

## Multi Gender Diversity and Earnings Quality in Islamic Banks: The Moderating Role of IFRS' Adoption and Culture

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### ملخص البحث:

**الغرض** – يهدف هذه البحث اولا الى دراسته أثر التنوع الجنسى (ذكور واناث) داخل مجلس الإدارة؛ لجنة التدقيق والمراجعة وهيئة الرقابة الشرعية تجاه جودة اداره الربحيه في البنوك الإسلامية. كما تهدف ثانيا الى دراسته إلى أي مدى يمكن أن يؤدي تبني المعايير الدولية لإعداد التقارير الماليه (IFRS) والثقافة الوطنية في التأثير او تعديل العلاقة بين التنوع الجنسى وجوده اداره الربحيه. **منهجيته البحث** - تم اختبار فروض البحث من خلال استخدام نماذج الانحدار المجمعة. تتضمن عينه البحث 122 بنك اسلامى فى 21 دولة مختلفه لمدته 8 سنوات (من عام 2010 إلى عام 2017). تتضمن عينه الدراسه 46 بنك اسلامى يتبنون المعايير الدولية لإعداد التقارير المالية و 76 بنك اسلامى يتبنوا غير المعايير الدولية مثل المعايير المحليه او المعايير الاسلاميه. **النتائج** - تشير الأدلة إلى أن التنوع الجنسى في مجلس الإدارة ، ولجنه المراجعة والتدقيق، و هيئه الرقابه الشرعيه له تأثير إيجابي انشطه اداره جوده الربحيه. علاوة على ذلك ، توصلت الدراسه الى إن تبني المعايير الدوليه من قبل البنوك الاسلاميه يحد بشكل كبير من الارتباط الإيجابي بين التنوع الجنسى واداره جوده الربحيه. بينما اكدت النتائج ان عدم تبني المعايير الدوليه من قبل البنوك الاسلاميه تقوم بدور وسيط فى العلاقة السلبيه بين التنوع الجنسى وجوده اداره الربحيه. بالنسبه لآثر الثقافه، توصلت الدراسه الى ان ثقافه المجتمعات تؤثر على العلاقة بين التنوع الجنسى بالبنوك الاسلاميه (الاناث بمجلس الادراه ولجنه المراجعة وهيئه الرقابه الشرعيه) واداره جوده الربحيه. من خلال اجراء بعض التحليلات الاضافيه بالبحث، بعض النتائج ظلت كما هى بدون تغيير وبعدها تغيرت

**الأصالة / القيمة المضافه** - هذه الدراسة فريدة من نوعها من خلال تقديم أدلة بالتطبيق على البنوك الاسلاميه لتأثير تبني المعايير الدوليه والثقافه كمتغيرات وسيطه على العلاقة بين السمات الديموغرافية لأعضاء مجلس الإدارة ، ولجنة المراجعة والتدقيق وهيئه الرقابه الشرعيه على جوده اداره الربحيه. تقدم الدراسه الحاليه ايضا مساهمة جديدة في النقاش حول اداره جوده الربحيه في سياق المؤسسات الأخلاقية المتمثلة فى البنوك الاسلاميه وكذلك المساهمة في النقاش حول دور المرأة

في مجلس الإدارة في سياق البلدان التي تتميز بمجتمع الذكورة كمنطقة الشرق الأوسط وشمال إفريقيا أو عبر الدول الإسلامية.

**الأثار العملية للبحث** - البحث له اثار وتببعات مهمة على صانعي السياسات والمديرين والمستثمرين في محاولاتهم لتعزيز وتحسين جوده اداره الربحيه وتحسين جودة التقارير المالية للبنوك الاسلاميه **الكلمات الرئيسية**- أداره جودة الربحيه؛ البنوك إسلامية التنوع الجنسي في مجلس الإدارة ، ولجنه المراجعه والتدقيق، و هيئه الرقابه الشرعيه؛ المعايير الدولية لإعداد التقارير المالية (IFRS) ؛ الثقافه

## Abstract

**Purpose** – This paper firstly measure the impact of Board of Directors (BOD); audit committee (AC) and Sharia Supervisory Board (SSB) composition (gender diversity) on earnings quality (EQ) in the Islamic banks (IBs). Secondly, we measure to what extent adoption of IFRS and national culture, which is proxies by Femininity can, moderates the relationship between diversity and EQ.

**Design/methodology/approach** – Hypotheses are tested using pooled OLS-regression models. Our sample comprises 122 IBs across 21 different countries from 2010 to 2017. Our sample include 46 IBs adopter of IFRS and 76 IBs that non-adopter of IFRS as local or Islamic standards.

**Findings** – Evidence reveals that gender diversity in BOD, AC, and SSB is positively associated with EQ activities. Further, adoption IFRS standards by IBs significantly moderate the positive link between board diversity and EQ while shows significantly moderate the negative association between board diversity and EQ for banks that are non-adopter of IFRS. Concerned with the impact of culture; we find that culture dimension of femininity serve as informal institutional forces that influence the association between diversity and EQ. Some results hold and others altered after a number of robustness checks.

**Originality/value** – This study is unique in providing IBs evidence for the moderating effect of accounting standards' adoption and culture on the link between the demographic features of BOD, AC and SSB members and firm outcome. The present study provides a new and far-reaching contribution into the debate about EQ in the context of ethical institutions as IBs as well as contribution into the debate about role of women in board in the context on countries characterized by masculinity community as MENA region or across Muslim countries.

**Practical implications** – The findings have important implications for policymakers, regulators, and investors in their attempts to enhance EQ practices and improve financial reporting quality for IBs.

**Keywords**– Earnings quality; Islamic banks; Diversity in BOD; AC and SSB; IFRS; Culture; Femininity

## 1. Introduction

As showed by Rankin (2012), the board and the board-related attributes are basic pieces of corporate structure and governance, what's more, can go about as a preventive component against EM misbehaviors. Earlier literatures give a sign that great corporate governance (CG) characteristics are connected with expanding the quality of financial reporting. Ebrahim (2007) argues that CG components are the best approaches to lessen the practices of EM. Nonetheless, there are studies that give verifying proof demonstrating a negative connection between CG traits and EM (Silva et al., 2017).

A major of studies has tended to the issue of EM in the industry of banking. Previous literatures have demonstrated that banks have as often as possible been seen as occupied with EM practices (Taktak et al., 2010). In the Islamic banking situation, the facts confirm that the idea of EM is by all accounts opposing to the moral and virtues on which these foundations are based and that ought to ordinarily dishearten any optional practices and confine any untrustworthy works on including accounting manipulation. Notwithstanding, these establishments, comparably to some other firm, are confronted with data asymmetry and irreconcilable situations (Bukhari et al., 2013) that can prompt deft practices that are opposing to Islamic principles. In fact, being better aware of the circumstance of the bank, overall, pioneers control the accounting information, especially conclusive outcomes, to improve the exhibition of the bank, and therefore misdirect clients. In view of past writing, examines identified with EM in Islamic banks are constrained and present blended outcomes. Some studies give proof that the standards of Islamic financial point of confinement EM rehearse (Haniffa and Hudaib, 2007). There is others have demonstrated that, correspondingly to conventional banks and Islamic banks expect to make a benefit, which can prompt control of results (Hamdi and Zarai, 2012). Empirical studies related to CG across IBs are very limited. To the best of our knowledge, the research of Quttainah et al (2013), Mersni and Ben Othman (2016) is the only study

that is interested in testing the impact of CG on EM in IBs. None of the limited previous studies measures the impact of diversity in different committees such as BOD, AC, and SSB over EM with moderating variables such as adoption of IFRS and culture.

