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## Editorial – Farewell and welcome message from the outgoing Editor

2018 saw me succeed my friend and co-founder of the African Accounting and Finance Association, Prof. Jane Ande, a well-known careers scholar, as Editor-in-Chief of the AAFJ. I published the Journal's Vol. 2, No. 1 Special edition a year later. Vol. 4 Special Issue on “Methodological Issues in African Accounting Research: Towards Alternative Theories and Methods” was published in 2022 after Vol. 3 was published in 2021. With great pleasure, I now present Volume 5 of the Journal. The editorial board put a lot of effort into raising the journal's prominence, particularly after the special issue was released in 2022.

Being AAFJ's Editor-in-Chief has been an honour and a high point of my career. Even though I have enjoyed my work for the Journal, I have decided to step down as its Editor-in-Chief after nearly five years of service and due to exigencies, that come with being President of the African Accounting and Finance Association (AAFA) President.

In light of this, allow me to officially announce Professor Collins Ntim as the next Editor of the African Accounting and Finance Journal (AAFJ). Collins has over 20 years of international experience in higher education teaching, research, leadership, and administration. He is a passionate accounting academic and a professionally trained chartered accountant (CPA). He has held several high-level positions, including Associate Dean, Head of Department (Chair), and Deputy Head of Southampton Business School (Dean). He has published over 100 outputs in the process, of which more than 70% have appeared in the top FT 50, ABS 4\*/3\*, and ABDC A\*/A Journals around AFG topics. His research focuses on how Accounting, Finance, and Governance (AFG) can drive Development and Sustainability around the world, especially the developing world (e.g., China, Sub Sahara Africa, Middle East and North Africa). His publications have been widely cited by academics and the popular global media. We have every reason to believe that Professor Ntim will elevate the African Accounting and Finance Journal. Once again welcome, Professor Ntim!

I would like to take this opportunity to thank all of my friends and colleagues who have served as associate editors and editorial advisory board members for their contributions to the Journal. The editorial team members contributed their time and skills to assist authors in publishing strong articles, which was a major factor in the journal's success. Along with Trevor Hopper, Charles Cho, Musa Mangena, Twaha Kaawaase, Irene Nalukenge, Kelum Jayasinghe, Teerooven Soobaroyen, Philippe Lassou, Chandana Alawattage, Danture Wickramasinghe, Wafa Khlif, Sami El Omari, Olayinka Moses, Collins G. Ntim, Nelson Waweru, Mumbi Maria Wachira, Pawan Adhikari, J.C. Munene and of course many others of their ilk, I would also like to thank the esteemed scholars who have published in AAFJ. Furthermore, I would like to express my gratitude to the senior editorial board members, including Professors Mathew Tsamenyi and Venancio Taurigana, for their insightful advice.

I have offered to stay involved with the editorial team in whatever role the new editorial board sees fit. On behalf of the current and outgoing editorial team I extend my best wishes to the AAFJ and look forward to its ongoing success.

**Professor Stephen Korutaro Nkundabanyanga, PhD.**

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# Board Gender Diversity and Banks' Performance in Africa

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\*Corresponding author: [dcngatta@mde.ci](mailto:dcngatta@mde.ci) We thank Professor Stephen Nkundabanyanga, the editor, and the anonymous reviewer. We also thank Pietro Bonetti, Miguel Duro, and Gaizka Ormazabal for their advice and feedback. Romaric Kouadio provided excellent research assistance. Donald N'Gatta thanks MDE Business School for financial support. The opinions presented here do not reflect the views of the French Embassy in Côte d'Ivoire.

## Abstract:

**Purpose** – This paper aims to examine whether gender diversity on boards of directors is associated to bank performance.

**Methodology** – This paper relies on a comprehensive sample of banks operating in the West African Economic and Monetary Union (WAEMU)

**Results/findings**- The study finds a negative and significant association between these variables, which is robust to a large set of sensitivity analyses and persists over several years. The negative effect is concentrated in firms that need more of an “advisory” board relative to a “monitoring” board, since women appear to be more monitoring oriented.

**Limitations/Implications** – Policies aimed at fostering greater gender diversity on boards can of course have beneficial aspects; however, arguments that these policies will improve company performance must be made with great caution.

**Originality** - Given that previous literature has generally provided mixed conclusions on the effect of board gender diversity on performance, our article provides evidence relevant to the public and academic debate about the use of gender diversity policies in corporate governance codes.

## 1. Introduction

“The African private sector can ensure that they improve their bottom line, if they invest more strategically in women leadership”,

The effect of board gender diversity on corporate performance remains a primary focus of academic research (Adams and Fereirra, 2009, Ahern and Dittmar 2012, Greene, Intintoli and Kahle, 2020). Constantly growing calls in the regulatory debate for improvement in representation of minorities, especially women, on senior management positions, contrast with mixed results from academic research in economics, accounting, finance, or management on the effects of board gender diversity on performance. In Africa, where women routinely face a variety of obstacles to climbing the corporate ladder, such an important research topic has been largely unexplored, even as regulators formulate related policies<sup>2</sup>. For example, in March 2022, the stock market of the West African Economic and Monetary Union (WAEMU) established its first Governance Code, which should be mandatory by 2025 for all listed firms operating in this region. One of the key features of this corporate governance code is the requirement that any gender should not represent more than 2/3 of the board. Thus, in this paper, we aim to fill somehow the gap of the lack of research on board diversity and corporate performance in Africa. We do this by investigating the effect of board gender diversity in a comprehensive sample of banks operating in the eight West African countries forming the WAEMU.

There is rich literature across disciplines on the effects of gender diversity on corporate performance (Terjesen, Sealy, and Singh, 2009)<sup>3</sup>. What is striking in this substantial body of work is how mixed the results are across time and context. On one hand, boards with higher gender diversity generate firm value as these boards tap broader talent pools for their directors. In addition, women brought on boards are unlikely to be part of the directors' close-knit "clubs" and could therefore have independent views on the decisions of those firms. On the other hand, higher diversity could negatively affect firm value through interpersonal traits and decision making of directors (e.g., risk aversion). Diversity can also lead to frictions in communication and coordination, impeding the ability of the board to work as a team. The effect of board gender diversity has therefore become a pertinent empirical question, with some studies finding a positive effect of diversity on firm value (Gianetti and Zhao, 2016; Bernile, Baghwat, and Yonker, 2018, Griffin, Li, and Xu, 2021), while others find an opposite relationship (Adams and Ferreira, 2009, Ahern and Dittmar 2012, Adams, Akyol, and Verwijmeren, 2018; Donaldson, Malenko, Piacentino, 2020).

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<sup>1</sup> "Where are the women: Inclusive Boardrooms in Africa's top listed companies?" African Development Bank report, 2015.

<sup>2</sup> The appendix A presents excerpts from the business press and international organizations articles on the growing interest on gender diversity in senior corporate positions in Africa.

<sup>3</sup> For the effects of board gender diversity on other corporate policies, see for instance: Atif et al. (2021) on diversity and renewable energy consumption, Ye and al. (2019) on dividend payouts, Carter, Franco, and Gine (2017) on executive gender pay gap, or Lai et al. (2017) on audit quality.

Based on the previous arguments and findings, we believe that the effect of board gender diversity on corporate performance could be heavily context-specific; therefore, an examination of the African context could add relevant insights to the academic and public debate on such an important topic. Therefore, in this article, we examine the key question of whether the increased presence of women on corporate boards affects bank performance, especially in a setting composed only of African countries. For our empirical analysis, we collect available board composition data from the website of the *Banque Centrale des Etats de l'Afrique de l'Ouest* (BCEAO), the central bank of all the banks within the WAEMU. Our initial analysis shows that switching from an all-male board to a board with at least one female director is associated with a lower future return on assets for the bank. The effect is both statistically and economically significant as we document a negative effect comparable to the median bank performance in the sample. We find similar results if we measure the board gender diversity with a continuous variable: the percentage of women on the board.

Our next set of analyses assess the sensitivity of the results to a variety of research design choices and potential omitted correlated bias. Independent of the ways we define performance or the period to measure such performance, we continue to find a strong negative relation between board gender diversity and bank performance. We also explore a quasi-exogenous variation in board gender diversity coming from the ownership structure of the banks to alleviate concerns that the results could be driven by omitted correlated bias. Finally, we follow prior literature on the stricter monitoring role of gender diverse boards and provide evidence consistent with the hypothesis that the negative effect we document is mostly driven by banks that need more advisors than monitors on their boards.

This paper contributes to two strands of the literature. We contribute first to the established literature on board gender diversity and corporate performance exploring the largely understudied African context (Adams and Ferreira, 2009, Ahern and Dittmar 2012, Terjesen, Sealy, and Singh, 2009, Post and Byron, 2015). Women's access to corporate leadership positions in Africa has received substantial consideration by policymakers, with limited evidence backing those policies. This need for evidence in designing policies is especially relevant in the banking sector, which is a key contributor to economic development in those countries (Beck, Demirguc-Kunt, and Peria, 2007; Allen et al., 2016; European Investment Bank, 2013). The paper also contributes to a growing literature that examines the specific ways through which board composition affects organizational outcomes (Cai, Nguyen, and Walking, 2022; Gopalan, Gormley, and Kalda 2021; Chen et al., 2020). Related to board gender diversity, this literature sheds light on key mechanisms through which gender diversity could impact corporate outcomes (Van Peteghem, Bruynseels, and Gaeremynck, 2018). In our paper, we provide evidence that women directors are associated with better monitoring of banking institutions.



The rest of the paper is organized as follows: section 2 presents our institutional setting. Section 3 presents our sample selection and research design. Section 4 contains the results of our empirical analysis and section 5 concludes the paper.

## **2. Institutional setting**

### *2.1 The WAEMU Banking sector*

The WAEMU was created in 1994, as a means of economic and monetary integration for seven West African economies: Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo. Guinea-Bissau joined the organization in 1997 and became the organization's eighth (and only non-francophone) member state. Figure 1 presents the geographical location of the WAEMU country members. This figure shows the countries members of the West African Economic and Monetary Union (WAEMU). The WAEMU established the BCEAO (*Banque Centrale des Etats de l'Afrique de l'Ouest*) as the central bank of the union<sup>4</sup>, responsible for the administration of the coordinated monetary policy and the supervision of banking activity within the region.

The banking sector has grown steadily over the sample period (Figure 2). This figure shows the annual evolution of the number of banks active in the WAEMU and the total assets they represent. The left axis represents the number of banks, and the right axis the total assets in billions of FCFA XOF. The rise is mostly driven by the increasing number of pan-African banks entering the market. Other actors of the market are mainly branches of European banks and government-owned banks. This growth has intensified the competition, in a region where characteristically high levels of non-performing loans worsen exposure of private borrowers (IMF, 2022). Therefore, corporate governance of banks, and its impacts on banks' performance, are of paramount importance as the WAEMU is a bank-based economy. Banks represent the primary, and sometimes the unique, source of financing for companies and households (Kanga, Murinde, and Soumare, 2020; Fe and Kouton, 2022).

### *2.2 Women education in Africa*

Exploration of board gender diversity in African companies necessitates reference to the broader and deeper gender gap in education on the continent. Despite significant gains in bridging the gender gap, the African continent still displays a notable inequality in schooling between boys and girls (Wodon, 2018)<sup>5</sup>. Research has shown that several factors contribute to this gap (Lewin, 2009; Nunn, 2014; Baten et al., 2021). For instance, a key determinant of girls' educational attainment in Africa is the socioeconomic status of their parents. Families with sufficient economic resources, or families with higher degree of education are more likely to let their girls attain higher degree of education. Programs

<sup>4</sup> We use interchangeably in the paper "BCEAO" or "central bank".

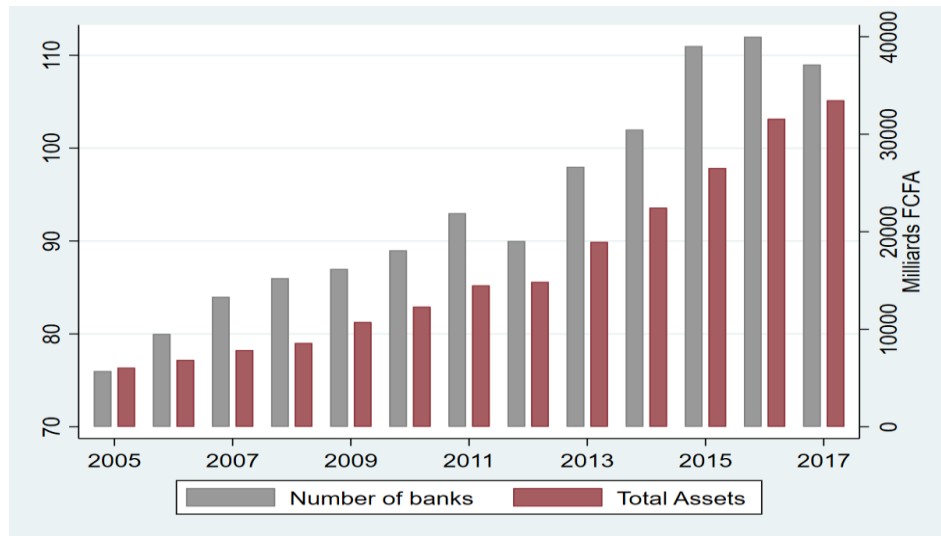
<sup>5</sup> Figure IA.1 in the Internet Appendix shows for instance the gender gap in literacy rate for the countries in the sample.

designed to reduce costs of education can provide positive outcomes on girls' enrollment and performance (Handa, 2002; Björkman-Nyqvist, 2013; Duflo, Dupas, and Kremer, 2015). Social norms, cultural practices and national policies also significantly affect girls' rates of education enrollment (Kazianga et al., 2013; Ashraf et al., 2020). All these features reinforce the importance of studying the effect of board gender diversity in an African context, as the drivers of demand and supply of women directors may be significantly different to the ones in the contexts studied by prior literature.

*Figure 1: West African Economic and Monetary Union*



Figure 2: Evolution of the number of banks and the total assets of the banking sector



### 3. Data selection and Research design

#### 3.1 Data selection

To examine the association between board gender diversity and bank performance, we collect data from all banks in the WAEMU from 2005-2017. Our main sources of data are two specific annual central bank publications.

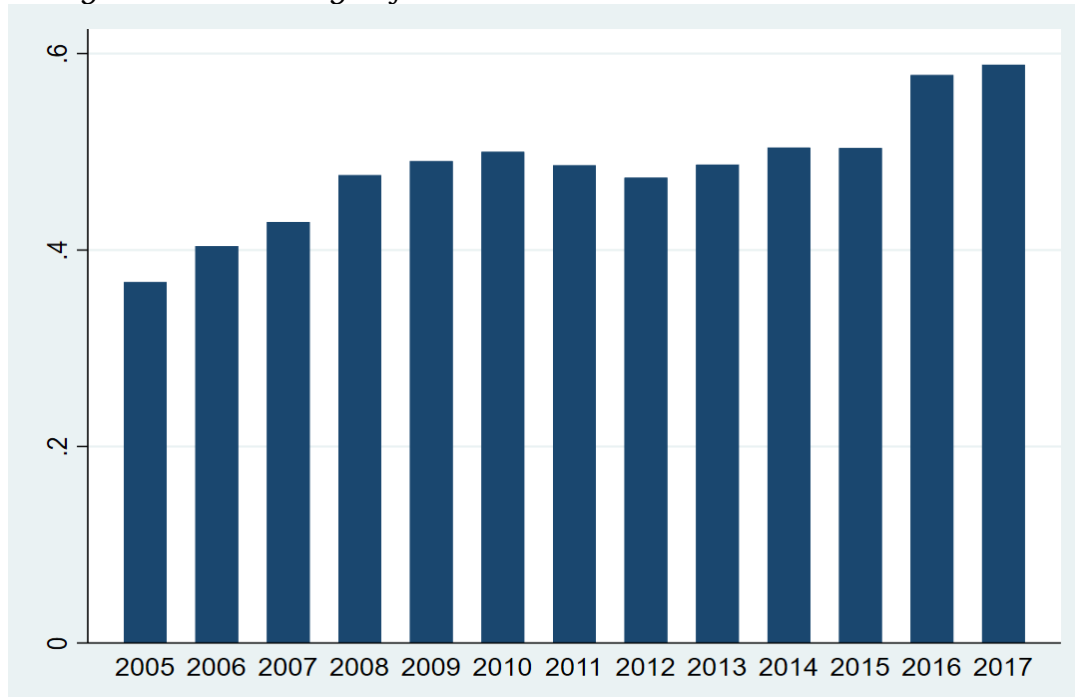
The first, "Directory of Banks and Financial Institutions of WAEMU" collects, for each bank active during a given year identification information, the ownership structure of the bank, the composition of the board of directors, the name of the CEO and the size of the bank's network (number of branches, cities with branches, etc.). This publication is available from 2005 and is one of the most comprehensive sources of information for banks active in the region. From this directory, we collect for each bank and each year, information on all members of the Board of Directors. We identified the gender of these directors using the French gender indicator directly available in the central bank's publication: "M." for men and "Mme" for women. When the same person was mentioned with two different genders at different times, we verified identities and gender via internet searches on the names involved. Where we were unable to classify the director, we retained the gender used when the individual first appeared in the publication. We then aggregated this data at the bank level to calculate our variables of interest: the size of the board, which is the number of directors (*Boardsize*), an indicator which took the value 1 if there was at least one female member on the board, and 0 otherwise (*Indicator\_Women*), and the percentage of women members of the board (*%Women*). The second publication, "Balance Sheets and Profit and Loss Accounts of Banks and Financial Institutions" brought together summaries of banks' balance sheets and profit and loss

accounts for each year. Although the summaries contained aggregate data at the bank level, we are able to identify the financial variables needed for our analyses such as total assets, total loans and net income.

The final sample contained 1,073 observations from 121 unique banks that were active at some point between 2005 and 2017. Our sample ended in 2017 because major accounting reforms affected the presentation of financial statements of banks from the year 2018. Table 1 shows the description of the sample by country. This table presents the sample selection and descriptive statistics of our sample. The sample spans from 2005 to 2017 and includes 1,071 observations for 121 distinct banks. Panel A presents the composition of the sample by country. Panel B presents the descriptive statistics of the main variables used in the econometric analyses. All variables are defined in detail in the Appendix B. Côte d'Ivoire and Senegal account for the highest proportions of observations in the sample, while Niger and Guinea-Bissau contribute the least.

With regard to gender balance on boards, Figure 3 shows that the presence of women on the boards of banks in the region has increased over time. This figure shows the evolution of the proportion of banks with at least one woman on the board of directors. In 2005, only 31% of banks had at least one woman on their board. In 2017, this percentage increased to approximately 58%. This growth in diversity provides relevant variation both over time and across banks to examine the consequences of increased gender diversity in boards on firm performance.

*Figure 3: Percentage of banks with at least one woman on the board*



*Table 1: Sample composition and descriptive statistics*  
*Panel A: Country sample selection*

<i>Country</i>	<i># obs.</i>	<i>% obs.</i>	<i># unique banks</i>
Benin	121	11.28	16
Burkina Faso	128	11.93	13
Côte d'Ivoire	220	20.50	25
Guinée-Bissau	36	3.35	4
Mali	144	13.42	14
Niger	102	9.50	11
Sénégal	191	17.80	23
Togo	131	12.21	15
Total	1,073	100	121

*Panel B: Descriptive statistics*

VARIABLES	(1) N	(2) mean	(3) sd	(4) p25	(5) p50	(6) p75
<b>Dependent variables</b>						
<i>ROA (t+1)</i>	1,073	−0.006	0.053	−0.000	0.009	0.017
<i>□_ROA (t+1)</i>	1,073	0.003	0.058	−0.005	0.001	0.008
<i>Country- Year_Adjusted_ROA</i>	1,073	0.002	0.053	−0.003	0.012	0.027
<i>Year-Adjusted_ROA</i>	1,073	0.002	0.053	0.005	0.017	0.025
<i>□_Loans (t+1)</i>	1,073	0.004	0.096	−0.045	0.001	0.056
<i>□_Deposits (t+1)</i>	1,050	0.001	0.019	−0.006	0.001	0.009
<i>Investments (t+1)</i>	1,070	0.006	0.016	−0.001	0.002	0.008
<b>Independent variables</b>						
<i>%Women</i>	1,073	0.102	0.130	0.000	0.000	0.167
<i>Indicator_Women</i>	1,073	0.478	0.500	0	0	1
<b>Controls variables</b>						
<i>Boardsize</i>	1,073	6.788	2.442	5	7	9
<i>Total_Assets</i>	1,073	11.42	1.218	10.60	11.53	12.34
<i>Equity_Ratio</i>	1,073	0.100	0.143	0.062	0.092	0.140
<i>Market_Share</i>	1,073	0.085	0.082	0.021	0.058	0.124
<i>GDP_Growth</i>	1,073	4.715	2.842	2.964	4.897	6.367
<i>Credit_Private_Sector</i>	1,073	17.61	7.083	12.73	16.15	22.00
<i>Political_Stability</i>	1,073	−0.571	0.678	−1.049	−0.354	−0.117

### 3.2 Research design

The central question answered in this article is whether the increased presence of women on corporate boards affects bank performance to any extent. To do this, we exploit the staggered variation in the presence of women on the boards of directors of WAEMU banks. The following equation (1) presents the specification of our basic model in panel data:

$$ROA_{it+1} = Indicator\_Women_{it} + Controls_{it} + a_g + \gamma_t + e_{it} \quad (1)$$

Our main dependent variable of interest is bank performance, measured through return on assets (ROA). We specifically assess the impact of board gender diversity on future performance of the bank ROA ( $t+1$ ). Since *Indicator\_Women<sub>it</sub>* is an indicator taking the value 1 if there is at least one woman seating on the board, 0 otherwise, it allows us to identify the specific effect on performance of switching from an “all-male” board to a board with “at least one woman”.

*Controls* refer to a set of variables that we include in the specification to control for other determinants of banks’ performance, both at the bank level and at the country level. First, we control for current bank performance to prevent temporal correlation or performance mean reversion from confounding the effects described. We include board size as a control to alleviate the concern that bigger boards would more likely include at least one woman. We thus addressed potential concerns about effects emanating from effects of board size. We also control for bank size, measured through the logarithm of the total assets (*Total\_Assets*). *Equity\_Ratio*, defined as total equity divided by total assets, proxied for the likelihood of the bank following regulatory requirements. *Market\_Share* referred to the bank’s share of total loans in its country of operation.

Finally, we add some macroeconomic control variables, as prior literature has shown that economic conditions of the country can significantly affect operations and performance of banks (Kanga, Murinde, Soumare, 2020). *GDP\_Growth* is the percentage GDP growth of the country and proxies for economic activity. *Credit\_Private\_Sector* is the domestic credit to the private sector which described the importance of the banking sector for the country. These last two variables were retrieved from the World Bank’s World Development Indicators. From the World Bank World Governance Indicators, we retrieve the countries’ degrees of political stability, *Political\_Stability*.  $a_g$  and  $\gamma_t$  represent respectively country fixed effects and year fixed effects. The country fixed effects control for time invariant country characteristics that could affect the participation of women on banks boards and the performance of those banks. The year fixed effects control for the overall economic conditions in the region for each year of the sample period, and alleviate the concerns that year-specific shocks impacting the performance of the banks would be driving the entirety of the results.

## 4. Econometric results

### 4.1 Baseline results

We estimated equation (1) with OLS and found that moving from an all-male board to a board with at least one woman is significantly and negatively associated with future performance. The results are Table 2. This table examines the association between gender diversity on boards and bank performance. In panel A, the diversity of the board of directors is measured through *Indicator\_Women*, an indicator which takes the value 1 if there is at least one woman on the board of directors of the bank, 0 otherwise. In panel B, board gender is measured by *%Women*, the actual percentage of women on the bank's board. All variables are defined in detail in Appendix B. *t*-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. Results in panel A of Table 2, model (1) show that compared to all-male boards, boards with at least one woman have a 1.1% lower future *ROA*. This is a sizeable effect given that the average *ROA* in the sample is around - 0.6%, and the median is around 1%. That is, the negative effect of adding a woman to a previous all-male board is similar in magnitude to the median performance within the sample. The results of adding more controls variables, models (2), (3) and (4) show that the documented negative effect was robust and constant.

One probable concern with the previous specification is that the indicator for at least one woman on the board does not distinguish between boards that appointed only one woman for window-dressing motives, and boards with more than one woman, where it could be more plausible to find some gender diversity effect (Konrad, Kramer and Erkut, 2008, Schwartz-Ziv, 2017). To somewhat alleviate this concern, we estimate the following equation (2):

$$ROA_{it+1} = \%Women_{it} + Controls_{it} + \alpha_g + \gamma_t + e_{it} \quad (2)$$

Equation (2) replaces the variable *Indicator\_Women* of equation (1) with *%Women*, which measures the percentage of women on the boards. Again, the results in Table 2, panel B, show that an increase in the percentage of women of the boards is strongly and negatively associated with banks' future performance. Those results are unaffected by the inclusion of several bank- and country-level characteristics, as well as country and year fixed effects.

*Table 2: Association between board gender diversity and bank performance*

*Panel A: Board gender diversity measured by a discrete variable*

Dep. var.: <i>ROA(t+1)</i>	(1)	(2)	(3)	(4)
<i>Indicator_Women</i>	-0.011** (-2.09)	-0.009** (-2.59)	-0.010*** (-2.93)	-0.011*** (-3.03)
<i>ROA</i>		0.430*** (7.83)	0.326*** (5.11)	0.314*** (4.68)
<i>Boardsize</i>		0.002*** (3.06)	-0.000 (-0.07)	-0.000 (-0.04)
<i>Total_Assets</i>			0.011***	0.015***

	(4.84)	(4.15)
<i>Equity_Ratio</i>	0.010	0.011
	(0.53)	(0.60)
<i>Market_Share</i>		-0.078**
		(-2.16)
<i>GDP_Growth</i>		0.000
		(0.41)
<i>Credit_Private_Sector</i>		-0.000
		(-0.44)
<i>Political_Stability</i>		-0.001
		(-0.26)

Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.038	0.245	0.273	0.274
Observations	1,073	1,073	1,073	1,073

*Panel B : Board gender diversity measured by a continuous variable*

Dep. var.: <i>ROA(t+1)</i>	(1)	(2)	(3)	(4)
<i>%Women</i>	-0.068** (-2.43)	-0.038** (-2.27)	-0.046*** (-2.69)	-0.047*** (-2.69)
<i>ROA</i>		0.424*** (7.65)	0.318*** (4.90)	0.307*** (4.49)
<i>Boardsize</i>		0.001** (2.46)	-0.001 (-0.89)	-0.001 (-0.89)
<i>Total_Assets</i>			0.011*** (4.88)	0.015*** (4.14)
<i>Equity_Ratio</i>			0.009 (0.51)	0.011 (0.59)
<i>Market_Share</i>				-0.075** (-2.05)
<i>GDP_Growth</i>				0.000 (0.41)
<i>Credit_Private_Sector</i>				-0.000 (-0.45)
<i>Political_Stability</i>				-0.001 (-0.41)
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.056	0.247	0.277	0.277
Observations	1,073	1,073	1,073	1,073

Increasingly, there have been calls in economic and social circles for higher representation of women on corporate boards. One reason supplied for this campaign is that a higher number of women in leadership positions would be positively associated with improvements in corporate performance. Our results so far do not seem to validate those



claims; or at least, we do not find a positive association between higher number of women directorships and performance, in the case of a large and comprehensive set of banks operating in the West African Monetary Union. Our results are also consistent with previous literature finding negative associations between increased gender diversity and corporate outcomes. In particular, Ahern and Dittmar (2012) explore a law that mandated Norwegian listed firms to have at least 40% of women on their boards and showed that the quota led to a decline in stock prices and the value of the firms that were most affected by the regulation.

Nevertheless, we do not interpret our results as evidence that there could not be a positive association between board gender diversity and bank performance. Only that our results call for more precise studies on the conditions and circumstances under which this positive association could materialize. That said, in the following section, we conduct an extensive set of additional robustness tests to alleviate concerns that our results are entirely driven by econometric misspecifications.

#### 4.2 Robustness tests

In the first robustness test, we examine alternative definitions of future performance. Instead of considering only  $ROA(t+1)$ , we computed three different measures of performance: the change in  $ROA$  between  $t$  and  $t+1$  ( $\Delta ROA(t+1)$ ), the difference between  $ROA(t+1)$  and the average of  $ROA$  for all the banks in the same country for the same year ( $Country\_Year\_Adjusted\_ROA$ ), and the difference between  $ROA(t+1)$  and the average of  $ROA$  for all the banks for the same year ( $Year\_Adjusted\_ROA$ ). These three additional performance measures increased the attributability of adjustments made to  $ROA(t+1)$  to performance benchmarks. Therefore, results could be interpreted in terms of whether banks with higher board gender diversity were more or less likely to outperform their previous year result, the previous year results of the banks in the same country, or the previous year results of all the banks in the sample.

As independent variables of interest, we use both *Indicator\_Women* and *%Women* (Table 3). This table examines the association between gender diversity on boards and bank performance using alternative performance measures. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. The results in Table 3, models (1) through (6), are consistent with the results in Table 2: the higher the proportion of women on the boards, the more likely the banks will underperform. Thus, independent of measuring performance in levels or in changes, we do find a negative effect of board gender diversity on bank performance.

Table 3: Alternative measures of performance

Dep. var. :	$\square\_ROA (t+1)$		Country_Year_Adjusted_ROA		Year_Adjusted_ROA	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Indicator_Women</i>	-0.012*** (-3.11)		-0.011*** (-3.09)		-0.011*** (-3.03)	
<i>%Women</i>		-0.051*** (-2.72)		-0.049*** (-2.72)		-0.047*** (-2.69)
<i>ROA</i>	-0.647*** (-9.30)	-0.655*** (-9.32)	0.251*** (3.56)	0.243*** (3.41)	0.314*** (4.68)	0.307*** (4.49)
<i>Boardsize</i>	-0.000 (-0.12)	-0.001 (-0.90)	0.000 (0.07)	-0.001 (-0.79)	-0.000 (-0.04)	-0.001 (-0.89)
<i>Total_Assets</i>	0.015*** (3.00)	0.015*** (3.01)	0.017*** (4.19)	0.017*** (4.17)	0.015*** (4.15)	0.015*** (4.14)
<i>Equity_Ratio</i>	-0.014 (-0.53)	-0.014 (-0.55)	0.016 (0.85)	0.016 (0.84)	0.011 (0.60)	0.011 (0.59)
<i>Market_Share</i>	-0.077* (-1.81)	-0.074* (-1.73)	-0.081** (-2.03)	-0.078* (-1.91)	-0.078** (-2.16)	-0.075** (-2.05)
<i>GDP_Growth</i>	0.000 (0.19)	0.000 (0.19)	-0.000 (-0.16)	-0.000 (-0.15)	0.000 (0.41)	0.000 (0.41)
<i>Credit_Private_Sector</i>	-0.000 (-0.49)	-0.000 (-0.50)	0.000 (0.53)	0.000 (0.53)	-0.000 (-0.44)	-0.000 (-0.45)
<i>Political_Stability</i>	-0.002 (-0.58)	-0.003 (-0.73)	0.000 (0.01)	-0.001 (-0.15)	-0.001 (-0.26)	-0.001 (-0.41)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.279	0.282	0.204	0.207	0.275	0.279
Observations	1,073	1,073	1,073	1,073	1,073	1,073

The second robustness test explores variation in number of countries in the sample (8 countries) and long time series (12 years) to examine robustness of the results to alternative fixed effects specifications (Table 4). This table examines the association between gender diversity on boards and bank performance using alternative fixed effects structures. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. We first replace separate year and country fixed effects with unique country-year fixed effects. This refined econometric specification alleviates concerns that economic shocks in a given country in a given year would confound our analysis. In a similar vein, we use even stronger fixed effects characteristics: firm fixed effects and year fixed effects. This coarser specification limits the possibility of time invariant factors at the firm level confounding our results (Adams and Ferreira, 2009; Faccio et al., 2016). We obtain similar results as before. The results in Table 4 show that the stricter fixed effects structures still present a strong negative association between board gender diversity and corporate performance.

