS),

- Selling, finance and administrative costs (SGA),
- Net property, plant, and equipment (NPPE),
- Net operating leases (NOL)
- Research and development costs (RandD),
- Goodwill (GW).

The optimal weights of the six inputs,  $v (1, \dots, 6)$ , are calculated by comparing each input of a given firm with those of the other firms of its sector group. After solving model (3), the value of firm efficiency measure (DEA),  $\theta$ , take a value between zero and one. The value of the DEA reveals the extent to which the firm is efficient. Firms with a DEA equal one is highly efficient. Firms whose DEA is less than one are below the performance threshold and the firm must improve its efficiency by reducing costs or increasing sales. The objective of calculating firm efficiency is to use it as an indicator of managerial ability. But the efficiency of the firm is a function of MA and firm characteristics. Consequently, the value of the DEA, which was estimated from Model (3), represent the efficiency of the firm generated by the MA and characteristics of the firm. In other words, the value of DEA included the inherent characteristics of the firms. As a result, the measurement of MA is inaccurate.

The second step aims to use the next model (4) to control the firms' characteristics and has separated the efficiency of firms into two parts. The first part represents the efficiency of the firm as a function of its characteristics. While the second part is the efficiency of the firm derived from MA. Therefore, residual of the estimation model (4), reflects the level of MA (Demerjian et al., 2013).

$$FE_{it} = \beta_0 + \beta_1 Size_{it} + \beta_2 MS_{it} + \beta_3 PRCF_{it} + \beta_4 Age_{it} + \varepsilon_{it} \quad (4)$$

### 3.1.3 Hypothesis testing models

The first hypothesis aims to provide empirical evidence of the relationship between EMBCS practices and MA. Model (5) was built to test the first hypothesis.

$$UCE_{it} = \beta_0 + \beta_1 MA_{it} + \beta_2 CFO_{it} + \beta_3 Size_{it} + \beta_4 Age_{it} + \beta_5 AUDIT_{it} + \beta_6 Sector_{1-12} + \varepsilon_{it} \quad (5)$$

The second hypothesis aims at testing the impact of the relationship between EMBCS practices and MA on the agency costs. Model (6) was constructed to test the second hypothesis.

$$AC_{it} = \beta_0 + \beta_1 MA_{it} + \beta_2 UCE_{it} + \beta_3 MA_{it} * UCE_{it} + \beta_4 CFO_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + \beta_7 AUDIT_{it} + \beta_8 Sector_{1-12} + \varepsilon_{it} \quad (6)$$

The third hypothesis aims at testing the impact of the relationship between EMBCS practices and MA on firm value. Model (7) was designed to test the third hypothesis.

$$FV_{it} = \beta_0 + \beta_1 MA_{it} + \beta_2 UCE_{it} + \beta_3 MA_{it} * UCE_{it} + \beta_4 CFO_{it} + \beta_5 Size_{it} + \beta_6 Age_{it} + \beta_7 AUDIT_{it} + \beta_8 ROA_{it} + \beta_9 Lev_{it} + \beta_{10} Sector_{1-12} + \varepsilon_{it} \quad (7)$$

### 3.1.4 Models variables

The study variables are described and defined in Table 1.

**Table 1: Models variables**

Variable symbol	Description / Calculation	Previous literature
$CE_{it}$	Core earnings (before Special Items and Depreciation), of firm i at the end of period t. Core earnings equal net sales deduct cost of sales deduct selling, general, and administrative expenses).	Simamora, 2022; Imeni et al., 2021; etkevich and Prevost 2018;
$CE_{it-1}$	Core earnings of firm i at the end of period t-1.	Qi et al., 2018;
$UCE_{it}$	Unexpected core earnings of firm i at the end of period t, as a proxy of EMBCS. The UCE is the difference between reported and estimated Core Earnings.	Luo and Zhou, 2017; Demerjian et al., 2013.
$FE_{it}$	Efficiency of the firm i at the end of period t. Firm efficiency is calculated using model (3).	Luu et al., 2020;
$MA_{it}$	Managerial ability of firm i at the end of period t. Managerial ability is a residual of model (4).	Demerjian et al., 2013; Demerjian et al., 2012.
$MA_{it} * UCE_{it}$	The interaction variable between MA and UCE.	Present study
$AC_{it}$	Agency cost of firm i at the end of period t. Agency cost is the operating cost divided by sales.	Imeni et al., 2021.

