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Tanzania Institute of Accountancy (TIA)
P. O. Box 9522, Dar es Salaam, Tanzania
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TABLES CONTENTS

Academic Staff Mobility in Tanzania’s Higher Learning Institutions: Understanding the Push and Pull Factors	1
Beatrice M. Mkunde and Fabian Gallus Mahundu	1
https://dx.doi.org/10.4314/ajasss.v4i2.1	
Quantitative Analysis of Factors Influencing Financial Management among Village Community Banks’ Beneficiaries in Mbeya City, Tanzania	16
Asheri Mandesu Mwidege	16
https://dx.doi.org/10.4314/ajasss.v4i2.2	
Effect of Audit Opinions and Entity's Characteristics on Audit Committees' Effectiveness in Government Entities in Tanzania	34
Frank Arbogast Mwombeki	34
https://dx.doi.org/10.4314/ajasss.v4i2.3	
The Mediation Effect of Business Environment on How Firm Characteristics Relate to Environmental Disclosure in Tanzania's Extractive Industry	54
Ntui Ponsian, Henry Chalu and Siasa Mzenzi	54
https://dx.doi.org/10.4314/ajasss.v4i2.4	
Does Internal Audit Functions Effectiveness influence External Auditors’ Reliance on Internal Audit Work?	82
John Sosthenes Mapuli	82
https://dx.doi.org/10.4314/ajasss.v4i2.5	
The Influence of Customer Retention Practices on Performance of Micro and Small Agro-processing Enterprises in Tanzania	99
Eliakira Nnko	99
https://dx.doi.org/10.4314/ajasss.v4i2.6	
Challenges Facing Learners’ Acquisition of Employability Competencies under Competency-Based Education and Training Approach in Vocational Education and Training Centres in Tanzania	121
Shukurani Mgaya	121
https://dx.doi.org/10.4314/ajasss.v4i2.7	
Annualized Stock Market Returns Volatility: An Evidence of Dar es Salaam Stock Exchange	148
Asheri Mandesu Mwidege	148
https://dx.doi.org/10.4314/ajasss.v4i2.8	

Determinants of Social Media Marketing Adoption among Small and Medium Enterprises in Dar es Salaam - Tanzania	159
Justine Augustine and Makawa Nawa	159
<i>https://dx.doi.org/10.4314/ajasss.v4i2.9</i>	
Quality Assurance Practices in the Time of COVID 19: What Works in Tertiary Institutions in Tanzania	183
Mwita Sospeter, Alphonse J. Amuli and Issaya B Hassanal	183
<i>https://dx.doi.org/10.4314/ajasss.v4i2.10</i>	
Use of Social Media to Improve Marketing Performance of Selected Manufacturing Firms in Tanzania: Evidence from Coastal Region.....	196
Justine Augustine and Avitus Rushaka.....	196
<i>https://dx.doi.org/10.4314/ajasss.v4i2.11</i>	
Influence of Product Information on Processed Maize Flour Marketing by Small and Medium Millers in Dodoma City, Tanzania	220
Godlove A Mpandiko	220
<i>https://dx.doi.org/10.4314/ajasss.v4i2.12</i>	
Effects of Innovation on Business Performance: Empirical Evidence from Manufacturing Firms in Tanzania	237
Hussein Athumani Mwaifyusi and Ramadhani Kitwana Dau	237
<i>https://dx.doi.org/10.4314/ajasss.v4i2.13</i>	
Performance of Vat System in Tanzania Since Enactment of The Vat Act in 2014	258
Heriel E. Nguvava and Noah N. Athanas	258
<i>https://dx.doi.org/10.4314/ajasss.v4i2.14</i>	
Procurement Contract Management and Procurement Performance in Parastatal Organisations in Tanzania.....	272
Masoud, Y., Emmanuel, T, Salum, M,	272
<i>https://dx.doi.org/10.4314/ajasss.v4i2.15</i>	
Corporate Governance and Firm Performance: Evidence from Microfinance Institutions in Tanzania.....	286
Saimon Solomon and Victoria Makuya,.....	286
<i>https://dx.doi.org/10.4314/ajasss.v4i2.16</i>	
Stakeholders' Perception of the Impacts of Supply Chain Management on Tanzania Construction Projects' Performance.....	309
Ramadhani Said Tekka	309
<i>https://dx.doi.org/10.4314/ajasss.v4i2.17</i>	

