# Unveiling Corporate Environmental Disclosure: The Effects of Gender Diversity in Boardrooms and Audit Committees

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#### Abstract

This study focuses on examining the impact of board gender diversity in the boardroom and audit committees and the level of corporate environmental disclosures (CED) of listed manufacturing firms at the Dar es Salaam Stock of Exchange (DSE) in Tanzania and Nairobi Security Exchanges (NSE) in Kenya. The study employed stakeholder theory as the theoretical foundation. Fixed effect panel regression was used to analyze a balanced sample of 13 companies for seven years (2016 to 2022) resulting in 91 listed firm-years. The findings reveal that women in the audit committee exerted a positive and significant influence on CED while women directors exhibited a negative and insignificant impact on CED. This study focuses on manufacturing firms to increase the internal validity due to this selection it limits generalization of the findings to other industries. Furthermore, this study contributes to the body of knowledge of corporate governance-related topics of listed manufacturing firms in Kenya and Tanzania.

*Keywords:* Board gender diversity; corporate environmental disclosure; audit committee; stakeholder theory.

#### **1.0 INTRODUCTION**

Companies that disclose environmental-related issues are thought to have a social license to operate and communicate their environmental performances and in so doing increase the transparency needed and maintain the stakeholder relationships that are paramount for the company's survival in the market space (Adebayo *et al.*, 2022; Lyu *et al.*, 2022). Thus, the effects of negative climatic change on people's quality of life have made sustainability disclosures more important than ever to researchers, policymakers, stakeholders, regulators, customers, and institutional investors worldwide. Investors are highly interested in different environmental aspects (Kasambala, 2017; Kasambala, 2019). The latter group of users has made it necessary for public limited firms to pay attention to both the amount and quality of their sustainability disclosures (Alsahali and Malagueño, 2022; García *et al.*, 2022). It is important to note that global climate change and biodiversity decrease has escalated in recent years. Common environmental issues such as water, air, and soil pollution, smog, biodiversity reduction, global warming, and environmental degradation have

raised concerns in the corporate world (Kimario et al., 2023; Han *et al.*, 2019; Liu *et al.*, 2020). Over the past two decades, there has been an upsurge in sustainability reports being published. Though sustainability reporting is not a mandatory practice in most countries, it is clear that 96% of the 250 largest global firms (G250) produce sustainability reports (KPMG, 2020).

Environmental reporting is more important in the current globalized world as a result of the greater society's consensus that corporate environmental transparency is essential. With the radical climatic change witnessed across the globe, the business community is under tremendous pressure from many stakeholders to act ethically toward the larger society when it comes to CED (Benlemlih *et al.*, 2020; Liesen *et al.*, 2017). In the quest to legitimize their business operations in the eyes of society and different stakeholders public limited firms have embarked on producing quality environmental disclosures as a way of giving back to society in terms of environmental protection and improvement (Abbas *et al.*, 2022; Adebayo et al., 2022; Lyu *et al.*, 2022).

Gender diversity is defined as an equitable or fair representation of people of different genders. This is commonly referred to as the equitable ratio of men and women (Cook, 2021). It is worth noting that the presence of women on boards can bring a different perspective to corporate governance and the decisionmaking process of the firm. It is widely acknowledged that directors are highskilled individuals with female representation boards who are expected to have a mixture of different leadership styles that will highly influence how the decisions are made (Tingbani et al., 2020). In that regard, the inclusion of women directors on boards tends to improve corporate environmental disclosures in the setting in which they carry out their responsibilities by creating committees like environmental committees (Bravo and Reguera-Alvarado, 2019). In contrast to their male counterparts, who are more focused on the financial performance of their firms, women directors have been found to exhibit a strong preference for environmental sustainability (Nadeem et al., 2020; Tingbani et al., 2020). Thus, it argued that the presence of women in the boardroom is expected to positively influence corporate environmental disclosures (Gerged et al., 2023).

The audit committee is a group of experts that work on behalf of the board of directors to improve the performance of the company by enhancing information quality through monitoring of financial and non-financial reports, thereby reducing any information asymmetries that may exist between management and stakeholders (Al-Okaily and Naueihed, 2020; Pitenoei*et al.*, 2022). It is anticipated that the audit committee will be an important tool used to safeguard shareholders' interests and hold management responsible for decisions that have an impact on the overall operation of the company (Fakhari and Rezaei, 2017).