$FV_{it}$	The value of firm $t$ at the end of period $i$ . Tobin's $Q$ was a measure of firm value. Tobin's $Q$ is (Wiratama and Sum, 2021): $BVA_{it} + MVE_{it} - BVE_{it} / BVA_{it}$ Where: $BVA_{it}$ is book value of total asset for firm $i$ at the end of period $t$ , $MVE_{it}$ is market value of common equity for firm $i$ at the end of period $t$ , $BVE_{it}$ is book value of equity for firm $i$ at the end of period $t$ .	Kang et al., 2010.
$MS_{it}$	The market share of firm $i$ at the end of period $t$ . Market share is the ratio of firm sales to total sales in the same industry	Imeni et al., 2021; Demerjian et al., 2012.
$PRCF_{it}$	Positive free cash flow of firm $i$ at the end of period $t$ . $PRCF$ is a dummy variable equal one if $PRCF$ is positive, otherwise 0. Where $PRCF$ is $FCF_{it} = (NI_{it} - TAX_{it} - INT_{it} - DIVID_{it}) / TA_{it-1}$ Where: $FCF_{it}$ is free cash flow of firm $i$ at the end of period $t$ , $NI_{it}$ is operating income before depreciation of firm $i$ at the end of period $t$ , $TAX_{it}$ is the total tax paid of firm $i$ at the end of period $t$ , $INT_{it}$ is interest paid of firm $i$ at the end of period $t$ , $DIVID_{it}$ is dividends paid to common stock and is total assets, of firm $i$ at the end of period $t$ .	
$ACC_{it}$	The accounting accruals of a firm $i$ at the end of period $t$ . The accounting accruals is the difference between operating earnings and cash flow from operations divided by sales.	Imeni et al., 2021; Nissim and Stephen ,2001.
$ACC_{it-1}$	The accounting accruals of the firm $i$ at the end of period $t-1$ .	
$ATO_{it}$	Asset turnover of firm $i$ the during period $t$ . Asset turnover equal total sales divided by average net operating assets). The net operating asset is equal the difference between operating assets and operating liabilities. Operating assets are calculated as the difference between total assets and cash and short-term investments. Operating liabilities is as the difference between total assets and total debt and book value of equity.	Imeni et al., 2021; Nissim and Stephen ,2001; McVay, 2006;.
$\Delta SALES_{it}$	The percent change in sales of firm $i$ during period $t$ . The percent change in sales is the difference between the current period's sales and the prior period's sales divided by the prior period's sales.	Imeni et al., 2021; McVay (2006).

SALESPER $it$	Sales persistence of the firm $i$ at the end of period $t$ . Sales growth is a dummy variable, 1 if the difference between current period sales and prior year's sales is negative, and otherwise 0.	
Size $it$	Natural logarithm of total assets.	Imeni et al., 2021.
Age $it$	Natural logarithm of the age of a firm $i$ at the end of the period $t$ .	
AUDIT $it$	Audit quality of financial statements for the firm $i$ at the end of the period $t$ . Audit quality is a dummy variable equal to 1 for the financial statements audited by a Big-4 firm and 0 otherwise.	
Sector $l-12$	Industry sectors from 1 to 12.	Imeni et al., 2021.
ROA $it$	Profitability of the firm $i$ at the end of the period $t$ . ROA is net income divided by the average of the total assets.	Imeni et al., 2021; Nasr et al., 2015.
CFO $it$	Cash flows from operation of firm $i$ at the end of the period $t$ . The CFO is the cash flow from operations divided the total assets.	Imeni et al., 2021
Lev $it$	Leverage of the firm $i$ at the end of period $t$ . Leverage is total liabilities divided by total assets.	Imeni et al., 2021; Chen et al., 2011.

### 3.2 Sample selection and Data collection

Our sample consists of listed non-financial firms in the Saudi exchange during the 2015–2019 period. As of December 31, 2019, a total of 125 non-financial firms were listed on the Saudi exchange (Tadawul). A summary of the study sample is presented in Table 2.

**Table 2: Summary of the study sample**

Industrial sectors	Number of firms per sector.	Percentage per sector
Materials	42	34%
Food and Beverages	12	10%
Capital Goods	11	9%
Food and Staples Retailing	11	9%
Real Estate management and development	10	8%
Commercial, Consumer Services and Professional service	10	8%

Transportation and Utilities	7	6%
healthcare	7	6%
Long-term goods	5	4%
Energy	4	3%
Telecommunication Services	4	3%
Media and Entertainment	2	1%
Total	125	100%

The selected sample is comprised of 625 observations. The materials industry and the food and beverages industry represent 34%, 10% of the final selected sample respectively. The real capital goods and the food and commodity retailing sectors make up 9% of the final sample. Both the real estate management and development industry and the commercial, consumer services and professional service industry represent 8% of the final selected sample. The remaining industries represent about 23% of the final sample selected.