The Mediation Effect of Business Environment on How Firm Characteristics Relate to Environmental Disclosure in Tanzania's Extractive Industry

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Abstract

This study determines the function of the business environment as a mediating factor on how firm characteristics relate to the environmental disclosure in the Tanzanian extractive industry through legitimacy and stakeholder theories lens. The analysis makes use of panel data from the 2018 Tanzania Extractive Industry Transparency Initiative (TEITI) report covering the years 2004 to 2018, following the adoption of an environmental management Act and its implementing laws in Tanzania. To extract data from yearly reports, the manifest content analysis was employed. The results show that the relationship between corporate profitability, size, and environmental disclosure is mediated by pressure of stakeholders. Furthermore, the findings imply that the relationship between size of firm and environmental disclosure is mediated by visibility by the media. However, the legal need does not operate as a buffer between any firm characteristic and environmental disclosure, indicating that laws, regulations, and rules are not the only drivers of environmental disclosure. For the first time, the study introduces, quantifies, and examines the business environment as the only justification for environmental disclosure. The study combines legitimacy and stakeholder theories, treating businesses as entities with internal decision-making processes that are also influenced by pressure from the outside world. The study also suggests that enhancing environmental disclosure and business participation may not be possible with just rules or legislation. The study demonstrates that stakeholder theory works more effectively in situations when powerful stakeholders put significant pressure on businesses to disclose environmental information. In terms of society, the study would promote social involvement in ensuring that businesses disclose and protect the environment so that people can live in safety.

Keywords: *Environmental Disclosure, Extractive Industry, Mediation, Stakeholder Theory, Legitimacy Theory, Tanzania.*

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1. Introduction

Local and multinational businesses are working closely to make sure that the world is a viable place to live, and environmental disputes have gone many different ways around the world. From the 1992 Rio Declaration through the 2016 Paris Accord, there have been discussions on sustainable link between development and access to environmental information (UN, 2015). In order to achieve sustainable development, Rio Declaration Principle 10 (UN DESA, 1992) defines environmental information being data held by public authorities and produced by environmental laws and regulations at all levels of government. This definition is consistent with the UN 17 sustainable development goals, which place a strong emphasis on sustainability. Additionally, it is mentioned that the globe is making great efforts to protect the environment by battling climate change, as highlighted in COP26 in Glasgow in 2021. The International Sustainability Standards Board's (ISSB) on-going discussion of sustainability standards, in particular S1, which focuses on requirements and need for disclosure of sustainability-related financial information eyeing the available risks and opportunities, ensuring that production is done with the least amount of environmental impact, and entities to ensure that there is a trade-off between environmental impacts, employment, and other factors, is of the utmost importance in accounting (IFRS Foundation, 2022).

O'Connor (2006) demonstrates that there is still a scarcity of environmental accounting research in developing nations. Africa accounts for only 1% of global environmental accounting research (equal to New Zealand's 1%), followed by the Middle East with 0.4%. In contrast, developed nations have disclosed much more information, with the USA accounting for 25%, the UK 15%, the EU (non-UK) 13%, Australia 16%, Canada and Asia each with 6%, and the rest, or international 17%. Even among the few developing countries that have environmental disclosure (EnD), there are disparities, but overall, EnD is still low, as demonstrated by the Arabian countries. Although the Arab world owns nearly 77% of the world's oil reserves and is extremely wealthy in the oil industry, there haven't been many research projects in this area (Kamal et al., 2012). In keeping with Beske et al.

(2020), who assert that companies only publish a small amount of essential information in integrated and sustainability reports, this is true.