Table 4. Alternative fixed effects structures

Dep. var.: ROA(t+1)	(1)	(2)	(3)	(4)
<i>Indicator_Women</i>	-0.011*** (-3.10)		-0.014*** (-2.86)	
<i>%Women</i>		-0.049*** (-2.77)		-0.064** (-2.53)
<i>ROA</i>	0.329*** (5.17)	0.320*** (4.94)	0.149** (2.06)	0.144** (2.01)
<i>Boardsize</i>	0.000 (0.07)	-0.001 (-0.77)	0.001 (0.69)	0.000 (0.08)
<i>Total_Assets</i>	0.016*** (4.13)	0.016*** (4.10)	0.007 (0.70)	0.007 (0.74)
<i>Equity_Ratio</i>	0.010 (0.58)	0.010 (0.57)	-0.032 (-0.76)	-0.034 (-0.85)
<i>Market_Share</i>	-0.091** (-2.30)	-0.089** (-2.18)	-0.075 (-1.15)	-0.068 (-1.09)
<i>GDP_Growth</i>			0.000 (0.44)	0.000 (0.44)
<i>Credit_Private_Sector</i>			-0.001 (-0.84)	-0.001 (-0.91)
<i>Political_Stability</i>			-0.002 (-0.42)	-0.002 (-0.55)
Country-Year Fixed Effects	Yes	Yes		
Year Fixed Effects			Yes	Yes
Country Fixed Effects			Yes	Yes
adj R-squared	0.282	0.285	0.350	0.354
Observations	1,072	1,072	1,069	1,069

The last robustness test (Table 5) aims to alleviate concern that the time horizon considered could be limited. It would have been unhelpful to look for the effect of gender diversity on performance only one year ahead, since the period would have been too short to record an effect. We therefore extend our period of analysis two and three years ahead and still record a significant negative association in Table 5. The effect is lower in the third year, but the most important conclusion from the result is that we do not observe a positive effect during three years of switching from an all-male board to a board with at least one woman, or increasing the proportion of women on the board.

Table 5: Persistence of the board gender diversity effect

Dep. var. :	$\square\_ROA(t+2)$		$\square\_ROA(t+3)$	
	(1)	(2)	(3)	(4)
<i>Indicator_Women</i>	-0.009** (-2.15)		-0.007* (-1.72)	
<i>%Women</i>		-0.048**		-0.039*

		(-2.31)		(-1.88)
<i>ROA</i>	0.289*** (4.48)	0.276*** (4.28)	0.337*** (4.27)	0.325*** (4.21)
<i>Boardsize</i>	-0.000 (-0.10)	-0.001 (-0.91)	-0.000 (-0.10)	-0.001 (-0.64)
<i>Total_Assets</i>	0.017*** (5.35)	0.017*** (5.39)	0.012** (2.46)	0.013** (2.50)
<i>Equity_Ratio</i>	0.035 (1.54)	0.034 (1.49)	-0.037 (-1.40)	-0.037 (-1.37)
<i>Market_Share</i>	-0.092** (-2.58)	-0.089** (-2.47)	-0.067 (-1.25)	-0.064 (-1.17)
<i>GDP_Growth</i>	-0.001 (-0.59)	-0.001 (-0.59)	-0.000 (-0.24)	-0.000 (-0.23)
<i>Credit_Private_Sector</i>	-0.001 (-1.09)	-0.001 (-1.12)	0.000 (0.12)	0.000 (0.07)
<i>Political_Stability</i>	0.005 (0.72)	0.004 (0.64)	0.007 (0.92)	0.006 (0.86)
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.221	0.226	0.180	0.184
Observations	945	945	832	832

We reiterate that the foregoing tests should not be interpreted as evidence that having more women on corporate boards on African banks does not create value. The results rather suggest that assessing this value creation is not straightforward, and policymakers should consider regulations or legislations that mandate increased gender diversity with great caution.

#### 4.3 Reverse causality

One important threat to identification of the effect presented is reverse causality (Hermalin and Weisbach, 1998, 2003), whereby rather than higher board gender diversity resulting in lower future performance, banks with expectations of poor future performance would be more likely to appoint women; hence the effect captured in our econometric specifications. We assess the above claim estimating the following equation (3):

$$\Delta\_Women_{it+1} = Performance_{it} + Controls_{it} + a_g + \gamma_t + e_{it} \quad (3)$$

$\Delta\_Women(t+1)$  measures change in the number of women on boards between years  $t$  and  $t+1$ . This analysis examines whether women appointments to bank boards are related to bank performance over the last two or three years. *2Year\_Performance* is defined as the average of *ROA* and *ROA (t-1)*, and *3Year\_Performance* is defined as the average of *ROA*, *ROA (t-1)*, and *ROA (t-2)*.

Table 6 shows that we do not find evidence of poorly performing banks being more likely to appoint women on their boards. This table examines the association between bank performance and the decision to appoint women to the board. All variables are defined in detail in

Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. We actually find the opposite to be true; banks that had been performing well over the last three years are the ones more likely to appoint women on their boards. Overall, these results suggest that it is unlikely that our previous results from Table 2 to Table 5 would be entirely driven by reverse causality.

*Table 6. Bank performance and appointment of women directors*

Dep. var.: $\square$ _Women	(1)	(2)	(3)	(4)	(5)	(6)
<i>Performance_2Years</i>	0.702** (2.11)		0.009 (0.02)		-0.045 (-0.12)	
<i>Performance_3Years</i>		1.587*** (4.28)		1.153** (2.37)		1.094** (2.25)
<i>Boardsize</i>			-0.011* (-1.77)	-0.013* (-1.93)	-0.011* (-1.80)	-0.013* (-1.97)
<i>Total_Assets</i>			0.038*** (2.71)	0.023 (1.31)	0.066** (2.36)	0.046 (1.39)
<i>Equity_Ratio</i>			0.336** (1.99)	0.214 (1.15)	0.337** (2.03)	0.220 (1.19)
<i>Market_Share</i>					-0.482 (-1.25)	-0.380 (-1.00)
<i>GDP_Growth</i>					-0.007 (-0.83)	-0.006 (-0.68)
<i>Credit_Private_Sector</i>					-0.004 (-0.60)	0.001 (0.18)
<i>Political_Stability</i>					0.034 (0.89)	0.031 (0.64)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.005	0.017	0.009	0.017	0.008	0.014
Observations	944	823	944	823	944	823

Furthermore, we conduct another analysis to alleviate more general concerns about the endogenous nature of the composition of the boards (Sila, Gonzalez, Hagendorff, 2016). The ownership structure of the banks of the region provides a possible source of exogenous variation in the selection of the directors, as many of the banks in the sample are subsidiaries of bigger international banks (e.g. Société Générale, BNP Paribas, Ecobank, etc.). We classify the bank-year observations according to their majority owner, creating thus a “family” of banks. Appendix C gives an example of families of banks in the sample. We then induce a quasi-exogenous variation in our setting through a 2-step procedure (Kim et al., 2014). In the first stage, we estimate through OLS the following equation (4a):

$$\%Women_{it} = Average\_Owner\_ \%Women_{it-1} + e_{it} \quad (4a)$$

We denote the predicted value of this estimation  $Fitted\_ \%Women_{it}$ . This value is obviously not totally exogenous to the bank but suffers lower concerns related to the endogeneity of the banks' decisions about their boards' compositions. The following equation (4b) examines the association between the future performance of the bank and  $Fitted\_ \%Women_{it}$ .

$$ROA_{it+1} = Fitted\_ \%Women_{it} + Controls_{it} + a_g + \gamma_t + e_{it} \quad (4b)$$

Table 7 examines the association between gender diversity on boards of directors and bank performance by exploiting the exogenous variation resulting from the gender diversity policies of bank groups. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. The results in Table 7, column 1, show as expected that owner average women ratio is a strong predictor of banks' women director ratio. More importantly, quasi-exogenous variation in gender diversity of the banks, with reference to the family of the banks, is negatively associated to performance (Table 7, columns 2, 3 and 4). This result is consistent with our main findings in Table 2 and suggested again that it is very unlikely that our results would be entirely driven by reverse causality or more generally by omitted correlated variable influencing the decision of directors' appointments at the bank level.

*Table 7: Exogenous variation*

Dep. var :	$\%Women$		$\Delta\_ROA(t+1)$	
	(1)	(2)	(3)	(4)
<i>Average_Owner_ %Women</i> (t-1)	0.796*** (22.19)			
<i>Fitted_ %Women</i>		-0.086** (-2.16)	-0.045* (-1.81)	-0.044* (-1.75)
<i>ROA</i>			0.331*** (4.97)	0.321*** (4.61)
<i>Boardsize</i>			-0.000 (-0.67)	-0.000 (-0.64)
<i>Total_Assets</i>			0.011*** (4.56)	0.015*** (3.98)
<i>Equity_Ratio</i>			0.020 (1.00)	0.021 (1.04)
<i>Market_Share</i>				-0.074* (-1.95)
<i>GDP_Growth</i>				0.000 (0.56)
<i>Credit_Private_Sector</i>				-0.000 (-0.27)
<i>Political_Stability</i>				-0.002 (-0.45)

Year Fixed Effects	No	Yes	Yes	Yes
Country Fixed Effects	No	Yes	Yes	Yes
adj R-squared	0.331	0.039	0.268	0.269
Observations	993	993	993	993

#### 4.4. Board gender diversity and other bank characteristics

##### 4.4.1 Analysis of loans, deposits, and investments

Throughout the article, our main variable of interest was performance, as a key characteristic of the governance of banks and a crucial determinant of financial stability. However, one may claim first that performance is not the unique focus of banks' policies. Also, our main findings of negative association between performance and gender diversity could ignore other positive consequences. Therefore, we extend our analysis by looking at other relevant banking characteristics, mainly the lending, deposits, and investments policies of the banks in our sample and ask whether there is an association between the gender diversity and any of those alternative banking characteristics. Interestingly we do not find any relation between gender diversity and those measures (Table 8, panels A, B, and C). This table examines the association between gender diversity on boards and other bank policies. Panels A, B and C examine the effect of gender diversity on banks' loans, deposits and investments, respectively. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted.

*Table 8. Board gender diversity and other banking policies*

*Panel A: Loans*

Dep. var.:	□_Loans (t+1)		□_Loans (t+2)		□_Loans (t+3)	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Indicator_Women</i>	-0.006 (-1.29)		-0.000 (-0.03)		-0.002 (-0.23)	
<i>%Women</i>		-0.016 (-1.01)		0.007 (0.20)		-0.009 (-0.23)
<i>ROA</i>	-0.154 (-1.26)	-0.154 (-1.26)	-0.328* (-1.96)	-0.324* (-1.96)	-0.357** (-2.28)	-0.359** (-2.32)
<i>Boardsize</i>	0.002 (1.65)	0.002 (1.46)	0.004** (2.16)	0.004** (2.12)	0.006** (2.28)	0.006** (2.19)
<i>Total_Assets</i>	0.005 (0.77)	0.005 (0.74)	0.011 (1.10)	0.011 (1.09)	0.013 (0.98)	0.013 (0.98)
<i>Equity_Ratio</i>	0.107*** (3.02)	0.108*** (3.05)	0.185*** (3.12)	0.186*** (3.13)	0.171** (2.30)	0.172** (2.30)
<i>Market_Share</i>	-0.225*** (-3.42)	-0.223*** (-3.37)	-0.402*** (-3.71)	-0.402*** (-3.70)	-0.538*** (-2.98)	-0.537*** (-2.97)
<i>GDP_Growth</i>	0.002 (1.17)	0.002 (1.17)	0.003* (1.75)	0.003* (1.75)	0.004* (1.87)	0.004* (1.88)
<i>Credit_Private_Sector</i>	0.000 (0.16)	0.000 (0.18)	-0.004** (-2.32)	-0.004** (-2.31)	-0.006** (-2.22)	-0.006** (-2.23)
<i>Political_Stability</i>	-0.006 (-0.80)	-0.006 (-0.84)	-0.017 (-1.50)	-0.017 (-1.50)	-0.013 (-0.86)	-0.013 (-0.87)

Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.046	0.045	0.094	0.094	0.105	0.105
Observations	1,073	1,073	945	945	832	832

*Panel B: Deposits*

Dep. var.:	$\Delta$ _Deposits (t+1)		$\Delta$ _Deposits (t+2)		$\Delta$ _Deposits (t+3)	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Indicator_Women</i>	0.001 (0.70)		0.002 (0.98)		0.005 (1.54)	
<i>%Women</i>		0.006 (1.26)		0.015 (1.61)		0.024* (1.76)
<i>ROA</i>	-0.047* (-1.91)	-0.046* (-1.81)	-0.039 (-1.27)	-0.034 (-1.12)	0.004 (0.10)	0.010 (0.28)
<i>Boardsize</i>	-0.000* (-1.73)	-0.000 (-1.39)	-0.001 (-1.12)	-0.000 (-0.69)	-0.001 (-1.28)	-0.001 (-0.79)
<i>Total_Assets</i>	0.002 (1.22)	0.002 (1.20)	0.001 (0.41)	0.001 (0.38)	0.000 (0.04)	0.000 (0.04)
<i>Equity_Ratio</i>	0.010* (1.83)	0.010* (1.89)	0.017 (1.56)	0.017 (1.60)	0.027* (1.71)	0.027* (1.71)
<i>Market_Share</i>	-0.014 (-0.85)	-0.014 (-0.85)	-0.019 (-0.57)	-0.020 (-0.59)	-0.030 (-0.63)	-0.033 (-0.68)
<i>GDP_Growth</i>	0.000 (0.07)	0.000 (0.07)	0.001 (1.37)	0.001 (1.38)	0.000 (0.65)	0.000 (0.65)
<i>Credit_Private_Sector</i>	-0.000 (-0.20)	-0.000 (-0.18)	0.000 (0.84)	0.000 (0.88)	0.001 (1.36)	0.001 (1.41)
<i>Political_Stability</i>	-0.000 (-0.11)	-0.000 (-0.08)	-0.004 (-1.15)	-0.004 (-1.12)	-0.004 (-0.82)	-0.004 (-0.77)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.017	0.019	0.013	0.016	0.031	0.034
Observations	1,050	1,050	923	923	809	809

*Panel C: Investments*

Dep. var.:	$\Delta$ _Investments (t+1)		$\Delta$ _Investments (t+2)		$\Delta$ _Investments (t+3)	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Indicator_Women</i>	0.000 (0.08)		-0.001 (-0.26)		-0.001 (-0.27)	
<i>%Women</i>		-0.003 (-0.62)		-0.010 (-1.02)		-0.022 (-1.37)
<i>ROA</i>	-0.004 (-0.15)	-0.005 (-0.20)	-0.059 (-1.01)	-0.063 (-1.10)	-0.081 (-1.35)	-0.091 (-1.57)
<i>Boardsize</i>	-0.000 (-1.48)	-0.000 (-1.59)	-0.001 (-1.36)	-0.001 (-1.61)	-0.001 (-1.02)	-0.001 (-1.31)
<i>Total_Assets</i>	0.000	0.000	0.001	0.001	0.001	0.001



	(0.10)	(0.16)	(0.60)	(0.67)	(0.28)	(0.38)
<i>Equity_Ratio</i>	0.012	0.011	0.025	0.024	0.029	0.028
	(1.38)	(1.34)	(1.20)	(1.18)	(1.10)	(1.09)
<i>Market_Share</i>	-0.017	-0.017*	-0.051**	-0.051**	-0.079**	-0.079*
	(-1.64)	(-1.66)	(-2.15)	(-2.16)	(-1.98)	(-1.98)
<i>GDP_Growth</i>	-0.000	-0.000	-0.000	-0.000	0.000	0.000
	(-0.63)	(-0.64)	(-0.38)	(-0.39)	(0.79)	(0.83)
<i>Credit_Private_Sector</i>	0.000	0.000	0.000	0.000	0.001	0.001
	(0.80)	(0.77)	(0.72)	(0.68)	(0.84)	(0.77)
<i>Political_Stability</i>	0.001	0.001	0.003	0.002	0.006	0.005
	(0.85)	(0.83)	(0.65)	(0.62)	(0.99)	(0.94)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.037	0.037	0.062	0.064	0.088	0.092
Observations	1,070	1,070	942	942	829	829

#### 4.4.2 Gender diversity and monitoring

There is abundant literature arguing that gender differences could affect economic outcomes through the effects of interpersonal traits. Without being conclusive, this literature provides some evidence that women could be more risk-averse (Hudgens and Fatkin, 1985, Croson and Gneezy, 2009, Bertrand, 2011), or are less likely to be overconfident (Huang and Kisgen, 2013)<sup>6</sup>. Indeed, Adams and Fereirra (2009) suggested that higher board gender diversity negatively affected the performance of US firms because female directors were usually stricter monitors than males. Female directors were more likely to join monitoring committees within the board, and gender-diverse boards usually allocate more time to monitoring. Additional papers in this literature have echoed the bigger monitoring role of female executives (Gul, Srinidhi, and Ng, 2011, Francis et al., 2014). In this section, we examine whether this hypothesis could help explain the negative association between gender diversity and bank performance.

First, as bank-level monitoring data is not publicly available in our setting, we explore annual reports of the BCEAO (the central bank overseeing all the banks in the sample) on country average indicators of banks' compliance measures. These indicators presented per year and WAEMU country, the proportion of banks that met several compliance criteria. Since the indicators evolved over time (some were discontinued, new indicators were measured), we focused on 3 indicators for which we had at least 9 years of data per country<sup>7</sup>: (i) bank loans to related parties (e.g., owners and managers), (ii) coverage of the bank liabilities with long term assets, and (iii) liquidity ratio of the bank. Table 9 examines the association between board gender diversity at the country level and the proportion of banks meeting central banks regulatory requirements. All

<sup>6</sup> In contrast, Eagly and Johnson (1990), Deaves et al. (2009), and Adams and Funk (2012) suggest that there are no differences in risk aversion or overconfidence between men, and women, especially in the specialized fields of economics and finance.

<sup>7</sup> The indicators are defined in detail in Appendix B.

variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted. The results in Table 9 indicate that the higher the proportion of female directors in the country, the likelier the banks were to meet the supervision criteria of the BCEAO.

*Table 9: Board gender diversity and monitoring*

Dep. var.:	%Compliance_ LoansToManagers		%Compliance_ StableAssets		%Compliance_ Liquidity	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Country_%Women (t-1)</i>	0.659* (1.99)	-0.142 (-0.49)	1.020** (2.30)	0.722 (1.43)	1.220*** (3.95)	0.660 (1.64)
<i>GDP_Growth</i>	-0.003 (-0.42)	0.000 (0.06)	-0.001 (-0.16)	-0.000 (-0.00)	0.000 (0.04)	0.005 (0.78)
<i>Credit_Private_Sector</i>	-0.003 (-1.43)	0.001 (0.26)	-0.000 (-0.10)	0.005 (1.12)	-0.005* (-1.69)	-0.016*** (-2.88)
<i>Political_Stability</i>	0.022 (0.87)	0.020 (0.86)	-0.018 (-0.77)	0.003 (0.09)	-0.011 (-0.39)	-0.067* (-1.90)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	No	Yes	No	Yes	No	Yes
adj R-squared	0.256	0.615	0.504	0.668	0.226	0.507
Observations	80	80	80	80	80	80

Secondly, given the previous evidence that board gender diversity could strengthen monitoring, we examine whether our result on a negative performance effect of diversity could derive from banks that do not benefit from stricter monitoring (Faleye, Hoitash, and Hoitash, 2011; Field, Lowry, and Mkrtchyan, 2013; Schmidt, 2015). Prior literature has generally recognized advising and monitoring as the two broad functions of the board. The board advisory role matters most in defining and guiding in execution of strategy, acquisitions and other major investments. The board monitoring role mostly consists of management oversight and compliance to relevant regulatory and legal requirements (Adams et al., 2010). Faleye, Hoitash, and Hoitash, (2011) provide some evidence that monitoring intensive boards could be counterproductive for firms with high advising needs. For instance, in their study based on a sample of US firms, intense monitoring was associated with a reduction of 9.5% in firm value when advising needs were high, compared with a statistically insignificant reduction of 0.8% for firms with low advising needs. Based on this intuition, we distinguish between firms in our sample based on their market share. Our hypothesis is that firms with a dominant position on the market would benefit from higher monitoring to maintain their position. At the other end, firms with a lower market share would benefit more from the advisory role and connections of board

directors, rather than stricter monitoring (Larcker, So, Wang, 2013). Table 10 presents the results of this analysis. This table examines the association between bank performance and the degree of bank governance measured by the capital ratio. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted.

We partition the sample every year at the median of the average of current and previous year market share. Firms with high market share do not experience any effect of increasing board gender diversity. On the contrary, for firms with lower market shares, increasing the presence of women on the boards is related to lower future performance. This could be related to the stricter monitoring role of gender diverse boards, while those firms may have needed more advisors on their boards.

*Table 10: Board gender diversity and market share*

Dep. var.: <i>ROA(t+1)</i>	High market share		Low market share	
	(1)	(2)	(3)	(4)
<i>Indicator_Women</i>	-0.003 (-0.93)		-0.019*** (-2.79)	
<i>%Women</i>		0.003 (0.34)		-0.085*** (-2.82)
<i>ROA</i>	0.142 (1.31)	0.135 (1.24)	0.284*** (3.36)	0.267*** (3.07)
<i>Boardsize</i>	0.000 (0.59)	0.000 (0.80)	0.000 (0.17)	-0.000 (-0.43)
<i>Total_Assets</i>	0.010 (1.41)	0.010 (1.42)	0.019** (2.44)	0.019** (2.57)
<i>Equity_Ratio</i>	0.039 (0.96)	0.044 (1.06)	0.026 (1.12)	0.026 (1.12)
<i>Market_Share</i>	-0.039 (-0.65)	-0.039 (-0.64)	-0.039 (-0.14)	-0.057 (-0.22)
<i>GDP_Growth</i>	-0.000 (-0.47)	-0.000 (-0.39)	0.001 (0.64)	0.001 (0.64)
<i>Credit_Private_Sector</i>	-0.000 (-0.44)	-0.000 (-0.44)	-0.000 (-0.25)	-0.000 (-0.30)
<i>Political_Stability</i>	-0.006 (-1.28)	-0.007 (-1.31)	0.002 (0.40)	-0.000 (-0.07)
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.054	0.052	0.297	0.307
Observations	472	472	476	476

## 5. Conclusion

The role of corporate governance regulations in shaping corporate policies is a growing topic of public and academic debate. In this paper, we take advantage of a comprehensive sample of banks operating in the

West African Economic and Monetary Union (WAEMU) to analyze a specific example of corporate governance issue: board gender diversity. Our results demonstrate that greater gender diversity on boards of directors is strongly and negatively correlated with bank performance. This negative association is robust despite a broad range of sensitivity analyses and persist over several years. The association remains negative even when we use stronger structures of fixed effects, or tighter econometric identification techniques that alleviate potential concerns on omitted correlated variables driving the results. Subsequent exploratory analyses suggest that higher percentages of women on boards could lead to higher monitoring of banks. Therefore, banks that may benefit more from the “advisory” role of directors could benefit less from having more women on their boards of directors.

Given that prior literature on corporate performance has generally provided mixed conclusions on the effect of gender diversity on corporate boards, our article provides insight for contextualizing the “*how and why*” of diversity policies. Indeed, policies that aim to foster greater gender diversity on boards can of course have beneficial aspects; however, arguments that these policies improve company performance must be made with great caution.

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## **Appendix A. Excerpts from press articles and international organizations' reports on gender diversity in Africa**

### **1. Forbes, September 30<sup>th</sup>, 2021, "Investing In Africa? Invest In Women"**

*"The research shows not only that large companies with better gender balance in leadership outperform, so do companies founded by female entrepreneurs. Imagine when more funds, more investors and more governments get their strategies and their money aligned with the data. It's starting, but there is a long way to go. **Africa, with its exceptionally entrepreneurial women and its huge gender gap in corporate business, has the most to gain from closing the gap. The region's enormous potential has been hard hit by the Covid crisis. Investing in the continent's women is a sure fire accelerator to recovery, and beyond.**"*

Summary: The article presents novel initiatives to promote the appointment of more women on corporate boards in Africa.

Link:

<https://www.forbes.com/sites/avivahwittenbergcox/2021/09/30/investing-in-africa-invest-in-women/?sh=47210059d097>

## 2. African Union, July 28<sup>th</sup>, 2021, “African Union priorities on Gender Equality and Women’s Empowerment in Agenda 2063”

*“Africa is committed to resolve and ending violence against women and girls, and improving access to, and control of, finances, land, education, health, information, services, sciences and technology and decision-making in political governance and business enterprises in Agenda 2063 [...] **The Africa of 2063 promotes attainment of full gender parity with women occupy 50% of elected offices at state, regional and local bodies, and 50% of managerial positions in government and private sector.** The economic and political glass ceiling hindering women’s progress would finally have been broken.”*

Summary: The article describes the part of the African union policy (Agenda 2063) on gender parity.

Link: <https://au.int/en/articles/au-priorities-gender-equality-and-womens-empowerment-agenda-2063>

## 3. African Development Bank, March 2020, “Africa Gender Index Report 2019”

*“In both the private and public sectors, senior decision-making remains substantially in the hands of men. The gender gap for managers, professionals and technicians is 41.4%, while gender gap for parliamentary representation is about 25.3%, and 22.9% top managers in firms. Yet, diversity in leadership roles matters. **When companies have a greater share of women on their boards, they perform better financially. These result in virtuous circles, as women leaders provide role models for girls and young. Women. It is therefore important to take active steps to address gender inequality in public and private leadership – gender-based quotas have proven to be an important tool.**”*

Summary: The article presents the introduction of a first index on gender equality in Africa, developed by the African Development Bank and the United Nations Economic Commission for Africa.

Link: <https://www.afdb.org/en/documents/africa-gender-index-report-2019-analytical-report>

## 4. McKinsey Global Institute, November 24<sup>th</sup>, 2019, “The power of parity: Advancing women’s equality in Africa”

*“**Africa could add \$316 billion or 10 percent to GDP in the period to 2025 if each country makes advances in women’s equality to match the country in the region that has achieved the most progress towards parity.**”*

Summary: The report presents results of the analysis of diversity dividends in Africa

Link: <https://www.mckinsey.com/featured-insights/gender-equality/the-power-of-parity-advancing-womens-equality-in-africa>

## 5. Jeune Afrique July 9<sup>th</sup>, 2018, “Féminisons nos conseils d’administration!”

*“According to a study by the African Development Bank of the 307 largest companies on the continent, about a third of them have no women on their board of directors, another third have only one only. In all, only 12.7% of directors are women. With an average of 17%, the countries of Southern Africa and East Africa do better, while the three Maghreb countries barely reach 7.5%. The largest economy in UEMOA, Côte d’Ivoire, has only 5.1%. **This situation, in addition***



**to being unfair, is also not very rational: many studies highlight the economic and intellectual benefits of an increased presence of women on boards: better risk management, diversity of thoughts, increased return on investment ...”**

Summary: The article describes the gender gap on corporate boards in Africa and suggests measures to close such gap.

Link: <https://www.jeuneafrique.com/mag/589423/economie/tribune-feminisons-nos-conseils-dadministration/>

## Appendix B: Variables definitions

This appendix defines the variables used in the empirical analysis.

Variable	Definition	Source
<b>Dependent variables</b>		
ROA (t+x)	Return on assets of year t + x, x = 1, 2, or 3	BCEAO
□_ROA (t+1)	Change in ROA from year t+1 to year t	BCEAO
Country_Year_Adjusted_ROA	Difference between ROA (t+1) and the average ROA (t) of all the banks operating in the same country	BCEAO
Year_Adjusted_ROA	Difference between ROA (t+1) and the average ROA (t) of all the banks in the sample	BCEAO
□_Loans (t+x)	Change in total loans from year t + x to year t, x = 1, 2, or 3	BCEAO
□_Deposits (t+x)	Change in total deposits from year t + x to year t, x = 1, 2, or 3	BCEAO
Investissements (t+x)	Change in total fixed assets from year t + x to year t, x = 1, 2, or 3	BCEAO
%Compliance_LoansManagers	Proportion of banks in the country that meet the central bank requirements on loans to related parties	BCEAO
%Compliance_StableAssets	Proportion of banks in the country that meet the central bank requirements on the ratio between long term liabilities and long term assets	BCEAO
%Compliance_Liquidity	Proportion of banks in the country that meet the central bank requirements on short term liquidity	BCEAO
<b>Independent variables</b>		
%Women	Ratio of number of women to the total number of board members	BCEAO
Indicator_Women	Indicator that takes the value 1 if there is at least 1 woman on the board, 0 otherwise	BCEAO
Country_%Women	Average of %Women at the country level	BCEAO
<b>Controls variables</b>		
ROA	Return on assets t	BCEAO
Boardsize	Total number of members of the board of directors	BCEAO
Total_Assets	Logarithm of total assets	BCEAO
Equity_Ratio	Ratio of total equity to total assets with total equity defined as follows: <i>Total_Equity = Regulatory provisions + Earmarked funds+ Risk provisions + Equity + Equity premium + Reserves + Reevaluation differences + Retained earnings + Net income</i>	BCEAO
GDP_Growth	Country GDP growth from t-1 to t	World Bank WDI
Credit_Private_Sector	Country domestic credit to private sector as a percentage of GDP	World Bank WDI
Political_Stability	Index of political stability	World Bank WGI
Market_Share	Market share of the bank in terms of loans	BCEAO

### Appendix C: Examples of banking groups

This appendix presents an example of three banking “groups” used for the analysis of exogenous variation in Section 4.3. The table shows the banks belonging to the “Ecobank”, “Société Générale” and “BNP Paribas” groups for the year 2012.