According to empirical research, the presence of female members in the audit committee raises issues of governance as well as gender equality, which call for attention (Aldamen*et al.*, 2018). Furthermore, it is argued that by being on the audit committee women can better contribute to the board decision-making process and the impact of board gender diversity is not limited to only women in the boardroom but also women represented in the audit committees (Khemakhem *et al.*, 2022). Companies with a higher percentage of female audit committee members are more likely to disclose significant internal control weaknesses and in turn, this act facilitates social responsibility and environmental disclosures (Parker *et al.*, 2017; Wang and Sun, 2022).

Sustainability reporting is more vital in today's globalized world than ever before. Companies seek their legitimacy in the eyes of various stakeholders by disclosing financial and non-financial information. The business world is under tremendous pressure to act ethically by disclosing environmental-related information in their annual reports (Benlemlih et al., 2020; Liesen et al., 2017). The majority of empirical studies focusing on gender diversity (women directors and women in audit committees) and corporate environmental disclosures have been carried out in industrialized nations like China, Australia, and Canada just to name a few (Elsayihet al., 2021; Khemakhemet al., 2022; Wang and Sun, 2022; Liuet al., 2023). Less is known about the impact of gender diversity (women directors and women in audit committees) on corporate environmental disclosure in emerging economies like Kenya and Tanzania. Due to the importance of protecting the environment at the corporate level, the influence of women in the board room and those in the audit committee toward corporate environmental disclosure is a subject that requires the attention of academicians. In that regard, this research examined the impact of board gender diversity in the boardroom and the audit committees and the level of corporate environmental disclosure of listed manufacturing firms in Kenya and Tanzania from 2016 to 2022 by using fixed effect panel regression.

This study addresses the following research questions (RQ).

RQ1. What is the impact of board gender diversity, represented by the proportion of women directors on a firm's corporate environmental disclosure?

RQ2. What is the impact of board gender diversity, represented by the proportion of women in audit committees on Corporate environmental disclosure?

### 2.0 Literature Review

### 2.1 Theoretical Literature Review

### 2.1.1 Stakeholders Theory

According to the stakeholder theory, businesses achieve their corporate goals by satisfying the interests of different stakeholder groups. Thus, companies'

disclosure of their corporate environmental information is a result of demand from a variety of stakeholders, including their consumers, shareholders, and communities, to mention a few. Therefore, in this view, management's interaction with its stakeholders is crucial for a firm's survival (Onyali. and Okafor, 2018; Elaigwu *et al.*, 2020). It is worth noting that inputs from various stakeholders are crucial if an organization intends to uphold ethical business practices and efficient utilization of scarce resources (Plaza-Ubeda *et al.*, 2010).

The presence of women in the boardroom plays an important role in the board's decision-making process towards maintaining business ethical standards including corporate environmental disclosures. The differences in social values and thoughts between men and women in the boardroom make the presence of women vital as women directors are thought to have altruistic preferences compared to men which causes them to engage more in ethical and social-related issues affecting the entity (Amorelli and Garcia-Sanchez, 2021; Kaptein, 2008). Stakeholder theory further contends that a diversified and independent board and the existence of a sustainability committee may balance the firm's financial and non-financial goals with limited resources and consequently moderate the possible conflicting expectations of stakeholders who have incongruent interests (Liao *et al.*, 2015).

#### 2.2 Empirical literature review

#### 2.2.1 Women Directors and Corporate Environmental Disclosure

Women on board are thought to have unique perspectives, knowledge, skills, and engagement styles on top of their tendency to ask more questions that catalyze wider participation and discussion in the boardroom. This in turn leads to greater client satisfaction and increases collective intelligence (Liswood, 2015). Stakeholder theorists argue that women directors manifest a greater propensity to communicate the values, purposes, and importance of the organization's missions with clarity as compared to their men counterparts. Shareholder's theory further contends that women directors play a vital role in promoting and endorsing corporate decisions that support community, environment, and social responsibility on behalf of the stakeholders (Manita *et al.*, 2018; Wasiuzzaman and Wan Mohammad, 2020).