## 4. Empirical results

### 4.1 Descriptive statistics

The variables used in this study are UCE, MA, agency cost (AC), and firm value (FV). Descriptive statistics presented in table (3). Table 3 points to 625 observations. The minimum, maximum and mean UCE values are .000000, 1.2933 and .38868 respectively. The minimum, maximum and mean MA values are -.755480, .472310 and -4.75203 respectively. The minimum, maximum and mean AC values are -1.41725, 3.8010 and 1.00411 respectively. The minimum, maximum and mean FA value is .000000, .008000 and .001174 respectively.

**Table 3. Descriptive statistics**

Variables	N	Minimum	Maximum	Mean	Std. Deviation
UCE <sub>it</sub>	625	.000000	1.2933	.3868	.12669
MA <sub>it</sub>	625	-.755480	.472310	-4.75203	.23081
AC <sub>it</sub>	625	-1.41725	3.8010	1.00411	.70225
FV <sub>it</sub>	625	.000000	.008000	.001174	.00107

## 4.2 Correlation analysis

The multicollinearity test results for study variables are shown in Table 4. In summary, the VIF values among all variables in the study are less than three. This result indicates that there are no multiple collinearity problems among independent variables for Model (5), Model (6) and Model (7).

**Table 4: Multicollinearity test results.**

Model (5)			Model (6)			Model (7)		
Variable	Tolerance	VIF	Variable	Tolerance	VIF	Variable	Tolerance	VIF
MA <sub>it</sub>	.848	1.179	MA <sub>it</sub>	.815	1.227	MA <sub>it</sub>	.770	1.299
CFO <sub>it</sub>	.829	1.207	CFO <sub>it</sub>	.820	1.220	CFO <sub>it</sub>	.661	1.512
Age <sub>it</sub>	.957	1.045	Age <sub>it</sub>	.955	1.047	Age <sub>it</sub>	.947	1.056
AUDI <sub>it</sub>	.772	1.295	AUDI <sub>it</sub>	.773	1.294	AUDI <sub>it</sub>	.770	1.299
Sector <sub>1-12</sub>	.887	1.127	Sector <sub>1-12</sub>	.878	1.139	Sector <sub>1-12</sub>	.868	1.152
Size <sub>it</sub>	.784	1.276	Size <sub>it</sub>	.766	1.306	Size <sub>it</sub>	.707	1.414
			UCE <sub>it</sub>	.413	2.421	LEV <sub>it</sub>	.838	1.194
			UCE *MA	.440	2.272	ROA <sub>it</sub>	.718	1.393
						UCE <sub>it</sub>	.634	1.577
						UCE *MA	.711	1.407

Table 5 provides Pearson's correlation matrix. Results in Table 5 show lower correlation between study variables (less than 80%). These findings indicate that there are no multicollinearity issues among the study variables. Moreover, both of EMBCS and agency cost (AC) are negatively correlated with the MA. The MA is positively correlated with the firm value (FA), cash flow from operating activities (CFO), Auditing quality (AUDIT), the firm sector (Sector), the return on assets (ROA) and leverage (LEV). In contrast, there is no correlation between both firm size (Size) and firm age (AGE) and the MA. EMBCS is negatively correlated with cash flow from operating activities (CFO), auditing quality (AUDIT), firm size (Size), return on assets (ROA) and the leverage (LEV). Firm value (AF) and agency cost (AC) correlate positively with EMBCS. On the other hand, the relationship between firm value (EV) and agency cost (AC) is significant and negative.