“ECOBANK”	
ECOBANK - BENIN	Benin
ECOBANK - BURKINA	Burkina
ECOBANK - COTE D'IVOIRE	Faso
ECOBANK - GUINEE-BISSAU	Côte d'Ivoire
ECOBANK - MALI	Guinée-
ECOBANK - NIGER	Bissau
ECOBANK - SENEGAL	Mali
ECOBANK - TOGO	Niger
	Senegal
	Togo

“Société Générale”	
SOCIETE GENERALE - BENIN	Benin
SOCIETE GENERALE BURKINA FASO	Burkina
SOCIETE GENERALE DE BANQUES EN CÔTE D'IVOIRE	Faso
SOCIETE GENERALE DE BANQUES AU SENEGAL	Côte d'Ivoire
	Senegal

“BNP Paribas”	
BANQUE INTERNATIONALE POUR LE COMMERCE, L'INDUSTRIE ET L'AGRICULTURE DU BURKINA	Burkina
BANQUE INTERNATIONALE POUR LE COMMERCE ETL'INDUSTRIE DE LA COTE D'IVOIRE	Faso
BANQUE INTERNATIONALE POUR LE COMMERCE ET L'INDUSTRIE AU MALI	Côte d'Ivoire
BANQUE INTERNATIONALE POUR LE COMMERCE ET L'INDUSTRIE DU SENEGAL	Mali
	Senegal

## Internet Appendix

### Board Gender Diversity and Banks' Performance in Africa

Figure IA.1 : Literacy rate of the sample countries by gender

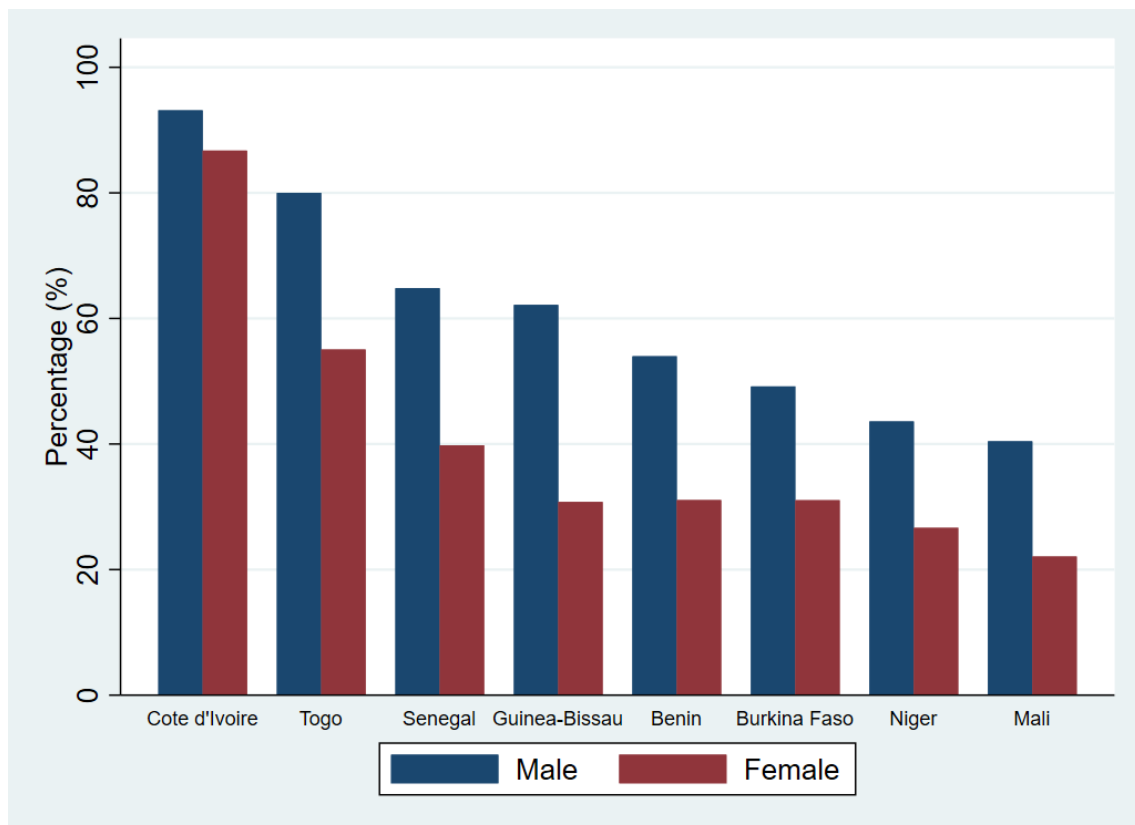
Table IA.1 : Alternative independent variables

Table IA.2 : Robustness on bank performance

Table IA.3 : Robustness on countries selection

#### Figure IA.1: Literacy rate of the sample countries by gender

This figure shows the literacy rate by gender of the sample countries. The literacy rate is defined as the percentage of people ages 15 and above who can both read and write with understanding a short simple statement about their everyday life. The data are retrieved from the World Bank's World Development Indicators for the last year available.



**Table IA.1: Alternative independent variables**

This table examines the sensitivity of the results in table 2 using alternative independent variables. In Panel A, the independent variable of interest is an indicator that takes the value 1 when there is at least two women on the board of the bank, 0 otherwise. In Panel B, the independent variable of interest is an indicator that takes the value 1 when there is only 1 woman on the board of the bank, 0 otherwise. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted.

**Panel A: Independent variable is indicator for at least two women on boards**

Dep. var.: <i>ROA (t+1)</i>	(1)	(2)	(3)	(4)
<i>AtLeast2Women</i>	-0.017* (-1.73)	-0.012* (-1.93)	-0.013** (-2.23)	-0.014** (-2.30)
<i>ROA</i>		0.429*** (7.78)	0.326*** (5.08)	0.314*** (4.63)
<i>Boardsize</i>		0.002*** (3.08)	-0.000 (-0.20)	-0.000 (-0.17)
<i>Total_Assets</i>			0.011*** (4.91)	0.015*** (4.12)
<i>Equity_Ratio</i>			0.011 (0.64)	0.013 (0.72)
<i>GDP_Growth</i>				0.000 (0.41)
<i>Credit_Private_Sector</i>				-0.000 (-0.39)
<i>Political_Stability</i>				-0.001 (-0.35)
<i>Market_Share</i>				-0.080** (-2.18)
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.040	0.245	0.272	0.273
Observations	1,073	1,073	1,073	1,073

**Panel B: Independent variable is indicator for only 1 woman on boards**

Dep. var.: <i>ROA (t+1)</i>	(1)	(2)	(3)	(4)
<i>Only1Woman</i>	-0.003 (-0.62)	-0.003 (-0.86)	-0.004 (-1.10)	-0.004 (-1.10)
<i>ROA</i>		0.437*** (8.00)	0.335*** (5.29)	0.324*** (4.88)
<i>Boardsize</i>		0.002*** (2.81)	-0.000 (-0.32)	-0.000 (-0.30)
<i>Total_Assets</i>			0.011*** (4.81)	0.015*** (4.01)
<i>Equity_Ratio</i>			0.012 (0.66)	0.014 (0.73)
<i>GDP_Growth</i>				0.000 (0.43)
<i>Credit_Private_Sector</i>				-0.000 (-0.31)
<i>Political_Stability</i>				-0.001 (-0.29)
<i>Market_Share</i>				-0.071** (-1.99)
Year Fixed Effects	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
adj R-squared	0.028	0.239	0.265	0.266
Observations	1,073	1,073	1,073	1,073

**Table IA.2 : Robustness to bank performance**

This table examines the sensitivity of the results in table 2 by dropping the observations with the highest values of ROA. All variables are defined in detail in Appendix B. t-statistics are in parentheses, standard errors are clustered at the bank level. \*, \*\* et \*\*\* denote significance at the 10 %, 5 % et 1 % (two-tail) respectively. Intercepts are omitted.

Dep. var.: ROA ( <i>t+1</i> )	Drop firms with ROA in highest quintile		Drop firms with ROA in highest decile		Drop firms with ROA in highest 20th percentile	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Indicator_Women</i>	-0.010*** (-2.97)		-0.011*** (-3.01)		-0.012*** (-3.08)	
<i>%Women</i>		-0.046*** (-2.76)		-0.050*** (-2.82)		-0.058*** (-3.05)
<i>ROA</i>	0.337*** (4.94)	0.330*** (4.77)	0.335*** (4.81)	0.328*** (4.64)	0.323*** (4.48)	0.314*** (4.31)
<i>Boardsize</i>	0.000 (0.53)	-0.000 (-0.43)	0.000 (0.49)	-0.000 (-0.48)	0.000 (0.48)	-0.000 (-0.53)
<i>Total_Assets</i>	0.013*** (3.41)	0.013*** (3.42)	0.013*** (3.23)	0.013*** (3.23)	0.013*** (3.20)	0.013*** (3.19)
<i>Equity_Ratio</i>	0.010 (0.51)	0.009 (0.48)	0.011 (0.55)	0.010 (0.51)	0.011 (0.56)	0.010 (0.51)
<i>GDP_Growth</i>	0.000 (0.49)	0.000 (0.47)	0.000 (0.65)	0.000 (0.64)	0.000 (0.62)	0.000 (0.62)
<i>Credit_Private_Sector</i>	-0.000 (-0.57)	-0.000 (-0.58)	-0.000 (-0.47)	-0.000 (-0.50)	-0.000 (-0.56)	-0.000 (-0.55)
<i>Political_Stability</i>	-0.001 (-0.35)	-0.002 (-0.50)	-0.002 (-0.48)	-0.003 (-0.66)	-0.002 (-0.38)	-0.003 (-0.61)
<i>Market_Share</i>	-0.049 (-1.40)	-0.046 (-1.32)	-0.047 (-1.32)	-0.043 (-1.21)	-0.050 (-1.28)	-0.043 (-1.11)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.297	0.301	0.290	0.295	0.274	0.280
Observations	1,026	1,026	973	973	864	864

**Table IA.3 Robustness by country**

This table examines the sensitivity of the results in table 2 by dropping the observations of one sample country at a time. In panel A, board gender diversity is measured through *Indicator\_Women*, an indicator that takes the value 1 if there is at least one woman on the board of the bank, 0 otherwise. In panel B, board gender diversity is measured through *%Women*, the actual percentage of women seating on the board of the bank.

**Panel A: Independent variable is indicator for women on board**

	Without Benin (1)	Without Burkina- Faso (2)	Without Côte d'Ivoire (3)	Without Guinea- Bissau (4)	Without Mali (5)	Without Niger (6)	Without Senegal (7)	Without Togo (8)
Dep. var.: <i>ROA (t+1)</i>								
<i>Indicator_Women</i>	-0.011*** (-2.91)	-0.012*** (-3.18)	-0.007** (-2.05)	-0.010*** (-2.94)	-0.012*** (-2.89)	-0.009*** (-2.72)	-0.015*** (-3.54)	-0.008** (-2.26)
<i>ROA</i>	0.293*** (3.93)	0.308*** (4.38)	0.298*** (3.72)	0.329*** (4.71)	0.310*** (4.38)	0.294*** (4.07)	0.304*** (4.31)	0.363*** (5.42)
<i>Boardsize</i>	0.000 (0.12)	-0.000 (-0.31)	0.000 (0.51)	0.000 (0.09)	0.000 (0.19)	-0.000 (-0.32)	-0.000 (-0.12)	-0.000 (-0.15)
<i>Total_Assets</i>	0.016*** (3.85)	0.017*** (4.38)	0.012*** (3.70)	0.014*** (3.57)	0.016*** (3.98)	0.016*** (4.01)	0.017*** (4.13)	0.014*** (3.59)
<i>Equity_Ratio</i>	0.015 (0.67)	0.006 (0.30)	-0.004 (-0.24)	0.009 (0.50)	0.010 (0.46)	0.022 (1.27)	0.009 (0.42)	0.016 (0.81)
<i>GDP_Growth</i>	0.000 (0.32)	0.000 (0.38)	-0.000 (-0.13)	0.000 (0.66)	0.000 (0.49)	0.000 (0.60)	0.000 (0.32)	0.000 (0.10)
<i>Credit_Private_Sector</i>	-0.000 (-0.54)	-0.000 (-0.23)	0.000 (0.19)	-0.001 (-0.93)	-0.000 (-0.17)	-0.000 (-0.33)	-0.000 (-0.60)	-0.000 (-0.54)
<i>Political_Stability</i>	-0.001 (-0.39)	-0.000 (-0.08)	-0.003 (-0.76)	-0.001 (-0.35)	-0.001 (-0.10)	-0.001 (-0.23)	-0.001 (-0.14)	-0.000 (-0.08)
<i>Market_Share</i>	-0.086** (-2.15)	-0.091** (-2.45)	-0.057 (-1.65)	-0.063 (-1.53)	-0.073* (-1.92)	-0.094** (-2.51)	-0.072* (-1.87)	-0.075* (-1.89)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.259	0.275	0.225	0.287	0.277	0.271	0.275	0.308

Observations	952	945	853	1,037	929	971	882	942
<b>Panel B: Independent variable is the percentage of women on boards</b>								
	Without Benin (1)	Without Burkina- Faso (2)	Without Côte d'Ivoire (3)	Without Guinea- Bissau (4)	Without Mali (5)	Without Niger (6)	Without Senegal (7)	Without Togo (8)
Dep. var.: <i>ROA (t+1)</i>								
<i>%Women</i>	-0.047** (-2.51)	-0.052*** (-2.73)	-0.017 (-1.27)	-0.051*** (-2.82)	-0.056*** (-2.66)	-0.044** (-2.44)	-0.067*** (-3.24)	-0.037** (-2.12)
<i>ROA</i>	0.284** (3.75)	0.300** (4.20)	0.300** (3.74)	0.319** (4.47)	0.300** (4.16)	0.286** (3.89)	0.291** (4.04)	0.356** (5.16)
<i>Boardsize</i>	-0.000 (-0.70)	-0.001 (-1.15)	0.000 (0.02)	-0.000 (-0.73)	-0.000 (-0.65)	-0.001 (-1.02)	-0.001 (-1.17)	-0.001 (-0.77)
<i>Total_Assets</i>	0.016** (3.84)	0.017** (4.34)	0.012** (3.61)	0.014** (3.62)	0.016** (3.98)	0.016** (4.03)	0.017** (4.16)	0.014** (3.57)
<i>Equity_Ratio</i>	0.015 (0.65)	0.006 (0.29)	-0.004 (-0.22)	0.008 (0.46)	0.008 (0.39)	0.022 (1.28)	0.008 (0.40)	0.016 (0.81)
<i>GDP_Growth</i>	0.000 (0.34)	0.000 (0.34)	-0.000 (-0.13)	0.000 (0.70)	0.000 (0.47)	0.000 (0.60)	0.000 (0.29)	0.000 (0.11)
<i>Credit_Private_Sector</i>	-0.000 (-0.54)	-0.000 (-0.20)	0.000 (0.25)	-0.001 (-1.01)	-0.000 (-0.19)	-0.000 (-0.34)	-0.000 (-0.59)	-0.001 (-0.57)
<i>Political_Stability</i>	-0.002 (-0.54)	-0.001 (-0.24)	-0.004 (-0.81)	-0.002 (-0.51)	-0.001 (-0.23)	-0.001 (-0.37)	-0.001 (-0.31)	-0.001 (-0.23)
<i>Market_Share</i>	-0.082** (-2.01)	-0.087** (-2.28)	-0.054 (-1.57)	-0.062 (-1.50)	-0.071* (-1.82)	-0.093** (-2.44)	-0.068* (-1.71)	-0.071* (-1.76)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
adj R-squared	0.262	0.278	0.222	0.292	0.282	0.275	0.282	0.311
Observations	952	945	853	1,037	929	971	882	942



# Networking, resource mobilisation and NGO role-performance: Considering more than simply the main effects.

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## **Abstract**

**Purpose** – This study aims to establish the relationship between networking, resource mobilization, and role performance of Non-governmental Organizations (NGOs).

**Design/methodology/approach** – This study is cross-sectional and correlational. The results, using a questionnaire, are obtained from a sample of 122 NGOs in Uganda.

**Findings** – The study finds that both resource mobilisation and networking are significant predictors of NGO role-performance; with resource mobilisation the most significant predictor of NGO role performance. Human resource mobilisation as a construct of resource mobilisation correlates better with NGO role-performance relative to financial resource mobilisation. Similarly, the political networking construct correlates better, relative to business networking, with NGO role-performance and subsists in the presence of financial resources but not in the presence of human resources. Notably, we find a significant partial mediation of resource mobilization in the relationship between networking and NGO Role-performance.

**Research limitations/implications** – Networks can help organisations to mobilize resources. Thus, if NGOs are to improve the performance of their roles, networking, especially political networking, and resource mobilisation (essentially human resources) should be enhanced. To ensure generalisation, further research may wish to focus on other sectors (like government institutions) to establish the relationship between networking, resource mobilisation, and those institutions' role-performance.

**Originality/value** – Our design allows for the consideration of more than simply the main effects of networking and resource mobilisation by exploring the mediating role of resource mobilisation in the link between networking and NGO role-performance thus offering a more accurate and detailed description of the relationships between networking, resource mobilisation and NGO role-performance in a developing country context.

**Keywords** – role-performance, networking, resource mobilisation, Non-Governmental Organisations.

**Paper type** – Research Paper

## 1. Introduction

Across the developing world, States with limited finances fail to lead to development for all their citizens (Banks and Hulme, 2012). Consequently, non-governmental organisations (NGOs) increasingly get advocated for as a means through which the gap between citizens' needs and existing services can be bridged. NGOs play a critical role in economic development through the provision of highly needed services such as education, healthcare, and employment (Ashoka, 2016). Ugandan NGOs, in response to poverty and related suffering, provide health care, education, water, and environmental disaster management as well as focusing on future investment targeting raising income and improving the well-being of people through measures that increase household income, agriculture, rural market, employment, labour productivity, rural credit, and financial services.

In literature, the role-performance of NGOs has been defined variously: the demonstrated ability to acquire the necessary resources for organizational survival (Kanter, 1987); effectiveness and efficiency in achieving mutually identified social goals (Kareithi and Lund, 2012), and the execution of proposed programs that pursue missions such as relief of hunger, natural crisis, and environmental protection, and to raise funds to meet the financial needs required to perform these programs (Kim and Lee, 2018). Their role-performance is thus analysed through: performance metrics (financial and non-financial) grouping NGOs activities into five categories following the theory of change: input, activity, output, results, and impact (Epstein and McFarlan, 2011); outputs and outcomes (Hyndman and McMahon, 2010; Morris and Ogden, 2011; Szper and Prakash, 2011); outcomes (Barman and MacIndoe, 2012); and inputs, outputs, outcomes, and impact (Benjamin and Misra, 2006). So, in general, third-sector performance measurement focuses on outputs, outcomes, and impact. It can be informative to examine how networking and resource mobilization influence the role performance of NGOs in terms of these measures.

The magnitude and complexity of socioeconomic problems facing societies exceed the capabilities of single organisations. Networking, whereby NGOs aim to work together to share and combine resources to provide services (Hodges and Howieson, 2017) is according to Austin and Seitanidi (2012) perceived essential. In Uganda, the National NGO Policy (2015) sets out a framework to strengthen the relationship between the NGO sector and the Government, and enhance capacities and effectiveness in the areas of service delivery, advocacy, and community empowerment. Research in other sectors, find resource mobilization (Densford, *et al.*, 2018; Batti, 2014; Levie and Lerner, 2009) also impacts performance. Competition for donor resources is fierce and, in many cases, for an organization to secure resources depends on how well it can compete with other organizations to raise funds; and on how good it is at exploring other ways to source resources (Batti, 2014; Densford, *et al.*, 2018). NGOs generally aim to raise funds linked to projects, for activities related to their institutional mission, by submitting project proposals to donors; and they also gather resources not

related to specific projects, which are expenses of the organization, through commercial processes (sales of products and services), auctions, fundraising dinners, crowdfunding, etc (Lacruz and Cunha,2018). There are Ugandan NGOs that have identified strategies for mobilizing resources in furtherance of their mission. According to United Nations Development Programme (2016):

“In the next five years (2016- 2020), UNDP will be contributing principally to the achievement of good governance in Uganda. This is because achieving good governance creates enabling conditions for achieving high-quality human capital, which in turn drives (the) attainment of sustainable, inclusive economic development. UNDP is leveraging its comparative advantages by focusing on governance and sustainable, inclusive economic development while complementing the efforts of other United Nations country team members on human capital development. This will be achieved through two key programme areas; the Inclusive, effective governance programme & the Sustainable, inclusive economic development programme” (p.4)

A closer look at this quote illuminates some nature of networking essential for resource mobilization in terms of e.g. human and financial resources, also essential for realizing the focal NGO mission. Empirical tests of this imperative have, however, remained less evident in the literature.

This study aims to establish the relationship between networking, resource mobilization, and role-performance of NGOs in Uganda. Networking is potentially important to Uganda’s NGOs because they undergo stringent rules and regulations both from the donors and the government. Local NGOs express difficulty in finding sufficient, appropriate, and continuous funding for their work. According to the CSO sustainability index (2017), the NGOs performance in the area of service provision in Uganda is on the decline as accessing donors is as challenging as dealing with their funding conditions. Also, since many local NGOs are dispersed, networking can be a cost-effective means to share information and spread knowledge about grassroots needs, solutions, and best practices. But, the link between networking, resource mobilization, and NGOs performance in developing countries like Uganda is still an empirical question. We draw on resource-based theory and network theory to examine the relationship between networking, resource mobilisation and NGO role-performance. Using a questionnaire on a sample of 122 NGOs we find that both resource mobilisation and networking are significant predictors of NGO role-performance. Human resource mobilisation as a construct of resource mobilisation correlates better with NGO role-performance relative to financial resource mobilisation. At the same time, the political networking construct correlates better, relative to business networking, with NGO role-performance and subsists in the presence of financial resources but not in the presence of human resources. In the end, resource mobilisation in terms of human and financial resources is the most significant direct predictor of NGO role performance. Lastly, we find a significant partial mediation of resource mobilization in the relationship between networking and NGO role-performance suggesting that networking leverages resource mobilization to cause variances in NGO role-performance.

These results have important implications. First, the results point to the suggestion that human and financial resource mobilisation are the most significant predictors of NGO role-performance. By this result, the paper contributes to studies characterising hybrid organisations as usually relying on varied resource mobilisation sources and strategies. The call for the urgent understanding of hybrid organisations' particularities of their performance (Grossi *et al.*, 2017) has been answered in this paper as it probably offers the first step in this understanding by showing that contemporary NGOs potentially enhance the performance of their roles through the identified forms of resource mobilisation. Second, the study vindicates network theorists that suggest that networking serves as a channel for opportunity discovery and to access a wide variety of resources necessary for outcomes. Our design has allowed for the consideration of more than simply the main effects of networking and resource mobilisation by exploring the mediating role of resource mobilisation in the link between networking and NGO role-performance. As such, we now have a more accurate and detailed description of the relationships between networking, resource mobilisation and NGO role-performance. Fundamentally, the results of this study reveal that resource mobilisation is affected by prior or concurrent decisions to networking which in turn affect NGO role-performance. Thus, we now know why the relationship between networking and NGO role-performance might exist. It exists partially by resource mobilisation; hence, resource mobilisation clarifies or explains the relationship between networking and NGO role-performance. Lastly, as NGO role-performance has hitherto largely remained inadequately explained especially in the context of third-world countries' daunting performance improvement in NGOs, the paper shows that networks can help organisations to mobilize resources.

The remainder of the paper continues as follows. Section 2 is a literature review that contains the review of theories informing this study and also the hypotheses development. The third section deals with the methodology adapted for this study to generate the results reported in section 4. The last section is a discussion and implications.

## **2. Literature review**

### ***Theoretical underpinnings***

Understanding NGO role performance is potentially underpinned by the social networking theory (Granovetter, 1973; Anwar, *et al.*, 2018) and the resource-based view theory (Barney, 1991; Wernefelt, 1984). According to Brass (2002), network theory is about the consequences of network variables, such as having many ties or being centrally located. In the context of NGO role performance, we are interested in the noun "networking" - the action or process of interacting with others to exchange information and develop professional or social contacts (the skills of networking, bargaining, and negotiation). Networking of an organization with other organizations not only helps to access external resources but also helps to create and exploit social capital which itself

is viewed as a source of competitive advantage (Barney, 1991). Among the networking forms identified by Anwar *et al.* (2018) are business networking (building connections with other business partners and industries) and political networking (building ties with government and political bodies). Political and business networking may be considered a unique (hybrid-bearing the internal and external characteristics) set of resources potentially important for a firm's realization of its objectives.

The resource-based view theory states that a firm uses its internal and external capabilities, including tangible and intangible resources, to develop and modify its strategies to get a competitive advantage and superior performance over industry rivals and major competitors (Barney, 1991). Resources are defined as stocks of knowledge, physical assets, human capital, and other tangible and intangible factors owned or controlled (Teece, *et al.*, 1997). We argue that for NGOs to improve their role-performance, they ought to ensure the cooperation and coordination of teams of resources. Grant (1991) explains that the firm's capability is the capacity for a team of resources to perform some task or activity and concludes that the firm's resources are the source of a firm's capabilities which are the main source of its competitive advantage and hence performance. This resource base should be enriched by developing different forms of networking to enhance their performance as well as human and financial resources. Resources both financial and non-financial are usually mobilized either externally or internally to support organization activities (Batti, 2014). For instance, the external changes in the market compel firms to strengthen their internal gestures, institutional complexity, and relationship with market-driven forces to succeed (Ding *et al.*, 2016). Thus, networks in such circumstances are directly linked to unique resources which in turn can be converted into superior role performance.

The exact mechanism through which political and business networks on one hand and human and financial resources mobilization on the other influence the performance of NGOs is to date less known. Essentially it is less known whether networking (in terms of political and business) and resource mobilization (both human and financial) are equally important for the role performance of NGOs. It is also less known how these variables transmit variations in NGO role performance. Indeed, the question of whether for example networking leads to the required other resources (such as human and financial resources) other than the networking itself is an empirical question, this study seeks to answer.

### ***Resource Mobilization and NGO role performance***

The concept of resource mobilization concerns the capabilities and opportunities to access, use, control, and maintain resources in a given context (Boström, 2017). It highlights the constraints, strategies, and creativity needed to access different types of resources. Resource mobilization is a process whereby

resources both financial and non-financial resources are mobilized either externally or internally to support organization activities (Batti, 2014). The efficacy of resource mobilisation on performance outcomes has been documented in literature (Fonseka *et al.*, 2014; Naidu and Chand, 2012; Casanueva *et al.*, 2014; Sedmak *et al.*, 2011). While the focus of extant literature has been on financial resources mobilisation, there is a noticeable neglect of internal resources mobilisation. Yet the resource-based view theory (Barney, 1991) suggests that firms using both resources develop internal and external capabilities to develop and modify strategies aimed at superior performance. An NGO may only be as good as the summation of the people who work and support it with its effort. For instance, NGOs need to have 'smart lobbyists to realise the fruits of lobbying. Studies such as those of Kaawaase *et al.* (2020) indicate that human capital (resource) is significantly associated with the both financial and non-financial performance of small and medium audit practices. Extending this line of thinking to the NGO sector suggests that human resource(s) mobilisation in NGOs potentially affects NGO role performance. Proponents of the resource-based view generally assume that there is a strong link between having strategic resources and firm performance (Coff, 1999). In this paper, we make a case for mobilizing both financial and human resources for better NGO role performance. Hence, we hypothesize that:

*H1: Resource mobilisation is positively related to NGO role performance in Uganda.*

### **Networking and NGO role performance**

Networking is a social communication process, which encourages the sharing of knowledge among communities (Swan *et al.*, 1999) or the ability or skill of an individual to develop friendship and build tight constructive unions and coalitions (Ferris *et al.*, 2005), or people's capacity to build and draw on interpersonal relations in a work setting (Nesheim, *et al.*, 2017). Jobs, work roles, and tasks are socially embedded, and employees' ability to communicate and build interpersonal relationships is becoming increasingly important in the knowledge economy (Grant and Parker, 2009). Interpersonal skills refer to skills related to social sensitivity, relationship building, working with others, listening, and communication (Lievens and Sackett, 2012). According to Su *et al.* (2015), there are two types of networking: 1) Business networking which is constructing a relationship with other businesses firms, industries, competitors, and suppliers to gather valuable information and unique resources, etc. and 2) Political networking which is building connections with government and political bodies to access scarce resources controlled by the government. Several researchers agree that networking is essential for organisational outcomes (Bing *et al.*, 2011; Pfeffer, 1998; Mintzberg, 1983; Holmén, 2002; Nesheim *et al.*, 2017; Wei *et al.*, 2012; Ferris *et al.*, 2005; Munyon *et al.*, 2013; Lin, *et al.*, 2016). In line with this literature, we suggest that the ability to build and use networks is related to role performance. Business networking particularly with suppliers and social entities minimizes the need for borrowing from financial institutions (Le

and Nguyen, 2009). According to Wu and Chen (2012) business ties have a significant impact on competitive advantage. Thus, the following hypothesis will be stated;

*H2: Networking is positively related to NGO role-performance in Uganda*

Networking ability can enhance performance through several mechanisms, such as acquiring and having trustworthy sources of information, identifying and communicating with potential customers, creating solutions to problems that have a high degree of uniqueness and require input from several contributors, as well as influencing decision outcomes at both the operative and strategic level. This line of thinking suggests that networking can influence resource mobilization and at the same time the resource mobilization potential is likely to enable NGOs to persist in their role-performance. Extensive research has shown that public perception of a non-profit's efficiency in raising and then using funds for the ultimate goal heavily influences attitude and likelihood to donate (Bennett and Savani, 2003). A variety of resources must be effectively mobilized, accumulated, controlled, and organized for any social movement actor striving for social change. Resource mobilization takes place in the context of political, economic, and cultural opportunity structures. The potential endowment of resources is the mobilization of the resources of the firm's partners. This mobilization takes place through the formal and informal relations that the focal firm maintains with its partners through inter-organizational and interpersonal networks (Bhagavatula *et al.*, 2010). Mobilization allows the focal firm to use resources and exploit partner resources as and when it needs them. Therefore,

*H3: Resource mobilization significantly mediates the link between Networking and NGO role-performance in Uganda.*

### **3.0 Methodology**

#### ***Design and sample***

This study is cross-sectional and correlational. The population is 223 registered NGOs by the Uganda National NGO forum (2019) and sample size is 148 NGOs (Krejcie and Morgan 1970) and the members are selected randomly using the rotary method and 122 NGOs (about 82%) respond. Responses are enlisted from either a top manager, head of department, or supervisor in the NGO. Several demographic and NGO characteristics are reported in Table 3.1 and may be used to understand the results reported in this paper. Responses are from 66 males and 56 females including 50 managers, 46 department heads and 26 supervisors. The majority of the respondents (34.4%) are aged between 30-39 years. Slightly over 82% of respondents have Bachelors's or Master's degrees. In terms of length of service in the particular NGO, the majority (35.2%) had worked between 4 to 6 years, Most of the NGOs operating in Uganda are local (about 63.1%). This implies that the Ugandan NGOs sector is majorly

dominated by locally established and given Uganda's resource capacity it could be paramount for such NGOs to be good at resource mobilization e.g. solicitation of funding from foreign donors to support the locally initiated NGOs. The results in Table 3.1 show that 50.8% of the NGOs had more than 100 employees, and 49.2% have less than 100 employees – a fair distribution between large and small NGOs. Most NGOs (68%) have a national character. Most of the NGOs have been operating for more than 10 years (about 70.3%).