Some studies argue that women directors exert a positive influence on corporate environmental disclosure CED (Salhi *et al.*, 2020; Tingbani *et al.*, 2020; Elsayih *et al.*, 2021; Okudo and Amahalu, 2021; Issa and Zaid, 2023; Liu *et al.*, 2023). This implies that the presence of women directors on the board positively influences the level of corporate environmental disclosure. Another study that was conducted in Italy revealed that women directors on board exert a negative and statistically significant influence on corporate environmental disclosure

suggesting that being a woman director does not necessarily imply that the latter will have a different outlook as regards corporate environmental-related issues. The study argued that gender alone does not determine the positive level of corporate environmental disclosure (Cucari et al., 2017). Another study that was conducted in the USA between 2010-2015 sampling 379 firms revealed that there was no significant relationship between the proportion of women directors on the board and ESG disclosures (Manita *et al.*, 2018).

Panel A of Table 1 reveals a summary of the empirical studies that examined the relationship between board gender diversity measured in terms of the proportion of female directors on board and CED.

Country/	Response	Measure of	Model	Duration	Findings
Region	Variable	CED			
pact of wom	nen directors o	on CED			
China	Proportion	WI	Two-stage	2010-	Proportion of WD
	of WD	Disclosure	regression	2018	exerted a Positive
					influence to WI
ltaly	Proportion	ESG	Multiple	2011-	The proportion of
	of WD	Disclosure	regression	2014	WD exerted a
			analysis		Negative impact on
					ESC Disclosure
Nigeria	Proportion	CE	PLS	2011-	The proportion of
	of WD	Disclosure	regression	2020	WD exerted a
			analysis		positive impact on
					CE Disclosure
Australia	Proportion	CAE	Fixed-	2010-	The proportion of
	of WD	Disclosure	effects	2018	WD exerted a
			model		positive impact on
					CAE Disclosure
France	Proportion	CE	Generalized	2012-	The proportion of
	of WD	Disclosure	Least	2017	WD exerted a
			Squares		positive impact on
					CE Disclosure
United-	Proportion	GHG	Fixed-	2011-	The proportion of
kingdom	of WD	Disclosure	effects	2014	WD exerted a
(UK)			model		positive impact on
					GHG Disclosure
United	Proportion	ESG	Fixed-	2010-	The proportion of
States of	of WD	Disclosure	effects	2015	WD exerted a non-
America			model		significant impact
(USA)					on ESG Disclosure
	Country/ Region act of won China taly Vigeria Vigeria Australia France United- ingdom UK) United States of America USA)	Country/       Response         Region       Variable         act of women directors of the second secon	Country/ RegionResponse VariableMeasure of CEDAct of women directors on CEDChinaProportion of WDDisclosuretalyProportion of WDESG of WDVigeriaProportion of WDVigeriaProportion of WDAustraliaProportion of WDCE of WDCate DisclosureFranceProportion of WDCE of WDUnited- ingdom UK)United UK)United (ME)Proportion of WDCE DisclosureUnited (ME)Proportion of WDCE DisclosureUNITED (ME)Proportion (ME)CE (ME)UK)UNITED (ME)Proportion (ME)ESG (ME)USA)	Country/ RegionResponse VariableMeasure of CEDModel ModelRegionVariableCEDact of women directors on CEDChinaProportion of WDWI DisclosureTwo-stage regressionTalyProportion of WDESG DisclosureMultiple regression analysistalyProportion of WDCE DisclosureMultiple regression analysisVigeriaProportion of WDCE DisclosurePLS regression analysisAustraliaProportion of WDCAE DisclosureFixed- effects modelFranceProportion of WDCE DisclosureGeneralized Least SquaresUnited- ingdom UK)Proportion of WDCHG DisclosureFixed- effects modelUnited UK)Proportion of WDESG DisclosureFixed- effects modelUnited UK)Proportion of WDESG DisclosureFixed- effects model	Country/ RegionResponse VariableMeasure of CEDModelDurationRegionVariableCEDDurationact of women directors on CEDTwo-stage Proportion of WD2010- Disclosure2010- regressionChinaProportion of WDESG DisclosureMultiple regression analysis2011- 2014talyProportion of WDESG DisclosureMultiple regression analysis2011- 2014VigeriaProportion of WDCE DisclosurePLS regression analysis2010- 2020AustraliaProportion of WDCAE DisclosureFixed- effects 20182010- 2020FranceProportion of WDCE DisclosureGeneralized effects 20172012- 2017Juited- ingdom UK)Proportion of WDGHG DisclosureFixed- effects 2014 model2011- 2012- 2018Juited ited of WDProportion DisclosureFixed- effects 2017 Squares2010- 2014Juited ited of WDESG DisclosureFixed- effects 2014 model2010- 2015