In developing economies such as our sample (MENA region and other selected developing countries), where investors have a moderately little demand for high quality earnings and companies face squat litigation risks (Liu and Tian, 2012), it is less costly for businesses to manipulate accruals (Kuo et al., 2014). Therefore, in developing markets, feminine executives may play a more significant role in restriction EM. Currently, one of the main governance subjects faced by board and stockholders is the gender structure of BOD and AC (Ammer and Ahmad-Zaluki, 2017). Diversity is defined as any variance of features distinguishing one separate from another. The rising number of female managers at corporations in the last decades clarifies the cumulative significance of their roles in the business field. Huang and Kisgen (2013) illuminate based on US context that the number of female CFOs augmented from 3% to 7.5% and the number of female CEOs improved from 0.5% to 1.5%. In response to this change, academics look at the impacts of gender diversity on businesses' results. Little known about this issue in region as MENA and Muslim countries which add value for this study

Board gender diversity, has drawn substantial attention worldwide, particularly after the economic crisis in 2008 (Terjesen et al., 2009). Despite the fast growth in female contribution in business in the last decade, female managers are still understated on corporate boards. Some European countries execute legal requirements on companies to assign board seats for females. For instance, Spain announced legislation demanding 40% threshold for feminine board representation by the end of 2015. The influence of gender diversity on financial decision-making subjects has long been considered by academics. These comprise literature on gender diversity and firm value (Ali et al., 2014), the effect of gender on acquisition activities (Huang and Kisgen, 2013), gender differences in risk aversion (Sapienza et al., 2009), gender diversity and corporate social responsibility (Boulouta, 2013). The role of female in EM is an area that has been ignored in the previous studies (Lonkani, 2019). In light of the diversity and mixed evidence available and scarcity of literature relating to IBs in Muslim countries perspective, the problem statement of this research study could be articulated as whether there is a relationship between diversity and EM practices in selected IBs

Western lifestyles and values of gender equality are promoted among Arabic cultures in MENA region; extremely limited progress has been seen. As in other Eastern countries, MENA and GCC culture does not encourage women to take up leadership roles, whereas such roles are found to be more common in Western cultures (Abdullah and Ismail, 2016). Cultural differences may lead to managerial outcomes that differ from Western cultures (Low et al., 2015). We measure the impact of culture as a mediator for the association between diversity and EM across Muslim countries.

Earnings information is energetic for decision-making through the users of annual reports. Directors have proficient accountabilities and ethical duties to report high quality earnings to the whole stakeholders. However, self-serving directors are motivated all over the world to manipulate earnings to beat/meet benchmarks. For Zhang (2019), the accounting literature views directors as individuals whose financial reporting decisions are determined by their economic incentives as well as individual features. Extensive adoption of IFRS aims eventually to progress the information quality as it improves comparability and transparency of financial reporting and thereby serving the needs of investors and businesses. These predictable benefits are essentially a subject of discussion among researchers and professionals. Enthusiasts of IFRS adoption contended that the conversion to IFRS would decrease the cost of capital; information asymmetry in addition to develop firm value and improve market liquidity as well as improves earnings quality through reducing level of EM (Daske et al., 2008).

This study is motivated by recommendation of Mersni and Ben Othman (2016) who argue, “*One limitation of our paper is that sample size is relatively small, given that data are not available for all IBs*” (p 122). Future research may extend the sample to all Islamic institutions in the MENA region. Thus, we fill this gap through measuring this issue across most of IBs in MENA region. Furthermore, we motivated by argument of Gray et al (2015) who argue that, there have been only a limited number of studies considering the impact of cultural dimensions on EM and assessing the role of institutional and cultural interactions.

This study contributes to the literature. First, this study is unique in providing IBs evidence for the moderating effect of IFRS' adoption on the link between the demographic features of board, AC and SSB members, and the firm outcome. Second, we extend the literature on female directors by showing that female participation on BOD, AC and SSB can help to curb

managers' real activities manipulation. Female directors have received increasing research attention all over the world (Chen et al., 2016). To our knowledge, we are among the first to examine whether female directors in different committees may discipline managers who are engaging in real activities manipulation in IBs across Muslim countries. Third, in contrast to literature, we analyze a larger sample and more recent data. By using a sample of IBs across 21 countries, we are able to provide deeper and more representative evidence. In addition, analyzing data over a much longer period (2010-2017) reduces the probability that our results are driven by the transitional choices of first-time adopters. Fourth, we complement the literature analyzing the economic consequences of IFRS adoption and focuses on a more direct effect (earnings quality). Fifth, this research provides new evidence to reinforce the existing gender literature that women are more risk averse, cautious, and ethical than men are. Finally, one of the novelty of ours is investigates the role of women in a high masculine gender-specific industry and region (IBs in Muslim countries).

To fill the previous gaps, we seek to measure the impact diversity of BOD, AC, and SSB on earnings quality as measured by EM. We further aim to investigate for what extent IFRS' adoption and national culture can moderates the association between diversity and EM. Our sample comprises 122 IBs across 21 different countries from 2010 to 2017. The remainder of this paper is organized as follows. Section (2) discusses the applicable conceptual framework for our study. Section (3) discusses the role of women in the business from the Islamic perspective. Section (4) discusses prior research and develops the hypotheses. Section (5) is specifies our models to estimate and evaluate EM and moderators' variables and describes the sample and data. Sections (6) and (7) present empirical findings and robustness tests in addition to offers concluding remarks.

## 2. Conceptual Framework

The question of whether board diversity has an effect on firm outcomes is the frequently asked question on board diversity. Agency theory (Jensen, 1993) is one of the theories that explain the question concerning this issue and it illustrates that firm performance can be enhanced through board diversity. One factor that improves board monitoring is the gender of executives and Low et al (2015) adds multiple diversity facets to the oversight lens. The existence of a conflict of interest between all parties in a

firm is suggested by agency theory. It has been proven that each party attempts to meet its own interests. Managers do not have ant tendency to always act in the best interests of the shareholders, they can often be observed to enact policies that ensure their own individual interests rather than those of the firm's owners (Jensen and Meckling, 1976). The fact that managers are those who realize what actually happens inside the firm and have the power to manipulate any bad news in order to hide bad performance, and as a result, mislead users is the reason of that. When shareholders lack the necessary power to supervise managers' actions is absent, such a behavior happens

Such an economic disaster can be prevented through obliging bank managers to controls and limiting their latitude. In this respect, shareholders in order to control their actions and limit their discretionary behavior must implement effective mechanisms. CG is considered by agency theory to be the most effective way to prevent earnings management practices. CG mechanisms include a system of controls that guarantee reducing agency costs by increasing the supervision of management actions and limiting managers' opportunistic behavior. Unlike agency theory, stewardship theory indicates that managers are not opportunistic nor do they commit to their duties for their own self-interest. Regardless of any individual interests, focus is placed on strategic planning and monitoring roles for the firm's sake by board members. BOD imposes effective communication, personal charisma, and networking, these roles become manifest. Depending on this theory, gender differences can perform a more pivotal role in producing managerial outcomes that differ from male-only boards (Lonkan, 2019).

The area of gender differences and gender diversity include literature that proposes and agrees that women have tendency to take more risks compared to men (Hibbert et al., 2013). There are roots for the risk-averse hypothesis in psychology and sociology theories, which indicate that women are more risk-averse than men (Niessen and Ruenzi, 2007) are. Women are judged by many studies to be more conservative, which is equivalent to saying that men are overconfident, compared to women (Huang and Kisgen, 2013). When selectivity model is regarded, it is found that males tend to utilize specific information (heuristic information) rather than using more information that is detailed in their decision-making. However, females are

supposed to use information that is more comprehensive or tend to include all available detailed information in their decision-making. It is proved that females use more comprehensive information compared to males a number of empirical research studies (Byrne and Worthy, 2015).

### **3. Women's role in business: An Islamic perspective**

Islam announced the rights of women to people, and explained to them that women are the complementary reason for the existence of man. "*O mankind! We created you from a male and a female*" (Quran, 49, 13). As for the work of women, Islam has taken care of women, and has given them their full rights, as they are equal to men in all fields of work. Moreover, it is not mentioned in the legal texts that it is forbidden for a woman to work and acquire. God Almighty said "*Men have a share of what they have earned, and women have a share of what they have gained*" (Quran, 4, 32)

With regard to taking responsibility, Islam has given women the full right to sell and buy, and to own real estate and money, and they have the right to plant, harvest, borrow, debt. The Quran viewed women as independent in the field of thought and knowledge, and gave them their independence in knowledge, and they were having opinions and wisdom. This can be known from the experience of Bilqis bint Sharhabeel (Queen of Yemen), the Qur'an presented her as a good woman as well as good leader and viewed her with satisfaction and acceptance as the Quran did not meet her with criticism. With regard to the participation of women in the leadership of institutions and boards of administrations, what the authors of this research see is that women have the right to assume positions (management and leadership) from the legal point of view when the required qualifications are completed such as scientific and professional specialization, competence, merit, and integrity

Examples of religious leadership in the era of prophecy Mrs. Khadija, the wife of the Prophet, and she supported the Messenger of Allah. Among the examples of scientific leadership was Aisha, who was strong in (faqah) jurisprudence, hadith, interpretation, literature, poetry, medicine, and other sciences. Umm Salamah was also famous for the narration of hadith and interpretation. Examples of medical leadership include Umm Atiyah al-Ansari, who used to go out in wars with the Prophet, to make food, treat the wounded, and care for patients. The police chief at the time of Umar bin Al-Khattab was a woman named Al-Shifa who took over the management of the



market according to her experiences and skills in that time. She used to follow the method of Islam in the market, and prevent fraud and forgery, and punished anyone who violated the laws of the market (Ghadanfar, 2010). Based on the previous debating, Islam supports women to get a high position in the business as well as IBs should care about this issue and hire women in board, AC and SSB if they are qualified and can add for these institutions.