The business environment has a favourable impact on environmental disclosure, as shown by Wang et al. (2013) and Gamerschlag et al. (2011). Other studies show that there is pressure on the business environment to support environmental disclosure (Qian et al., 2011; Charl and Chris, 2012; Lodhia et al., 2012; Cho et al., 2012; Daniel and Dianne, 2013; Stevie and Chris, 2016; Adusei, 2017; Stevie and Chris, 2016; Moazzem et al., 2017; Dienes et al., 2016). Most research has examined if there is a direct connection between various parameters and environmental disclosure, but there are many discrepancies (Lopez-Gamero et al., 2009). In order to reflect a more thorough measurement of environmental disclosure, a study combining many aspects of environmental activity is required for methodological, theoretical, and geographical reasons.

Some variables and factors affecting EnD may have various effects because of intricacy of corporate processes. Despite the fact that they have direct effects on EnD, businesses publish environmental information because there is pressure on them to do so; if there were no such pressure, there would be no need to disclose (Ntui et al., 2021). This study looks into the mediating effect of the business environment in order to explain the relationship between firm characteristics including size of firm, age, profitability, type, capital structure, ownership structure, and environmental disclosure (pressure of stakeholders, visibility by the media, and law requirements). Studies have shown that regulatory context influences disclosure decisions (Mateo-Márquez et al., 2019); so it is critical to identify the underlying causes or mediating factors that influence businesses to disclose environmental activities in a setting where environmental disclosure is largely voluntary and where regulations and laws are ambiguous.

This study aims to comprehend the mediating effect of the business environment on the relationship between corporate features and EnD using the legitimacy and stakeholder theories as a framework. This investigation is essential for the following reasons: First of all, businesses can engage in environmental activities and create regulations and policies by comprehending the connection between firm features and the business environment as well as how environmental disclosure influences those characteristics. Making informed decisions about the environment and creating regulations and policies that will effectively and sustainably protect the environment is made easier by management, policymakers, and regulators, thanks to the business environment's ability to mediate the influence of firm characteristics on environmental disclosure by the firm. Thirdly, the relationship

between business environment and firm characteristics in influencing environmental disclosure is an indicator that the firm is a good citizen given the pressure from stakeholders and the larger society, which recognises how firms work in line with their interests, environmental protection, and takes actions as necessary for regulating the actions or behaviour of firms.

The National Environmental Policy (NEP), 2021, which was introduced after a review of the NEP, 1997, Tanzania's previous environmental policy, and other reforms in the extractive industry are two other areas where the study is of utmost importance. The extractive industry has undergone significant change as a result of reforms, claim Kessy et al. (2017), and this has raised concerns about the best ways to run the company and handle the effects of mining projects on communities. Openness, sustainability, and attention to the environment are expressly required by Section 47 of the Petroleum Act 2015.

Given that environmental resources account for 70% of Tanzania's GDP and peoples' livelihoods, the study is likewise significant there. As the environment and natural resources are significant assets that must be managed properly for both the present and future generations, it ensures environmental conservation and sustainable use of natural resources. Additionally, despite NEP, 1997, the environmental situation is still getting not good, particularly in the extractive industry. If mining, oil, and gas operations are not well managed, they may have negative effects on the environment, human health, and safety (URT, 2021).

The significance of this study is also based on the National Environmental Management Council's (NEMC) operational initiatives to ensure that businesses operate sustainably, as confirmed by Citizen Correspondent (2013), which is demonstrated by the organisation fining gold mines for environmental pollution that endangers biodiversity and human health. Additionally, there are environmental concerns in relation to the country's manufacturing, mining, oil, and gas sectors, as well as the recently launched national projects. As of 2021, Tanzania, for instance, had discovered 54 trillion cubic feet of natural gas. The nation also hosts oil pipelines that connect it to its neighbours, such as the 1,710-kilometre TAZAMA pipeline from Dar es Salaam to Ndola, Zambia, the 1,445-kilometre Kabale-Uganda to Tanga-Tanzania oil pipeline, and the Mwalimu Nyerere Hydroelectric Power Project (URT, 2021), all of which call for environmental disclosure for the benefit of their users, stakeholders, and the environment.