Table 1: Summary of empirical studies on the Impact of women directors on CED

Abbreviations: WD (Women Directors), GHG (Greenhouse Gases), CAE (Carbon Emissions), WI (Water information), BC (Biodiversity Conservation), CE (Corporate Environmental), ESG (Environmental, Social and Governance).

# 2.2.2 Women audit committee members and Corporate Environmental Disclosure

The presence of women members in the audit committee plays an important role in encouraging and improving transparency in corporate governance-related issues such as environmental disclosures. It is worth noting that gender diversity in audit committees increases the level of debate and discussion on tough issues that are often ignored by all men-dominated committees (Gul *et al.*, 2011; Appuhami and Tashakor, 2016). Literature reveals that most of the work of the board occurs in committees, which are smaller working groups within the board. In a smaller group, a small representation of women represents a higher proportion of that small group implying that they exert a greater influence in the board's decision-making process including corporate environmental disclosurerelated issues (Khemakhem *et al.*, 2022).

Most empirical studies reveal that the presence of women on the auditee committee exerts a positive influence on corporate environmental disclosures of companies (Bravo and Reguera-Alvarado, 2019; Khemakhem *et al.*, 2022; Wang and Sun, 2022). This technically implies that the presence of women in the audit committee surely does increase the level of debate about tough issues that need disclosure such as environmental-related issues that stand to be ignored by male-dominated committees (Gul *et al.*, 2011; Appuhami and Tashakor, 2016).

Panel B of Table 2 reveals some of the empirical studies that examined the relationship that exists between the proportion of women on the audit committee and corporate environmental disclosure.

Study	Country/ Region	Response Variable	Measure of CED	Model	Duration	Findings
Panel B: Impact	of Women	Audit Com	mittee Men	bers on CE	D	
Khemakhem et	Canada	Proportion	ESG	Structural	2011-2014	The proportion of
al.(2022)		of WACM	Disclosure	equation		WACM exerted a
				model		Positive impact on
						ESG Disclosure
Wang and Sun	China	Proportion	CE	fixed-	2012-2018	The proportion of
(2022)		of WACM	Disclosure	effects		WACM exerted a
				model		Positive impact on
						CE Disclosure
Bravo and	Spain	Proportion	ESG	Fixed	2012-2015	The proportion of
Reguera-		of WACM	Disclosure	effect		WACM exerted a
Alvarado (2019)				model		Positive impact on
						ESG Disclosure

 Table 2: Summary of empirical studies on the Impact of Women audit members on CED

Abbreviations: WACM (Women Audit Committee Members), CE (Corporate Environmental), ESG (Environmental, Social and Governance)

#### 2.3 Conceptual Framework

The conceptual framework depicts the relationship between the response variable (corporate environmental disclosure), explanatory variables (proportion of women directors and proportion of women audit committee members), and the control variables namely firm size, audit committee meeting, and profitability as measured by ROE.



Figure 1: Conceptual framework

This study is guided by the following hypothesis

*Hypothesis 1: Women directors negatively influence the level of corporate environmental disclosures* 

*Hypothesis 2: Women in the audit committee positively influence the level of corporate environmental disclosure* 

# 3.0 METHODOLOGY

### 3.1 Sample

This study utilizes a panel dataset that focuses on 13 listed manufacturing firms at NSE and DSE in Kenya and Tanzania respectively for seven years from 2016 to 2022. The study period was ideal because it was in 2015 that the 17 Sustainable Development Goals (SDGs) were agreed upon by world leaders to create a better, fairer, world by 2030. The study focus is on SDG goal number 5 (gender equality) in the boardroom in terms of the proportion of women directors and proportion of women in the audit committees and their impact on corporate environmental disclosures among the 13 listed manufacturing firms in Kenya and Tanzania. Manufacturing firms were purposively selected because these firms are perceived to contribute to polluting the environment as compared to other institutions like the banks.