*Table 3.1 Respondent and NGO characteristics*

<b>Respondent characteristics</b>			<b>NGO characteristics</b>		
<i>Variable</i>	<i>f</i>	<i>%</i>	<i>Variable</i>	<i>f</i>	<i>%</i>
<i>Gender</i>			<i>Ownership</i>		
Male	66	54.1	Local	77	63.1
Female	56	45.9	Foreign	44	36.1
Total	122	100.0	Others (specify)	1	.8
<i>Highest level of education</i>			Total	122	100.0
Diploma	9	7.4	<i>Number of employees</i>		
Bachelors	48	39.3	Up to 100	60	49.2
Masters	53	43.4	More than 100	62	50.8
PhD	6	4.9	Total	122	100.0
Others, specify	6	5.9	<i>Our NGO cover the whole country (Yes/No?)</i>		
Total	122	100.0	Yes	83	68.0
<i>Age (years)</i>			No	39	32.0
Below 30	34	27.9	Total	122	100.0
30-39	42	34.4	<i>This organization has been operating for?</i>		
40-49	34	27.9	less than 1	4	3.3
50 and above	12	9.8	1-3	5	4.1
Total	122	100.0	4-6	8	6.6
<i>Number of years spent in the organisation</i>			7-9	16	13.1
less than 1	12	9.8	more than 10	89	70.3
1-3	34	27.9	Total	122	100.0
4-6	43	35.2			
7-9	14	11.5			
more than 10	19	15.6			
Total	122	100.0			



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<i>Respondent position</i>		
Manager	50	41.0
Head of Department	46	37.7
Supervisor	26	21.3
Total	122	100.
		0

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Source: *Primary data*

### **Questionnaire and measurement of variables**

NGO role performance is assessed through perceived NGO role performance in terms of efficiency, impact, and outcomes consistent with (Misra, 2006; Morley, 2001). The manifest variables are anchored on a six-point Likert scale (1=Strongly disagree, 6 = strongly agree). Networking is assessed through perceived NGO networking in terms of business (Su et al., 2015) and political (Lin, et al., 2016) networking. We operationally define networking as the ability or skill of an NGO (members) to develop friendships and build tight constructive unions and coalitions consistent with Ferris *et al.* (2005). The observed variables are anchored on a 6-point Likert scale. The resource mobilization is also assessed through perceived NGO resource mobilization efforts in terms of financial and political networking (Batti, 2014) and operationally define resource mobilisation as a process whereby resources both financial and human resources are mobilised either externally or internally to support the NGO activities (Batti, 2014). The indicators for both financial and human resources are anchored on a 6-point Likert scale. We use factor analysis based on (principal components) and Cronbach's  $\alpha$  to examine the validity and reliability of the scales as measures of Networking, Resource mobilisation, and NGO role-performance. Cronbach's  $\alpha$  coefficients for Networking, Resource mobilisation and NGO role-performance are, respectively, .960, .947, and .982. To establish convergent validity, the principle components were extracted by running principle component analysis using varimax rotation method, and factor loadings below 0.5 coefficients are suppressed to avoid extracting factors with weak loadings. Before performing the principal component analysis for our scales, we assess the suitability of the data for factor analysis based on sample size adequacy, the Kaise-Meyer-Olkin (KMO), and Bartlett tests. The results show the KMO value of 0.926 and Bartlett's test of sphericity reaching statistical significance ( $p < 0.01$ ) for NGO role-performance. The results show the KMO value of 0.880 and Bartlett's test of sphericity reaching statistical significance ( $p < 0.01$ ) for Resource mobilisation. In the same vein, the results show the KMO value of 0.903 and Bartlett's test of sphericity reaching statistical significance ( $p < 0.01$ ) for Networking. The rule of thumb is that the KMO value should be above 0.7 and Bartlett's test should be significant ( $p < .05$ ) (Field 2009). Thus, the results support the factorability of the correlation matrix because the correlation matrix is significantly different from the identity matrix in which the variables would not correlate with each other. The results of factor analysis are presented in

Tables 3.2, 3.3, and 3.4 for NGO role-performance, Resource mobilisation, and Networking, respectively. The determinant for all three variables is greater than 0.01 implying that there is no multicollinearity or singularity between variables.

*Table 3.2 Rotated Component Matrix for NGO role-performance*

	Output	Efficiency	Impact
Generally, customers of our projects are satisfied with the outcome	.827		
Our projects contribute to achieving the vision, mission, and objectives of the organisation	.793		
There are often clearly identified intangible benefits from projects we carry out	.784		
The project has a good chance of being extended with additional funding	.738		
Our projects frequently contribute to long-term development objectives	.717		
Generally, we achieve the scope and objectives of our project	.710		
Our projects successfully produce the intended influences as well as favourable unintended effects	.709		
Generally, our stakeholders (donors, implementing NGO, and beneficiaries) are satisfied with the project outcomes	.707		
The goods and services produced by the project conform to those described in the project documents	.688		
We typically complete projects within the planned timescale	.642		
We are usually good at delivering projects within budget		.819	
We frequently complete our projects within the planned budget		.797	
Our organisation has distinctive competence in areas such as cost-effectiveness, poverty reach, popular participation, flexibility, and innovation		.796	
NGOs can provide some services more cost-effectively than governments or commercial interests		.794	
Project team members are usually happy working on projects		.783	
Our key stakeholders are usually happy with the way our projects are managed		.749	
Our projects usually result in tangible benefits for the organisation		.649	
The projects have attained sustainability in the community			.687
Eigen values	7.002	6.435	2.105
Percentage of variance	38.9	35.749	11.696
Cumulative percentage of variance	38.9	74.648	86.343
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.			.926
Bartlett's Test of Sphericity		Approx. Chi-Square	3650.630
	df		153
	Sig.		0.000

a. Rotation converged in 6 iterations.

Extraction Method: Principal Component Analysis.

*Table 3.3: Rotated Component matrix for Resource mobilisation.*

	Human resourc es	Financi al resourc es
This NGO:		
generally meets agreed donor financial requirements	.867	
recruits and engages volunteers sufficiently	.844	
prepares financial reports at least monthly	.839	
utilizes professional services such as accountants, IT managers, or lawyers	.838	
has adequate human resources practices for staff, including contracts, job descriptions, payroll, and personnel policies	.823	
can maintain permanent, paid staff	.812	
has financial policies and procedures on which it operates	.811	
develops the skills/competencies of employees, including leadership skills as part of succession planning	.807	
draws upon a core of volunteer and non-monetary support from their communities and constituencies	.781	
has the capacity/skills in proposal writing and applications for funding	.664	
raises funding from local sources, including individuals, governments, businesses, and local foundations		.839
legally competes for government contracts/procurements at the local and central levels		.815
benefits from corporate philanthropy/corporate social responsibility (CSR) programs		.799
is legally allowed to earn income from the provision of goods and services by charging fees and establishing social enterprises		.777
is provided with government grants (central and/or local) in an open and transparent manner		.757
runs fundraising campaigns		.752
accepts funds from foreign donors		.625
projects increase the fundraising abilities		.613
Eigen values	7.395	5.648
Percentage of variance	41.085	31.380
cumulative variance	41.085	72.465
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.880
Bartlett's Test of Sphericity	Approx. Chi-Square df Sig.	2664.19 4 153 0.000

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Source: *Primary data*

*Table: 3.4: Rotated component matrix for networking*

	Political networking	Business networking
This organisation creates a long-term relationship with its stakeholders		.850
This organisation has created a big network through documentation of their programmers via radio, TV		.701
This organisation has a friendly environment where it encourages actors to participate		.933
Projects have improved the reputation of the organisation amongst the stakeholders, government, and general public		.899
This organisation gets information through connections that is useful for the work		.929
This organisation Works in partnership, either formally or informally, with the private sector, government, and the media to achieve common objectives		.922
There is awareness among the various sectors of the possibilities for and advantages of partnerships		.894
Networks are a source of business resources that contribute to the growth	.809	
Maintaining contacts with well-connected people gives the Organisation access to information that can solve problems	.854	
Connections help organizations to confront growing challenges without having to enlarge [their] formal structure	.863	
There are direct lines of communication or other avenues for collaborations between NGOs and policy makers at the central and local levels	.885	
Lobbying successes at the local or national level have led to the enactment or amendment of legislation	.927	
Our organisation is comfortable with the concept of lobbying	.892	
Our organisation is good at using connections to make things happen at work	.888	
We spend a lot of money on building relations with the top officials in government.	.888	
We maintain good relationships with officials of the state bank and other governmental agencies	.904	
We spend much effort in cultivating personal connections with officials of government and its agencies	.894	
We devote substantial resources to maintaining good relationships with officials of administrative agencies	.899	
Eigen values	8.919	5.84
Percentage of variance	49.548	32.444
cumulative variance	49.548	81.992
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.903
Bartlett's Test of Sphericity	Approx. <i>Chi –</i> <i>Square</i> df Sig.	3560.366  153 0.000

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Source: *Primary data.*

Results in Table 3.2, show that three constructs were appropriate for measuring role performance, given that they explained 86.3% of the total variance. The construct output explained the most, with 38.9% of the variance, while efficiency explained 35.7% of the variance. Impact explained least with 11.7% of the variance. Also, from the findings, it is clear that output construct is the most important (with eigenvalues of 7.002), followed by efficiency (eigenvalues of 6.435) while impact is not that so important (with eigenvalues 2.105). Table 3.3 indicates that financial resources and human resources explain 72.5% of the variance in Resource mobilisation with human resource mobilisation accounting for much of this variance with an eigenvalue of 7.395. Table 3.4 reveals that business networking and political networking are important components of networking accounting for about 82% of the variations. Relative to business networking, political networking accounts for much of this variance.

## 4. Results

### ***Descriptive statistics for the study variables***

Table 4.1 below presents the descriptive statistics for NGO role-performance, resource mobilisation, and networking; that is, minimum, maximum, mean, standard deviation values, skewness and Kurtosis. According to Field (2009), when deviations are small compared to mean values, it is evident that the data points are close to the mean, and hence calculated mean highly represent the observed data. Since the deviations are small compared to the mean, this means the data points closely represent the observed data. Similarly, according to Field (2009), the values of skewness and kurtosis should be near 0 in a normal distribution and he advises that Skewness and Kurtosis statistics for normal data range from -3.29 and 3.29. Garson (2012) recommends (somewhat conservatively) that Skewness and Kurtosis statistics be within the +2 to -2 range, though for kurtosis a more lenient +3 to -3 range can also show normality. Following these benchmarks, the normality of the data was tenable (Table 4.1)

*Table 4.1: Descriptive Statistics.*

	N	Min.	Max	Mean	Std. Dev.	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Financial resources	122	1.00	6.00	3.5523	1.33268	-.191	.219	-.272	.435
Human resources	122	1.10	6.00	4.7025	1.44179	-.936	.219	-.415	.435

Resource mobilisation	12 2	1.15	6.00	4.127 4	1.2140 9	-1.027	.219	.224	.435
Business networking	12 2	1.00	6.00	4.719 0	1.4720 6	-1.123	.219	.232	.435
Political networking	12 2	1.00	6.00	4.641 6	1.5314 6	-1.104	.219	.191	.435
Networking	12 2	1.00	6.00	4.680 3	1.3013 0	-1.037	.219	.314	.435
Output	12 2	2.00	6.00	5.145 1	.98645	-.954	.219	-.050	.435
Efficiency	12 2	2.00	6.00	4.987 1	1.1450 7	-.934	.219	-.116	.435
Input	12 2	1.00	6.00	5.049 2	1.2652 5	-1.363	.219	1.410	.435
Role Performance	12 2	2.00	6.00	5.060 5	1.0056 1	-.992	.219	.049	.435
Valid N (listwise)	12 2								

Source: *Primary data*

### **Correlation analysis**

Table 4.2 provides for Pearson correlation coefficients among the study variables – providing the first-order tests for the first two hypotheses. The correlation results in Table 4.2 reveal a positive and significant relationship between resource mobilisation and NGO role-performance ( $r=0.432$ ,  $p<0.01$ ). This provides initial support for  $H_1$  which states that *Resource mobilisation is positively related to NGO role-performance in Uganda*. Furthermore, human resources as a construct of resource mobilisation correlate better with NGO role-performance ( $r=0.611$ ,  $p<0.01$ ) relative to financial resources ( $r=0.126$ ,  $p>0.05$ ) which does not significantly correlate with NGO role-performance. The correlation results in Table 4.2 further reveal evidence of a positive and significant relationship between networking and NGO role-performance ( $r=0.453$ ,  $p<0.01$ ). Again, this provides initial evidence in support of  $H_2$  which states that *Networking is positively related to NGO role-performance in Uganda*. Political networking construct correlates better ( $r=0.459$ ,  $p\leq 0.01$ ), relative to business networking ( $r=0.324$ ,  $p<0.01$ ) with NGO role-performance. Given the correlation coefficient between networking and resource mobilisation ( $r = 0.566$ ,  $p<0.01$ ), multicollinearity is not a cause for concern; the variables are sufficiently discriminated and thus discriminant validity is assured. Moreover, the correlations between the constructs and the global variables are very high (all of them above 0.8) hence there is evidence of convergent validity.

Table 4.2: Pearson correlations between the study variables with control variables

	1	2	3	4	5	6	7	8	9	10
Number of employees (1)	1									
Extent of national coverage (2)	.077	1								
No. of years in operation (3)	.146	-.119	1							
Business networking (4)	.062	.265**	-.026	1						
Political networking (5)	.267**	.239**	-.005	.502**	1					
Networking (6)	.192*	.290**	-.017	.861**	.872**	1				
Financial resources (7)	-.029	.109	.137	.244**	.193*	.251**	1			
Human resources (8)	.225*	.302**	.043	.619**	.631**	.722**	.531**	1		
Resource mobilisation (9)	.118	.239**	.101	.501**	.481**	.566**	.864**	.885**	1	
Role Performance (10)	.275**	.264**	-.044	.324**	.459**	.453**	.126	.611**	.432**	1

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

### Regression analysis

As a further test of the first two hypotheses, we extend the analysis to regression. We test the explanatory power of variables using hierarchical regression analysis to determine the contribution of each predictor variable and regression coefficients as indicators of whether or not the contribution of each variable is significant. We indicate the overall contribution of the variables by the variance explained ( $Adj.R^2$ ), which also shows the predictive power of the variables. We first test for the efficacy of the different dimensions of predictor variables on the NGO role-performance using hierarchical regression consistent with the guidelines of Aiken and West (1991) and enter variables simultaneously within each hierarchical group. This is useful for evaluating the contributions of predictors above and beyond the previously entered predictors, as a means of statistical control, and for examining incremental validity. The model in Table 4.3 shows that business networking significantly predicts variances in NGO role-performance ( $B = .179$ ,  $p < .01$ ). In model III when we enter political networking, the model predicts about 24 percent of the variances in NGO role-performance with political networking ( $B = .211$ ,  $p < .01$ ). The introduction of financial resources in model IV does not cause significant changes in  $adj. R^2$ . This appears surprising. However, when we introduce human resources in model V, the model improves and predicts 42.3 percent of the variances in NGO role-performance. At this point financial resources that were hitherto not significant in model IV is now significant in model IV. In table 4.4, we enter the global variables while also controlling for the effect of NGO size by employees and geographical coverage, and also NGO age. Except for size by the number of employees, Model III in Table 4.4 is not sensitive to the other control variables. To be sure of the normal theory of estimation, we carry out bootstrap and the results reported in Table 4.5 show that both networking and resource mobilisation explain 23.8 percent of the variance in NGO role-performance. So, in sum, using the results in Table 4.5

because they are robust, we find that both resource mobilisation ( $B = .214$ ,  $p < .01$ ) and networking ( $B = .237$ ,  $p < .01$ ) are significant predictors of NGO role-performance in Uganda and this provides further support Hypotheses  $H_1$  and  $H_2$ .

*Table 4.3: Hierarchical regression of the variable dimensions on NGO role-performance*

	<b>Model I</b>	<b>Model II</b>	<b>Model III</b>	<b>Model IV</b>	<b>Model V</b>
(Constant)	3.831**	3.213**	3.005**	2.962**	3.260**
Size by Employees	.530*	.507*	.358*	.365*	.186
Geographical Coverage	.510**	.363	.297	.292	.158
Age of NGO in Uganda	-.054	-.054	-.049	-.055	-.050
Business Networking		.179**	.078	.073	-.092
Political networking			.211**	.208**	.039
Financial resources				.028	-.187**
Human resources					.521**
Std. Error of the Estimate	.94549	.91380	.87641	.87946	.76382
<i>Model F</i>	6.292**	7.384**	8.661**	7.200**	13.676**
<i>R</i>	.371	.449	.521	.523	.676
<i>R</i> <sup>2</sup>	.138	.202	.272	.273	.456
<i>Adj. R</i> <sup>2</sup>	.116	.174	.240	.235	.423
$\Delta F$	6.292**	9.327**	11.195**	.197	38.455**
$\Delta R^2$	.138	.064	.070	.001	.183
<i>Df</i> <sub>1</sub>	3	1	1	1	1
<i>Df</i> <sub>2</sub>	118	117	116	115	114
<i>Durbin Watson</i>					1.665

\*,  $P < 0.05$  level (2-tailed). \*\*,  $P < 0.01$  level (2-tailed).

*Table 4.4: Hierarchical regression of study variables on NGO role-performance*

	<b>Model I</b>	<b>Model II</b>	<b>Model III</b>
(Constant)	3.831**	2.947**	2.776**
Size by Employees	.530**	.400*	.406*
Geographical Coverage	.510**	.288	.235
Age of NGO in Uganda	-.054	-.051	-.082
Net working		.290**	.182**
Resource mobilisation			.213**
Std. Error of the Estimate	.94549	.87824	.85560
<i>Model F</i>	6.292**	10.411**	10.230**
<i>R</i>	.371	.512	.553
<i>R</i> <sup>2</sup>	.138	.262	.306
<i>Adj. R</i> <sup>2</sup>	.116	.237	.276
$\Delta F$	6.292**	19.765**	7.273**
$\Delta R^2$	.138	.125	.044



<i>Df1</i>	3	1	1
<i>Df2</i>	118	117	116
<i>Durbin Watson</i>			1.557

\*. P< 0.05 level (2-tailed).

\*\*. P< 0.01 level (2-tailed).

*Table 4.5: Regression analysis (bootstrap)*

	<b>Model I</b>	<b>Bias</b>	<b>BCa 95% Confidence Interval</b>		<b>Model II</b>	<b>Bias</b>	<b>BCa 95% Confidence Interval</b>	
			<b>Lower</b>	<b>Upper</b>			<b>Lower</b>	<b>Upper</b>
(Constant)	3.421**	.023	2.678	4.185	3.067**	.014	2.334	3.839
Networking	.350**	-	.203	.495	.237**	.001	.075	.444
Resource Mobilization		.005			.214**	-	-.014	.406
<i>Std. Error of the Estimate</i>	.90015				.87777	.004		
<i>Model F</i>	31.014				19.906			
<i>R</i>	.453				.501			
<i>R<sup>2</sup></i>	.205				.251			
<i>Adj. R<sup>2</sup></i>	.199				.238			
<i>ΔF</i>	31.014**				7.197**			
<i>ΔR<sup>2</sup></i>	.205				.045			
<i>Df1</i>	1				1			
<i>Df2</i>	120				119			
<i>Durbin Watson</i>					1.594			

**Bootstrap model summary**

				<i>BCa 95% Confidence Interval</i>
	<i>Model</i>	<i>Durbin- Watson</i>	<i>Bias</i>	<i>Std. Error</i>
	2	1.594	-.506	.163
				.773
				1.438

\*. P< 0.05 level (2-tailed).

\*\*. P< 0.01 level (2-tailed).

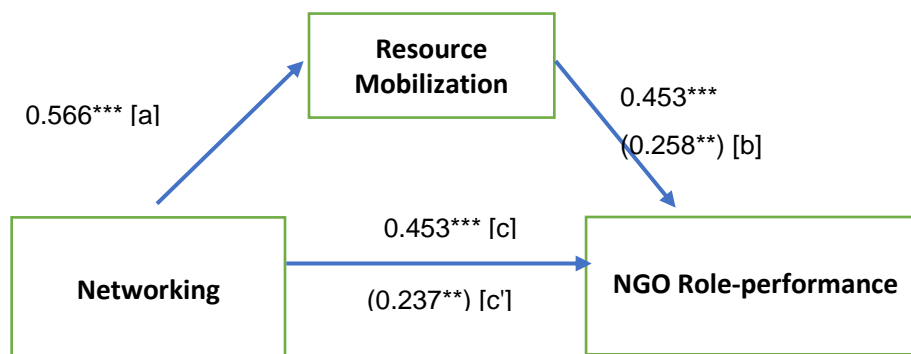
a. Dependent Variable: Role Performance

b. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

***The mediating effect of resource mobilization in the relationship between Networking and NGO role-performance.***

The position of this study has been, that resource mobilization mediates the link between networking and NGO Role performance, which set the stage for the examination of whether there is a relationship to mediate. As Networking significantly predicts NGO Role-performance ( $B = .453$ ,  $p < .01$ ), the stage for testing for mediation is set. That is testing  $H_3$  – a hypothesis suggesting that the relationship between networking and NGO Role-performance can be explained by their relationship to the resource mobilisation of NGO firms in Uganda. The expectation is that the relationship between networking and NGO role-performance will probably be different when resource mobilization is also included in the model. This study uses the Sobel test with Jose's MedGraph to test for the significance of mediation. Sobel test results indicate that there is a significant mediation of resource mobilization in the relationship between networking and NGO role-performance, substantiating  $H_3$ . The indirect effect of networking on NGO role-performance through resource mobilization,  $b = 0.258$  is significant and moderate,  $R^2 = .147$ , 95% BCa CI [.02515, .20084]. Resource mobilization partially mediates the link between networking and NGO role-performance of firms in the NGO sector in Uganda ( $Z=2.521152$ ,  $p < 0.01$ ) (Figure 4.1). This means that networking leverages resource mobilization to cause variances in NGO role-performance.

**Figure 4.1: MedGraph - PC: A programme to graphically depict mediation among Networking, Resource mobilization, and NGO Role performance**



**Note:** The numerical values in parentheses are beta weights taken from the second regression and the other values are zero-order correlations.

## 5. Discussion and implications

Using hierarchical regression, we find that among the two dimensions of networking, it is political networking that subsists in the presence of financial resources but not in the presence of human resources. This points to a unique relationship and mix of these two variables in influencing NGO role-performance

(not within the scope of this study). Well, these results point to the suggestion that human and financial resource mobilisation are the most significant predictors of NGO role-performance. According to the results, an NGO that is legally allowed to earn income from the provision of goods and services by charging fees and also acting as a social enterprise accepts funds from foreign donors, runs fundraising campaigns, and can compete for government contracts/procurements at the local and central levels is likely to achieve its targets. The results appear to hold for hybrid organisations according to which, Van Helden and Reichard, (2016) characterise them as usually relying essentially on sales revenues, often based on regulated tariffs, but sometimes receiving additional funding from government and in the case of welfare associations and charities, donations and membership fees. The current results in the NGO sector concur with the current wave of hybrid organisations with commentators predicting that “hybrids at all levels will become much more prevalent in the future” (Grossi, *et al.*, 2017, p.383). And, since Grossi, *et al.* (2017) call the urgent understanding of hybrid organisations’ particularities of their performance, this paper offers a first step in this understanding by showing that contemporary NGOs potentially enhance the performance of their roles through the identified forms of resource mobilisation. Connectedly, NGOs should have enough competencies in terms of permanent staff, skilled employees, including leadership skills as part of succession planning, and adequate human resources practices for staff, including contracts, job descriptions, payroll, and personnel policies. Although Pache and Santos (2013), as well as Skelcher and Smith (2015) address the role of individuals in hybrid organizations, Grossi *et al.* (2017) have still called for further research on the role of individuals in hybrid organisations because they suggest that organizations are, in the end, represented by individuals who interpret the often-conflicting logics found in hybrid organizations. This study shows that proper human resource mobilisation is important for the proper interpretation of the often-conflicting logic in NGOs for better performance outcomes. Our results extend the applicability of research findings of (e.g. Fonseka, *et al.*, 2014; Naidu and Chand, 2012; Watson, 2007; Casanueva *et al.*, 2014; Sedmak, *et al.*, 2011) that support the application of resource-based view theory as a relevant framework for understanding superior performance to NGO role-performance in the NGO sector.

The positive and significant link between networking and NGO role-performance means that NGOs that develop beneficial business and political networks are likely to achieve their intended targets. The results of Nesheim *et al.* (2017) point to this possibility as they find that networking ability is significantly associated with in-role and extra-role work-performance. The theoretical reason behind this conjecture is that the ability to network across groups is a vital source of new ideas and options. Network theorists suggest that networking serves as a channel for opportunity discovery and to access a wide variety of resources (Granovetter, 1983). NGOs that have direct lines of

communication or other avenues for collaborations between NGOs and policymakers at the central and local levels and succeed in lobbying at the local or national level for the favourable enactment or amendment of legislation are likely to achieve their objectives. Our results are consistent with those of (Bing, *et al.*, 2011; Munyon *et al.*, 2013; Lin, *et al.*, 2016) which post positive relationships between political skills and performance outcomes of organisations. Our results make intuitive sense, in that governments still control a significant portion of strategic factor resources and have considerable power to allocate resources hence NGOs should maintain close relationships with governments.

Using hierarchical regression, this study again finds that a better-fitting model results after the global variables of networking resource mobilization have been entered controlling for potential confounding variables (Table 4.4). This is also true when we do not control for potential confounding variables (Table 4.5) and remain consistent even when the model in Table 4.5 is bootstrapped. What is surprising about the results at this level of analysis is that both networking and resource mobilisation are now significant predictors of NGO role-performance at a 1 percent level or better. However, the design of this study allows for the consideration of more than simply the main effects of networking and resource mobilisation by exploring the mediating role of resource mobilisation in the link between networking and NGO role-performance. This is significant as a more accurate and detailed description of the relationships (Friedrich, 1982) is ensured. Testing for mediation effect (Figure 4.1), we find that the relationship between networking and NGO role performance is partially explained by their relationship to resource mobilisation of NGOs. Especially, the results of this study reveal that resource mobilisation is affected by prior or concurrent decisions to networking which in turn affect NGO role-performance. In this study, we show this in terms of a mediating variable (resource mobilisation). As such resource mobilisation clarifies or explains the relationship between networking and NGO role-performance. Hence our study contributes to management practice and extant literature on networking and resource mobilisation in explaining NGO role-performance in the context of third-world countries. The study also adds to the conceptual improvement in networking and resource mobilisation studies and lends considerable support for the behavioural perspective in the study of networking and its NGO role-performance improvement potential. Using qualitative factors for networking and resource mobilisation to explain perceived NGO role-performance, we offer a unique dimension in understanding the causes of inadequate NGO role-performance. Having networks that do not lead to financial and human resources, is like doing no work at all because networks cannot help anything if, moreover, there are no resources to execute the tasks. Intuitively, networks can help organisations mobilising for resources. For instance, NGOs sometimes in addition to donor funding obtain financial resources through fundraisings. Fundraising can only generate enough finances if the NGO is highly connected. This implies that

networking and resource mobilisation must work together to achieve the intended goals of the organisation (role performance). This agrees with those management scholars (e.g. Li *et al.*, 2013) that believe that networking capability influences organisational outcomes.

Therefore, this study concludes that if NGOs are to improve the performance of their roles, networking especially political and resource mobilisation essentially human resources should be enhanced. It is then worthwhile to recommend that governments support NGOs for example by flexing regulations since they are working towards the wellbeing of the citizens of the country. NGOs majorly mobilise funds through donors which come with different conditions some of which could be contradicting the rules of the country. If NGOs are to successfully perform their objectives, either government or donors have to flex the rules. NGOs should emphasize increasing their human resource mobilisation skills like encouraging more permanent staff as they are seen to be significant in ensuring that they achieve the targeted objectives. Significant alliances with the government and other political affiliates are very important. Politicians perform a significant role in the acceptance or rejection of activities of NGOs. Creating a good relationship with them potentially helps NGOs achieve their objectives as they can easily get to know the interests of the government and work towards satisfying society's needs. This research is limited to NGOs but governments in general and in particular some state agencies fail to realise their objectives. Further research may wish to focus on other sectors (like government institutions) to establish the relationship between networking, resource mobilisation, and those institutions' role-performance.

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# Serving Two Masters: Does CEO Openness Moderate the Relationship Between Audit Committee Support and Internal Auditors' Effectiveness? Ugandan Evidence

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## Abstract

**Purpose** –This study investigates the effect of the interaction between board audit committee support and chief executive officers' (CEOs') openness to internal auditors' ideas on internal auditors' effectiveness

**Design/methodology/approach** – This explanatory study, based on the positivistic paradigm, surveyed 128 internal auditors of formal financial institutions in Uganda and analysed the data using partial least squares structural equation modelling (PLS-SEM).

**Findings** – The results suggest that CEO openness enhances the positive relationship between board audit committee support and internal auditors' effectiveness.

**Research limitations/implications** – A supportive board audit committee is necessary but not sufficient for internal auditors' effectiveness, and CEO openness enhances the board audit committee's support-internal audit effectiveness relationship. This study illuminates the view that internal auditors' effectiveness can be significantly enhanced by leveraging CEO openness and simultaneously calling for audit committee support for internal auditors.

**Originality/value** –This study contributes to answering the research question of how internal auditors serving two masters, the board's audit committee and the CEO, affect internal auditors' effectiveness.

**Keywords:** Audit committee support, CEO openness, Internal audit effectiveness, Moderation and developing country

**Paper type:** Research Paper.

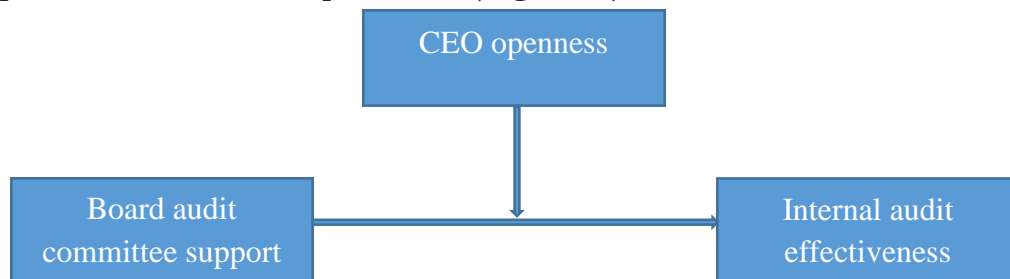
## 1. Introduction

Internal audit effectiveness, defined as the extent to which internal auditors attain internal audit objectives (Dal Mas & Barac, 2018), is a focus for scholars and practitioners. Effective internal auditors aid in improving internal controls, managerial decision-making, business processes, and governance (Barišić and Tušek, 2016) by providing oversight on behalf of the board's audit committee and rendering consulting services to management. Ultimately, internal auditors are likely to reduce waste and prevent or detect risks such as fraud (Dzikrullah *et al.*, 2020; Mihret & Grant, 2017). However, corporate scandals, especially in the financial services sector, persist worldwide (Steyn, 2020); yet, internal audit failures in the financial services sector have been cited

(Nkundabanyanga, 2016). Internal audit failures in Uganda are highlighted by reports of internal auditors either remaining silent or internal auditors' recommendations not being implemented (Bananuka *et al.*, 2017). For internal auditors to contribute positively to business process improvement, internal control soundness, managerial decision-making, and governance, audit ideas must be generated and implemented. Although, there is scholarly interest in the determinants of internal audit effectiveness (Dal Mas & Barac, 2018; Khelil, 2023), empirical evidence on the determinants of internal auditor effectiveness is scarce, especially in developing countries (Vadasi *et al.* 2019).