Even though the impact is most visible in mining, oil, and gas, or extractive industries, few businesses reveal something in their annual reports. Others, in

contrast, don't disclose anything, which makes it difficult for stakeholders to gather data for decision-making because environmental disclosure is voluntary, as demonstrated by Tanzania's absence of regulations, guidelines, or standards that would call for environmental disclosure. The conclusions suggest that the existing rule focuses on physical, live, or onsite audits but does not require environmental disclosure and reporting in businesses' or projects' financial and annual reports or statements, highlighting the necessity for the study. As all of these have significant disclosure implications, it was anticipated that changes in the extractive industry and environment management could create a standard, uniformity, regulations, or guidelines on how firms can disclose environmental information so that firms and stakeholders could easily get it when needed for decision-making. However, the progress gained so far may not be enough to assure openness, sustainability, and environmental care in accounting and financial reporting as a key tool for communication, particularly in enterprises' annual reports with all stakeholders. This calls for finding out the mediation role of the business environment in firms' environmental disclosure.

2. Literature Review

2.1 Theoretical Reviews

According to studies, firm characteristics have a direct impact on environmental disclosure (Ntui, 2021). Additionally, environmental disclosure may be directly influenced by elements that are incorporated in the business environment, such as national rules or guidelines and pressure of stakeholders. Firms behave differently as a result of the business environment since without it, the relationships between other variables (both direct and moderating) may not hold. This means that only when the business environment is present does the association between firm characteristics and environmental disclosure hold. In order to better understand how businesses behave in relation to environmental disclosure and to report environmental practices in contexts where EnD is both voluntary and mandated, respectively, this study applies legitimacy theory and stakeholder theory. According to Wang'ombe (2013), the variables used to evaluate the various theories of environmental disclosure may overlap, and their similarity encourages them to be thought of as a whole.

According to the legitimacy theory, businesses and their managers are expected to examine and fairly balance the interests of all stakeholders (Freeman, 1984). Businesses also share environmental information to be perceived as good neighbours who support social or community objectives. According to the stakeholder theory, which was also used in this study, businesses disclose environmental information to meet stakeholder needs and primarily to lessen

pressure from stakeholders who could result in fines, penalties, or other legal repercussions. In other words, businesses have a binding fiduciary duty to prioritise the needs of stakeholders and to create value for them. Even while different internal and external stakeholder groups have different levels of influence over an organization's decisions (Deegan, 2002; Parker, 2005; Chen and Roberts, 2010), social and environmental accounting practises and education are two areas where stakeholders differ (Nsor-Ambala et al., 2019). As a result, a company frequently has to manage a number of conflicting expectations and pressures.

In order to achieve the firm's strategic objectives and acquire the support of the most important stakeholders while avoiding their wrath, managers must assert control over their surroundings, assess how crucial it is to satisfy stakeholder demands, and strike a balance between conflicting expectations (Parker, 2005). According to Hossain et al. (2017), companies only report in response to pressure from powerful stakeholders, and the main factor influencing corporate social and environmental reporting in developing nations is a director's proactive motivation. Stakeholder theory was used to determine what and why Bangladeshi businesses reported corporate social and environmental issues in order to achieve this.

Legitimacy theory describes how corporate characteristics directly affect EnD since firms are supposed to share information about the environment in order to be regarded as respectable citizens. The study also highlights the stakeholder theory, which holds that businesses only disclose environmental information in response to pressure from stakeholders and that they are unable to do so in the absence of such stakeholders. According to studies, the variables impacting environmental disclosure may be ingrained in the corporate environment as a result of national policies or regulations (Djuminah, 2017). Firms behave differently as a result of the business environment since without it; it is possible that the relationships between other variables wouldn't hold.

2.2 Empirical Reviews and Hypotheses Development

Developments and interpretations of these features are founded on the stakeholder theory, which is predicated on the idea that corporations report environmental issues to meet the demands of stakeholders and ease the burden on their networks. Although they have not done so specifically or in groups, numerous studies (Wang et al., 2013; Dobbs and Staden, 2016; Matozza et al., 2019; Chandok and Singh, 2017) have made an effort to name a number of business environment elements, including visibility by the media, litigation costs, stakeholder satisfaction, community concerns, and law requirements. This research narrows the field by focusing on pressure of stakeholders, media exposure, and legal requirements—all

of which are objective, quantifiable characteristics that are easy to locate in corporations' annual reports.