The sample was selected using inclusion and exclusion criteria. The eligibility criteria for the selection of these firms were all the listed manufacturing firms that have disclosed their annual reports for seven consecutive years and had a complete data set required to conduct this study. After applying the inclusion and exclusion criteria only 13 listed manufacturing firms remained yielding a balanced panel of 91 firm-year observations. Board gender diversity was measured as the proportion of women directors and the proportion of women in the audit committee and corporate environmental disclosure was measured as per updated GRI G3 checklist indicators. The data used in this study were gathered from annual reports and audited financial statements of listed manufacturing firms in Kenya and Tanzania retrieved from the African Financial website which can be accessed at https://africanfinancials.com/

S/N	Name of the firm	Acronym	Country
1	Unga Group Plc	Unga	Kenya
2	East Africa Breweries Ltd Plc	EABL Plc	Kenya
3	British America Tobacco Kenya Plc	BAT Plc	Kenya
4	BOC Gases Plc	BOC Plc	Kenya
5	Bamburi Cement Plc	BC Plc	Kenya
6	Crown Paint Kenya Plc	Crown Plc	Kenya
7	Flame Tree Plc	FT Plc	Kenya
8	Tanzania Breweries Ltd Plc	TBL Plc	Tanzania
9	Tanzania Cigarette Company Ltd	TCC Plc	Tanzania
10	Tanga Cement Company Ltd	SIMBA	Tanzania
11	Tanzania Portland Cement Company Ltd	TPC Plc	Tanzania
12	Tatepa	TTP Plc	Tanzania
13	Tanzania Oxygen limited	TOL Plc	Tanzania

Table 3: Selected listed manufacturing firms from Kenya and Tanzania

#### **3.2** Variable construction

This section presents the response and explanatory variables used in this study **Corporate Environmental Disclosure**: In the quest to select the environmental information indicator list, the researcher departed from the original GR1 G3 checklist (Welbeck *et al.*, 2018). From the original GRI G3 checklist that contained 13 keywords, our study omitted the keywords that were too general or often appeared in studies unrelated to environmental-related issues. Thus, we adopted the checklist proposed by (Miklosik, Starchon, and Hitka, 2021). Table 4 depicts the adopted indicator list for measuring Corporate Environmental Disclosure (CED).

Original GRI G3 checklist indicator words	Adopted study Indicator
	list (Response Variable)
Material; energy; water; biodiversity; emissions;	Biodiversity; emissions;
effluent; waste; product; services; compliance;	waste; environment;
transport; supplier environmental assessment;	climate; warming; carbon;
environmental grievance mechanism (13 items)	pollution (8 items)
Adopted from (Miklosik Starchon and Hitka 20	21)

Adopted from (Miklosik, Starchon, and Hitka, 2021)

Category	Variable	Abrev	Description/ measurement	Source	Authors
Response variable	Corporate environmental disclosure ratio	CED	Actual items disclosed/8	Annual reports	(Miklosik, Starchon and Hitka, 2021).
Explanatory variables	Women Directors	PWD	Percentage of women on board	Annual reports	(Magoma and Ernest, 2023; Adamu <i>et al.,</i> 2024; Alkayed <i>et al.,</i> 2024; Aly <i>et al.,</i> 2024)
	Women in the audit committee	PWAC	Percentage of women in audit committee	Annual reports	(Bravo and Reguera- Alvarado, 2019; Wang and Sun, 2022).
Control Variables	Audit committee meetings	ACM	Number of times audit committee meetings are held	Annual reports	(Arif <i>et al.</i> , 2020; Wang and Sun, 2022; Qaderi <i>et al.</i> , 2023)
	Firm Size	FS	Natural log (Total assets)	Financial statements	(Magoma <i>et al.</i> , 2022; Anyigbah <i>et al.</i> , 2023; Gerged et al., 2023; Nicolo' <i>et al.</i> , 2023)
	Profitability	RO E	Net Income/Total Equity	Financial statements	(Magoma and Ernest, 2023; Temba <i>et al.</i> , 2023; Alkayed <i>et al.</i> , 2024)

#### **Table 5: Variable measurement**

#### 3.3 **Specification of the Econometric model**

This study used a panel data approach to examine the influence of gender diversity measured in terms of the proportion of women directors on the board and the proportion of women audit committee members. Corporate Environmental Disclosures are measured as per updated GRI G3 checklist indicators.