#### **4. Literature Reviews and Hypotheses Development**

##### **4.1 Board diversity and earnings quality**

Jia and Zhang (2013) has shown that female directors have the ability to improve performance, which is restricted to the common view that women care more about others and think more highly of social responsibility than men. Since women have long been viewed as more risk averse than men, the role of female directors has been examined in shaping corporate risk-taking behavior. It is found that firms with higher female director have lower debts, invest less in R&D, achieve lower investment efficiency, and make fewer takeover defenses (Chen et al., 2016).

Several studies have emphasized that females in senior management contribute positively in improving earnings quality because of gender differences in risk-taking and ethical attitude. On the contrary, there is some evidence that the impact of board gender diversity on corporate accounting decision-making is limited and the results are mixed. For example, Srinidhi et al (2011) document that the informativeness of stock prices can be improved by disclosing more firm-specific information and stimulating the collection of private information. Similarly, Gull et al (2018) study this link across sample of French firms and it has found that the presence of female directors deters managers from managing earnings and promotes the effective monitoring of EM. Harakeh et al (2019) prove, based on FTSE350 corporate boards in the UK, a non-positive connection between female directors and EM. Sial et al (2019) via using a sample of Chinese firms reach the result that higher female participation on BOD is associated with lower levels of real activities manipulation.

Saona et al (2020) reveal that board with a larger proportion of female members oversee managers more efficiently, constraining their capacity to manage earnings. Baolei et al (2018) via using a sample of Chinese A-share listed firms, conclude that several demographic characteristics (i.e., age, gender, and educational level) and CEO/CFO are remarkably associated with

earnings management. It may have an effect on the quality of the firm's financial reporting Lonkkani (2019) reveal that firms with female CEOs have a tendency to make conservative earnings forecasts in a perceived positive situation and firms with a higher percentage of female directors are more likely to forecast earnings conservatively in a perceived negative situation. Several studies assure to what extent women on boards are effective in their monitoring role and play a great character for constraining EM (e.g., Damak (2018) based on France; Orazalin (2019) based in Kazakhstan.

Conversely, Chen and Gaviols (2016) argue that a high manifestation of women on board does not make an contribution to the explanation of EM over and above the presence of a female director with financial literacy find it'. Similarly, via using a Chinese firms and unlike the findings documented in developed markets as the U.S., Kangtao et al (2010) show that earnings quality do not show remarkable verities for firms with female. Sun et al (2011) fail to identify any connection between female directors and the extent of accrual-based EM.

#### **4.2 Audit committee and earnings quality**

The influence of audit committee (AC) on reducing EM has been investigated by many researchers. Zalata et al (2018) according to US firms; proportion of gender of AC reduces EM. It is determined by Abdullah and Ismail (2016), whether the manifestation of females on the AC is related to a minimization in the practice of EM for non-finance firms listed on Bursa Malaysia. Proofs reveal that the presence of women on AC results in income-reducing EM. In contrast, Sanchez et al (2017) confirm that females have a monitoring role, noting a positive effect on accounting conservatism and earnings quality in banks. Al-Absy et al (2019) examine the influence of the characteristics of AC chairperson on EM practices for Malaysian listed firms. Only tenure, gender and ethnicity are associated with EM as results show. Using a sample from Iranian listed companies, Oradi and Izadi (2019) find that the presence of at least one female member on AC reduces the possibility of the incidence of financial restatements. Moreover, evidence indicating that when either the CEO or the CFO is a woman, EM is lower have been found.

#### **4.3 Culture and earnings quality**

The impact of culture based on Hofstede-Gray framework on accounting' concerns are widely investigated in a considerable number of

previous studies and attempts (Khlif et al., 2015). Eddie (1990) tested Gray's model, and sustained his hypotheses: *"In entirely circumstances, the projected indication of an association between accounting sub-culture values of Gray and social cultural values of Hofstede were approved"* (p. 29). Gray and Vint (1995) tested the effect of culture on accounting across 25 different countries. The results backing Gray's model concerning the influence of 'secrecy on disclosure. It is claimed by Zarzeski (1996) that cultural values would have an impact on accounting consequences across corporations in seven countries.

For Paananen and Lin (2009) earnings quality reduced through analyzing this issue in EU find it. These questionable findings suggest that extra elements could be adding to the outcomes. Therefore, culture may be one of the factors that are applicable considering the variances across countries. Related to the effect of culture and behavior of BOD on EM; Cai et al (2019) conclude that firms with religious CEOs are associated with remarkably less EM than firms with non-religious CEOs. Moreover, Ugrin et al (2017) suggest that culture of a firm's country of origin is significantly related to changes in EM. According to Lewellyn and Bao (2017) national culture dimensions of power distance and institutional collectivism, serving as informal institutional forces that influence EM is arguable. They find support for direct impacts of culture aspects of the institutional context on reducing level of EM through using a sample from 26 countries. Positive link supported by Han et al (2010) between UA as well as individualism and EM. It is claimed by Doupnik (2008) that *"Societies with a robust want to avoid doubt have more need to control the future and earnings smoothing are matching with this wish. EM is appears to be reliable with a desire to shield associates of the in-group in countries with great collectivism"* (p. 338)

#### **4.4 Adopting of IFRS and earnings quality**

More than 100 countries have adopted the International Financial Reporting Standards (IFRS). This appears to be a suitable time to investigate the influences of IFRS on different issues with the possibility of global adoption of IFRS imminent even in Muslim countries and IBs. Mix results were shown via literatures that relate to the effect of IFRS' adoption on EM. For instance; it is found by Ugrin et al (2017) that a significant increase in income-increasing EM after IFRS adoption amongst firms based in countries that are more power distant, uncertainty avoidant, individualistic, short-term oriented, and indulgent. Mongrut and Winkelried (2019) inform that the

adoption of IFRS in Latin American is found to cause firms to replace high quality audit practices with the newly imposed regulation, to the extent that its impact on the degree of opacity in the region became unintentionally positive.

Amidu and Issahaku (2019) analyze the implication of the adoption of IFRS for accounting information quality by using a sample of 329 banks across 29 countries. It is suggested by the test the relatively high-quality earnings among banks in Africa during the period are attributable to the adoption of IFRS. Zeghal et al (2012) investigate whether the application of IFRS in 15 European Union (EU) countries is associated with less EM. It is suggested by the results that there has been some improvement in earnings quality between the pre- and post-IFRS adoption periods. Moreover, Barth et al (2008) found that low level of EM is achieved by adopting IFRS. Their results show that a significant volume of accounting choice to directors is permitted by IFRS the thing that results in fewer opportunistic reporting performances.

Sundvik (2019) found that when corporations' standards are more based on principles, accrual EM is higher. Furthermore, Ebaid (2016) holds a comparison between EM practice for Egyptian listed businesses prior and post the implementation of IFRS. The results reveal that earnings quality has reduced in post-adoption period compared to pre-adoption period. Mark et al (2015) inform that US firms that use US GAAP are found to be relying more intensely on real techniques than non-US firms that use either IFRS or US GAAP and US firms using IFRS. Among German context, Cussatt et al (2018) find evidence of decreased conditional conservatism, increased value relevance of earnings, and smoother earnings surrounding the mandatory IFRS adoption period.

#### **4.5 Moderators between diversity and earnings quality**

Kouaib and Almulhim (2019) investigate whether an audit index moderates the relationship between BOD composition and EM activities from a sample of 429 European firms. Evidence reveals that board gender diversity is negatively associated with EM. Moreover, audit index remarkably moderates the connection between board diversity and EM. Harris et al (2019) examine the association between EM behavior and female of Chief Executive Officers (CEOs) through moderating levels of equity-based compensation. Women CEOs are shown to not necessarily diminish

EM. As a result, there is little evidence that the gender of a CEO mitigates the propensity to increase the value of equity-based compensation by manipulating earnings.