2.2.1 The Pressure of Stakeholders

Polluting firms respond to pressure of stakeholders by working to enhance their environmental performance in order to draw stakeholders' attention away from their financial losses and toward the environmental sector (Matozza et al., 2019). This indicates that the motivation for disclosure is pressure of stakeholders. Dobbs and Staden (2016) assert that shareholder rights and community concerns play a major role in determining whether or not firms disclose environmental issues. Communities also have expectations for the environmental performance of local entities (Qian et al., 2011), and public pressure affects social transparency at the same time (Adams and Whelan, 2009). This suggests that the public's and community shareholders' demands for corporate social responsibility initiatives relating to businesses' environmental effects are what led to the disclosure of environmental operations.

According to Deegan (2002), who supports the idea that stakeholders are the driving force behind disclosure, among the factors motivating environmental disclosure are the need to meet borrowing requirements, manage specific stakeholder groups, adhere to industry standards, draw in funding or investment, and receive certain rating awards. However, Hossain et al. (2017) note that companies also report in response to demand from key stakeholders, and that transparency in this industry is mostly driven by proactive environmental disclosure-related justifications.

This illustrates that stakeholders' desire for corporations to be held accountable for their environmental impact is the main driving force behind the requirement for environmental information. As disclosure is intended to please all stakeholders, pressure of stakeholders mediates the relationship between corporate characteristics and environmental disclosure. The conclusions may have significant implications for management and corporate decision-making, as well as for regulators' regulatory practises (Charl and Chris, 2012).

This discussion demonstrates that pressure of stakeholders is a justification for disclosure and that if there were no stakeholder interest, the justification for disclosure would not exist. According to stakeholder theory, businesses under more pressure of stakeholders should only report pertinent environmental issues to appease them, signalling that they care about the environment and that their requirements are met. This suggests the following hypothesis:

H₁: A mediating factor for the impact of firm characteristics on environmental disclosure is pressure of stakeholders.

2.2.2 Visibility by the Media

Studies (Michelon, 2011; Gamerschlag et al., 2011, Wang et al., 2013) have found a positive correlation between media coverage and corporate social responsibility disclosure, supporting the notion that media coverage and sustainability reporting are related (Gamerschlag et al., 2011). This positive link may be explained by the fact that organisations with greater media exposure deal with a greater number of stakeholders who are able to exert significant pressure. Companies must provide environmental facts in order to avoid negative news, media attention, and notoriety.

According to the Cho et al. (2012) study, companies disclose their environmental capital expenditures as a tactical measure to reduce their exposure to political risk. According to Cho and Patten (2007), businesses employ disclosure to lessen exposure to the political landscape. Dienes et al. (2016)'s analysis came to the conclusion that visibility by the media is the key factor in influencing the publication of sustainability reports. Once more, media awareness is the driving force behind disclosure, as businesses fear political repercussions and want to assure environmental stakeholders that they are in compliance.

In order to avoid being poorly viewed by environmental authorities and other interested parties, it appears that businesses disclose environmental issues when they are visible in the media. According to stakeholder theory, companies that are exposed to the media will downplay their coverage of environmental issues in order to reduce their political exposure and avoid negative headlines. In light of this, it was hypothesised that:

H₂: The impact of firm characteristics on environmental disclosure is mediated by media visibility.

2.2.3 Legal Requirements

Chandok and Singh's (2017) research demonstrates the need for mandatory disclosure of fines levied and legal actions taken to enforce environmental laws, pollution control board notices, and other actions that have harmed environmental resources. On the other hand, Daniel and Dianne (2013) contend that avoiding or reducing the danger of class lawsuits and the related financial penalties is a factor in certain firms' decision to improve environmental, social, and governance disclosure. Additional impetus for enhancing business

environmental and social governance disclosure and sustainability performance comes from the deterrent effect and associated avoidance behaviour of civil litigation class actions.

According to a study by Jason et al. (2014), judges are less likely to award shareholders who lose money as a result of environmental penalties compensatory and punitive damages when there is even a partial public disclosure of the impending sanctions on the financial statement of the firm. Businesses that disclose environmental information in upgraded presentation formats also see a decrease in the number of claims for damages made against them.