 $CEDit = \beta 0 + \beta_1 PWD_{it} + \beta_2 PWAC_{it} + CV_{it} + \varepsilon_{it}$ ...... Equation 1 CED<sub>it</sub> is Corporate environmental disclosure, PWD<sub>it</sub> is the proportion of women directors in the boardroom, PWAC<sub>it</sub> is the proportion of women in the audit committee, CV is the control variables namely Firm size, audit committee meetings, and profitability,  $\varepsilon_{it}$  is the error term,  $\beta 0$  is the intercept,  $\beta_1$ , .......  $B_n$  is the beta-coefficients, i is the cross-sectional unit and t is the period (2016 to 2022).

#### 3.4 Data analysis

Multicollinearity test was conducted through variance inflation factor (VIF) and tolerance (1/VIF) results indicated that VIF was less than 10 and 1/VIF was more than 0.1 revealing the absence of multicollinearity (Epaphra, 2020; Magoma et al., 2022) (see Table 7). Other studies in the manufacturing industry that employed VIF are (Kimario and Kira, 2023; Kimario and Mwagike, 2023). The test for autocorrelation was done through the Durbin-Watson test. Our study Durbin Watson test value was 2.06 (see Table 9). Autocorrelation is absent if the Durbin-Watson value is greater than 1.5 and less than 2.5 (Mazengo and Mwaifyusi, 2021). Finally, to test which model was effective between random effect and fixed effect Hausman test was conducted. The findings revealed that the fixed effect model was more appropriate for this particular study. Thus, this study adopted a fixed-effect regression model (see Table 9).

### 4.0 **RESULTS AND DISCUSSION**

#### 4.1 Descriptive statistics

Table 6 reveals the descriptive statistics of model variables for all 91 firm years of listed manufacturing firms from Kenya and Tanzania from 2016 to 2022. The mean value of corporate environmental disclosure is approximately 39% slightly higher compared to another corporate environmental disclosure study conducted in Tanzania (Magoma et al.,2022: 18.6%). The proportion of women directors was seen to be 18.24% slightly higher compared to a corporate governance study conducted in Tanzania in the year 2023 (Magoma & Ernest, 2023: 15.38%). The proportion of women in the audit committee was 35% slightly higher compared to a study conducted in Spain (Bravo and Reguera-Alvarado, 2019: 13.5%) Last but not least the mean number of audit committee conducted was approximately 4 meetings slightly lower compared to (Bravo & Reguera-Alvarado, 2019: 7).

					- ( > ) ,	, <b></b> .	
	<b>CED</b> (%)	PWAC (%)	PWD (%)	<b>ROE</b> (%)	ACM (#)	FS (#)	
Obs	91	91	91	91	91	91	
Min	0.00	0.00	0.00	0.47	0.00	7.33	
Max	88.00	100.00	45.45	120.5	7.00	13.91	
Mean	39.39	34.92	18.24	21.36	3.65	10.60	
SD	26.16	16.51	16.00	20.55	1.33	1.93	

Table 6: Descrip	tive Statistics	of Model	variables	for all	(91)	firm years
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Abbreviations: CED (Corporate environmental Disclosure), FS (Firm size), PWD (proportion of women directors), PWAC (proportion of women in the audit committee), ACM (Audit committee meetings), ROE (Return on Equity).

#### **Table 7: Multicollinearity Test**

Variable	VIF	<b>Tolerance (1/VIF</b>
Proportion of women in audit committee	1.142	0.876
Proportion of women directors	1.495	0.669
Firm Size	1.238	0.808
Audit committee meetings	1.159	0.863
Profitability	1.072	0.993
Mean VIF	1.221	0.842

#### 4.2 Correlation Matrix

Table 8 reveals that there is a positive and statistically significant correlation between CED and the proportion of women directors and the proportion of women audit committee members of listed manufacturing firms from Kenya and Tanzania. All correlations are far below the threshold value of 0.80 (Gujarati, 2009), indicating the absence of a multicollinearity problem in this study as seen in **Table 7** above.