Bzeouich et al (2019) studies the moderating impact of board of directors' features on the relationship between EM and the efficiency of French firms. As results show, board features moderate the relationship between EM and investment efficiency which suggesting that earnings quality plays a more prominent role in guiding managers to choose the right investments when the corporate governance environment is strong. Gray et al (2015) investigate the extent to which obligatory adoption of IFRS has restricted the previously documented connection between national culture and differences in EM practices for publicly listed firms in 14 member countries of the European Union. It is shown that the tendency to engage in EM lasts post IFRS and that cultural factor stay effective in explaining differences in the magnitude of EM behavior across countries. These literatures are extended in this recent paper through measuring to what extent culture and adoption of IFRS may have an impact on the link between diversity and EM using IBs context in cross-countries.

#### **4.6 Earnings Quality and SSB in IBs' context**

According to Garas and Pierce (2010), one independent body within the IB that is not subject to the authority of management, BOD, or shareholders is the SSB. The obedience of transactions with Islamic laws is ascertained in order to fulfill the ethical anticipations of the bank's customers. It is considered the most important strategic body for governance in IBs. SSB should encompass members who have expertise in the field of Islamic financial institutions with knowledge of Islamic commercial jurisprudence. For Ginena and Hamid (2015), existence of SSB in banks is crucial to assure the integrity and credibility of IBs. It creates trust between the bank and its stakeholders. Moreover, SSB is proven to add value to BOD and, therefore, affects the performance of the bank. SSB has an important role not only in governing bank operations, but also in monitoring the roles of all players within the banking system.

Ben Othman and Mersni (2014) investigate whether the reporting of EM, in 20 IBs across seven Middle East countries, is affected by CG. The results show that Discretionary Loan Loss Provisions (DLLP) is negatively

related to board size and the existence of AC while it reports a positive relationship between SSB size and DLLP. Elghuweel et al (2017) examine the effect of CG and Islamic governance (IG) mechanisms on EM behavior in Oman. Better-governed corporations are found to tend to engage significantly less in EM than their poorly governed counterparts. It is suggested via evidence that corporations that represent greater commitment towards incorporating Islamic religious values into their operations through the establishment of an IG committee tend to engage remarkably less in EM than their counterparts without such a committee. Eventually, no evidence is shown by literature that board gender diversity has any relationship with EM.

Considering the impact of Accounting and Auditing Organization for Islamic financial Institutions (AAOIFI) adoption on EM; Sarea (2016) based on Oman proves that the modification in EM after the adoption of AAOIFI is higher due to the improvement of the quality of financial reporting. Previous literatures show that whatever the adopted standard was IFRS, GAAP, or AAOIFI; it can be concluded that, accounting standards play a key role with a positive or negative impact on the unethical behavior (EM) for business. However, there are not any updated studies as far as we know that realize the impact of diversity as a component of CG on the level of CG across IBs by moderating adoption both IFRS and AAOIFI.

#### 4.7 Hypotheses Development

The board structure is optimized and improved by Female participation on BODs. It enhances boards' abilities and effectiveness in monitoring managers' real activities manipulation. Different levels of expertise allow a board to have a broader scope of action and exhibit more perspectives in making board decisions. Women participation on BOD brings diverse experiences that enrich board discussions and thus improves the quality of board decisions (Hillman et al., 2007). Adams and Ferreira (2009) find that a more gender-diverse board is associated with higher board attendance by both male and female directors and more demands for accountability for managers' poor performance. As a result, female contribution enhances a board's monitoring abilities and effectiveness. "*EM is largely nested in normal operation activities and thus difficult to detect, detecting it requires great diligence and energy from boards*" (Ge and Kim, 2014, p. 200). Therefore, female participation supports boards to fulfill such a complicated task. Moreover, female directors have tendency to think more

independently than their male counterparts do which is essential for influential monitoring. As a result, EM is better detected as female directors as monitors help boards in such a task.

Less tolerance may exhibit by female directors for managers' real activities manipulation and higher earnings quality from managers is required. Considerable studies provide evidence that females are usually more risk averse, less overconfident and less tolerant of opportunistic behavior than men. For instance, it is found by Bernardi and Arnold (1997) that women achieve higher than men on an ethical development measure in public accounting firms, indicating that women are more sensitive to unethical opportunistic issues. Consequently, as activities manipulation is unethical and risky and has profound adverse economic consequences, female directors, because of their general ethical differences from men, are more likely to reject real activities manipulation (Achleitner et al., 2014).

### **H1 IBs with gender-diverse boards, AC and SSB engage in less EM**

It is crucial to comprehend how to obtain ultimate use of female gender-specific differences to ensure that female directors create economic benefits. Gray (1988) suggests that national culture affects accounting measurement practices and consequently, influences earnings quality differentially across countries. An association between national culture and EM in an international context is documented and hypothesized by Han et al (2010). Our research adopts Gray's (1988) model, as extended by Doupnik and Tsakumis (2004) to consider the impact of differences in culture across a number of Muslim countries on the extent to which managers exercise discretion in measuring accounting earnings according to diversity in board.

The distribution of emotional roles between the genders is referred to as Masculinity versus femininity. Hofstede et al (2010) argues that women compared with men tended to score inter-personal aspects, rendering service, and sometimes the physical environment as more important, and advancement, sometimes independence, responsibility, and earnings as less important. There is a tendency for achievement and material success to be emphasized by a masculine society, while more weight is attached to quality of life rather than ego boosting, wealth, and recognition in a feminine culture. Managers influenced under high value of masculinity tend to focus on

material success and financial achievement. As a result, their priority is assigned to an economic objective. It can be supposed that masculinity may increase the probability of earnings management because the use of earnings management is an appropriate way to achieve this goal. Therefore, a greater frequency of EM practice in a country with a higher value of masculinity is expected.

## **H2 IBs across Femininity culture mitigate level of EM and enhances the negative linkage between gender diversity and EM**

IFRS as principles-based standards do provide some flexibility and may not enhance earnings quality (Jeanjean and Stolowy, 2008), if managers use the potential in IFRS to exercise their accounting discretion in an opportunistic fashion. In contrast, proponents to be an improvement in inter-firm comparability worldwide contend the primary goal of global accounting convergence, and that IFRS has reduced the number of accounting alternatives, and as a result limited management's opportunities to use their discretion (Chen et al., 2010). Consequently, it indicates that similar events being accounted for similarly and dissimilar events being accounted for dissimilarly. Hence, IFRS adoption would likely be beneficial to companies and information users.

## **H3 Adoption of IFRS mitigates level of EM and enhances the negative association between gender diversity and EM**

### **5. Research Design**

#### **5.1 Sample**

This study encompasses data from Bank Scope database in addition to annual reports for 122 IBs from 2010 to 2017. Pooled OLS-regression models are utilized to test hypotheses. The recent sample comprises 46 IBs that adopt IFRS across 13 countries and 76 IBs that adopt other standards across 11 countries. The 21 countries that comprised in this paper originate mainly from MENA region (17 countries) and other 7 countries as follows: Bahrain, Kuwait, Oman, Qatar, Kingdom of Saudi Arabia (KSA); United Arab Emirates (UAE); Egypt; Syria; Tunisia; Lebanon; Jordan; Yemen; Algeria; Bangladesh; Brunei; Iran; Pakistan; Sudan; Turkey; Gambia; Malaysia; Mauritania; Tunisia and Palestine. The basis on which those 21 countries were selected is that all of them are Muslim countries that hosted IBs and adopted different accounting standards as IFRS or AAOIFI or local standards. Focus is placed on banks since it is essential to mention that EM



is riskier in the banking industry than in other sectors. This is the result of the banks' importance in assuring economic stability and the welfare of nations. Actually, if banks perform inappropriately and managers cover up this information, this situation can end up with the collapse of the bank in the future, which can in turn generate the collapse of other banks through snowball effect, and therefore the collapse of the whole economy.

Data are collected from four main sources. The first to mention is gender of board; AC and SSB besides other board characteristics such as number of board members and number of independent directors have been manually collected from annual reports. Second, the components of EM' calculations and financial data as size and ROA are collected from bank scope database. Third, World Bank which provides data related to country' financial data as inflation and GDP. The fourth source is Worldwide Governance Indicators project in which data concerning CG of countries as corruption and law is provided.