Table 5. Correlation analysis of the study variables

		MA <sub>it</sub>	UCE <sub>it</sub>	FV <sub>it</sub>	AC <sub>it</sub>	CFO <sub>it</sub>	Age <sub>it</sub>	AUDIT <sub>it</sub>	Sector <sub>1-12</sub>	Size <sub>it</sub>	ROA <sub>it</sub>	LEV <sub>it</sub>
MA <sub>it</sub>	Pearson Correlation	1	-.251**	.106**	-.220**	.251**	-.020	.091*	.274**	.042	.134**	.172**
	Sig. (2-tailed)		.000	.008	.000	.000	.618	.023	.000	.293	.001	.000
UCE <sub>it</sub>	Pearson Correlation		1	.139**	.681**	-.201**	.052	-.130**	.030	-.195**	-.218**	-.135**
	Sig. (2-tailed)			.001	.000	.000	.196	.001	.455	.000	.000	.001
FV <sub>it</sub>	Pearson Correlation			1	-.053	.129**	.115**	-.010	.028	-.350**	-.135**	-.340**
	Sig. (2-tailed)				.040	.001	.004	.808	.482	.000	.001	.000
AC <sub>it</sub>	Pearson Correlation				1	-.128**	.071	-.085*	-.032	-.124**	-.062	-.048
	Sig. (2-tailed)					.001	.075	.034	.420	.002	.125	.232
CFO <sub>it</sub>	Pearson Correlation					1	.087*	.275**	-.085*	.199**	.463**	-.088*
	Sig. (2-tailed)						.030	.000	.033	.000	.000	.027
Age <sub>it</sub>	Pearson Correlation						1	-.070	-.116**	-.139**	.012	-.143**
	Sig. (2-tailed)							.083	.004	.000	.757	.000
AUDIT <sub>it</sub>	Pearson Correlation							1	.014	.436**	.130**	.114**
	Sig. (2-tailed)								.736	.000	.001	.005
Sector <sub>1-12</sub>	Pearson Correlation								1	.069	.000	.028
	Sig. (2-tailed)									.085	.994	.488
Size <sub>it</sub>	Pearson Correlation									1	.176**	.268**
	Sig. (2-tailed)										.000	.000
ROA <sub>it</sub>	Pearson Correlation										1	-.101*
	Sig. (2-tailed)											.012
LEV <sub>it</sub>	Pearson Correlation											1
	Sig. (2-tailed)											

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



### 4.3 Regression analysis

Model (5), Model (6), and Model (7) were established to test study hypothesizes. Table 6 shows a summary of statistical results for three models. Model (5) was developed to examine the relationship between UCE and MA. Table 6 shows that the significance of the model (5) is 0.000 (at the 5% level). In addition, adjusted.  $R^2$  of model (5) is 11.1%. The coefficients for the CFO and Size are -1.227, -.267 respectively. As well, the significance for CFO and Size is .017, .000 respectively (at the 5% level). This finding indicates that there is a significant negative relationship between the CFO, Size and UCE. The coefficient and level of significance for the Sector are .023, .009 respectively. This suggests that there is a positive significant relationship between the Sector and UCE (at the 5% level). Moreover, the significance for the Age and AUDIT is .233, .841 respectively. This finding indicates that Age, AUDIT and UCE are not related. The MA coefficient and significance is -1.195, .000 respectively. This result suggests that there is a negative relationship between UCE and MA (at the 5% level). In other words, this finding suggests that the increase in MA in the Saudi business environment leads to mitigating EMBCS practices. This is result like It's similar to the finds with Skousen et al., (2019). Therefore, we have accepted H1, which means there is a significant negative relationship EMBCS practices, and MA of a firm listed in the Saudi capital market. Model (6) was developed to test the impact of interaction between EMBCS practices and MA on the agency cost (AC). Table 6 shows that the significance of the model (6) is 0.000 (at the 5% level). In addition, adjusted.  $R^2$  of model (6) is 76.9%. The significance for the CFO, Age, AUDIT, Sector, Size and UCE are more than 5%. This finding indicates that CFO, Age, AUDIT, Sector, Size, UCE, and agency cost (AC) are not related. The coefficient and level of significance for the MA are -.324, .044 respectively. This result suggests that there is a significant negative relationship between the MA and agency cost (AC) (at the 5% level). The UCE\*MA coefficient and significance is -2.304, .000 respectively. This finding indicates that there is a significant negative relationship exists between the agency cost (AC) and UCE \*MA (at the 5% level). Integration of between the results of models 5 and 6 shows

that the increase in MA causes a decrease in UCE practices and agency cost (AC). In other words, the increase in the MA attenuates the UCE practices by management and decreases the agency cost (AC). Therefore, the interaction between UCE practices and MA for Saudi firms leads to a reduction in agency costs among stakeholders. As a result, we have accepted H2, which means that there is a significant positive impact of interaction between EMBCS practices and MA on financial reporting transparency of firms listed on the Saudi capital market.