Lenz and Hahn (2015) called for studies on the effect of internal auditors reporting to both the board's audit committee and the CEO on the auditors' effectiveness. The literature acknowledges the positive effect of a supportive board audit committee on internal auditors' effectiveness. For instance, Alzeban and Sawan (2015) found a link between board support for internal auditors and improved audit outcomes, such as the increased implementation of audit recommendations, because employees who receive support from their supervisors respond by producing high-quality work (Cropanzano *et al.*, 2017). However, organisational support-employee outcome relationships are often inconsistent because other organisational actors' behaviours modify the supervisor support-employee outcome relationships (Yang *et al.*, 2020). We draw on Yang *et al.* (2020) to argue that the relationship between audit committee support and internal auditor effectiveness, which is also a supervisor-employee outcome relationship, should be modified by executive behaviours. We contend that CEOs, as the most powerful executives in an organisation, have the potential to influence the audit committee support-internal audit effectiveness relationship by influencing internal auditors' feelings of psychological safety to make constructive suggestions, as well as a culture of accepting and implementing suggestions.

Specifically, this study hypothesizes that CEO openness moderates the audit committee support-internal auditors' effectiveness relationship, such that audit committee support has a greater effect on internal auditors' effectiveness in the presence of a more open CEO (Figure 1).



**Figure 1.** Hypothesized Moderation Model

CEO openness, characterized by a willingness to consider internal auditors' ideas should enhance the effect of audit committee support on internal

auditors' effectiveness. Internal auditors drive change (Lenz & Hahn, 2015), and open CEOs encourage a culture valuing change (O'Reilly *et al.*, 2014) and problem-solving (Škerlavaj *et al.*, 2014), which should enhance auditors' effect on decision-making, governance, and process enhancement. Morrison (2011) theorized that a leader's openness to employee ideas enhances effectiveness variables such as managerial decision-making and error correction. Although Bananuka *et al.* (2017) noted Ugandan CEOs' reluctance to accept recommendations from internal auditors, the impact of CEO openness on internal auditors' efficacy has, to our knowledge, not yet been investigated.

Traditional agency (Jensen & Meckling, 1976), behavioural agency (Wiseman & Gomez-Mejia, 1998), and upper-echelon theories (Hambrick, 2007; Hambrick & Mason, 1984) provide a theoretical framework for explaining internal auditors' effectiveness in this study. Internal auditors, as CEOs' consultants and audit committees' independent assurance providers, are considered audit committee's agents. Therefore, both audit committees and CEOs should affect internal auditors' effectiveness. Traditional agency theory assumes selfish agents, necessitating monitoring the agent to align the agent's and the owner's interests. Thus, audit committees monitor internal auditors to align auditors' interests with those of business owners. Behavioural agency theory recognizes monitoring inadequacy and extends traditional agency theory by considering psychological influences on agents' actions and performance. This paradigm asserts that agents' interests are aligned with those of owners through the agents' performance. It emphasises the role of agent performance, evaluated by effectiveness and efficiency, in aligning agents' and principals' interests. The theory proposes that intrinsic and extrinsic motivators influence agents' behaviour and performance (Pepper & Gore, 2015; Wiseman & Gomez-Mejia, 1998). Intrinsic motivators include behavioural and psychological factors. Therefore, this study investigates whether CEO openness and audit committee support are intrinsic motivators that synergistically enhance internal auditors' effectiveness. Upper echelon theory supplements agency theories by explaining the CEO's effect on internal auditors' effectiveness. The upper-echelon theory suggests that effectiveness in organisations is shaped by its top executives' values (Hambrick, 2007; Hambrick & Mason, 1984) who set an organization's tone, culture and conduct (Wang & Fargher, 2017), which should positively affect internal auditors' effectiveness.

This study makes strong contributions to theory and practice. First, it reveals that CEO openness is an important determinant of internal auditors' effectiveness, adding to the scant evidence on the drivers of internal auditors' effectiveness, especially in a developing-country context. Second, the finding that CEO openness enhances the positive relationship between board audit committee support and internal auditors' effectiveness shows that contrary to the assumption of internal auditors' independence from the CEO, an open CEO complements a supportive board in enhancing internal auditors' effectiveness. The moderation result also contributes to answering the research question of

how internal auditors serving two masters, the board's audit committee and the CEO, affect internal auditors' effectiveness. This study reveals that studies explaining internal auditors' effectiveness based solely on board audit committee support and ignoring the synergistic effects of board audit committee support and CEO openness missed the reality that the effectiveness of internal auditors can be significantly enhanced by leveraging CEO openness and simultaneously calling for audit committees' support for internal auditors.

The rest of the paper is organized as follows: Section 2 presents a literature review, Section 3 presents the methodology, Section 4 presents the results, and Section 5 presents discussions, conclusions, and implications.

## **2. Literature Review**

### ***Conceptual Clarity***

#### *Internal Auditors' Effectiveness*

Effectiveness is the achievement of the desired results (Arena & Azzone, 2009a). Internal audit effectiveness has been studied as an input, a process, an output, or an outcome. As input, it is the ability to obtain resources, such as a skilled internal auditor (Lenz *et al.*, 2014). The input goal is essential for attaining the desired performance (Ahmad 2015). However, resource availability may not guarantee the desired performance; for example, ENRON collapsed despite having highly qualified chartered accountants (Downes & Russ 2005). Internal audit effectiveness as a process variable involves following procedures such as standards (Hakim Fadzil *et al.*, 2005), plans, budgets, techniques, and technology (Lenz *et al.*, 2014). However, the goal of internal auditing has shifted from compliance to improving performance (Bou-Raad, 2000; Arena & Azzone 2009), making effectiveness as a process variable insufficient. Internal audit effectiveness as output is measured by deliverables such as audit reports (Lenz *et al.*, 2017). The value of the report lies in the implementation of its recommendations, which contribute to internal control, governance, management decisions, and business process enhancement (Barišić & Tušek, 2016). The output measure illustrates the value added by internal auditors. Outcome measures, such as share price and profit, reflect the impact of internal audit deliverables (Arena & Azzone, 2009a). However, isolating the impact of internal audit deliverables is challenging. For example, several organisational variables affect profits, and it is difficult to separate the effects of internal audit variables on profits from those of other variables (Arena & Azzone, 2009a).

Like Barišić and Tušek (2016), this study views internal auditors' effectiveness as an output in terms of auditors' contributions to internal control, governance, decision-making, and process improvement. These perceived output measures demonstrate the value that internal auditors add, which is the subject of this study.

### *Perceived Board Audit Committee Support*

Perceived board audit committee support is the degree to which internal auditors perceive the board audit committee to value their opinions and care about their well-being (Khelil *et al.*, 2018). Organisational support theory (OST) defines perceived organisational support (POS) as the employees' perception of "the extent to which the organisation values their contributions and cares about their well-being" (Eisenberger *et al.*, 1986, p.1). Audit committee actions are conceptualised in internal auditing literature as organisational actions (Khelil *et al.*, 2018). Similarly, this study conceptualises the audit committee's actions as organisational actions.

### *CEO Openness*

CEO openness derives from managerial openness. Managerial openness is the view of subordinates that "their boss listens to them, is interested in their thoughts, pays fair consideration to suggestions presented, and at least occasionally takes action to address the subject expressed" (Detert & Burris, 2007). Consequently, this study defines a CEO's openness to internal auditors' ideas as the auditors' perception of the extent to which the CEO pays attention to, values their opinions, gives suggestions fair consideration, and occasionally takes action to address the problems they identify. Some CEOs' indifference to internal auditors makes internal auditing challenging (Bananuka *et al.* 2017), making it necessary to examine how CEO openness affects internal auditors' effectiveness.

## ***Theoretical Background and Hypotheses Development***

Internal auditors provide independent assurance services to the board's audit committee on behalf of owners, making auditors agents of the owners and board's audit committees. Thus, we examine the relationship between internal auditors' effectiveness, audit committee support, and CEO openness, as well as the interaction effect of these variables, based on the traditional agency (Jensen and Meckling, 1976), behavioural agency (Pepper & Gore, 2015), and upper echelon theories (Hambrick, 2007; Hambrick & Mason, 1984).

Traditional agency theory (Jensen & Meckling, 1976) posits that ownership and control differences create a principal-agent relationship. Agents are assumed to be rational and self-interested; therefore, principals use monitoring, bonding, and financial incentives to ensure that agents act in their best interests. Audit committees monitor internal auditors to ensure auditor performance aligns with the board's and owners' interests. Audit committee costs are typical bonding costs (Adams, 1994).

Behavioural agency theory, which is based on behavioural economics and psychology, recognizes that monitoring, bonding, and financial incentives are insufficient to motivate agents to act in the principals' interests. This theory argues that agents may not always be rational and that cognitive biases, emotions, and social norms can lead to agents' actions that are detrimental to

agents or principals. The theory argues that principals must consider psychological and behavioural aspects when designing mechanisms to align agents' performance with their interests. This study examines supervisor support, such as audit committee support for internal auditors, as a possible psychological mechanism for improving internal auditor effectiveness. Employees reciprocate supervisor support by improving organisational performance (Ebrahimi *et al.*, 2022). Therefore, audit committee support may be positively associated with internal auditor effectiveness. However, this direct link ignores the likely complementary role of CEOs, and we, therefore, add the upper echelon theory.

The upper-echelon theory states that behaviours and effectiveness in organisations are influenced by the values of top executives, such as CEOs (Hambrick, 2007; Hambrick & Mason, 1984). Therefore, the CEO's value of openness is important, as it may be linked to internal auditors' effectiveness. Open CEOs make auditors feel secure enough to suggest ideas without fear of retribution (Nyamuyonjo *et al.*, 2023). Furthermore, open CEOs create an environment in which employees are open to and can implement ideas (Škerlavaj *et al.* 2014). Motivating internal auditors to suggest ideas and other organisational actors to accept and implement ideas could improve their effectiveness. Combining the traditional agency, behavioural agency, and upper-echelon theories may demonstrate that CEO openness strengthens the connection between audit committee support and internal auditors' effectiveness.

#### *Audit Committee Support and Internal Auditors' Effectiveness*

Empirical research on the effects of support from the board or board's audit committees, such as Khelil *et al.* (2018), invokes organisational support and social exchange theories, which explain the effects of support from supervisors on followers' behaviours and, ultimately, organisational outcomes.

When a supervisor is supportive by caring about employees and their well-being, the care is likely to motivate employees to engage in beneficial behaviours that could enhance organisational performance. The care provided by supervisors creates in employees a sense of belonging to the organisation, employees' assurance about help in stressful situations, and their motivation to go beyond their routine roles to engage in behaviours that enhance organisational performance (Ebrahimi *et al.*, 2022). This association between supervisor support and organisational outcomes is also aligned with social exchange theory, which posits that meaningful relationships develop as a result of social exchange, whereby individuals swap their reciprocal behaviour for the social benefits they gain (Blau, 1964). Employees' engagement in behaviours that improve organisational performance is a typical way employee reciprocate the support of their supervisor.

Prior empirical research on internal auditing supports the positive association between supervisor support and internal auditors' outcomes. For

instance, Alzeban and Sawan (2015) reveal that a board's audit committee that cares about internal auditors' opinions shared in meetings is associated with the implementation of internal auditors' recommendations in UK-listed companies. Similarly, an empirical study by Ebrahimi *et al.* (2022) on internal auditors in Tunisia revealed that a board's audit committee that supports internal auditors is likely to motivate internal auditors to engage in constructive voice behaviour, which ultimately enhances internal auditors' effectiveness.

Based on the reviewed literature, it is arguable that even in Uganda, a developing country, a supportive board audit committee can influence the contributions of internal auditors to improvements in internal audit effectiveness outputs, such as managerial decision-making, internal control, business processes and governance. Therefore, the following hypothesis was derived:

*Hypothesis 1: Perceived audit committee support and internal auditors' effectiveness are positively related.*

#### *CEO Openness and Internal Auditors' Effectiveness*

Studies on the effects of CEO openness on internal auditors' effectiveness are scarce. Morrison's (2011) voice-behaviour theory is used to explain the theoretical link between CEO openness and internal auditors' effectiveness.

Morrison's (2011) voice behaviour model explains how leader openness affects employees' goal-oriented behaviours and outcomes. It suggests that when leaders show interest in employees' ideas, employees feel psychologically safe to make constructive suggestions, knowing they won't be punished and that their ideas will be implemented. Supervisors' receptiveness to employees' ideas fosters a motivating work environment that encourages idea implementation and problem-solving (Škerlavaj *et al.*, 2014). Thus leader openness may improve organisational effectiveness variables such as managerial decision-making and error correction (Morrison, 2011).

In the internal auditing context, available empirical evidence (Nyamuyonjo *et al.*, 2023) reveals that open CEOs encourage internal auditors to break their silence and make constructive suggestions due having no fear of repercussions. but its effect on output has not been explored to our knowledge.

Drawing on the reviewed literature, we argue that an open CEO motivates internal auditors to provide constructive suggestions, and a culture of idea generation and implementation which affect internal audit outputs such as improved internal controls, managerial decision-making, governance, and business processes. Therefore, the following hypothesis was developed:

*Hypothesis 2: CEO openness and internal auditors' effectiveness are positively related.*

#### *The Moderating Effect of CEO Openness on the Relationship Between Perceived Board Audit Committee Support and Internal Auditors' Effectiveness*

Hypothesis 1 contends that perceived board audit committee support is likely positively related to internal audit effectiveness. However, scholars have



noted that the behaviours of other organisational actors may modify the effects of perceived supervisory support on employee outcomes (Yang *et al.*, 2020). Thus, the relationship between perceived board audit committee support and the effectiveness of internal auditors could be modified by top executive behaviour. Consequently, this study selects CEO openness as a possible boundary condition for the association between perceived board audit committee support and internal auditor effectiveness.

For CEOs who are open to internal auditors' ideas, we expect a positive relationship between perceived board audit committee support and internal auditors' effectiveness to be amplified. As noted in Hypothesis 2, we expect a positive relationship between CEO openness and internal audit effectiveness. This is because an open CEO creates an increased sense of psychological safety among internal auditors to make constructive suggestions that could enhance organisational outcomes such as improved internal controls, managerial decision-making, and governance, as no repercussions are expected. Additionally, as previously stated, open CEOs would improve internal auditors' motivation to engage in goal-oriented behaviours and go beyond their routine roles in offering constructive suggestions since there is trust that the suggestions will be implemented. Furthermore, supervisors' openness to employees' ideas encourages a workplace culture that motivates the implementation of ideas and problem-solving (Škerlavaj *et al.*, 2014).

Drawing on the arguments above, we contend that the degree of the positive relationship between board audit committee support and internal auditors' effectiveness is contingent on the openness of CEOs to internal auditors' ideas. When internal auditors perceive the support of CEOs in the form of CEOs' openness to internal auditors' ideas, the benefits of support from the board's audit committee will be enhanced. However, when CEOs do not show openness to internal auditors' ideas, the benefits of support from the board's audit committee will be insufficient. Therefore, we propose the following hypothesis:

*Hypothesis 3: CEO openness moderates the positive relationship between perceived board audit committee support and internal auditors' effectiveness, such that the effect of the audit committee support on internal auditors' effectiveness is higher with more open CEOs.*

### **3. Methodology**

#### ***Study Setting, Research Design, Target Population and Sample***

This study focuses on internal auditors in Uganda's formal financial sector, including insurance companies, microfinance institutions, banks, brokerage firms, and pension funds (Iwumbwe, 2015). The financial services sector was selected because of the need for strong corporate governance and value addition by internal auditors in the sector. Financial institutions contribute 44% of the nation's GDP (László *et al.*, 2021). However, financial scandals have led to closures that threaten the sector's benefits (Sendyona,

2020). Tumusiime-Mutebile (2012) stresses the need for effective internal auditing to prevent scandals. However, Bananuka *et al.* (2017) found that Ugandan firms frequently disregard internal auditors' suggestions, which is an indication of ineffectiveness. In response to the 2005 financial crisis, Uganda enacted the Financial Institutions Act and the Corporate Governance Regulations to enhance auditing and corporate governance. The Act mandates the audit committees to supervise internal auditors to ensure they perform well as the internal auditors remain independent of CEOs. However, Bananuka *et al.* (2017) found that auditors often feel dependent on CEOs who control their tenure and pay but also tend to disregard their recommendations. The Bank of Uganda's 2020 Supervision Report highlights CEOs' tendency to usurp the board's authority. In such an environment with dominant CEOs, an understanding of how the CEOs and audit committees jointly affect the effectiveness of internal auditors is value-adding. To this end, we used a sample of internal auditors as respondents because of their perception of the extent to which their recommendations are implemented and of openness and supportiveness of CEOs and audit committees respectively.

We used Yamane's (1973) formula to arrive at a sample size of 135 from a population of 203 internal auditors in formal financial institutions, where  $n$  is the sample size,  $N$  is the population, and  $e$  is the type 1 error, which is 0.05 in this study.

$$n = \frac{N}{1 + N(e)^2}$$

We calculated the proportion of internal auditors in each financial institution category relative to the total population of 203 internal auditors. We then multiplied this proportion by the total sample size to obtain the desired sample size for each category. Finally, we randomly selected the required number of auditors from each category using random numbers generated in Microsoft Excel. A sample of 135 internal auditors was obtained by aggregating subsamples from financial institution categories (see Table 1).

Table 1: *Sample Size*

<i>Financial Institution category</i>	<i>Population size of Internal auditors</i>	<i>Proportion</i>	<i>Target sample size of Internal Auditors</i>
Commercial Banks	76	76/203	135*76/203=51
Credit Institutions	14	14/203	135*14/203=9

Micro finance Deposit taking institutions	12	12/203	$135 \times 12 / 203 = 8$
Insurance	90	90/203	$135 \times 90 / 203 = 60$
Development Banks	5	5/203	$135 \times 5 / 203 = 3$
Capital markets advisor/brokerage firms	3	3/203	$135 \times 3 / 203 = 2$
Pension Fund	3	3/203	$135 \times 3 / 203 = 2$
Total	203		135

**Source:** *Human Resource Records*

A total of 128 internal auditors responded, representing a response rate of 95% which exceeded the 50% minimum suggested by Mellahi and Harris (2015).

### **Data Collection Instrument and Measurement of Variables**

We collected data on the study variables using a closed-ended questionnaire anchored on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The internal audit effectiveness was measured using seven items that were adapted from Barišić and Tušek (2016), such as 'In this firm, internal auditor information is valuable to managerial decision-making' and 'In this firm, internal auditor information is valuable to internal control improvement.' The perceived board audit committee support measurement items were adapted from Khelil *et al.* (2018) with statements such as 'my audit committee/board of directors cares about my opinions.' CEO openness was measured using five items from Grant *et al.* (2011), with statements such as 'My CEO is open to new ideas and 'My CEO is receptive to suggestions'.

### **Measurement Model Assessment**

We checked the quality of the measurement model by looking at the relationships between latent constructs and indicators using item loadings, construct reliability, convergent validity, and discriminant validity. The ideal item loading is at least 0.708, but loadings between 0.4 and 0.708 are acceptable if the average variance extracted for a construct is at least 0.5, while items with loadings below 0.4 are always discarded (Hair *et al.*, 2019; Hair *et al.*, 2017b). In this study, one measurement item, "My audit committee or board of directors is willing to help me if I need a special favour," was discarded owing to a loading of < 0.4. The remaining items (Table 2) were maintained since all the construct average variances exceeded 0.5 and all items had loadings of at least 0.4.

Construct reliability was evaluated using Cronbach's  $\alpha$  and composite reliability to measure the consistency of the scale's items. Hair *et al.* (2019) suggested values of at least 0.7 for reliability and average variance extracted of

at least 0.5 for convergent validity. Our latent constructs met the construct reliability criteria (Table 3).

Table 2: *Loadings*

	<b>Board Audit Committee Support</b>	<b>Loading</b>
ACS1	My audit committee/board of directors strongly considers my goals and value	0.6
ACS2	Help is available from my audit committee/board of directors when I have a problem	0.693
ACS3	My Audit Committee/Board of Directors really cares about my well-being	0.747
ACS4	My Audit Committee/Board of Directors would forgive an honest mistake on my part.	0.717
ACS5	If given the opportunity, my Audit Committee/Board of directors would take advantage of me.	0.733
ACS7	My Audit Committee/Board of Directors shows very little concern for me	0.771
ACS8	My Audit Committee/Board of Directors cares about my opinions	0.614
ACS9	My audit committee/Board of Directors would protect me against any retaliation by co-workers, if I express ethical concerns	0.892
ACS10	In case top management retaliates if I express ethics concerns, the audit committee/the board would protect me	0.852
	<b>CEO Openness</b>	
COPEN1	Our CEO is open to new ideas	0.916
COPEN2	Our CEO is receptive to our suggestions	0.832
COPEN3	Our CEO is interested in our ideas	0.898
COPEN4	Our CEO has often rejected our ideas	0.799
COPEN5	Our CEO has often dismissed suggestions	0.819
	<b>Effectiveness of Internal Auditors</b>	
IAE1	In this firm, internal auditors' recommendations have a major impact on business processes	0.652
IAE2	In this firm, internal auditors' recommendations greatly impact the improvement of the governing process.	0.824
IAE3	In this firm, improvements in internal control are a direct consequence of the internal auditors' activity.	0.836
IAE4	In this firm, the information from the internal auditors is valuable input into the managerial decision-making process	0.901
IAE5	In the managerial decision-making process, management considers internal auditors' recommendations	0.901
IAE6	The internal auditors in this firm provide the firm with the benefits that are expected from them	0.838

IAE7	In this firm, the internal auditors' recommendations are underutilized (Reverse coded)	0.529
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**Source:** Primary data

*Table 3. Construct Reliability and Convergent Validity*

	<b>Cronbach's alpha</b>	<b>Composite reliability (rho_c)</b>	<b>Average variance extracted (AVE)</b>
Board audit committee support	0.896	0.915	0.549
CEO openness	0.906	0.931	0.729
Internal auditors' effectiveness	0.895	0.921	0.63

Source: Primary data

### **Discriminant Validity**

We calculated discriminant validity statistics to verify the distinctness of audit committee support, CEO openness, and internal auditors' effectiveness constructs. An HTMT ratio under 0.90 suggests that constructs are distinct (Hair *et al.*, 2019). Our results (Table 4) show HTMT ratios below 0.90, indicating the constructs are significantly distinct.

*Table 4: Discriminant Validity Using the HTMT Ratio of Correlations*

	<b>Board audit committee support</b>	<b>CEO openness</b>	<b>Internal auditors' effectiveness</b>
Board audit committee support			
CEO openness	0.535		
Internal audit effectiveness	0.677	0.494	
CEO openness x Board audit committee support	0.11	0.077	0.364

Source: Primary data

This study analysed data using PLS-SEM utilizing SMART-PLS4 software developed by Ringle *et al.* (2022). PLS is ideal for small samples (under 250) and complex relationships as it forms partial regressions for each path (Hair *et al.*, 2017b).

## **4. Empirical Results**

### **Descriptive Results**

We begin by describing the study variables using means and standard deviations (Table 5). According to the results (Table 5), the standard deviation for each of the three latent variables was less than the respective mean. A small standard deviation relative to the mean indicates that the mean accurately represents the data (Field, 2018). Thus, the mean of each latent construct in this study represents the respective construct well.

Using a 5-point Likert scale, we assessed latent variables. Table 5 reveals that CEO openness, audit committee support, and internal auditors' effectiveness have mean values above 3. This suggests agreement that CEOs are receptive to internal auditors, boards back internal auditors, and that internal auditors' ideas effectively enhance business processes, controls, decision-making, and governance.

*Table 5: Descriptive Statistics*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
CEO openness	1.00	5.00	3.7594	0.84718
Board audit committee support	2.00	5.00	3.7275	0.73499
Internal audit effectiveness	2.00	5.00	4.0246	0.62027

Source: Primary data

### **Structural Model Assessment**

We analysed relationships between latent constructs, including endogeneity bias, multi-collinearity, and the significance of path coefficients of direct and interaction effects.

### **Structural Model Robustness: Endogeneity Bias**

We used Gaussian copula beta coefficients as recommended by Hult *et al.* (2018) to check for endogeneity bias to confirm that independent variables are not highly correlated with the error term to bias parameter estimates. Insignificant Gaussian Copula coefficients signify the absence of endogeneity bias and omitted variable bias, and that control variables are not necessary for the study (Hult *et al.*, 2018). The results of this study (Table 6) reveal that all the Gaussian copula coefficients are insignificant, implying this study is free from endogeneity and omitted variable bias. For this reason, control variables were not included in this study.

*Table 6: Structural Model Robustness: Endogeneity Bias Assessment Using Gaussian Copulas*

<b>Single Copula</b>		
Model 1: CEO openness		
	Beta	P values
GC (COPEN) -> IAE	0.245	0.142
Model 2: Audit Committee support		
GC (ACS) -> IAE	0.299	0.553
<b>Double copula</b>		
Model 3 (ACS and IAE together)		
Path	Beta	P values
GC (ACS) -> IAE	0.27	0.584
GC (COPEN) -> IAE	0.252	0.146

**Source:** Primary data

ACS, COPEN and IAE represent audit committee support, CEO openness and Internal auditors' effectiveness respectively.

### **Multi Collinearity**

To prevent multicollinearity between the interaction term and predictor variables, we utilized an orthogonalizing approach to create an interaction term (board audit committee support  $\times$  CEO openness), as advised by Hair *et al.* (2017b). Subsequently, we confirmed the absence of multicollinearity using variance inflation factors (VIF) with  $VIF < 3$  indicating no multicollinearity (Hair *et al.*, 2019). Table 7 shows that all VIFs are below three, suggesting no strong correlation among predictor variables, implying no biased predictor variable coefficients.

**Table 7: Multi collinearity**

	<b>Collinearity statistics</b>	
	<b>Tolerance</b>	<b>VIF</b>
Board audit committee support	0.74	1.351
CEO openness	0.74	1.351
Board audit committee support * CEO's openness	0.981	1.019

Source: Primary data

### **Direct and Interaction Effects of Audit Committee Support and CEO Openness on Internal Auditors' Effectiveness**

We analyse the relationships between audit committee support (ACS) and internal auditors' effectiveness (IAE), CEO openness (COPEN) and IAE, and the moderating effect of CEO openness on the ACS -IAE relationship (Table 8).

The relationship between board audit committee support (ACS) and internal auditors' effectiveness (IAE) is positive and significant ( $\beta=0.514$ ;  $P < 0.001$ ; confidence interval: 0.351–0.655), implying that internal auditors' effectiveness increases with more supportive audit committees.

The relationship between CEO openness and internal auditors' effectiveness was positive and significant ( $\beta=0.21$ ;  $P < 0.05$ ; confidence interval: 0.068–0.336). This means that internal auditors' effectiveness improves with CEOs who are more open to internal auditors' ideas.

The moderating effect of CEO openness on the relationship between perceived board audit committee support and internal auditors' effectiveness was positive and significant ( $\beta = 0.36$ ;  $P < 0.05$ ; confidence interval: 0.015–0.56), implying that the effect of board audit committee support is stronger in the presence of more open CEOs. The positive moderation coefficient ( $\beta = 0.36$ ) implies that when audit committee support and CEO openness are both high,

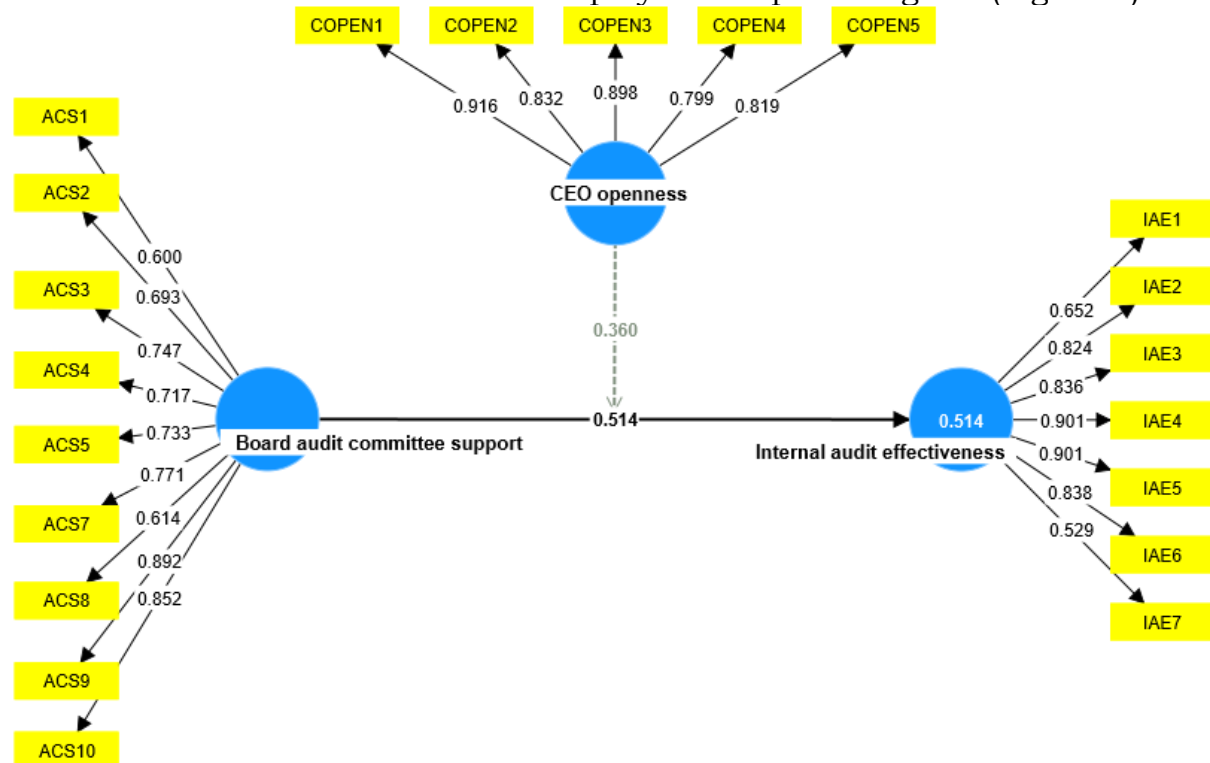
the effect on internal auditors' effectiveness is even stronger than what could be expected from individual effects. Thus, audit committee support and CEO openness have a synergistic effect on internal auditors' effectiveness.

*Table 8: Direct and Interaction Effects of Audit Committee Support and CEO Openness*

	<b>Beta</b>	<b>P-Values</b>	<b>Confidence Intervals</b>	
			<b>2.50%</b>	<b>97.50%</b>
ACS -> IAE	0.514	0.0000	0.351	0.655
CEO openness -> IAE	0.21	0.002	0.068	0.336
CEO openness x ACS -> IAE	0.36	0.011	0.015	0.56

Source: Primary data

The results in Table 7 are further displayed in a path diagram (Figure 2)



*Figure 2: Path Diagram for Direct and Interaction Effects of Audit Committee Support and CEO openness*

We complemented the interpretation of the moderation results by using simple slopes (Figure 3). Our simple slopes (Figure 3) show that the relationship between audit committee support and internal auditors' effectiveness is stronger in the presence of more open CEOs (+1 standard deviation), confirming that CEO openness amplifies the positive relationship between audit committee support and internal auditor effectiveness.





Figure 3: Simple-Slope Analysis of Moderation Results

**Source:** Primary data

## 5. Discussion of Findings

This study examined the effect of internal auditors serving both the audit committee and the CEO on internal auditors' effectiveness, considering CEO openness as a possible moderating factor in the relationship between audit committee support and internal auditors' effectiveness. The findings revealed a positive relationship between board audit committee support and internal auditors' effectiveness; a positive relationship between CEO openness and audit effectiveness; and CEO openness positively moderating the relationship between audit committee support and audit effectiveness. These results are discussed further.