## 5.2 Explanatory Variables

**Dependent variable:** Dechow et al (2010) suggest higher quality earnings provide more information about the features of a firm's financial performance that is relevant to users. A widely accepted metric of earnings management in empirical work is the so-called "earning aggressiveness" in Bhattacharya et al (2003). This term comes from the idea that insiders can conceal changes in the firm's underlying performance by delaying the realization of losses and speeding up the realization of gains. Firms can only make these changes by altering the accounting component of earnings, namely the discretionary accruals. Measures based on accruals, however, are robust to this criticism, as they are solely the product of the firm's decision-making. Following Dechow et al (1995), the accrual component of earnings can be computed as:

$$\text{Accruals}_t = [\Delta(\text{Current assets})_t - \Delta(\text{Cash})_t] - [\Delta(\text{Current liabilities})_t - \Delta(\text{Short Ttrm debts})_t - \Delta(\text{Income tax payable})_t] + \dots - (\text{Depreciation and amortization expense})_t \quad (1)$$

Where  $\Delta$  stands for changes from year  $t-1$  to year  $t$ .  $\text{Accruals}_t$  in Eq. (1) exclude short-term debt because they relate to financing transactions as opposed to operating activities. Furthermore,  $\text{Accruals}_t$  is the sum of an

expected, non-discretionary term that is driven by the usual operating performance of the firm plus the discretionary component of interest; The original Jones (1991) model and the modified model developed by Dechow et al (1995) are the most extensively used models to isolate discretionary from non-discretionary accruals (Mongrut and Winkelriedb, 2019).

**Independent variables:** Following previous studies (e.g., Lonkani, 2019; Luo et al., 2017), we measure gender diversity through dummy variable, which equals (1) if bank' board and AC and SSB has at least one women serving, and (0) otherwise. **Moderating variables:** To test H2 and H3 we construct a moderating variable, i.e., adoption of IFRS, which is measured as a dummy variable designated a 1 if bank adopt IFRS and otherwise it is equal to "0" in case the bank apply other standards such as AAOIFI or local standards. As discussed in Barth et al (2008); compared to domestic standards, IFRS are expected to provide a lower degree of EM. Therefore, a negative relationship should exist between EM and accounting regulation through adoption accounting standards as IFRS. We moderate role of culture based on one of pillars of Hofstede model which is masculinity/Femininity' value.

**Control variables:** Following Qi et al (2014); Luo et al (2017); and Quttainah et al (2013), we include a number of control variables that are widely known to affect real activities manipulation. Firms with higher profit are less likely to manage earnings (Katmon and Farooque, 2017) and, hence, are expected to be associated with low earnings forecast bias. Alternately, higher profit can lead to higher EM. Return on assets (ROA) is adapted to measure financial performance as used by Chi and Ziebart (2017). Further, as it is expected in the literature, the audit quality is represented by a dummy variable that assumes the value of 1 if the firm has been audited by one of the Big 4 auditing companies in that year, and the value of 0 otherwise. Following Baridwan (2015), we associate high audit quality with being audited by a 4-Big, due to their reputation and permanence in the market. Being audited by one of the 4-Big should, in general, guarantee a higher level of transparency and then less involving in EM. As stressed in Francis and Yu (2009), 4-Big are more likely to provide high-quality audit services due to having extensive experience offering this kind of services and their clients are, therefore, significantly less involved in situations of earnings manipulation.

To control the variances between countries; we use the Government Index which proposed by Kaufmann et al (2010) and published by the World Bank. We integrate this index using three main indicators that previous literature has shown as very important factors in measuring the way in which the governability of a country helps to reduce EM behavior in firms: control of corruption, rule of law, and government effectiveness. We also control macro-economic variables that are GDP and inflation as we expect that managers may involve in manipulation in earnings across high level of inflation and low level of GDP. Table (1) presents the variables and definitions as well as sources for collecting our data.

### 5.3 Research Models

#### Model 1: Diversity Effectiveness and earnings quality (EQ)

$$EM_{it} = \beta_0 + \beta_1 B. DIV_{it} + \beta_2 AC. DIV_{it} + \beta_3 SSB. DIV_{it} + \beta_4 ROA_{it} + \beta_5 AUDIT_{it} + \beta_6 GOV_{it} + \beta_7 LAW_{it} + \beta_8 CORRUP_{it} + \beta_9 GDP + \beta_{10} INFLA + \varepsilon_{it} \quad (1)$$

#### Model 2: Diversity Effectiveness and EQ by moderating IFRS

$$EM_{it} = \beta_0 + \beta_1 B. DIV_{it} + \beta_2 AC. DIV_{it} + \beta_3 SSB. DIV_{it} + \beta_4 IFRS_{it} + \beta_5 ROA_{it} + \beta_6 AUDIT_{it} + \beta_7 GOV_{it} + \beta_8 LAW_{it} + \beta_9 CORRUP_{it} + \beta_{10} GDP + \beta_{11} INFLA + \varepsilon_{it} \quad (2)$$

#### Model 3: Diversity Effectiveness and EQ by moderating culture

$$EM_{it} = \beta_0 + \beta_1 B. DIV_{it} + \beta_2 AC. DIV_{it} + \beta_3 SSB. DIV_{it} + \beta_4 FEMIN_{it} + \beta_5 ROA_{it} + \beta_6 AUDIT_{it} + \beta_7 GOV_{it} + \beta_8 LAW_{it} + \beta_9 CORRUP_{it} + \beta_{10} GDP + \beta_{11} INFLA + \varepsilon_{it} \quad (3)$$

**Table (1):** Research variables, definition, and sources

Variables	Definition	Source
<b>Dependent Variables</b>		
Earning Quality based on EM	Level of discretionary accruals for bank based on modified model	Bank scope and annual reports
<b>Independent Variables</b>		
<b>Diversity Characteristics</b>		
Board (BOD) Gender and Nationality Diversity	A dummy variable is equal to “1” when BOD has female member directors on the board, and otherwise it is equal to “0”	Annual reports
	A dummy variable is equal to “1” when BOD has member from multi nationality, and otherwise it is equal to “0”	
Audit Committee (AC) Gender and Nationality Diversity	A dummy variable is equal to “1” when AC has female member, and “0” otherwise	Annual reports
	A dummy variable is equal to “1” when AC has member from multi nationality, and “0” otherwise	

Variables	Definition	Source
Sharia Supervisory Board (SSB) Gender and Nationality Diversity	A dummy variable is equal to “1” when SSB has female member, and “0” otherwise	Annual reports
	A dummy variable is equal to “1” when SSB has member from multi nationality, and otherwise it is equal to “0”	
<b>Moderating variables</b>		
IFRS	Dummy variable designated a 1 if bank adopt IFRS and otherwise it is equal to “0”	Annual reports and IASB website <a href="https://www.ifrs.org">https://www.ifrs.org</a>
Culture based on Hofstede model	Measure culture based masculinity /Femininity and other Hofstede variables (uncertainty avoidance; individualism; power distance and long term orientation)	Hofstede Model <a href="https://www.hofstede-insights.com">https://www.hofstede-insights.com</a>
<b>Control Variables</b>		
<b>Bank Characteristics</b>		
Financial Performance: ROA	Net income over total assets	Bank scope
Audit Quality	1=Bank’s financial statements were audited by 4-Big auditor; 0=Bank’s financial statements were not audited by 4-Big	Annual reports
<b>Country-Specific characteristics</b>		
GDP	Natural logarithm of GDP	World Bank database
Inflation	Inflation rate	World Bank database
Control of Corruption	% of country corruption level by reflects perceptions of the extent to which public power is exercised for private gain	Worldwide Governance Indicators project <a href="https://info.worldbank.org/governance/wgi/">https://info.worldbank.org/governance/wgi/</a>
Rule of law	Perceptions of extent to which agents have confidence in and abide by rules of society	
Government effectiveness	Perceptions of the quality of public services	

## 6. Analysis and Results

We present here the results from the preliminary analysis for the impact of diversity on EM and tests that compare the average EM between banks with high and low masculinity/Femininity context and between banks that do and do not adopt IFRS. A positive effect of diversity along with a positive effect of IFRS adoption and masculinity/Femininity on EM appears to be significant at this stage. Table (2) describes the descriptive statistics of variables used in the analyses. The mean value of the EM is 0.172. The positive value for the mean value of the EM indicates that management in IBs has low level of involving in manipulation earnings. Our value for EM is higher than result of Mersni and Ben Othman (2016) based on IBs across GCC region. The whole sample, 15.06% of the IBs has at least one female director and less than 1% (0.0410) female in AC while 0.0381 gender

diversity in SSB. This statistic shows for what extent the existing female in the board or other committees across IBs in the Muslim countries is very low level comparing with the banks or corporations in the western countries. It shows the limited qualifications and experiences for women in IBs to get a position in board or other committees as SSB. This result asking further research about the reasons behind this issue and how can we develop the role of women in the institutions as IBs.