			Correlatio	ons			
Variables		CED	PWAC	PWD	ROE	ACM	FS
CED	Pearson Correlation	1	.341**	.403**	$.257^{*}$	.174	.150
	Sig. (2-tailed)		.001	.000	.014	.099	.155
PWAC	Pearson Correlation		1	.339**	058	.094	091
	Sig. (2-tailed)			.001	.586	.375	.389
PWD	Pearson Correlation			1	.038	.353**	386**
	Sig. (2-tailed)				.717	.001	.000
ROE	Pearson Correlation				1	.125	.184
	Sig. (2-tailed)					.239	.081
ACM	Pearson Correlation					1	113
	Sig. (2-tailed)						.286
FS	Pearson Correlation						1
	Sig. (2-tailed)						

Table 8: Correlation Matrix of the variables for all (91) firm years

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

#### 4.3 Panel Regression results and discussions

Table 9 reveals the estimation results of a balanced panel regression of 13 listed manufacturing firms from Kenya and Tanzania from 2016 to 2022. The proportion of women on the audit committee exhibited a positive and significant influence on CED whereas the proportion of women directors had a negative and insignificant impact on CED.

#### 4.4 Women Directors and CED

The presence of women directors on boards of listed manufacturing firms in Kenya and Tanzania exhibited a negative and insignificant influence on corporate environmental disclosure. Thus, H1 was rejected. The findings of this study were contrary to previous empirical studies such as those (Salhi et al., 2020; Tingbani et al., 2020; Elsayih *et al.*, 2021; Okudo and Amahalu, 2021; Issa and Zaid, 2023; Liu *et al.*, 2023). It was also evident that the proportion of women directors of listed manufacturing firms in Kenya and Tanzania was 18.24% as seen in Table 6. This representation is minimal and might explain the insignificant results seen in this study.

#### 4.5 Women audit committee members and CED

The presence of women in the audit committee exhibited a positive and significant influence on CED. Thus, H2 is accepted. These empirical results are consistent with previous studies conducted in Spain, Canada, and China that showed a positive and significant relationship between the proportion of women on the audit committee and environmental disclosure (Bravo & Reguera-Alvarado, 2019; Khemakhem et al., 2022; Wang and Sun, 2022). This study's results are consistent with the stakeholder theory that was used as the theoretical foundation.

Response Variable: CED			
Variables	Coefficient	t-statistics	P-
			value
Explanatory variables			
The proportion of women in the audit committee	0.2783	2.4104	0.0185
Proportion of women directors	-0.3729	-1.449	0.1516
Control variables			
Firm size	5.447	0.6547	0.5147
Audit committee meetings	-3.180	-3.647	0.0005
Profitability	0.076	0.9064	0.3677
Diagnostic Tests			
R-Squared	84.46%		
Adjusted R-squared	81.33%		
S.E Regression	18.422		
F-statistics	24.074		
Prob (F-statistics)	0.000000		
Durbin-Watson Test	2.06		
Mean dependent Var	62.814		
Sum Squared residual	24773		
Hausman test (Chi-Sq stat, Prob)	(11.4359,	Fixed effect	
	0.0434)	model	
No Observations	91		

#### **Table 9: Fixed effect regression results**

*E-views results (2024)* 

### 5.0 CONCLUSIONS

The study focused on assessing the impact of gender diversity and corporate environmental disclosure of listed manufacturing firms in Kenya and Tanzania from 2016 to 2022. Gender diversity was measured in terms of the proportion of women directors and the proportion of women in the audit committee. The results showed that women in the audit committee exerted a positive and significant influence on CED. These results imply that the presence of more women on the audit committee positively influences the CED of listed manufacturing firms in Kenya and Tanzania. It was also revealed that the proportion of women directors exerted a negative and non-significant influence on CED.

### 6.0 SCOPE FOR FUTURE STUDIES

Future research may explore a different approach in coding environmental disclosure items and extensively examine the role of board gender diversity in the boardroom and audit committees in different industries

# 7.0 LIMITATIONS OF THE STUDY

This study has inherent limitations. The constructs that measured corporate environmental disclosure (CED) were retrieved from the annual reports of listed manufacturing firms from Kenya and Tanzania by coding 8 disclosure items. The coding process is a subjective process that is not purely free from bias. Though we have explored a wide range of disclosure the 8 items selected are not exhaustive. Secondly, this study focused on manufacturing firms to increase internal validity; thus, based on this selection it limits the generalization of the findings to other industries.

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