The finding that internal auditors' effectiveness increases with an increase in audit committees' support is consistent with empirical research based on organisational support and social exchange theories to demonstrate a positive relationship between supervisor support and employee outcomes (Alzeban & Sawan, 2015; Ebrahimi *et al.*, 2022). Social exchange theory posits that individuals exchange their beneficial behaviours for the social benefits they gain (Blau, 1964). Support from supervisors, which means supervisors' care about employees' opinions and well-being, is such a benefit that employees reciprocate by engaging in organizationally beneficial behaviours, such as making constructive suggestions to improve organisations (Cropanzano *et al.*, 2017).

This study also aligns with the social exchange theory by revealing that a board that is supportive by caring about the internal auditor's ideas and well-being is linked to internal auditors' effectiveness in terms of positive contributions to business processes, managerial decision-making, internal controls, and governance. This is because internal auditors reciprocate the care of the audit committee by going beyond the routine and doing quality work. As such, this study also shows the wider application of social exchange theory.

The finding that internal auditors' effectiveness increases with increasing CEO openness, is consistent with Morrison's (2011) voice behaviour and upper-echelon theories. Morrison's (2011) voice behaviour theory posits that when leaders are open to the suggestions of employees, employees perceive lower retaliation costs and an increased likelihood of ideas being implemented. This, in turn, motivates employees to voice constructive, goal-oriented suggestions that could improve effectiveness, such as improved managerial decision-making and the correction of errors. This is also aligned with the upper-echelon theory, which posits that behaviours and effectiveness in organisations are influenced by the values, attitudes, and behaviours of top executives (Hambrick, 2007; Hambrick & Mason, 1984). CEOs with a value of openness to employees' ideas lead by example in creating an organisational culture in which organisational actors appreciate and implement ideas and solve problems (Škerlavaj *et al.*, 2014). This study reveals that CEOs' demonstration of interest in the ideas of internal auditors motivates internal auditors to speak about ethical issues with a feeling of psychological safety, and a culture of idea generation and implementation, which positively influences business processes, managerial decision making, internal controls and governance. This novel finding underscores the importance of a CEO creating a culture of candid talk with internal auditors to foster internal auditors' effectiveness.

Lastly, CEO openness moderates the relationship between board audit committee support and internal auditors' effectiveness, such that the effect of board audit committee support on internal auditors' effectiveness is higher in the presence of CEOs who are more receptive to internal auditors' ideas. This is corroborated by Yang *et al.* (2020), who found that organisational support-employee outcome relationships are inconclusive because other organisational actors' behaviours modify the relationships. Consistent with Yang *et al.* (2020), the results of this study demonstrate that the effect of supervisor support, which in this case is audit committee support, on internal auditors' effectiveness is enhanced when CEOs show openness to internal auditors' ideas because as supportive audit committee enhance internal auditors' effectiveness, open CEOs complement by motivating internal auditors' constructive idea generation and implementation, that improves business processes, internal controls, governance and managerial decision making.

This study is noteworthy for theoretical and practical reasons. First, this study reveals that CEO openness is positively associated with internal auditors' effectiveness and responds to Lenz and Hahn's call for empirical studies on the

executive behaviours that matter for internal auditors' effectiveness. Moreover, this study used empirical evidence from a developing country, where evidence of the drivers of internal auditors' effectiveness is scant. Second, the moderating effect of CEO openness on the relationship between board audit committee support and internal auditors' effectiveness implies that a supportive audit committee has a greater effect on internal auditors' effectiveness when CEOs are open to internal auditors' ideas. Thus, a supportive board audit committee is necessary but not sufficient for effective internal auditors since open CEOs enhance the positive effect of board audit committee support. Third, this study illustrates the limitations of relying solely on traditional agency mechanisms such as monitoring and financial incentives. The behavioural agency theory emphasises the significance of psychological factors in influencing employee outcomes. The integration of traditional agency, behavioural agency, and upper-echelon theories into our research provides a more comprehensive understanding of the intricate organisational dynamics at play. This integration allows us to consider not only the rational aspects of agency relationships but also the effects of psychological and behavioural factors, such as the support of the audit committee and the openness of CEOs, on internal auditors' effectiveness. This study further contributes to the understanding of how internal auditors serving two masters, the CEO and the board, affect internal auditors' effectiveness in response to calls by Lenz and Hahn (2015). This study reveals that studies explaining internal auditors' effectiveness based solely on audit committee support and ignoring the synergistic effects of audit committee support and CEO openness miss the reality that the effectiveness of internal auditors can be significantly enhanced by leveraging CEO openness and simultaneously calling for audit committee support for internal auditors.

### **Conclusions and Implications**

This study examined the relationships between audit committee support, CEO openness, and internal auditors' effectiveness and whether CEO openness moderates the relationship between audit committee support and internal auditors' effectiveness.

Based on survey data from 128 internal auditors in Uganda's formal financial institutions analysed using partial least squares structural equation modelling, this study provides empirical evidence that both board audit committee support and CEO openness are positively related to internal auditors' effectiveness, and CEO openness moderates the relationship between board audit committee support and internal audit effectiveness, meaning that a supportive audit committee and an open CEO provide a synergistic effect on internal auditors' effectiveness.

This study reveals that CEO openness is a key executive behaviour that positively affects internal auditors' effectiveness, using evidence from a developing world where empirical evidence of internal auditors' effectiveness determinants is scarce. Additionally, it shows that a supportive audit committee

and an open CEO have a synergistic effect on internal auditors' effectiveness. A supportive audit committee encourages internal auditors to make constructive suggestions with a sense of psychological safety. Open CEOs also guarantee psychological safety as well as implementation of ideas, by creating a culture of acceptance and implementation of internal auditors' ideas. These ultimately positively affect internal auditors' contributions to internal controls, business processes, managerial decision-making, and governance. The positive moderating effect of CEO openness on the board audit committee support-internal audit effectiveness relationship shows that board audit committee support is necessary but not enough. CEOs who are open to internal auditors' ideas strengthen the board support-internal audit effectiveness connection. The study also showed that the integration of traditional agency, behavioural agency, and upper-echelon theories aided the explanation of internal auditors' effectiveness using psychological and behavioural factors, such as the openness of the CEOs. This adds to the scanty evidence of internal auditors' effectiveness determinants, especially in the developing world.

This study provides practitioners with insightful information. CEOs should actively develop an environment that strongly encourages open communication with internal auditors, and audit committees should concurrently support internal auditors by caring about their innovative ideas and well-being. This alignment between CEOs and audit committees can enhance internal auditors' effectiveness in terms of positive contributions to business processes, internal controls, managerial decision-making, and governance because it motivates internal auditors' idea generation and implementation.

Despite its strong contributions to theory and practice, this study has some limitations. It was limited to one country and sector, which may not reflect other countries and sectors due to cultural and legal differences. It also did not investigate the mediating mechanisms through which CEO openness moderates the relationship between audit committee support and internal auditors' effectiveness.

Future studies could replicate this study across various countries and sectors, examining cultural influences on the relationships between audit committee support, CEO openness, and auditors' effectiveness. Additionally, studies could investigate mediating mechanisms through which CEO openness affects the link between audit committee support and internal auditors' effectiveness.

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# Board gender diversity and corporate voluntary disclosures of Nigerian firms

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## **Abstract**

**Purpose-** The main objective of this paper was to examine the relationship between gender diversity and voluntary disclosure practice of listed firms in Nigeria.

**Methodology-** The study used a survey design that is cross-sectional. Data were obtained from content analysis of the finance reports of 68 companies listed on the Nigerian stock exchange as at December 2021 and was analyzed a log-linear regression.

**Findings-** It was found that female CEOs, female heading risk and audit committees of the board as well as gender diversity and number of females on board matter significantly in explaining variation in corporate voluntary disclosure. However, female heading remuneration committee does not matter in voluntary disclosure.

**Originality-** this study adds to the literature on gender diversity and voluntary disclosure by testing the relationship between women heading various board committees especially, audit, remuneration, finance and women COE as well as total number of women and voluntary disclosure using data from Nigeria. It was concluded that feminist virtues such as modesty, transparency and care for others enhance disclosure of corporate information that are not necessarily required by company law.

**Keywords:** gender diversity, women COE, risk committee, Nigeria, remuneration. Women, cultural feminism.

## **1. Background**

This paper examined the relationship between board gender diversity and corporate voluntary disclosure of Nigerian listed companies. The purpose was to determine if female directors holding strategic board positions could affect voluntary disclosure. Corporate disclosure is regarded as the release of a company's information to the general public whether mandated by regulatory authorities or not. Corporate disclosure is an important avenue for communicating a company's financial and non-financial information, an important part of the process for building investor confidence, Kilonzo (2020).

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Communication significantly contributes to the success of modern-day business and is crucial in enhancing a user's decision and reduces information asymmetry (Beattie, McInnes, and Fearnley 2004).

Companies communicate their financial and non-financial information through mandatory and voluntary disclosures. Mandatory disclosure is the release of information to comply with company law and accounting standards while voluntary disclosure is any information that falls outside mandatory disclosure (*Financial Accounting Standards Board, 2001*). The importance of corporate voluntary disclosure has been acknowledged in literature. For example, it has been argued that it reduces market risks and attracts direct foreign investment (Boshnak, 2017). Similarly, other studies have shown that increasing voluntary disclosure is a major cause of achieving a high level of accountability and transparency (Qu, Leung, and Cooper, 2013; 2006). Furthermore, it boosts the confidence of investors to invest in the financial markets of emerging economies (Nyahas, *et al.*, 2017).

In today's competitive business environment, companies try to publicize their good value by voluntarily revealing related information in their financial reports as a way of convincing their stakeholders that investment in them is a good move. This may partly explain why in the developed world, the trend in corporate disclosure is tending towards voluntary disclosure (Schuster and O'Connell, 2006). The authors attributed this development to the fact that mandatory disclosure has major deficiencies from a capital market perspective, for example conventional standards provide a huge scope for managerial profit manipulation. Schuster and O'Connell, 2006 also submitted that, the retrospective nature of the financial reporting process means that the reported data does not always tell the whole story hence it is not a reliable basis for forecasting future performance which can result in loss of credibility from a stakeholder perspective.

Furthermore, contemporary accounting reports focus almost exclusively on quantitative data and typically, reveal little about forward looking, ethical, social and environmental issues. These are regarded as key drivers of corporate value and critical for the proper functioning of the capital market, long-term survival of firms, promote confidence of investors and encourage better flow of Foreign Direct Investment (FDIs) into a country (*Qu and Leung, 2006; Qu, Leung and Cooper, 2013*). As indicated by Salter (1998), the average level of corporate disclosure for companies in developed markets continues to be significantly higher compared to that of emerging markets;

In the Nigerian context, the disclosure practices by companies in Nigeria have been consistently reported to be weak and inadequate (*Sanusi, 2010; World Bank, 2011*). According to *Sanusi (2010)*, companies in Nigeria have been seen to be providing incomplete, inadequate and sometimes distorted information to regulatory bodies thereby denying investors and other stakeholders of the right information to make sound decision. This if not checked might lead to erosion of investors' confidence and ultimately reduction in foreign direct investment

(Nyahas et al, 2017). Therefore, understanding factors influencing the decision of managers to provide more financial information beyond the minimum required by law and accounting standards (Voluntary disclosure) in Nigeria is a crucial one.

Empirically, prior scholars have devoted considerable efforts towards understanding factors associated with voluntary disclosure. The studies have placed much emphasis on firms' specific characteristics such as firm size; governance structure and ownership structure on corporate disclosure (*Rauf and Aktaruddin*, 2018; Soliman, 2013; Albawwat, 2015; Lan, Wang and Zhang, 2013). Other studies have investigated the relationship between profitability, leverage, ownership structure and voluntary disclosure (Hu, Zhu, Tucker and Hu, 2018). They have also documented evidence of relationship between related party transaction and voluntary disclosure (Elkelish, and Hassan, 2014).

Similarly, in Nigeria, Damagun and Chima (2013) examined the effects of corporate governance mechanism, board size, board composition and director's share ownership on voluntary disclosure. *Ibrahim and Hanefa* (2016) investigated the effect of independent outside directors in boards and audit committees, board size, firm size, frequency of board meetings, separation of CEO and board Chairmanship role on disclosure by segments. Nyahas *et al.* (2018) investigated the relationship between organizational culture and stakeholders and voluntary disclosure of listed firms in Nigeria. Finally, Adelopo (2011) looked at voluntary disclosure practices as influenced by firm size, firm performance, foreign share ownership, managerial share ownership, dispersed ownership and block share ownership.

Even though gender synthesis (diversity) conceptualized as women in the context of this study has gained prominence among academics as an important factor in explaining corporate performance (Singh, Vinnicombe, and Johnson, 2001; Watson, Kumar and Michaelsen, 1993), the effect of gender diversity on voluntary disclosure remains largely unexplored (Nalikka, 2010; Sartawi, 2014). In response to this Nalikka (2012, 2010; Githaiga and Kosgei, 2022) examined the relationship between gender diversity and voluntary disclosure of listed companies in Helsinki and East Africa respectively. While the contribution of these authors is acknowledged they however provide limited understanding of the relationship between gender diversity and voluntary disclosure. This is because they conceptualized gender diversity using three leadership attributes of female chief executive officer, female chief finance officer (Nalikka, 2012) and proportion of women in the board (Nalikka, 2012; Githaiga and Kosgei, 2022) thereby providing explanation at top level of management leaving out the contribution of women in leading sub committees of the board.

This paper therefore fills this knowledge gap by empirically investigating relationship between female chief executive officer, female heading finance department, female heading audit committee, female heading risk committee, female heading remuneration committee, number of females on the board and voluntary disclosure utilizing data from Nigeria where such study is limited.

The rest of the paper is structured as follows: the next section discusses the literature review and hypotheses development, this is followed by the methodology, then the results and discussion and then the conclusion and recommendations.

## **2. Literature Review**

### **Conceptual clarification**

*Voluntary disclosure* has been variously defined by different writers as information made public at the discretion of corporations (Rouf and Akhtaruddin, 2018). It is also seen as reporting information outside the financial statements, which is not explicitly ruled through norms or laws, (Hassan and Marston, 2019). FASB (2001) see voluntary disclosure as any release of communication separates from the requirements of company laws and accounting standards.

The Financial Accounting Standards Board (FASB, 2001) sees voluntary disclosure as the release of information that is not explicitly required by Accounting standards or SEC rules. Therefore, it is clear that there is no universally accepted definition of voluntary disclosure. For the purpose of this study is considered as any release of information that is primarily outside the requirements of International Financial Reporting Standards (IFRSs) or required by the Nigerian Companies and Allied Matters Act (2004). Consequently, corporate disclosure in such areas as management strategic forecast, environmental impact assessment, relationship with stakeholders and ethical issues are considered voluntary even though they may be required by regulations.

*Board Gender Diversity:* The concept of board diversity is related to the mix of various persons with different backgrounds in terms of education, geographical spread, gender difference, cultural and other aspects that show that the board has a balance of different categories of persons (Nalikka, 2009). Diversity can be classified in terms of being task-related or relations oriented (Jackson, Joshi and Erhardt, 2003). The relations-oriented dimensions include age, gender and nationality differences, while educational and functional background and tenure are related to task-related dimension. Task related dimension is related to cognitive aspect (*Handajani, Subroto, Sutrisno and Saraswati, 2014*) as such, diversity in the board composition can be measured using demographic aspects such as age, gender, ethnicity, nationality, educational background, industry experience, professional qualification.

In this study the researchers employed the task related dimension of board gender diversity. Specifically, the study uses gender diversity that is, the mix of male to female members in the board. As such, board gender diversity is viewed in terms of the number of women on board, whether a woman is the Chief Executive Officer (CEO), whether a woman is the Chief Financial Officer, whether a woman is the Head of audit committee, whether a woman is the Head of risk

committee, and whether a woman is the Head of remuneration committee as these variables have been shown to influence corporate voluntary disclosure (Nalikka, 2012).

### **Theoretical foundation**

This study is anchored on the prescriptions of agency theory and cultural feminism to examine the relationship between board gender diversity and voluntary disclosure. Agency theory stems from an economics-based paradigm that views men as rational actors who seek to maximize their self-interest (Jensen and Meckling, 1976). Within this paradigm, individuals prefer optimizing their own gains to sacrificing for the benefit of another individual or a collective. Suggesting that managers of corporation will seek to focus on individual self-gains, positing that agents will pursue actions that benefit them, regardless of the consequences for principals (Jensen and Meckling). As such it is believed that the composition of the board matters in corporate disclosure. Advocates of agency theory recommended the use of control mechanisms such as governance structures (e.g., boards of directors), to ensure that agents "and principals" interests are aligned (Jensen, 1983). This assumption has led to a lot of empirical studies on board diversity and voluntary disclosure (Nadeem, 2020; Sarhan and Ntim 2019; Zamil, Ramakrishnan, Jamal, Hatif, and Khatib, 2021; Minutiello, and Tettamanzi, 2022).

However, it has been argued that agency theory represents an extreme view of humans (Hernandez, 2012). As another theoretical perspective to human stems from feminists theories which seek to explain the difference between sex of male and female. In this regards, cultural feminism theory by Gilligan (1977) which is anchored on the basic beliefs that there are differences in the approaches of men and women to moral and social structuring issues based on a different way of approaching ethical and social issues. She submitted that males emphasize the autonomy of individuals and an ethos of rights in their approach to work, whereas females emphasize communitarian values and an ethos of care. The theory assumes that there are fundamental personality differences between men and women, and that women's differences are special and should be celebrated. It supports the notion that there are biological differences between men and women. For example, "women are kinder, modest and gentler than men," leading to the mentality that if women ruled the world there would be no wars.

In this study, voluntary disclosure is seen as a discretionary release of information to the meet general purpose of every stakeholder. Given the attributes of women as assumed by cultural feminists, we believe that if there are more women in the board of corporations, they are likely to promote disclosure of information beyond the minimum mandatory requirements of capital market regulators due their nature of modesty, kindness, caring, openness, and ethically committed to duty and ethical as well as moral virtues.

## **Empirical studies and hypotheses development**

Voluntary disclosure has attracted the attention of many scholars and in particular, the relationship between board diversity and voluntary disclosure. Here we discussed some literature on board gender diversity and various organizational outcomes such as performance and disclosures.

### *Female CEO and voluntary disclosures*

The relationship between gender diversity and corporate performance has been highlighted in literature. Particularly Chadwick and Dawson (2018) suggest that the idea that women in senior leadership roles affect organizational outcomes. Their findings revealed that organizations with female CEOs outperformed those without in non-financial outcomes. Moreover, the study contradicts the empirical findings of *Conyon and He (2017)* who investigated the relationship between firm performance and boardroom gender diversity using a quartile regression method. Using large data from 3000 US firms from 2007-2014 were used and the results showed that the presence of women on the board had a positive effect on firm performance. Particularly it showed that female directors such as CEOs have a significant larger positive on high performing firms relative to low performing firms.

This study however, did not indicate whether women in leadership positions such as being the CEO could make any significant difference in organizational disclosure. *Odia and Ken-Otokiti (2021)* submitted that female CEO is positively associated with sustainability disclosure. Moreover, feminist theorist (*Giligan, 1977*) suggests that women possess special attributes that make them do better than men leading to the assumption that when women lead there will be more disclosure. Based on the above empirical and theoretical proposition, we hypothesized thus.

*H<sub>1</sub>: There is a positive relationship between having a female Chief Executive Officer (CEO) and Voluntary Corporate Disclosure*

### *Female heading remuneration committee and voluntary disclosure*

Gender diversity has also been used to examine corporate social performance in many studies. In particular, Byron and Post, 2016 using a meta-analysis of 87 independent samples suggested that while generally positive, the female board representation is positively related to social performance. Aribi, Alqatamin, and Arun (2018) using data from a sample of 329 largest UK companies examined whether gender diversity is associated with the voluntary disclosure of greenhouse gas (GHG) emissions in the form of a Carbon Disclosure Project report. They documented evidence of a significant positive association between gender diversity (measured as the percentage of female directors on the

board) and the propensity to disclose GHG information as well as the extensiveness of that disclosure.

Other scholars such as Ho and Wong (2001) have investigated the relationship between composition of the board and voluntary disclosure. They concluded that the composition of risk committees which is an important factor in examining the level of disclosure. Similarly, it has been documented that the composition of audit committee as an effective monitoring tool improves disclosure and reduce agency costs. Cultural feminism theory suggests that women are modest and have a sense care and argued that women exhibit distinct pattern of moral development based on relationship and on feelings of care and responsibility for others. This implies that when women head the remuneration committee, there will be more disclosure. Based on the assumption of cultural feminism theory and empirical evidence we hypothesized thus:

*H<sub>2</sub>: There is a positive relationship between a female heading remuneration committee of a board and Corporate Voluntary Disclosure.*

#### *Female heading risk committee and voluntary disclosure*

In like manner, Madi, Ishak, and Abdul-Manaf (2014) investigated the influence of audit committee characteristics on corporate voluntary disclosure of 146 Malaysian listed firms for the year 2009. Based on content analysis of disclosure, the empirical results of multiple regressions revealed that audit committee independence, size and multiple directorships of audit committee members are positively associated with corporate voluntary disclosure.

Scholars have also shown interest in examining how women in top management positions such as heading board committees' influence firm performance. A study by Christiansen, Lin, Pereira, Topalova and Turk (2016), examined the link between gender diversity in senior corporate positions and financial performance of 2 million companies in Europe. They used data from the European subset of the Orbis database and analyzed it using regression. The results showed a positive association between corporate return on assets and the share of women in senior positions. Though this study showed how women in top management positions could influence firm performance, it is not clear whether the presence of women on top of organizational boards could influence corporate voluntary disclosure.

*H<sub>3</sub> There is a positive relationship between a female heading the risk committee of a board and Corporate Voluntary Disclosure.*

#### *Gender diversity and voluntary disclosure*

Other studies focused on examining the relationship between the proportion of women on board and corporate outcomes. One of such studies by Reinert and Weigert, 2016 examined the relationship between the proportion of women in top management positions at banks and their financial performance. Prudential data from supervisory reporting for credit institutions in Luxemburg

from 1999 to 2013 was used. The data was analyzed using regression analysis. The result indicated a positive association between female management and firm performance; specifically, a 10% increase in women in top management positions improved the bank's future Return on Equity (ROE) by more than 3%. This however did not state whether increasing the number of women on the board could result in an increase in corporate voluntary disclosure. Based on the prior empirical evidence and prescriptions of agency theory and cultural feminism we hypothesize as follows:

*H4: There is a positive relationship between gender diversity as measured by blau's index and Corporate Voluntary Disclosure.*

#### *Number of females on board and voluntary disclosure*

In another research by Chen, Crossland and Huang (2016), The Impact of female board representation on firm level and strategic behavior within the domain of mergers and acquisition was examined. They built their study on social identity theory to predict that greater female representation on a firm's board will be negatively associated with both the number of acquisition the firm engages in and conditional on doing a deal, acquisition size. They used a multiyear sample of US public firms, using a difference-in-difference analysis on a subsample of firms that experienced changes in board gender composition. The result was a strong support for their hypothesis.

*H5: There is a positive relationship between number of females on the board and Corporate Voluntary Disclosure*

#### *Female Heading Audit Committee and Voluntary Disclosure*

According to Ho & Wong (2001), the presence of an audit committee significantly influences the magnitude of corporate disclosure. The composition of audit committee which includes insiders and outsiders is also an important factor in examining the level of disclosure. They are expected to enhance corporate transparency and disclosure, also Forker (1992) regarded the audit committee as an effective monitoring tool to improve disclosure and reduce agency costs. It is expected that the size of the audit committee is associated with the level of disclosure and vice versa, nothing was mentioned about a female heading the audit committee.

Madi, Ishak, and Abdul-Manaf (2014) investigated the influence of audit committee characteristics on corporate voluntary disclosure of 146 Malaysian listed firms for the year 2009. Based on content analysis of disclosure, the empirical results of multiple regressions revealed that audit committee independence, size and multiple directorships of audit committee members are positively associated with corporate voluntary disclosure. Frequency of meetings and financial expertise of audit committee members were not significantly associated with corporate voluntary disclosure. The results offered evidence to



policy makers, investors and accounting professionals on the extent to which audit committee characteristics associated with such committee effectiveness in monitoring corporate reporting processes. From the above we therefore hypothesize thus:

*H6: There is a significant relationship between female Heading Audit Committee of the board and Corporate Voluntary Disclosure*

### 3. Methodology

**Research design:** This study employed a survey design that is the cross-sectional in nature. The choice of this design is to enable the researcher collect data for both the dependent and the independent data at the same point in time based on Du Toit and Mouton (2013) recommendation. They recommend that when a researcher is interested in collecting data for both dependent and the independent variables at a single point in time, the research design to be adopted is cross-sectional design.

The study population comprised of all the 194 listed firms on the Nigerian Stock Exchange as at December 2020. This includes firms that are listed on the Nigerian Stock Exchange (NSE) and are still actively participating as at the time of data collection for this study. All the firms that participated also have their financial report published on their websites particularly for the financial year 2020 and in compliance with Companies and Allied Matters Act (2004) as well as the International Financial Reporting Standards (IFRSs). This means that even companies with foreign ownership that are quoted on the NSE were considered as Nigerian listed companies for the purpose of this study.

Since the total population is known, the Yamane (1973) sample size determination model was employed to determine the sample size. In this model,

In this model,  $n = N / 1 + N(e)^2$

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n= the required sample size,

N= the population size and

e=a tolerable error.

The tolerable error is a statistical identity associated with confidence levels. At (.05) level of confidence,  $e^2 = 0.5\% = 0.0025$ , the sample size for this study was computed as 130 firms. However, after collecting the data most of the firms do not have complete information needed in this study as such only 68 companies have useful and relevant data for the study, thus the analysis that followed was based on sample size of 68 firms.

The sampling technique employed in the study is stratified random sampling. Stratified random sampling was found suitable for the study because

of the heterogeneous nature of the firms comprising of different industrial categories following Blumberg, Schindler, and Cooper (2014) recommendation. Here the firms were stratified based on Securities and Exchange Commission industrial classification. Since a level of homogeneity can be obtained within each stratum, simple random sampling shall then be employed to randomly select the companies. Table 3 presents the population and sample size for the study.

**Table 1: Population and sample size**

<b>Category</b>	<b>Population</b>	<b>Proportion</b>	<b>Sample</b>
Consumer Goods	43	43/192*129	29
Conglomerates	5	5/192*129	3
Financial	53	53/192*129	35
Services	22	22/192*129	15
Industrial Goods	23	23/192*129	15
Health Care	10	10/192*129	7
Natural Resources	2	2/192*129	2
Oil and Gas	13	13/192*129	9
ICT	10	10/192*129	7
Agriculture	3	3/192*129	3
Construction	8	8/192*129	5
<b>Total</b>	<b>192</b>		<b>130</b>

Source: Nigerian Stock Exchange available online @ <http://www.african-markets.com/en/stock-markets/ngse/listed-companies> and author's computation.

### **Operationalization and Measurement of Variables**

#### *Voluntary disclosure*

This variable was operationalized to measure information contained in annual reports that are not specifically required by the Nigerian Company and Allied Matters Act {(CAMA) (2004)} published by the Nigerian Corporate Affairs Commission (CAC) or the International Financial Reporting Standards in line with FASB (2001). This construct was measured using voluntary disclosure index. The index approach has the advantage of permitting the researcher to examine several variables of interest (Kumar, Boesso and Michelon, 2016). Before determining the index for each company in the sample, a disclosure checklist was prepared based on the selection of voluntary items of information i.e. over and above what is required by company law and accounting standards. The preliminary list was further screened to eliminate any mandatory items as found in the Companies and Allied Matters Act 2004, International Financial Accounting Standards IFRS as required by the Nigerian Financial Reporting Council (FRC).

Construction of disclosure checklist: The disclosure checklist was developed in line with previous researchers (*Damagum and Chima, 2013; Rouf*

and Akhtaruddin 2018). The disclosure checklist covered 25 information items in five areas (strategic information, forward-looking information, financial, environmental as well as social and ethical information disclosures). Each area has five items derived from the annual reports and was carefully studied and scored based on the checklist. There are unresolved issues identified in previous research with regards to the scoring of disclosure items which include whether the disclosure item should be scored on the weighted or - basis (Sejjaakaa, 2005). The weighted approach assumes that some items of information are more important than others hence are weighted higher (Barako, 2006). This, however, may introduce a bias towards a particular user orientation (Damagum & Chima, 2013). The un-weighted approach, on the other hand, helps in avoiding any bias arising from weighting such as making any particular disclosure item more important than the other. Using the un-weighted approach all items shall be weighted equally. This assumes that all disclosure items are equally important since different users pay attention to different items of information, which may not be true (Barako, 2006). The un-weighted approach was employed in this study to avoid any bias arising from weighting such as making a particular disclosure item more important than the others. Each item was therefore scored (1) if the item is disclosed in the annual reports and (0) if otherwise in line with Rouf and Akhtaruddin (2018). The disclosure index was arrived at using the formula employed by Rouf (2011):

$$Dscore = \sum_{n_i=1} d_i$$

Where:

Dscore = the aggregate disclosure score.

$d_j$  = 1 if the  $j^{th}$  item is disclosed or 0 if not disclosed

$n$  = the maximum score each company can obtain.

*Female Chief Executive Officer:* This variable is operationalized as any Chief Executive Officer who is a female. It was measured as a dichotomous variable where 1 was scored if the chief executive officer was a female otherwise 0. This is in line with Nalikka (2012)

*Female heading the audit committee:* This variable is operationalized as a head of the audit committee of the board that is a female. To measure this variable, a score of 1 was awarded if the head of the audit committee is a female otherwise 0. This follows the measurement by prior studies (Nalikka, 2012).

*Female heading the risk committee:* For the purpose of this study, this variable was operationalized as any head of the risk committee who is a female. This variable was measured as a dichotomous variable where a score of 1 was awarded if the head of audit committee is a female otherwise 0.

*Female heading the remuneration committee:* For the purpose of this study, female heading remuneration committee was operationalized as any head of remuneration committee who is a female. We measured this variable as a dichotomous variable where 1 was scored if the head of remuneration committee is a female otherwise 0.

*Number of females on the board:* This variable is operationalized as the total number of women on the board of a company. This includes both executive and non-executive members. This variable was measured as the ration of women in the board.

*Gender diversity:* This variable was measured using the *Blaus's 1977* index in line with Nalikka 2012. Therefore, board gender diversity was calculated using Blau's index of heterogeneity  $(1 - \sum p_i^2)$  where  $p_i$  is the proportion of group members in each of the  $i^{th}$  categories.

### **Method of Data Analysis:**

This study employed the use of log-linear regression to test the relationship between the predictor variables and voluntary disclosure. This choice of log-linear regression is based on the nature of the data. According to *Field (2009)*, to test relationship-using data that are categorical in nature, log-linear regression is the best statistical tool to be used. In this study the data used are categorical in nature, as such log-linear regression is considered suitable for the analysis, since the aim is to test relationships. The general model is in the form

$$Y = b_0 + b_1 X_{1i} + e_i$$

Where  $y$ =dependent variable;  $b_0$  is the intercept;  $X_{1i}$ = the predictors.