Model (7) was developed to test the effect of interaction between EMBCS practices and MA on FV. Table 6 shows that the significance of the model (7) is 0.000(at the 5% level). In addition, adjusted.  $R^2$  of model (4) is 28.8%. Moreover, the coefficients for the MA, CFO, AUDIT, Size, and ROA are .001, .003, .000, .000, .000 respectively. The significance for the MA, CFO, AUDIT, Size, and ROA is .000, .000, .001, .000, .000 respectively. This result suggests that there is a significant positive relationship between MA, CFO, AUDIT, Size, ROA and FV (at the 5% level). Additionally, the coefficients for the UCE, UCE \*MA and LEV are - 8.872, -2.964, -.001 respectively. The significance for the UCE, UCE \*MA and LEV is .028, .044, .000 respectively. This result suggests that there is a significant negative relationship between UCE, UCE \*MA, LEV and FV (at the 5% level). Therefore, the interaction between UCE and MA leads to an increase in the value of firms listed on the Saudi exchange. In other words, high managerial abilities lead to a decrease the EMBCS practices giving rise to enhancing the value of firms listed on the Saudi exchange. These finds are similar to results of previous studies such as Rajabalizadeh and Javad, (2022); Rossi et al., (2021); Wiratama and Sum, (2021) ; Bhutta et al.,(2021) and Gong et al. ,(2019). Accordingly, we have accepted H3, which means that there is a significant positive impact of interaction between EMBCS practices and MA on the value of Saudi firms.

In summary, this study provided empirical evidence that increased MA mitigates EMBCS practices, which positively reflects on agency costs and firm value.

Table 6: Summary of model outcomes.

	Model 5			Model 6			Model 7		
Significant	.000			.000			.000		
Adjusted R Square	.111			.769			.288		
R Square	.119			.772			.299		
R	.345			.879			.547		
F statistic	13.874			257.763			26.064		
Observations	625			625			625		
Dependent variable	UCE			AC			FV		
Variables	Coefficients	T statistic	Sig.	Coefficients	T statistic	Sig.	Coefficients	T statistic	Sig.
MA <sub>it</sub>	-1.195	-5.940	.000	-.324	-2.019	.044	.001	3.783	.000
CFO <sub>it</sub>	-1.227	-2.392	.017	-.646	-1.621	.106	.003	5.176	.000
Age <sub>it</sub>	.004	1.194	.233	.004	1.427	.154	1.534	.561	.575
AUDIT <sub>it</sub>	-.020	-.200	.841	.016	.213	.832	.000	3.475	.001
Sector <sub>1-12</sub>	.023	2.639	.009	-.003	-.402	.688	7.847	1.031	.303
Size <sub>it</sub>	-.267	-3.780	.000	-.091	-1.650	.099	.000	-8.129	.000
UCE <sub>it</sub>	*	*	*	.068	1.403	.161	- 8.872	2.199	.028
UCE *MA	*	*	*	-2.304	28.362	.000	-2.964	-.462	.044
LEV <sub>it</sub>	*	*	*	*	*	*	-.001	-7.631	.000
ROA <sub>it</sub>	*	*	*	*	*	*	.000	-5.562	.000
* Not applicable									
** The level of significance is 5%.									

## 5. Conclusion

This study aimed to examine the relationship between earnings management by classification shifting practices and managerial ability, financial reporting transparency and firm value. According to a sample of firms listed on the Saudi Stock Exchange, examined empirically reveals three key research findings. First, there is a significant and negative relationship between the management of earnings through classification shifting practices and the managerial ability of firms listed in the Saudi capital market. Second, there is a significant and positive effect of the relationship between earnings management through classification shifting practices and managerial ability on financial reporting transparency. Third, there is a significant and positive effect of the relationship between earnings management through classification shifting practices and managerial ability on the value of the firms listed on the Saudi exchange. Overall, these results confirm that high managerial ability enhances financial reporting transparency and firm value.

This research contributes in a variety of ways to the literature about the economic implications of managerial ability. Firstly, provide empirical evidence on how to enhance firm disclosure by managers' ability. Where study found that increased managerial ability leads to reduced earnings management through classification shifting practices, and improved financial reporting transparency. Secondly, this research focuses on how managerial ability influences agency costs as an explanatory variable to clarify and / or develop relationships reported in previous studies and to discover new ones. This study, to the best of our knowledge, represents one of the rare studies that examined whether managerial ability is an influence on agency costs as an indicator of financial reporting transparency. Finally, this paper contributes to the literature that tests the economic consequences of managerial ability in emerging economies. This study also has practical contributions by informing shareholders, regulators, and other stakeholders of the impact of managerial ability on financial reporting transparency and its economic consequences.

The study has two limitations. First, the selected sample only consists of non-financial firms without financial firms. Second, the selected sample comprises 725 firm-year observations, which leads to data limitations. As such, future research could focus on managerial ability impact on financial reporting transparency and the value of financial firms. Furthermore, future research could investigate the association between managerial ability and the extent of firm-level climate change disclosures.

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