While gender diversity in our sample is higher than the diversity level which reported in the study by Mersni and Ben Othman (2016) for IBs in GCC region and study by Sun et al (2015) for a Chinese sample and study by Adams and Ferreira (2009) for the UK sample. This result suggests that although female directors are still underrepresented throughout the world whatever Muslim or none. 38% from our selected bank adopt IFRS. 59.6% of IBs use 4-Big auditors (DT, PWC, EY and KPMG), suggesting a high market share particularly in rich oil countries as GCC region. On average there are nine BODs in the board, while three are 3 members in the AC and 4 members in the SSB. Our result related to SSB show that, IBs follow the recommendation of AAOIFI that suggest that SSB must include at least three members. Our result is comparable to those found by Grassa and Mattoussi (2014)

**Table (2):** Descriptive statistics of variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
EM	976	-34.000	3.4190	0.1729	1.508220	-12.176	269
BOD.DIV	976	.00	1.00	0.1506	.35786	1.957	1.832
AC.DIV	975	.00	1.00	0.0410	.19845	4.635	19.524
SSB.DIV	840	.00	1.00	0.0381	.19154	4.835	21.424
IFRS	976	.00	1.00	0.3852	.48690	.472	-1.781
MASC	976	40.00	66.00	51.377	5.98573	.226	-.103
BOD.SIZE	975	4.00	20.00	8.7436	2.65077	.802	1.257
BOD.IND	964	.01	.93	0.7158	.19114	-1.152	.963
CEO.DUA	976	.00	1.00	0.0799	.27131	3.103	7.645
AC.INDEP	976	.01	.83	0.6362	.15039	-3.036	9.853
AC.SIZE	976	2.00	6.00	3.3791	.80622	1.291	1.420
SSB.SIZE	840	1.00	12.00	3.9893	1.46102	1.933	7.138
PD	976	35.00	100.00	80.196	14.59674	-.654	.047
INDIVI	976	14.00	89.00	33.065	10.53462	2.328	10.754

UA	976	35.00	85.00	63.877	14.87842	-.814	-.445
LTO	976	.00	51.00	20.918	16.58994	.189	-1.311
ROA	626	.00	58.53	2.2260	3.73446	7.903	94.888
AUDIT	964	.00	1.00	0.5965	.49086	-.394	-1.849
GDP	842	.41	19.59	4.4864	2.50100	2.311	9.678
INFLA	856	.07	39.27	8.6291	10.34354	1.772	2.132
GOV	960	-1.19	100.00	15.756	27.97046	1.510	.597
LAW	960	-2.09	1.89	-0.1778	.79069	-.072	-1.161
CURROP	960	-1.66	1.90	-0.2410	.82270	.179	-.680

Table 3 displays the Pearson’s correlation coefficients of variables. Our measure of female participation on BOD and SSB are highly correlated and uncorrelated with female in AC. Not as we expected diversity in both of BOD and SSB are positively related to activities manipulation ( $r= 0.085$ ,  $p<0.01$ ;  $r= 0.100$ ,  $p< 0.01$ ), preliminarily no supporting Hypothesis 1 that female member are able to curb managers’ activities manipulation. We find as we expect a positive link between IFRS and activities manipulation ( $r= 0.360$ ,  $p< 0.01$ ), which corroborates our argument that adoption of IFRS may fundamentally motivate female directors to play a stronger role in increasing level of earnings manipulation. In addition, we find a negative correlation between cultures based on masculinity and EM ( $r= -0.249$ ,  $p< 0.01$ ). For control variables, the analysis shows positive correlation for EM and GDP ( $r= 0.112$ ,  $p< 0.01$ ) as well as corruption ( $r= 0.086$ ,  $p< 0.01$ ) while find a negative association with inflation ( $r= -0.079$ ,  $p < 0.001$ ) and insignificant link for other variables.

**Table (3):** Correlation analysis

	EM	BOD.DIV	AC.DIV	SSB.DIV	IFRS	MASC	ROA	AUDIT	GDP	INFLA	GOV	LAW	CURR
EM	1	0.085**	0.058	0.100**	0.36**	-0.24**	-0.05	0.000	0.11**	-0.079*	-0.01	0.044	0.086**
BOD.DIV		1	0.247**	0.149**	0.008	-0.17**	-0.1**	-0.038	0.12**	-0.003	-0.00	0.021	-0.011
AC.DIV			1	-0.045	-0.068*	-0.012	-0.07	0.083*	0.042	-0.085*	0.025	0.048	0.011
SSB.DIV				1	-0.016	-0.081*	-0.06	0.136**	0.066	-0.102**	0.016	0.15**	0.111**
IFRS					1	-0.32**	0.051	-0.14**	0.042	-0.016	-0.1**	-0.04	0.133**
MASC						1	-0.04	0.250**	-0.06	-0.203**	0.19**	0.27**	0.237**
ROA							1	-0.09*	-0.05	0.097*	-0.02	-0.08*	-0.070
AUDIT								1	-0.00	-0.634**	0.31**	0.80**	0.745**
GDP									1	-0.19**	-0.00	0.059	0.072*
INFLA										1	-0.2**	-0.7**	-0.68**

GOV											1	0.34**	0.362**
LAW												1	0.941**
CURR													1

\*\* Significance at the 5% level (two sided)

\* Significance at the 10% level (two sided)

We conduct regressions to test our hypotheses, Multicollinearity appears insignificant because the average variance inflation factor (VIF) for each regression model is much less than the cutoff point of 10 (Neter et al., 1990). Table 4 shows the results of OLS regression analyses. The value of  $R^2$  for effect of diversity on EQ regression is 0.879, which indicates that the variables explained in equation (1) clarify 88% of the variance in EQ and the rest of percentage is due to random error or other variables. Hypothesis 1 predicts that female participation on BOD, AC, and SSB, has a positive relationship with EQ. The variable critical mass of women on BODs has a significant and positive regression coefficient ( $b= 0.075$ ,  $p< 0.1$ ) and the variable critical mass of women on ACs has a positive regression coefficient ( $b= 0.041$ ,  $p< 0.001$ ) and additionally the variable critical mass of women on SSBs has positive regression coefficient ( $b= 0.055$ ,  $p< 0.01$ ). Thus, we reject our first hypotheses that expect gender-diverse in IBs boards; AC and SSB engage less in EM. Yaoyao et al (2019) who find relation between women on boards and EM support this result. Specifically, when there is exists only a marginal number of women directors, banks are more likely to manipulate earnings. However, when the number of women directors reaches three or more, EM declines. However, our result is inconstant with the majority of the previous studies that find a negative association between diversity and EM (Saona et al., 2020; Harakeh et al., 2019). This outcome can be justified based on nature of IBs, nature of Muslim and Arabic countries where still role of women in the business is limited and restricted by values of these region. It also can explain by very low participation on women in board as well as in the other committees. It can also clarify based on lack of women for experiences and managerial skills in IBs, which lead for more involving in the earning manipulation. For control variables, the analysis shows a positive link between EM and audit quality; GDP, inflation and corruption while shows a negative link with rule of law.

**Table (4):** The effect of diversity on EQ

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>BOD.DIV</b>	<b>0.193</b>	<b>0.051</b>	<b>0.075</b>	<b>3.776</b>	<b>0.000***</b>
<b>AC.DIV</b>	<b>0.201</b>	<b>0.091</b>	<b>0.041</b>	<b>2.203</b>	<b>0.028*</b>
<b>SSB.DIV</b>	<b>0.283</b>	<b>0.093</b>	<b>0.055</b>	<b>3.037</b>	<b>0.003**</b>
ROA	0.001	0.005	0.004	0.216	0.829
AUDIT	0.558	0.040	0.430	14.018	<b>0.000***</b>
GDP	0.074	0.006	0.377	13.170	<b>0.000***</b>
INFLA	0.023	0.002	0.304	10.596	<b>0.000***</b>
GOV	0.000	0.001	-0.006	-0.287	0.774
LAW	-0.732	0.072	-0.592	-10.191	<b>0.000***</b>
CURROP	0.587	0.063	0.502	9.282	<b>0.000***</b>
<b>Model Summary</b>	<b>Adjusted R Square: 0.879</b>		<b>F: 298.912</b>	<b>Sig: 0.000</b>	

We examine based on hypothesis 3 whether managers in banks that adopt IFRS have a higher (lower) tendency to manage earnings in terms of the magnitude of discretionary accruals according to diversity in board, AC and SSB. The value of  $R^2$  for our second model is 0.917, which indicates that the variables explained in equation (2) clarify 92% of the variance in EQ by moderating the role of IFRS on the link for diversity and the rest of percentage is due to random error or other variables. As shown in Table 5, the coefficients on three interactions, i.e., critical mass of women on BODs ( $b= 0.056$ ,  $p< 0.05$ ), women in AC ( $b= 0.045$ ,  $p< 0.05$ ) and women in SSB ( $b= 0.049$ ,  $p< 0.05$ ) are positive. These results suggest that adoption of IFRS by IBs intensifies the positive association between female on BOD, AC, SSB and activities manipulation which rejecting our third hypothesis. The analysis shows a positive association between IFRS adoption and EM ( $b= 0.278$ ,  $p< 0.01$ ). It suggests that more adoption of IFRS increase level of EM. This result is matching with literatures that show positive link between IFRS and EM (e.g., Sundvik, 2019; Ugrin et al., 2017). This result opens a question about the applicability of IFRS for IBs and for what extent adoption of Islamic standards as AAOIFI can mitigate the level of EM.