### *Model specification*

$$VD = b_0 + b_1 FCEO + b_2 FHAC + b_3 FHRC + b_4 FHREM + b_5 NFOB + b_6 GD + e_i$$

VD=Voluntary disclosure; FCEO=female chief executive officer; FFO=Female finance officer; FHAC=Female Heading Audit Committee; FHRC= Female Heading Risk Committee; FHREM= Female Heading Remuneration Committee; NFOB=Number of females on Board; GD=gender diversity and  $b_1, 2, 3, 4, 5, 6, 7$  are intercepts

## **4. Results and discussion**

### *Demographic Characteristics*

Several demographic characteristics were considered which were important in the interpretation of the results. The respondent characteristics included the number of females who are chief executive officers within the sampled firms, the number of female finance officers, number of females heading audit committee, female heading risk committee, female heading remuneration committee and number of females in the board of directors. These demographic

characteristics are considered important because the main objective of the study is to examine whether the mix of female in the board structure has any significant relationship with corporate voluntary disclosure.

*Table 2: Demographic characteristics*

	Frequency	Percentage
<b>Chief Executive officer</b>		
Male	51	75
Female	17	25
<b>Total</b>	<b>68</b>	<b>100</b>
<b>Head of Audit Committee</b>		
Male	53	77.9
Female	15	22.1
Total	68	100
<b>Number of Female and male on Board</b>		
Male	40	58.8
Female	28	41.2
<b>Total</b>	<b>68</b>	<b>100</b>
<b>Head of Remuneration Committee</b>		
Male	60	88.2
Female	8	11.8
<b>Total</b>	<b>68</b>	<b>100</b>
<b>Head of Risk Committee</b>		
Male	59	86.8
Female	9	13.2
	68	100

**Source:** Field Survey from annual reports of the sampled firms

Table 2 indicates that male dominates most of the board structures. The table shows that in terms of chief executive officers male constitute 75% of all firms surveyed while female CEOs only constitute 25%. Similarly, the demographic statistics shows that men dominate heading risk committee of the board constituting 86.8% (59 out of 68 firms surveyed with females constituting only 13.2%). In most of the firms surveyed, the statistics indicate that 88.2% of those heading remuneration committee of the board are men (60 out of 68) remaining 11.8% for the females. In terms of number of females on board, the statistics is skewed in favor of the male board members. Specifically, the statistics indicate that men constitute 59% of board members with female having 41%.

#### *Descriptive statistics*

The descriptive statistics for the study variables are presented in table 2. The table presented the mean, the standard deviation standard errors maximum

and minimum values.

*Table 3: Descriptive statistics*

	N	Min.	Max.	Mean	Std. Error	Std. Dev.
Female Chief Executive	68	.00	1.00	.1324	.04140	.34139
Female Heading Audit Committee	68	.00	1.00	.1029	.03713	.30614
Female Heading Risk Committee	68	.00	1.00	.0588	.02875	.23704
Female Heading Remuneration Committee	68	.00	1.00	.0147	.01471	.12127
Number of Female on Board	68	.00	1.00	.4118	.06013	.49581
Gender Diversity	68	.00	.50	.1846	.02214	.18258
Disclosure index	68	.08	.92	.7235	.02544	.20982
Valid N (listwise)	68					

**Source:** author's computation using SPSS

Table 3 indicates the descriptive statistics of the study variables in terms of mean, standard deviation and standards errors. Others are the minimum and maximum values entered for each of the variables. The descriptive statistics indicate that maximum and minimum values of all the variables are within specified range. This is an indication of the absence of out of rang values specified for the study. According to *Field (2009)*, when deviations are small compared to mean values, it is evident that the data points are close to the mean and hence calculated mean highly represent the observed data. Since the deviations are small compared to the mean, this means the data points closely represent the observed data and so the analysis of the data can be further examined using inferential statistics.

#### *Correlation analysis*

Before the main analysis, it is important to understand whether the study variables are indeed associated. To do this a one tailed test bivariate correlation was run using SPSS and the result presented in Table 3.

Table 4: Zero-order

	1	2	3	4	5	6	7
Female Chief Executive (1)	1.000						
Female Heading Audit Committee (2)	-.132	1.00					
Female Heading Risk Committee (3)	.087	-.085	1.000				
Female Heading Remuneration Committee (4)	.313**	-.041	.489**	1.000			
Number of Female on Board (5)	.290**	.012	.172	.146	1.000		
Gender Diversity (6)	.221*	-.136	.002	.110	.603**	1.000	
Disclosure index (7)	.232*	.119	.023	.158	.256*	.240*	1.000

Table 4 above gives a picture of the inter-relationship between the independent and the dependent variable (voluntary disclosure). The correlation analysis indicates that chief executive officer is significantly related to voluntary disclosure ( $r=0.232$  at 5% level of confidence). In a similar vein the result shows that gender diversity and voluntary disclosure are significantly correlated ( $r=0.240$  at 5% level of confidence). Additionally, the result shows that there is a significant relationship between the number of women on the board and voluntary disclosure ( $r=0.256$  at 5% level of confidence). However, the result shows that number of females heading audit committee of the board is not significantly correlated with voluntary disclosure ( $r=0.119$ ) indicating that a unit change in number of females heading audit committee will not change voluntary disclosure significantly. Likewise, the result shows that female heading risk committee is not significantly correlated with voluntary disclosure ( $r=0.023$ ) signifying that a unit increase in number of women heading risk committee of the board may not change voluntary disclosure of Nigerian listed firms significantly. Looking at number of females heading remuneration committee, the correlation analysis suggests that there is no significant correlation with voluntary disclosure ( $r=0.158$ ).

#### *Regression Analysis and test of hypotheses*

A log-linear regression was adopted because of the categorical nature of the study variables. According to *Field (2009)* log-linear regression is used when the outcome variable is categorical with predictors that are categorical or continuous. This is the case for the current study with most of the variables as categorical except gender diversity. Field also differentiates between two types of logistic regression, binary and multi-nominal logistic regression. Binary regression is used when the predictor variable is only, but multi-nominal

regression is used with multiple predictors. In this study there are many predictor variables as such multi-nominal logistic regression is considered suitable for the analysis. Table 4.5 presents the regression results

*Model fitness:* In assessing the model fitness for logistic regression scholars suggested that the goodness of fit model be assessed to determine whether the model specified for the data is a good fit. The below presents the goodness of fit of the data used in analyzing the results.

*Table 5: Model Fitting Information*

Model	Model Fitting Criteria -2 Log-Likelihood	Likelihood Ratio Tests		
		Chi-Square	df	Sig.
Intercept Only	286.634			
Final	249.559	37.075	154	.000
Pseudo R-Square = .4; Cox and Snell = .420; Nagelkerke = .425; Mcfadden = .119				

According to *Field (2009)* the values of the Pearson statistics and the deviance values should not be significantly different from zero. Looking at table 5, the values of both statistics are non-significant ( $p > 0.05$ ) signifying that the model is a good fit for the data. In assessing the  $R^2$  for a logic regression, the focus is on Pseudo  $R^2$ . There are two values that are significant for the interpretation of the model fitness using the Pseudo  $R^2$  these are the Cox and Snell value and Nagelkerke value. The rule of thumb is that if the probability value of Cox and Snell is not significantly different from that of Nagelkerke, and then is a confirmation of model fitness and good effect size of the predictor variables on the outcome variable. Looking at the Cox and Snell value (0.420) and the Nagelkerke value (0.425), they are reasonably similar values indicating that the model fits the data. The predictor variables explain over 40% variation in voluntary disclosure.

The chi-square statistic is the difference in -2 log-likelihoods between the final and reduced models. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0



Table 6: Likelihood Ratio Tests

<i>Effect</i>	<i>Model Fitting Criteria -2 Log-Likelihood of Reduced Model</i>	<i>Likelihood Ratio Tests</i>		
		<i>Chi-Square</i>	<i>df</i>	<i>Sig.</i>
Intercept	249.559 <sup>a</sup>	.000	0	.
Gender Diversity	16433.971 <sup>b</sup>	1350.011	14	.000
Female Chief Executive	15390.515 <sup>b</sup>	306.555	14	.000
Female Heading Audit Committee	15159.145 <sup>b</sup>	75.186	14	.000
Female Heading Risk Committee	15019.682 <sup>b</sup>	321.34	14	.000
Female Heading Remuneration Committee	15092.638 <sup>b</sup>	8.679	14	.851
Number of Female on Board	15647.194 <sup>b</sup>	563.234	14	.000

Table 6 shows the results of the likelihood ratio tests and these can be used to ascertain the significance of predictors to the model as suggested by *Field (2009)*. Looking at the table gender diversity has a significant effect on the model ( $X^2(2) = 1350.011$ ,  $p < 0.05$ ), likewise female chief executive officer has a significant effect on the model  $X^2(2) = 306.55$ ,  $p < 0.05$ ). Similarly, female heading Audit Committee has a significant effect on the model  $X^2(2) = 75.186$ ,  $p < 0.05$ ). Also, the number of females on board has a significant effect on the model  $X^2(2) = 563.234$ ,  $p < 0.05$ ). These likelihood statistics can be seen as sorts of overall statistics that tell us which predictors significantly enable us to predict the outcome category, but they don't really tell us specifically what the effect is. To see this, we have to look at the individual parameter estimates. In testing the hypotheses of the study, the focus is on the individual parameters (Table 7) similar to the estimates in a normal OLS.

Table 7: Hypotheses tests

	B	Std. Error	Wald	d f	Sig.	95% Confidence Interval for Exp(B)	
						Lower Bound	Upper Bound
<i>Intercept</i>	11.61 0	13.67 3	.721	1	.39 6		
Gender Diversity	.215	3.220	27.81 9	1	.00 0	.297	1.506456jo b
[Female Chief Executive=.00]	.877	2.780	6.034	1	.01 3	.416	3.548E-5
[Female Finance Officer=1.00]	.237	5.000	5.142	1	.00 0	.424	.004
[Female Heading Audit Committee=.00]	.289	3.452	2.978	1	.00 7	.001	.000
[Female Heading Risk Committee=.00]	.010	6.555	2.211	1	.64 6	.029	1.297E-7
[Female Heading Remuneration Committee=.00]	.303	5.769	.051	1	.82 1	.272	3.337E-6
[Number of Female on Board=.00]	.130	9.839	4.176	1	.00 0	.016	6.775E-11
							3814973.50 8

The test of hypothesis one revealed that there is a positive relationship between Female CEO and voluntary disclosure of listed firms in Nigeria ( $b=0.877$ ,  $Wald=3.034$ ,  $p<0.05$ ), lending support to hypothesis one which states that there is positive relationship between female CEO and voluntary disclosure. This means that a positive change in the number of women CEOs is associated with positive change in voluntary disclosure. This finding is in tune with Nalikka

(2010; 2012) who found evidence in UK that female CEO is significantly related to the extent of voluntary disclosure as well as Shaheen et al (2023) in China. The result is also in consonance with *Adams et al (2023)* who found that female CEOs tend to behave differently than men with respect to board governance because of their meek nature they pay attention to little details than men. This shows that the more we have women as CEOs, the more they are likely to disclose corporate information deliberately without coercion. Notionally, the theory of cultural feminism explains that women are modest, caring and more ethically oriented than men. Meaning that when women are in leadership position such as governing the board, there will be better organizational output such as voluntary disclosing information that meets the needs of all stakeholders without exception. This finding shows that female CEOs are associated with increase disclosure of social, ethical and environmental information in the annual reports of listed firms in Nigeria in line with what was found by Nalikka (2012) in Helsinki satisfying the contextual concern raised by this study.

There is a significant relationship between Female head of audit committee and corporate voluntary disclosure ( $b=0.289$ ,  $Walds=2.97$ ,  $p<0.05$ ). Thus, lending support to hypothesis two which states that, which says that there is significant relationship meaning that having female as head of audit committee has a significant relationship with voluntary disclosure. This finding agrees with the findings by *Mada-Marzuki, 2022*) who find evidence suggesting that audit committee as an effective monitoring tool to improve disclosure and reduce agency costs. Moreover, Nalikka (2012) suggested that a female heading the audit committee is associated with the level of disclosure of listed firms in Helsinki. From theoretical point of view the role of demographic factors in explaining organizational outcomes is well acknowledged. This is in line with cultural feminism as explained by Samara et al (2023) whose focus is on characteristics of individual managers such are gender as factors explaining organizational outcomes such as performance. Thus, lending support to cultural feminism that, women have special qualities that enable them to do better than men in many aspects of human endeavor. The modest nature of women suggests their attribute of caring for the social relationship as well as ethical concern makes them more accountable to various stakeholders need for information through voluntary disclosure.

Test of hypothesis 3 revealed that there is significant relationship between female heading risk committee and voluntary disclosure Committee ( $b=0.289$ ,  $Walds=2.97$ ,  $p<0.05$ ). Therefore, lending support to hypothesis one suggesting, that there is a significant relationship meaning that having female as head of audit committee has positive influence on voluntary disclosure.

This is because the board has overall responsibility for monitoring and approving the risk policies and associated practices of the Company. In particular, the board risk committee is also responsible for reviewing and approving risk disclosure statements in any public document. This finding is in consistence with the findings by Omoro, Aduba and Okiro (2015) who studied demographic

diversity in top management teams and found that there is a bias against women in leadership position. This is explained by the fact that women lag behind in corporate leadership, productivity and wealth accumulation because business and corporations are structured to institutionalize masculine preference and bias, not because a pernicious scheme of male malevolence is holding women down (Omoro et al (2015). The structures of gender bias are as invisible to men as they are to women – and women share responsibility with men for identifying and eliminating structural bias so that business and corporate capitalism can work effectively for everyone. This bias is reflected in the distribution of the leadership role in the current study of listed firms in Nigeria. The data shows that there is an insignificant number of females on the board especially in relation to female heading risk committee.

The regression results show that there is positive and significant relationship between board gender diversity and voluntary disclosure of listed firms in Nigeria ( $b=0.215$ ,  $wald=27.819$   $p<0.05$ ) thereby lending support to hypothesis four. This result validates the finding by *Nalika (2009)* who found that gender diversity is significantly related to level of voluntary disclosure of listed firms in Helsinki. It is also consistent with the findings by *Bueno et al (2018)* who submitted evidence showing that board gender diversity is a significant predictor of voluntary disclosure of listed firms in Brazil. In this study, gender diversity is considered as the proportion of female to male in the board composition of listed firms. The diversity affects cognition, dynamics and decision-making of the board as observed by *Johnson et al (2013)*. It allows for new questions and different ways of thinking and assists in the most complex strategic issues such as disclosure policy. *Benkraiem et al (2017)* suggested that the presence of women improves board effectiveness and management oversight and has a significant impact on corporate governance. Women are more prone to the principles of fairness and equity and are more focused on social aspects such as social disclosures. This shows that boards consisting of women have significant results in influencing board activities relating to disclosures.

The regression result indicates that there is significant relationship between number of females on board and voluntary disclosure ( $b=0.130$ ,  $Wald=4.176$ ,  $p<0.005$ ) thereby lending support to hypothesis five. This result is contrary to prior studies such as that by *Fenades and Barbosa (2022)* who found evidence suggesting that the number of females on the board does not affect voluntary disclosure of listed companies in Brazil. However, the result is in line with the findings by *Altawalbeh et al (2020)*, who documented that there is a significant positive relationship between number of females on the board and voluntary disclosure of listed firms in Jordan. This contradictory result may be as a result of the contextual differences that account for this variation. The current study considers the proportion of female on the board that makes of the total board size. The more we have diversity in terms of gender in the board, the better it is for disclosure because disclosure is a management activity that takes into consideration different perspectives. Having a large number of females on

the board means that those females are able to advocate for policies that will protect the social aspect that has to do with women. In particular with the debate about gender, many companies are likely to communicate their policy on gender through voluntary disclosure. This explains why the proportion of female on the board influences voluntary disclosure positively. The result lends support for cultural feminism, which assumes that women possess special traits, that enables them do even better than their male counterparts.

The regression result shows that female heading remuneration committee is not statistically related to the extent of corporate voluntary disclosure ( $b=0.303$ ,  $Walds=0.051$   $p>0.05$ ), therefore hypothesis 3 is rejected. This result is in tandem with Park et al (2023) who found that there is higher voluntary disclosure only in firms who tied compensation to market values. The implication of this is that increasing the number of women heading the remuneration committee of the board does not matter for increase voluntary disclosure. Suggesting that performance-based compensation in the form of increased remuneration does not necessarily lead to higher disclosure even when women head the remuneration committee. The remuneration committee is the committee of the board that is saddled with the responsibility of recommending an appropriate reward policy that attracts and motivates executives to achieve the long-term interests of shareholders. Compensation or remuneration is part of monitoring mechanism to align the interest of shareholders and that of management as suggested by agency theory. Relating this to voluntary disclosure means that since many components of voluntary disclosures are meant to satisfy the interest of other stakeholders, management may feel relaxed to disclose because it may not be of real value to shareholders. Managers may not likely disclose information on such issues as environmental impact if this will lead to sanction from regulatory agencies. Similarly, firms operating in a competitive environment as the case is with many of the listed firms in Nigeria may not be willing to disclose some corporate information as a complete strategy. This means that regardless of whether a male or a female is in the leadership position, it doesn't matter for corporate voluntary disclosure.

## **5. Conclusion and implication**

This study has documented evidence of the link between board gender diversity and voluntary disclosure utilizing prescription of two theories, agency and cultural feminism, utilizing data from a less developed country like Nigeria. Thereby filling the knowledge gap in that regard. Specifically, this study has found that women heading risk, audit committee, number of females on board, gender diversity as measured by the Blau's index and female CEOs matter in corporate voluntary disclosures. This implies that feminist inherent virtues of modesty, meekness, caring and transparency are crucial factors enhancing corporate voluntary disclosure as suggested by the theory of cultural feminism. Meaning that individuals who possess these characteristics perform better in terms of transparency through corporate disclosures.

The finding of this study indicated that besides women being the CEO of businesses and the proportion of women on the board of corporations, women heading the various sub-committees have positive relationship with increased voluntary disclosure. These findings have vital implications for theory and practice. Theoretically, the study adds to the growing body of knowledge on gender diversity and voluntary disclosure by extending the debate on women leadership to the sub-committee of the board using data from an emerging country like Nigeria. Secondly it implies that listed companies in Nigeria should consider increasing the number of women leading other sub-committees of the board besides just female CEOs if the objective is to improve the weak disclosure practice which has being a source of concerns of key stakeholders. Thirdly, investors should consider investing more in firms with more women heading various committees of the board since it has been established that there is increase environmental social and ethical disclosure when women lead. This will promote better transparency and reduce information imbalance between the managers and the shareholders.

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# Management accountants' competence, accounting system, organizational structure, and management accountants' expectation gap in Uganda.

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## **Abstract**

**Purpose** – This study aims to establish the existence of Management Accountant's Expectation Gap and its perceived variability with management accountants' competence, management accounting system and organizational structure. As a corollary, it examines the contribution made by management accountants' competence, management accounting system and organizational structure in closing Management Accountant's Expectation Gap.

**Design/methodology/approach** – This study is cross-sectional and correlational, and it uses firm-level data that was collected by means of a questionnaire survey from a sample of 242 manufacturing firms in Kampala – Uganda.

**Findings** – Results suggest that management accountants' competence, management accounting system and organizational structure are significant predictors of Management Accountant's Expectation Gap.

**Research limitations/implications** – This study focuses on manufacturing firms in Uganda, and it is possible that these results are only applicable to the manufacturing sector. More research is therefore needed to further understand the contribution of management accountants' competence, management accounting system and organizational structure in narrowing Management Accountant's Expectation Gap in other sectors such as the accounting firms.

**Practical implications** – The results suggest that policy makers prescribe qualifications for management accountants and outlining roles of management accountants in the accountants' act 2013 to ensure that management accountants engage in the right roles thus closing the Management Accountant's Expectation Gap.

**Originality/value** – According to Budding and Wassenaar (2021) study, there is a Management Accountant's Expectation Gap however, no research has hitherto been undertaken that investigates the individual contribution of Management accountants' competence, management accounting system, organizational structure in closing the gap.

**Keywords** MAC-Management accountants' competence, MAS-Management accounting system, OS-organizational structure and MAEG- Management Accountant's Expectation Gap

## 1. Introduction

The aim of this paper is to study the relationship between management accountants' competence, management accounting system, organizational structure and management Accountant's Expectation Gap. Management accountant's role performance of sustaining value and growth in addition to control over the continuity of organization is arguably a valid expectation from stakeholders (Wolf et al 2020). However, there is an ever-widening gap between the management accountants' perception of their roles and what management perceives as important roles of management accountants (Pierce & O' Dea 2003).

Drawing from the most recent research by budding and Wassenaar (2021), management accountant's expectation gap arises where management accountants do not meet the expectations of their stakeholders regarding the way in which they carry out their tasks. Management accountants have been seen to perform traditional roles of book keeping, cost recording, price determination, variance analysis, budgeting and cost volume - profit analysis and presenting accounts (Oppi & Vagnoni, 2020; Ten, 2018; Zainuddin, et al 2016; Sunarni, 2013; Yazdifar and Tsamenyi, 2005). However, management expects management accountants to perform roles such as business advisory, business analyst, performance evaluation and management, risk management, and strategy decision making (Budding & Wassenaar ,2021; Oppi & Vagnoni, 2020; Mishra & Kanti 2011) henceforth this has created a Gap in terms of the roles performed by management accountants. The widening expectation gap has often made management accountants marginalized and many of the organization failures have been blamed on failure of accountants to perform their roles (Maziriri and Mapuranga 2017). Furthermore, the widening expectation gap runs the real risk of management accounting becoming a marginalized discipline-deskilled, decentralized, and ultimately disappearing (Mishra & Kanti 2011) hence the unstable employment market demand for management accountants. On the whole, failure to carry out the expected accountants' roles leads to uninformed decisions which could ignite business failure (Maziriri and Mapuranga 2017). For instance, Maziriri & Mapuranga (2017) indicate that Small Medium Enterprises in South Africa are partly failing due to failure of accountants to perform their intended roles such as business advisory and risk management.

In Uganda, the central bank has over the years lamented on accountants' performance and ineffectiveness (B.O.U Annual Supervisory report, 2020). Further to this, management accountants have failed to perform their core role of cost determination on which prices should be based (Gray and Irons, 2016). As a result, prices have been determined basing on past information and companies have failed to meet their operating costs and eventually collapsed because of low gross profit margin. For instance, Uganda clays failed to meet its operating costs and had reported losses since 2018, with the recent one being a net loss increment from Shs128million in the first half of 2019 to Shs1.4billion in 2020 (khisa, 2020). Other manufacturing companies have been seen closing

operations such as Unga millers which closed its operations in Uganda three years ago as a result of raising costs (Mayemba, 2017). The occurrence of such incidences has raised questions concerning the value of management accountants and as to whether management accountants are performing their roles. No wonder, only 30% out of 3,886.40 qualified accountants have been employed (ICPAU, 2019) and other companies have not employed management accountants such as Brookside, Roofings and Alam group (Brookside annual report, 2020; Roofings, 2020 website). It is therefore, an issue for management accountants since the greater the gap of expectations, the lower is the credibility, earning potential and prestige associated with their work (Goretzki & Messner 2018). Whereas there are numerous studies (Epstein & Geiger 1994; McEnroe & Martens 2001; Fadzy & Ahmad 2004; Nguyen & Nguyen, 2020; Adafula, et al. 2019; Salehi, 2020; Best, et al., 2001; Dang and Nguyen 2021; Adafula et al. 2019; Olojede et al 2020), about the extent to which auditors meet the expectations of others regarding the way in which they carry out their tasks (known as the audit expectation gap in auditing parlance), according to Budding and Wassenaar (2021) no literature is available on this same question regarding management accountants.

In this study we use the role theory (Fischer, 2010) which comprises of role expectations. Kahn et al., 1964 refer to role expectations as sent role where the managers who transmit the expectations are the role senders and accountants who are exposed to role senders' expectations referred to as the focal person. What they do and what is expected of them shapes the role set of management accountants. Therefore, role theory is a useful tool for examining such issues. According to Borgonovo et al. (2019), the failure of accountants to perform their roles as expected of them by managers may be attributed to inadequate competence among the management accountants. Goretzki & Messner (2018), alluded to the view that competent accountants with professional knowledge, financial analysis and monitoring skills, communication and interpersonal skills and decision making skills may be able to perform their roles as expected. Similarly, organizational structure in terms of decentralization, centralization, formalization and stratification (Erol and Ordu 2018; Ten et al 2018) may be important in explaining management accountants' expectation gap. For example decentralization in terms alignment of management accountants with their managers increases inter sharing of accounting work, close communication and decision making authorities assigned at both top and lower levels promotes coordination among different departments and in turn could improve role performance of management accountants well as formalization considers clarification of roles to be performed by management accountants through well written rules and procedure and stratification which relates to importance assigned to tasks depending on employee rewards. Furthermore, Mia & Winata (2008) argue that the failure of management accountants to perform as expected could be attributed to use of traditional management accounting systems hence the need to advance the

systems used in providing information to management. On the contrary, literature does not empirically test the efficacy of this. Thus, it can be explained that where management accountants are competent and working in an established known organizational structure with management accounting system enables them perform the required roles which narrows the expectation gap.

This paper's remainder proceeds as follows: Section 2 is a literature review in which hypotheses are developed. Section 3 is followed by the methodology adopted for the study. Then results and discussion follows penultimate in Section 4. Finally, the conclusion and implications are presented in Section 5.

## **2. Literature review**

### **2.1 Theoretical underpinning**

This study employed role theory (Fisher, 2010), and contingency theory (Otley, 1980) to explain the contribution of management accountants' competence, organizational structure and management accounting systems on narrowing the management accountants' expectation gap.

#### **2.1.1 Role theory**

According to Katz and Khan 1978; Fisher 2010, role theory is concerned with human behavior regarding roles allocated to individuals in an organization. In management accounting, the theory enlightens the understanding of management accountants' roles by explaining tasks and their influence on decision making, judgement and overall performance (Fisher 2010). A role is defined as a set of activities which influences the behavior and performance of an individual (Fisher 2010). Role theory suggests that roles are determined by role senders who in this case we refer to as managers who transmit role expectations to management accountants also known as focal person. According to Byrne (2010), the theory proposes that managers communicate their expectations to the focal person (role sent) who interpret (role received) and react to the role received (role behavior).

However, the focal person's role performance depends on internal and external factors such as structure, size, system and culture (Kahn *et al.*, 1964). We adopt organizational structure as one of the variables to explain management accountants' expectation gap. The researchers assume that a well-structured organization where management accountants are aligned with their immediate managers and decision making can be made at both levels makes it easy for management accountants to perform their roles while meeting manager's expectations. In the same way, role theory advances the concept of role ambiguity which examines the ability of a focal person (management accountant) to perform roles transmitted to them by managers. Fisher (1978). Byrne (2010), defines role ambiguity as lack of knowledge to perform given roles where individuals are not certain on how to perform the roles. Therefore, role performers require knowledge on roles to ensure performance and conformity to

role expectations. Thus, we adopt management accountants' competence as a variable that explains management accountant's expectation gap. We embraced role theory because of its central focus on roles of individuals in an organization which explains roles performed by management accountants and expectations of managers regarding their roles Byrne (2010). Studies have used role theory to explain roles of employees however there are limited studies on role theory to explain management accountant expectation gap. Additionally, literature reviewed has not considered how to close the expectation gap that exists between management accountants and managers on the roles of management accountants. The study therefore employs the role theory Katz and Khan (1978) because it reflects to the sender and receiver where the receiver in this study is the management accountant whose performance of that role is not correctly perceived by the sender who is the manager. However, role theory does not explicitly explain the effect of management accounting system, organizational structure on management accountants' expectation gap hence the we also adopt the contingency theory

### **2.1.2 Contingency theory**

The relationship between Management accountants' expectation gap and management accounting system can be traced through contingency theory. The theory assumes that the performance of organizations depends on the management accounting systems implemented which must fit within the environmental factors (Otley, 1980; Etemadi et al., 2009 Ghasemi et al. 2019). Additionally, Otley, 1980 argue that aspects of an accounting system which are associated with certain defined circumstances are detected by contingency theory. Chenhall (2003) concisely explains that the term contingency means that something is true only under specific condition. The theory assumes that there is no generally appropriate management accounting system that applies similarly to all organizations in all conditions (Otley, 1980). According to Byrne (2010), the nature of management accounting system is contingent upon the environment. Therefore, a management accounting system should be designed to fit the organization context, that way management accountants are able to perform their role of reporting information to management for decision making (Gordon & Narayanan, 1984). Also, Ajibolade, (2013) suggests that based on contingency theory, improving performance of tasks of management accountants requires organizations to adopt appropriate management accounting system design. However, the effectiveness of management accounting system depends on its ability to adopt to environmental changes. In such times of escalations in globalization and technology advancements we assume that technology has an impact on management accounting system hence the need to adopt advanced management accounting systems to achieve organizational goals (Ismail & Isa 2011). Therefore, this study uses the contingency theory to explain the relationship between implementation of advanced management accounting

system and the management accountant's expectation gap. It seeks to discover contingencies relating to the roles of management accountants with the help of an advanced management accounting system. we propose that organizations that adopt appropriate management accounting systems with technology designs guide management accountants while performing their roles for instance they are able to provide broad scope, integrated and timely information to management which enhances decision making.

## **2.2 Management Accountants' Competence**

Researchers employing role theory suggest that one's competence could determine how best one performs their roles (Byrne, 2010). Competence is defined as a set of professional knowledge, financial monitoring and analysis, communication and interpersonal skills (Jachi & Yona 2019) and the ability to use effective approaches to provide information and recommendations for decision-making (Oesterreich & Teuteberg 2019). We therefore construe competence to mean the capability of an individual which is related to superior performance in a role. Borgonovo et al. (2019) indicated that only when management accountants are competent that they ably perform roles required of them by management. The attributes that organizations should look for when hiring management accountants pertain to knowledge, expertise and experience (Harland and Knight 2001). However, Borgonovo et al. (2019) argues that knowledge and understanding alone do not result in competence however it requires accountants to effectively apply relevant skills such as decision-making skills, communication and interpersonal skills. Thus, the level of competence among management accountants enables them perform roles expected of them effectively. Due to the technologically advancing global environment, Oesterreich and Teuteberg (2019), assert that there is need for management accountants to adopt technology and analytical skills which guide them perform roles such as data analysis. Parker (2002) study into the roles expected of management accountants established that management accountant roles were mainly centered on cost/financial control, presenting management accounts and managing budgets, hence little focus and concentration on risk management, strategy planning and performance management which were signaled by corporate management as expected roles of the management accountants. This suggests inadequate competence with in management accountants to take up such roles hence contributing to the widening expectation gap with regard to roles performed by management accountants. Similarly, Oesterreich & Teuteberg (2019) study, identified a skills gap as management accountants lacked the skills such as ICT skills and analytics skills to enable them perform roles expected of them. According to Kartini and Fitria (2020) findings indicate a significant influence between the competence of individuals and performance of their roles. Therefore, it is through the application of competence that management accountants meet expectations of managers through performing the roles to the standard that meets interest of management and those charged



with governance to enhance business decision-making and economic stability and growth (Borgonovo, et al. 2019). The more one approaches their roles with competence the smaller the expectation gap with regard to roles expected of them. we therefore hypothesize that:

***H<sub>1</sub>: Management Accountants' competence is positively related to management accountants' expectation gap.***

### **2.3 Management accounting system**

According to Novas et al (2017) defined management accounting system as an internal process which supports collection of information, categorizing and computing to achieve organizational goals other scholars expounded Management accounting system (MAS) from two strands; interactive systems and diagnostic systems (Novas et al.,2017; Agbejule, 2011; Arjaliès and Mundy, 2013) whereas (Chenhall & Morris, 1986; Ghasemi et al. 2019; Chong and Mahama 2014 ; Fuadah et al, 2020) examine MAS as the characteristics of information produced by management accounting systems such as broad scope, timeliness, aggregation, and integration. From the accounting perspective, our study focuses on the MAS system employed in an organization such as interactive and diagnostic system. Interactive system refers to positive forces within the organization that support coordination of activities while diagnostic system examines performances at every stage in an organization within a bureaucratic structure by monitoring actual outcomes with established standards of performance while amending deviations. We believe that organizations that employ interactive systems support innovation within management accountants which enables them come up with new ideas and initiatives to achieve organization's goals and similarly organisations that employ diagnostic system enables management accountants to perform roles in line to set standards. Studies on the relationship between management accounting system and management accountants' expectation gap are remote. Nonetheless, there is some extant literature which shows that well-developed MAS enhances coordination and close interaction among employees which enables accountants approach their tasks with ease (Chenhall, 2003; Soobaroyen & Poorundersing, 2008). According Fiondella et al (2016) in a changing environment there is need for organizations to evaluate and adopt better management accounting systems in order to remain effective. For instance, Oesterreich & Teuteberg (2019) study on the role of business analytics in the controllers and management accountants' competence profiles found that organizations dealing with large volumes of data requires management accountants to engage in data-intensive tasks which can only be achieved with the help of a management accounting system. Given the above discourse, it can be deduced that MAS is paramount in the operations of management accountants. However, none of the above studies has examined the actual contribution of MAS in narrowing the management accountants'

expectation gap. Therefore, in this study, the authors explored whether high-take management accounting systems can enable management accountants perform their roles as expected through interactive and diagnostic structures to close the management accountants' expectation gap.

***H<sub>2</sub>: Management accounting systems are positively related to management expectation gap.***

## **2.4 Organizational structure**

Organisational structure is variously defined (Monavarian, et al., 2007; Ahmady, et al. 2016, Hopper 1986; Sinha, 2017; Erol and Ordu, 2018). The overarching idea in these definitions relates to a process in which work is divided amongst competent people who interact and work together to achieve set objectives. For example, Erol and Ordu (2018) considers organizational structure in terms of centralization, formalization, complexity and stratification. Thus, organizational structure may be understood in terms of centralization, decentralization, formalization and stratification of the organizational functions. Since organizational structure involves managing tasks of different divisions in organizations, it is likely that an appropriate organizational structure can place management accountants in a better position to perform the expected roles. Available literature (Hopper, 1986; Holtzhausen, 2002; Pierce and O'Dea, 2003; Zhu et al, 2009; Byrne, 2010; Fischer, 2010) appear to suggest that a relationship exists between the performance of roles by management accountants and their structural position in an organization and reporting relations. But studies on the nature and the actual relationship between organizational structure and management accountants' expectation gap appear less existent.

Recently, Erol and Ordu (2018) have examined organizational structure in terms of formalization and stratification, according to which formalization is the extent to which organizations document and write rules and procedures regarding the roles to be performed by different individuals and stratification being related to the importance attached to the tasks performed depending on the rewards received by these individuals and status in the organization. This means that formalisation guides management accountants in performing allocated roles and overcoming role ambiguity and also that individuals work best in organizations with high stratification because of the rewards and status awarded to them. Following from the study of Erol and Ordu (2018) it can be inferred that a well-established organizational structure ensures clear definition of authority and responsibility channels clearly describing the roles expected of an individual. It is therefore reasonable to test whether organizational structure influences the performance of roles of management accountants while meeting managerial expectations to narrow the management accountants' expectation gap. We hypothesize that;

**H<sub>3</sub>:** *The organizational structure is positively related to management accountants' expectation gap.*

## **2.5 Control Variables**

To ensure valid results, the we considered potential confounding variables. As such Firm size in terms of turnover and age of the manufacturing firm, personality characteristics of manufacturing accountants and technology are controlled in this study. Studies conducted by (Kahn *et al.*, 1964; Katz and Kahn, 1978; Sunarni, 2013) indicate that organizational factors such as size influence the role expectations of role senders (management) has of focal person (management accountants). A study by Zare & Flinchbaugh (2019), indicates a link between personality characteristics and employee role performance through creativity and voice. According to the study, employees who are high in openness to experience and highly agreeable people are cooperative, avoid conflict, listen to other's suggestions and perform roles in creative ways. Other studies suggested that technology is a vehicle to deliver expected roles effectively (Zawawi & Hoque, 2010). Therefore, the existence of advanced technologies in an organization enables management accountants perform their roles to the expectations of management which narrows the expectation gap unlike in firms without technology.

## **3. Methodology**

### **3.1 Design, population and sample**

This is a cross-sectional study on manufacturing firms in central region of Uganda which composed of 606 manufacturing firms (Uganda Manufacturer's association website, 2020), Manufacturing firms in central region were used as study population because they can easily be accessed given that there is high concentration in the central with 49.6% of the total manufacturing firms (UMA website, 2020). According to Sunarni (2013), size could influence the role performed by management accountants in the organization therefore the researchers used size to categorize the Manufacturing firms following UMA' classification 2020 to include Corporate (21) Large (58) Medium 1 (158) Medium 11(369) We used stratified random sampling technique to group manufacturing firms into groups referred to as strata from which a total of 242 was obtained using Krejcie and Morgan (1970)

For each target manufacturing firm, either a Chief Executive Officer, Chief Finance Officer or Internal Auditor and management accountant was selected for the survey, giving a total of 324 survey respondents. The respondents are selected by virtue of their position and knowledge (McEvily and Marcus, 2005). Only 162 firms responded to our questionnaire with 324 completed questionnaires. The responses were then aggregated using a company as a breaking variable.

### 3.2 Measurement of variables, data sources, validity, reliability and management

A closed-ended questionnaire anchored on a four-point likert scale was used with 1=strongly disagree and 4= strongly agree to measure the opinions of management accountants about their roles and role expectations of management accountants.

*Table 1. Proportionate stratified sampling.*

<i>Firm Size</i>	<i>No. of manufacturing firms</i>	<i>Sample size</i>	<i>Response rate</i>
Corporate	21	9	9
Large	58	23	23
Medium I	158	63	63
Medium II	369	147	67
Total	606	242	162

**Source:** Data obtained from Uganda Manufacturers Association, 2020

For content validity 5 questionnaires were administered to a panel of 5 experts, who were management accountants, chief executive officer, internal auditor and Chief finance officer in the practice and academia rated the relevancy of questionnaire items on a scale ranging from 1 = strongly disagree to 4=strongly agree. The researchers then dichotomized the rating scale through splitting the scores such that: rating scores 1 – 2 =measure not useable, 3–4=measure useable. The CVI was computed by obtaining the proportion of items assessed as useable divided by a total number of items (Amin, 2005). The overall content validity index was 0.916 we tested for reliability using Cronbach's alpha coefficient to establish the reliability of the instrument given that it was the most reliable and commonly used measure of scale (Nunnally, 1978). Cronbach's a coefficient for all study variables was 0.77 and above as shown in Table 3. Nunnally (1978) gives a cut-off alpha coefficient of 0.70 as sufficient.

Table 2. Measurement of variables

<b>Global variable</b>	<b>Manifest variables</b>	<b>Measurement</b>	<b>Definition</b>	<b>Simple item scale</b>
<b>Management accountants' competence</b>	Professional Knowledge	Respondents' mean rank of the 6 items of information included in the questionnaire on a four-point Likert scale	This is the ability to demonstrate a proficient level of professional skill in accounting and keep current with developments and trends (Borgonovo et al. 2019)	Accountants have knowledge of the accounting profession
	Financial monitoring and analysis	Respondents' mean rank of the 7 items of information included in the questionnaire on a four-point Likert scale	Financial monitoring and analysis is the ability to monitor and collect data to assess accuracy and integrity (Ramli et al, 2013)	Accountants use sophisticated business analysis tools while performing their roles
	Decision making skills	Respondents' mean rank of the 11 items of information included in the questionnaire on a	Decision making is a process of using effective approaches to choose a course of action (O'Hare et al 2016)	Accountants are able to gather all relevant information needed for
			Communication and interpersonal relationship skill is the ability to report information prepared to intended users that meet their needs and the ability to establish effective working relationships that foster organizational success (Siriwardane et al, 2014; Byrne, 2010)	

	Communication and interpersonal skills	four-point Likert scale  Respondents' mean rank of the 6 items of information included in the questionnaire on a four-point Likert scale	ICT skills refer to the ability to use technology to process and report information. (Mgaya and Kitindi, 2008; Oesterreich and Teuteberg 2019)	decision making  Accountants Present and defend points of view and outcomes of their own work, verbally, to colleagues, and managers
	ICT skills	Respondents' mean rank of the 7 items of information included in the questionnaire on a		Accountants are able to use relevant software

		four-point Likert scale		
<b>Management accounting system</b>	Diagnostic system	Respondents' mean rank of the 6 items of information included in the questionnaire on a four-point Likert scale	It's a system of control that examines performance by monitoring actual performance with established performance standards while amending deviations (Agbejule, 2011)	The system follows up significant exceptions and deviations in performance of roles.
	Interactive system	Respondents' mean rank of the 8 items of information included in the questionnaire on a four-point Likert scale	A system that provides for innovation, creativity and coordination among individuals while they perform their tasks (Novas, et al. 2017)	The system enables implementation of new ideas and ways for doing tasks
<b>Organizational structure</b>	Decentralisation	Respondents' mean rank of the 6 items of information included in the	A decentralized structure is assessed with regard to physical location of management accountants in alongside the managers they serve Hopper (1980) and the assignment of	Management accountants work together

		questionnaire on a four-point Likert scale	decision rights to all individuals. (ten et al, 2018)	with Top managers and those charged with governance (hopper 1980)
	Centralisation	Respondents' mean rank of the 6 items of information included in the questionnaire on a four-point Likert scale	Centralization is explained by the position of MA and intensity of the hierarchical levels in which organizational decisions are taken (Ozer, 2007)	
	Formalisation	Respondents' mean rank of the 8 items of information included in the questionnaire on a four-point Likert scale	This is the extent to which roles of MA are well documented describing the rules and procedures (Boyne et al, 2010)	MA are asked for their opinions before implementation of any new decision.
	Stratification		This is related to the importance attached to tasks as a result of rewards towards the MA. (Erol and Ordu 2018 )	There norms that determine what



		Respondents' mean rank of the 5 items of information included in the questionnaire on a four-point Likert scale		accountants should do, when and where (Erol and Ordu 2018)  Accountants attach more importance to their tasks depending on the rewards given to them (Erol & Ordu 2018)
<b>Management accountants' expectation gap</b>	Unidimensional variable. This is where various items measure the same ability, achievement or attribute of the variable. (Hattie, 1985).	Respondents' mean rank of the 24 items of information included in the questionnaire on a four-point Likert scale	Management Accountants' expectation gap refers to the differences between managers' expectations regarding the role of management accountants and the extent to which these expectations are met (Budding and Wassenaar 2021).	Cost recording (Byrne, 2010)

**Source: Primary Data (2022)**

Table 3: Content validity of the study

<b>Global Variable</b>	<b>Global variable Content validity index (CVI)</b>
Management accountants' competence	0.891
Management accounting system	0.857
Organizational Structure	0.920
Management accountants' expectation gap	0.916

**Source:** primary data (2022)

Table 4: Reliability of the Instrument

<b>Variables</b>	<b>Number of items</b>	<b>Cronbach's Alpha coefficient (<math>\alpha</math>)</b>
Management accountants' competence	37	.726
Management accounting system	14	.700
Organisational structure	25	.746
Management accountants' expectation gap	24	.708

**Source:** Primary Data (2022)

To reflect a small number of latent variables from the variables enlisted in questionnaire, the authors performed a factor analysis. Dear reader, this study performed factor analysis, here for conceptual considerations, according to which the purpose is essentially data reduction. Items under MAEG, OS, MAC and MAS with a correlation of less than 0.5 were excluded from the rotation Tables 5 to Table 8

*Table 5: Rotated Component Matrix for Management accountant competence*

<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
As an accountant in this organisation i prepare reports according to IFRs/IASs and other relevant laws	0.737				
As an accountant in this organisation i critically review accounting standards before applying them	0.727				
As an accountant in this organisation i understand the transaction systems of the organization	0.710				
As an accountant in this organisation i understand the requirements of the profession	0.652				
As an accountant in this organisation i present reports using appropriate formats	0.581				
As an accountant in this organisation i have the ability to analyze complex information	0.566				
As an accountant in this organisation i use techniques (e.g., linear programming and regression) for data analysis		0.614			
As an accountant in this organisation i provide sufficient and appropriate reports to managers such as budget reports		0.609			
As an accountant in this organisation i use advanced business statistical analysis tools in performing my roles		0.602			
As an accountant in this organisation i use techniques (e.g., project evaluation and review technique) for data analysis		0.546			
As an accountant in this organisation i ensure policies and procedures for cost management are adequately followed.		0.501			
As an accountant in this organisation i have ability to analyse large unstructured data sets		0.500			
As an accountant in this organisation i manipulate quantitative data to find problems, their causes and trends			0.814		
As an accountant in this organisation i gather a range of alternative solutions and submit them to management			0.714		
As an accountant in this organisation i actively perform work in teams while performing their tasks			0.693		
As an accountant in this organisation i get involved and know what to do at every step of decision making along with management			0.665		

As an accountant in this organisation i ask for opinions of other departmental heads in my decision making	0.652	
As an accountant in this organisation i ably review a firm's decision problem quickly	0.638	
As an accountant in this organisation i ably gather all relevant information on costs and revenues for decision making	0.582	
As an accountant in this organisation i work alongside management to ensure efficient decisions are made in the firm.	0.567	
As an accountant in this organisation i weigh negative and positive consequences of each alternative option	0.555	
As an accountant in this organisation i think and consider all relevant factors and information before submitting my views to management	0.523	
As an accountant in this organisation i objectively assess situations in order to come to conclusion	0.512	
As an accountant in this organisation i have capability to use both statistical and programming languages when handling large data		0.819
As an accountant in this organisation i ably interpret information generated from as ERP, CRM or SCM systems		0.784
As an accountant in this organisation i ably use IT skills effectively such as advanced analytics & programming skills		0.780
As an accountant in this organisation i ably generate final reports such as budgets using available IT systems		0.772
As an accountant in this organisation i know how to use company systems such as ERP, CRM or SCM systems		0.744
As an accountant in this organisation i ably use relevant software as spread sheet, word processing, ERP, SAP, Pastel		0.657
As an accountant in this organisation i ably to modify computer systems to meet the needs of organisation		0.580
As an accountant in this organisation i use visual aids when presenting management reports		0.821
As an accountant in this organisation i use visual aids for easy interpretation of reports such as pictures, videos		0.768
As an accountant in this organisation i present and justify points of view and outcomes of own work, verbally to colleagues, clients and managers		0.720
As an accountant in this organisation i present and defend points of view and outcomes of their own work, in writing, to colleagues, clients, and superiors		0.666
As an accountant in this organisation i listen to gain information and to understand opposing points of view.		0.595

Eigen values	6.984	6.924	3.959	2.614	2.105
Percentage of variance	18.876	18.714	10.701	7.064	5.69
Cumulative percentage	18.876	37.59	48.292	55.355	61.046
KMO measure of sampling adequacy					0.798
Bartlett's test of sphericity					4454.218

**KEY:** 1-Professional knowledge, 2- Financial monitoring & analysis, 3- decision making skills, 4- ICT skills, 5-Communication & interpersonal skills.

**Source:** Primary Data (2022)

*Table 6: Rotated Component Matrix for Organisational structure*

Item	1	2	3	4
In this organisation accountants are aligned in close proximity with their immediate managers	0.683			
In this organisation accountants are asked for their opinions before implementation of any new decision.	0.662			
In this organisation regular meetings are held between managers and accountants to carry out reconciliations and price determination	0.612			
In this organisation accountants are involved in decision making	0.597			
In this organisation the accountant is only accountable to fellow accountant	0.523			
In this organisation accountants consult and work with operational managers		0.694		
In this organisation accountants spear head the determination of product costs		0.686		
In this organisation accountants' opinions matter for implementing new procedures		0.643		
In this organisation accountants' tasks are performed with approval of an upper level managers		0.630		
In this organisation accountants participate in product development		0.580		
In this organisation well-established rules and regulations for administration exist		0.552		
In this organisation accountants make non-routine decisions after approval by top management		0.519		
In this organisation norms that determine what accountants should do, when and where, exist			0.848	

In this organisation accountants understand the procedures laid out while performing their roles	0.752			
In this organisation accountants' behaviours related to the tasks are controlled thoroughly	0.676			
In this organisation disciplinary actions are under taken in line with the regulation	0.661			
In this organisation rules and regulations on operations of work are clear	0.583			
In this organisation accountants are given high level of initiative on which tasks to perform	0.576			
In this organisation official correspondences are conducted according to procedure	0.570			
In this organisation accountants are rewarded based on accomplishment of tasks				0.735
In this organisation in this organisation accountants attach more importance to their tasks depending on the rewards given to them				0.731
In this organisation managers and those charged with governance excise their rights to comment on reports provided by management accountants				0.682
In this organisation there is a difference in rewards given to higher positions and lower positions				0.671
In this organisation accountants receive extra payments for additional work allocated to them				0.539
Eigen values	4.416	4.388	2.990	1.913
Percentage of variance	17.663	17.551	11.962	7.651
cumulative percentage	17.663	35.214	47.176	54.827
KMO measure of sampling adequacy				0.729
Bartlett's test of sphericity				1996.829**

**KEY:** 1- Decentralised structure, 2- centralized structure, 3 Formalization , 4- Stratification

**Source:** Primary Data (2022)

*Table 7: Rotated Component Matrix for Management accounting system*

Item	Component	
	1	2
Our management accounting system enables implementation of new ideas and ways for doing tasks	0.778	
Our management accounting system follows up significant expectations and deviations in performance of roles of management accountants	0.776	

Our management accounting system adequately evaluates and monitors subordinates' performance	0.712	
Our management accounting system allows for implementation of new ideas and ways for performing tasks.	0.671	
Our management accounting system allows for performance control without the need for managers' follow up	0.615	
Our management accounting system daily compares the established performance standards with actual outcome	0.600	
Our management accounting system satisfies us		0.815
Our management accounting system enables accountants debate data assumptions and action plans to meet management's expectations		0.791
Our management accounting system is a learning tool which guides accountants in performing their roles		0.728
Our management accounting system allows for the search for innovative solutions in the field of accounting.		0.723
Our management accounting system allows accountants participation, debating and interactions among each other about firms' opportunities and threats.		0.717
Our management accounting system sets medium/long term goals and targets which guide accountants to perform expected roles		0.675
Our management accounting system signals key strategic areas for emphasis while performing their roles		0.658
Our management accounting system greatly involves all subordinates		0.541
Eigen values	4.101	3.092
Percentage of variance	29.296	22.089
cumulative percentage	29.296	51.385
KMO measure of sampling adequacy		0.785
Bartlett's test of sphericity		956.568**

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Key: 1-Diagnostic system 2- Interactive system

**Source:** Primary Data (2022)

*Table 8: Rotated Component Matrix for Management accountants' expectation gap*

<b>Item</b>	<b>Components for Roles of management accountants</b>
Storekeeping	0.863
Performance evaluation	0.848
Number-crunching	0.838
Interpreting and presenting management results	0.827
Budgeting	0.813
Provision of timely & relevant information	0.794
Actively performing in teams	0.792
Decision making activities	0.777
Risk assessment and management	0.767
Managing IT systems	0.760
Implementing cost reduction initiatives in the company	0.760
Variance analysis	0.748
Monitoring and measuring results	0.732
Creation of value	0.711
Advising management and those charged with governance	0.680
Working capital and short-term finance management	0.678
Implementing business strategy	0.678
Profit improvements	0.672
Evaluating and correcting actual results	0.625
Cost recording	0.574
Presenting management accounts	0.553
Bean counter	0.539
Strategic Planning	0.531
Product quality management	0.500
Eigen values	6.477
Percentage of variance	<b>70.574</b>
cumulative percentage	<b>70.574</b>
KMO measure of sampling adequacy	<b>0.828</b>
Bartlett's test of sphericity	<b>2310.673</b>

**Source:** *Primary Data (2022)*

The data was collected, edited, coded, cleaned and aggregated using a firm as a breaking variable. Data was then analyzed using SPSS version 26, Pearson correlation coefficient was used to establish the relationship between MAC, MAS, OS and MAEG. Regression analysis was also used to establish the extent to which MAC, MAS and OS influence MAEG in manufacturing firms. Prior to carrying out statistical tests, we checked data for normality to determine the applicability of parametric tests using skewness and kurtosis tests. Skewness and kurtosis statistics were within +2 to -2 range as shown in table 9 and the standard errors for each of the variables are not very different from their respective Skewness and kurtosis scores therefore the normality assumption was not violated (Garson, 2012; Field, 2009). To check whether the variance of the outcome variable is the same at all levels of the predictor variable Levene's



test was used given that it is the most commonly used test for each group (Garson, 2012). Our test results were non-significant ( $p > .05$ ) as shown in Table 10 thus homogeneity of variances not violated. This study further tested for multicollinearity among the predictor variables. Results in table 12 indicate that the correlations do not exceed 0.80 which means that there is no strong relationship between variables hence the multicollinearity assumption is not violated (Field, 2009).

*Table 9: Skewness and Kurtosis tests of normality*

	Management accountants' competence	Management accounting system	Organisational structure	Management accountants' expectation gap
NValid	162	162	162	162
Missing	0	0	0	0
Skewness	.068	-.032	.0330	-.549
Std. Error of Skewness	.191	.191	.191	.191
Kurtosis	.004	-.039	1.326	.886
Std. Error of Kurtosis	.379	.379	.379	.379

**Source:** Primary data (2022)

*Table 10: Test of Homogeneity of Variance*

Variables		Levene Statistic	df1	df2	Sig.
Management accountants' competence	Based on Mean	1.621	6	145	.145
	Based on Median	1.451	6	145	.199
	Based on Median and with adjusted df	1.451	6	117.997	.201
	Based on trimmed mean	1.603	6	145	.150
Management accounting system	Based on Mean	.359	6	145	.904
	Based on Median	.299	6	145	.936
	Based on Median and with adjusted df	.299	6	132.565	.936
	Based on trimmed mean	.322	6	145	.925
Organisational structure	Based on Mean	.796	6	145	.575
	Based on Median	.562	6	145	.760
	Based on Median and with adjusted df	.562	6	122.251	.760
	Based on trimmed mean	.716	6	145	.637

**Source:** Primary data (2022)

#### 4. Results and discussion

##### Results

The summary descriptive statistics of dependent, independent and control variables are presented in Table 11. Table 11 shows that all means of the study variables range between 3.0347 and 3.2476 with the standard deviations in the range of 0.31109 to 0.37876. Given that deviations are small compared to mean values, it means that data points are close to the means hence the means calculated highly represent the observed data (Nkundabanyanga, 2014; Field, 2009).

*Table 11: Descriptive Statistics for Dependent, independent, and control variables*

	N	Minimum	Maximum	Mean	Std. Deviation
Management accountants' competence	162	2.23	4.00	3.2229	.33493
Management accounting system	162	2.07	4.00	3.2476	.37876
Organizational structure	162	2.08	4.00	3.0347	.31109
Personality traits	162	1.00	4.00	2.6049	.87305
Turnover	162	.00	1.00	.9198	.27252
Firm age	162	.00	1.00	.8025	.39937
Technology adoption	162	.00	1.00	.1975	.39937
Management accountants' expectation gap	162	1.96	4.00	3.2288	.35420

**Source:** Primary data (2022)

##### *Correlation analysis results.*

We present Pearson's correlation coefficient analysis of the study variables. The correlation results in Table 12 revealed a moderate but significant positive relationship between MAC and MAEG ( $r=.447^{**}$  and sig. 0.01). Similarly, there is a moderate significant positive relationship between MAS and MAEG ( $r=.500^{**}$  and sig. 0.01). There is also a moderate significant positive relationship between OS and MAEG ( $r=.397^{**}$  and sig. 0.01). In terms of characteristics, age of a company and MAEG are positively and significantly related ( $r=.214^{**}$  and sig. 0.01) while personality traits and MAEG have a weak but positive relationship ( $r=.171^{*}$  and sig. 0.05). The relationship of turnover of the company and technology adoption of a company are however not significantly related at a 1 percent level ( $p<.01$ )

Table 12: Pearson correlations between the dependent, independent and control variables

	1	2	3	4	5	6	7	8
Management accountants' competence (1)	1							
Management accounting system (2)	.532**	1						
Organisational structure (3)	.266**	.493**	1					
Personality traits (4)	0.035	0.020	0.017	1				
Turnover (5)	0.053	0.129	.158*	0.075	1			
Firm age (6)	0.072	.160*	0.090	-.172*	-0.032	1		
Technology adoption (7)	-.221**	-0.099	-0.030	-0.060	.147*	0.051	1	
Management accountants' expectation gap (8)	.447**	.500**	.397**	.171*	-0.011	.214**	-0.018	1

**Notes:**  $n = 162$  \*, \*\*Correlation is significant at the 0.05 and 0.01 level, respectively (1-tailed)

**Source:** Primary Data (2022)

#### Regression analysis.

The analysis progressed with regression analysis to test the study hypotheses. It first used regression coefficients as indicators of whether the contribution of each variable is significant and the overall contribution of variables is indicated by variance explained ( $R^2$ ) that also shows explanatory power of variables. The results in Table 13 indicate that MAC, MAS and OS predict 36.6 percent of the variance in MAEG (Adjusted R square = .366) With a significant b values of  $\beta = .267^{**}$ ,  $0.251^{**}$ ,  $0.205^{**}$  the results confirm that MAC, MAS and OS are significantly associated with MAEG at  $P < .01$  respectively. As a means of statistical control and for examining incremental validity, hierarchical regression analysis to assess the individual contribution of independent variables was performed. Variables were entered simultaneously with each hierarchical group (Field, 2009; Aiken and West, 1991) as shown in Table 14.

Model 1-4 shows the standardized  $\beta$  coefficients for the predictor variables. The hierarchical regression results extracted the different models showing their change at every stage of introducing a new variable. Model 1 is the first stage of hierarchy which shows the effect of only control variables (personality traits, firm age, technology and turnover) which do not explain significant variances in MAEG hence, with no confounding effect. Models 2 and 3 introduce MAS and MAC respectively, and reveal both as significant independent variables of MAEG. Fundamentally, model 4 is the general model which shows the combined effect of all the predictor variables (MAC, MAS and OS). The results show that MAC is the most significant predictor variable of MAEG with (standardized  $\beta = .282^{**}$ ), followed by MAS which is also significant (standardized  $\beta = .235^{**}$ ), and OS which is also significant (standardized  $\beta = .233^{**}$ ) Thus, the predictor variables when combined explain 36.6 percent variance in management accountants' expectation gap in manufacturing firms located in Kampala-Uganda. In

conclusion, model 4 is regarded the best and acceptable model because the adjusted  $R^2$  is seen to improve as more predictors are introduced in the model (Field, 2009). Durbin-Watson test was carried out which tests the assumption of independent errors when cases have some meaningful sequence. For this study, the Durbin-Watson statistic was 1.804, which justifies the assumption of independent errors or no serial correlation (Field, 2009).

*Table 14: Hierarchical regression results*

	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Constant	2.847	1.525	1.028	0.648
Management accounting system		0.454**	0.325**	0.235**
Management accountants' competence			0.284**	0.282**
Organizational Structure				0.233**
Control variables				
Personality traits	0.214	0.199	0.195	0.194
Turnover	-0.17	-0.90	-0.093	-0.113
Firm age	0.251	0.165	0.164	0.161
Technology adoption	-0.15	0.47	0.093	0.092
Model F	3.908	14.162	14.646	14.257
Adjusted R2	.067	.290	.337	.366
F change	3.908**	50.272**	12.048**	7.974**
R2 Change	0.091**	0.222**	0.050**	0.031**
Durbin-Watson Statistics				1.804
Note **p< .01, *p<.05				

**Source:** Primary data

## Discussion

The results reported in this paper suggest that MAC, MAS and OS are significant predictors of MAEG. This means that competent management accountants with skills such as Professional knowledge, decision making, financial analysis, ICT skills and communication skills are well versed with the roles they are supposed to do and how to perform such roles thus meeting the expectations of managers in terms of the roles performed by these management accountants. The results are consistent with the notion that where management Accountants are competent, management Accountants' expectation gap narrows. Similarly, these findings agree with Oesterreich &Teuteberg (2019), who mentioned that there is a shift in competence profile expected from a management accountant due to technology advancement. Therefore, this paper suggests that management should hire competent management accountants with skills such as Professional knowledge, decision making, financial analysis, ICT skills and communication skills in order to meet expectations of management in terms of roles performed. The results further suggest that MAS and well-established organizational structure guides management accountants in performing their roles. For instance,

management accounting systems are enabling institutions with mechanisms that coordinate various activities bringing individuals together to discuss and share ideas which eases role performance (Novas et al 2017). This corroborates with Chenhall (2003) who suggests that a well-developed MAS enhances coordination and close interaction among employees which enables accountants approach their tasks with ease. In the same way, results indicated that where management accountants have a clear understanding of the company's structure, they perform roles expected of them with ease. More so, a formalized structure where rules and roles required of management accountants are well documented and stratified where there rewards towards role performance then management accountants will be guided in performing their roles with ease. Therefore, existence of a well-established structure and developed management accounting system enables competent management accountants in performing roles expected of them.

## **5. Summary and conclusion**

The purpose of this paper was to examine the contribution made by the MAC, MAS, OS and MAEG. We surveyed 162 manufacturing firms and we find that MAC, MAS and OS are significant predictors of MAEG. Once management accountants are competent and are working in a well-established organizational structure with a well-developed management accounting system they will be able to performs roles expected of them thus narrowing management accountants' expectation gap.

This study offers several implications. We explore the role played by management accountants' competence in narrowing MAEG, meaning that management accountants with skills such as Professional knowledge, decision making, financial analysis, ICT skills and communication skills are well versed with the roles they are supposed to do and how to perform such roles thus meeting the expectations of managers in terms of the roles performed by these management accountants. This study has also established that a well-established organizational structure ensures clear definition of authority and responsibility channels clearly describing the roles expected of a management accountant and further emphasized the need for a well-developed management accountant inorder to narrow MAEG. For policymakers like the Bank of Uganda, the findings of this study will help them in prescribing the qualifications for management accountants. Besides, current regulations such as the Uganda company's act 2012 and Accountants act 2013 should also provide clear guidelines for management accountants other than financial accountants. The results are important to different firms as they are guided on developing clear organizational structure indicating responsibility channels, procedures, well written rules, clearly describing the roles of management accountants and developing a management accounting system to guide management accountants in performing roles expected of them. Despite the contributions and implications, this study focused on manufacturing firms in Kampala – Uganda to determine

the contribution of MAC, MAS and OS to MAEG. It is possible that these results are only applicable to manufacturing firms unlike other sectors. The study also used more of quantitative data which which limits responses of the respondents on study variables and given that it's a cross-sectional study the behaviours of the variables over a long time were not completely analysed which restricts the applicability of the findings as a longitudinal study that could give different results. However, the study clearly brought out the contribution of management accountants' competence, management accounting system and organizational structure in closing the management accountants' expectation gap.

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