**Table (5):** Moderating role of IFRS on the link between diversity and EQ

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>BOD.DIV</b>	<b>0.145</b>	<b>0.043</b>	<b>0.056</b>	<b>3.400</b>	<b>0.001**</b>
<b>AC.DIV</b>	<b>0.223</b>	<b>0.076</b>	<b>0.045</b>	<b>2.949</b>	<b>0.003**</b>
<b>SSB.DIV</b>	<b>0.250</b>	<b>0.077</b>	<b>0.049</b>	<b>3.235</b>	<b>0.001**</b>
ROA	-0.005	0.004	-0.020	-1.171	0.242
AUDIT	0.470	0.034	0.362	13.977	0.000
GDP	0.052	0.005	0.267	10.604	0.000
INFLA	0.020	0.002	0.267	11.132	0.000
GOV	0.001	0.001	0.027	1.548	0.122
LAW	-0.277	0.069	-0.224	-4.049	0.000
CURROP	0.163	0.061	0.139	2.657	0.008
<b>IFRS</b>	<b>0.448</b>	<b>0.033</b>	<b>0.278</b>	<b>13.484</b>	<b>0.000***</b>
<b>Model Summary</b>	<b>Adjusted R Square: 0.917</b>		<b>F: 411.101</b>	<b>Sig: 0.000</b>	

We examine according to hypothesis 2 whether managers in highly masculinity countries as Arabic and Muslim countries have a higher (lower) tendency to manage earnings in terms of diversity in board, AC and SSB. The value of  $R^2$  for our third model is 0.912, which indicates that the variables explained in equation (3) clarify 91% of the variance in EQ by moderating the role of culture on the link for diversity and the rest of percentage is due to random error or other variables. As shown in Table 6, the coefficients on three interactions, i.e., critical mass of women on BODs ( $b= 0.071$ ,  $p< 0.01$ ), women in AC ( $b= 0.045$ ,  $p< 0.001$ ) and women in SSB ( $b= 0.055$ ,  $p< 0.01$ ) are positive. These results suggest that the positive association between female on BOD, AC, SSB and activities manipulation is increase in masculinity culture which rejecting our second Hypothesis. The analysis shows a positive link between culture based on muscularity and EM ( $b= 0.673$ ,  $p< 0.01$ ). The result recommends that female in board are involved more in EM in the context of society' men (masculinity). This result is matching with Han et al (2010). This result can be justifies as most of our selected banks are located in Arabic countries that characterized by close communities with limited space for women to participate in the business. In these countries, getting a high position for women is depending on network and connection. These features may lead women in board and in other committees involve more in EM.

**Table (6):** Moderating role of culture on the link between diversity and EQ

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>BOD.DIV</b>	<b>0.184</b>	<b>0.043</b>	<b>0.071</b>	<b>4.233</b>	<b>0.000***</b>
<b>AC.DIV</b>	<b>0.225</b>	<b>0.078</b>	<b>0.045</b>	<b>2.899</b>	<b>0.004*</b>
<b>SSB.DIV</b>	<b>0.284</b>	<b>0.079</b>	<b>0.055</b>	<b>3.576</b>	<b>0.000***</b>
ROA	-0.006	0.004	-0.026	-1.518	0.130
AUDIT	0.082	0.051	0.063	1.592	0.112
GDP	0.028	0.006	0.146	4.746	0.000
INFLA	0.014	0.002	0.189	7.225	0.000
GOV	-0.001	0.001	-0.043	-2.372	0.018
LAW	-0.548	0.063	-0.443	-8.715	0.000
CURROP	0.595	0.054	0.509	11.053	0.000
<b>MASC</b>	<b>0.013</b>	<b>0.001</b>	<b>.673</b>	<b>12.390</b>	<b>0.000***</b>
<b>Model Summary</b>	<b>Adjusted R Square: 0.912</b>		<b>F: 389.311</b>	<b>Sig: 0.000</b>	

### Robustness checks

We run several robustness tests to examine whether our findings are sensitive to the research design, including the empirical models adopted and the proxy variables used. Firstly; we further control for the influence of other CG variables related to BOD, AC and SSB which are BOD size; BOD independency; CEO duality; AC size; AC independency and SSB size because these factors may potentially affect EM. Several literatures measure the impact of CG with focusing in these factors over EM and find mixed results (e.g., Rajeevan and Ajward, 2019; Lai and Tam 2017). According to table (7); the coefficients for two kinds of diversity which are women on BODs ( $b = 0.063$ ,  $p < 0.01$ ); women in SSB ( $b = 0.049$ ,  $p < 0.05$ ) are significantly positive while diversity in AC is insignificant association with EM. This result suggests that the positive association between female on BOD and SSB and activities manipulation is affected and moderated by size of board and size of SSB. Our result support for what extent boards are more effective monitors (Mather and Ramsay, 2006) and matching with the literatures that found size is one of the most CG mechanism affect EM (Chan et al., 2013). It also shows for what extent size of board as well as size if SSB is the most moderators for the association between diversity and EM. Our result is matching with outcome of Mersni and Ben Othman (2016) who report a positive relationship between SSB size and EM. This indicates that

small sharia supervisory boards are more effective than larger ones, which could be due to the higher costs and negative effects of large groups on decision-making.

**Table (7):** Impact of CG on EQ

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>BOD.DIV</b>	<b>0.164</b>	<b>0.046</b>	<b>0.063</b>	<b>3.595</b>	<b>0.000***</b>
<b>AC.DIV</b>	<b>0.133</b>	<b>0.081</b>	<b>0.027</b>	<b>1.639</b>	<b>0.102</b>
<b>SSB.DIV</b>	<b>0.250</b>	<b>0.085</b>	<b>0.049</b>	<b>2.929</b>	<b>0.004**</b>
<b>BOD.SIZE</b>	<b>0.013</b>	<b>0.007</b>	<b>0.116</b>	<b>1.916</b>	<b>0.056*</b>
BOD.IND	0.047	0.091	0.035	0.522	0.602
CEO.DUA	0.013	0.059	0.004	0.223	0.824
AC.INDEP	-0.068	0.112	-0.044	-0.608	0.544
AC.SIZE	0.010	0.019	0.033	0.512	0.609
<b>SSB.SIZE</b>	<b>0.080</b>	<b>0.013</b>	<b>0.339</b>	<b>6.250</b>	<b>0.000***</b>
ROA	-0.009	0.004	-0.041	-2.173	0.030
AUDIT	0.300	0.051	0.231	5.890	0.000
GDP	0.037	0.006	0.189	5.782	0.000
INFLA	0.019	0.002	0.257	9.522	0.000
GF	0.000	0.001	-0.029	-1.530	0.127
LAW	-0.855	0.073	-0.691	-11.700	0.000
CURROP	0.796	0.062	0.681	12.839	0.000
<b>Model Summary</b>	<b>Adjusted R Square: 0.907</b>		<b>F: 249.966</b>	<b>Sig: 0.000</b>	

Secondly, there are other cultural values concerned with Hofstede model that are potentially correlated with EM. (1) Power distance (PD) based on Hofstede et al (2010) refers to “*the extent to which the less powerful members of organizations accept and expect that power is distributed unequally*” (p. 61). Large PD inhibits the free exchange of ideas, which is contradictory to informational openness. Waldman et al (2006) stated that “*such societies would be prone to the manipulative use of power for the pursuit of personal benefit, a lack of equal opportunities for minorities and women, and a lack of personal or professional development*” (p. 826). Therefore, large PD is expected to increase the tendency for EM, because board is less likely to care about the community benefit and shareholder interest and tend to abuse power. Large PD culture would encourage managers to consolidate their power, which will increase information asymmetry. Thus, managers are more likely misuse their position to manage earnings to achieve their personal goals. Hence, EM would help enhance the

legitimacy of large PD. Therefore, we predict a positive association between PD and EM.

(2) Long-Term Orientation (LTO) cultures value *“the fostering of virtue oriented towards future rewards, perseverance and thrift”* (Hofstede et al. 2010, p. 239). Whereas low LTO tends to focus on current results and the bottom line, high LTO stresses long-term relationships to achieve a more sustainable performance. Low LTO prefers immediate gratification of needs by spending money quickly, as opposed to high LTO, which defers gratification and saves funds to invest later (Freedman and Jaggi, 2010). If we assume EM attempts to achieve short-term goals, we expect a negative link between LTO and EM. (3) Individualism under Gray’s (1988) model argues that, managers in individualistic countries tend to have more flexibility in respect of self-governance and measurement (flexible or non-uniform). Also, they are more likely to report optimistic earnings in contrast to a conservative approach to measurement which refers to *“a preference for a cautious approach to measurement so as to cope with the uncertainty of future events, as opposed to a more optimistic, laissez-faire, and risk-taking approach”* (p, 8)

As a result, individualistic cultural environments tend to foster incentives to manage earnings more opportunistically as an individualistic manager/accountant might be more likely to seek, where regulation permits, to benefit himself/herself. Han et al (2010) documents a positive association between individualism and EM and find that individualism explains differences in managerial behavior across countries in terms of EM. (4) Uncertainty avoidance (UA) according to Gray (1988), countries that tend to be more highly UA are likely to have more accounting uniformity, more detailed rules and limited self-governance from the accounting profession about how to present financial reports and that managers will tend to adopt a reporting approach that is more conservative. This will likely result in lower magnitudes of EM as in the interests of regulation and uniformity, these UA societies would tend to provide fewer opportunities and incentives for EM. Guan et al (2005) suggest a negative relationship between discretionary accruals and UA.

Based on table (8); culture is effect on EM directly through a positive association with LTO; PD and UA while the analysis shows a negative link with individualism. So, our result is matching with our expectations about PD while not matching with LTO; UA and individualism. This result can be

justified based on the nature of our selected countries which characterized by high average PD (80); low individualism (33); high UA (64) and low LTO (21) according to value of Hofsted model for these countries. Related to the impact of culture as a mediator for the association between EM and diversity; the analysis shows consistent result with outcome in table (6) in terms of positive link for board and AC diversity while shows insignificant link for diversity of SSB.

**Table (8):** Impact of other Hofstede culture' variables

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
<b>BOD.DIV</b>	<b>0.122</b>	<b>0.037</b>	<b>0.047</b>	<b>3.285</b>	<b>0.001**</b>
<b>AC.DIV</b>	<b>0.144</b>	<b>0.066</b>	<b>0.029</b>	<b>2.174</b>	<b>0.030*</b>
SSB.DIV	0.096	0.070	0.019	1.371	0.171
ROA	0.002	0.003	0.007	.437	0.662
AUDIT	0.102	0.049	0.079	2.069	0.039*
GDP	0.026	0.005	0.131	4.872	0.000***
INFLA	0.026	0.002	0.345	13.925	0.000***
GF	-0.002	0.000	-0.060	-3.850	0.000***
LAW	-0.753	0.059	-0.609	-12.856	0.000***
CURROP	0.828	0.051	0.708	16.233	0.000***
<b>PD</b>	<b>0.004</b>	<b>0.001</b>	<b>0.287</b>	<b>4.492</b>	<b>0.000***</b>
<b>INDIVI</b>	<b>-0.003</b>	<b>0.001</b>	<b>-0.103</b>	<b>-2.569</b>	<b>0.011*</b>
<b>UA</b>	<b>0.002</b>	<b>0.001</b>	<b>0.126</b>	<b>2.177</b>	<b>0.030*</b>
<b>LTO</b>	<b>0.014</b>	<b>0.001</b>	<b>0.371</b>	<b>15.244</b>	<b>0.000***</b>
<b>Model Summary</b>	<b>Adjusted R Square: 0.937</b>		<b>F: 433.351</b>	<b>Sig: 0.000</b>	

Thirdly, to measure the moderating role of accounting standards adopted by our selected banks; we dividing our sample into two groups: first group include 46 IBs adopter of IFRS and second group includes 76 IBs that non-adopter of IFRS while they adopt local or AAOIFI. According to table (9); we find for non-adopters of IFRS a positive association between EM and gender diversity across board and AC while there is no relation with diversity in SSB. Furthermore, for second group which includes adopters of IFRS; the analysis shows a positive association between EM and diversity of AC while shows a negative association with diversity in SSB and insignificant for gender diversity in board. Consequently, this result support for what extent accounting standards can effect on the association between EM and diversity.

**Table (9):** Moderate role of accounting standards on link between diversity and EQ

Model	Non-IFRS adoption			IFRS adoption		
	Standardized Coefficients	T	Sig.	Standardized Coefficients	T	Sig.
	Beta			Beta		
BOD.DIV	<b>0.105</b>	<b>4.482</b>	<b>0.000***</b>	0.028	1.168	0.244
AC.DIV	<b>0.036</b>	<b>2.035</b>	<b>0.042*</b>	<b>0.038</b>	<b>1.818</b>	<b>0.070*</b>
SSB.DIV	0.013	0.793	0.428	<b>-0.088</b>	<b>-4.462</b>	<b>0.000***</b>
ROA	0.046	2.647	0.008**	0.085	3.705	0.000***
AUDIT	0.320	10.556	0.000***	0.444	13.407	0.000***
GDP	0.299	10.819	0.000***	0.329	9.737	0.000***
INFLA	0.315	14.765	0.000***	0.280	8.829	0.000***
GF	0.080	4.203	0.000***	0.016	.692	0.489
LAW	0.113	2.906	0.004**	-0.156	-2.373	0.018*
CORR	-0.176	-5.142	0.000***	0.041	0.683	0.495
<b>Model Summary</b>	<b>Adjusted R Square</b>	0.856		<b>Adjusted R Square</b>	0.864	
	<b>F</b>	357.946		<b>F</b>	239.916	
	<b>Sig</b>	0.000		<b>Sig</b>	0.000	

## 7. Conclusion remark

Our study is motivated by the growing interest in the influences of diversity as well as culture in addition to adoption of accounting standards as IFRS on business practices including accounting as well as EM. This paper measure the impact of gender diversity across board; AC and SSB on earnings management in addition to measure for what extent IFRS and culture may moderates the relationship between diversity and EM. Our sample comprises 122 IBs across 21 different countries from 2010 to 2017. Evidence reveals that gender diversity in BOD; AC and SSB is positive associated with EM activities. Further, adoption of IFRS significantly moderate the positive link between board diversity and EM while shows significantly moderate the negative association between SSB diversity and EM for banks that are non-adopter of IFRS such as AAOIFI standards. Related to moderate role of culture; we find national culture dimension of femininity influence the association between diversity and EM.

Our findings are potentially useful for regulators and shareholders. Regulators could use our findings to focus on diversity in different board that restrain EM practices in IBs and implement regulations to strengthen them.

Additionally, our study gives shareholders further insight, which enables them to better monitor the actions of managers and thus increase their control over their investments. The paper's evidence has implications for regulators and policy makers, since the presence of a female director in the BOD and audit committee as well as in SSB may affect management decisions in a positive way. Therefore, diversity should be more strongly emphasized. Moreover, the presence of female members on the board may further enhance public confidence and trust of stakeholders in IBs. The findings of this study moreover could help with the understanding of broader participation of female directors on bank boards and subgroups such as audit committee and Sharia board, and of the improvement in corporate governance. Finally, the findings can be of particular interest to monitoring authorities in developing countries and send positive signals to them regarding the recommendation or requirement of gender diversity as a part of CG mechanisms.

This study is subject to the following limitations, which represented opportunities for additional and future research. First, we use the indices of national culture (Hofstede 1980, 2001, 2010) which have been widely adopted in previous research. While these indices may be measured with error, to the extent that the measurement errors are random across countries this factor should not bring material and systematic biases to the findings. Future research may adopt additional models for measuring culture such as Gray model for accounting dimensions and Schwartz model. Second, we measured IFRS adoption as a dummy variable, which did not give a full correct way to understand the level of compliance with the regulations. Future research may use index to measure the compliance level with IFRS. We measure diversity by one proxy (Gender) which asking further research to investigate this association by additional proxies for diversity as nationality; age and other demographics features for board and AC as well as Sharia Supervisory Board (SSB). Additional investigation can moderate other variables such as corruption. In addition, this research can repeated after considering the impact of Covid-19 pandemic on this association. Finally, the future research may consider the impact of religiously instead on culture especially in Islamic countries.

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