According to Martinov-Bennie and Hecimovic (2010), environmental disclosure is motivated by coercive duties to satisfy law requirements. According to Charl and Chris (2012), the majority of shareholders favour making environmental disclosure mandatory. Haddad et al. (2017) assert that improved disclosure has resulted from new regulations, financial market reforms, and agreements with international organisations including the World Trade Organization and the International Organization of Securities Commissions.

This pattern suggests that firms reveal environmental issues to escape legal penalties imposed by regulators and other stakeholders; as a result, the relationship between business characteristics and environmental disclosure is mediated by law requirements. In light of the stakeholder hypothesis, it is contended that firms purposefully and cautiously disclose environmental issues to avoid incurring legal fees, penalties, and punishments. This leads to the following hypothesis:

H₃: The influence of firm characteristics on environmental disclosure is mediated by legal requirements.

2.3 Conceptual Framework

In both required settings using stakeholder theory and voluntary contexts utilising legitimacy theory, firm characteristics have a direct impact on EnD while the business environment mediates this impact. In Figure 1, the relationships between the variables are shown.

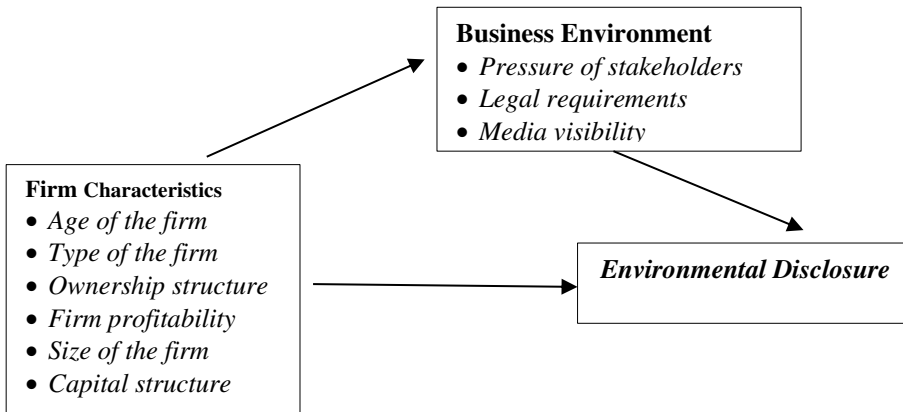


Figure 1

3. Methodology

3.1 Design

Since some firms had fewer years in business than others, the study employed imbalanced panel data from annual reports. According to the research paradigm, the tools, and the criteria employed to measure the variables, the study employed a manifest content analysis approach, which is objective and compliant. The approach was used due to its ability to reveal environmental information (Beck, 2010). The recorder merely needs to read and input the information that can be found in the content of annual reports, provided the stated items and the measurement recorded, assuming that the instruments for data collection are standard and founded on literature and industry standards like GRI. The design ensures that both the methods used to get the information and its validity and dependability are assured.

3.2 Data Collection

There were 1,287 mining, oil, and gas firms in Tanzania's extractive industry at the time of doing this research, most of which were tiny businesses that did not satisfy the TEITI's materiality criteria. The mining group, and the oil and gas group are the two primary divisions of the industry. The investigation included 67% of mining firms and 33% of oil and gas firms. A total of 216 annual reports had been produced by the 18 firms that fulfilled the TEITI's materiality criterion of Tshs 300M for disclosing government receipts. These annual reports are all available on the firms' websites.

Data were gathered from annual reports and financial statements between 2004—the year the Environmental Management Act was passed—and 2018 to create a panel with no more than 15 years' worth of observations for each company.

Additionally, IASs were formally implemented in Tanzania in 2004, which means that they were applied in full along with the International Financial Reporting Standards (IFRSs), starting on July 1 of that same year. This may have once again altered how businesses behave when making financial statements in Tanzania. The study is built on the implementation of IFRSs and the EMA, both of which had an impact on disclosure procedures since 2004.

Chong (2020) asserts that specific web-based features boost information visibility, positively affect investors' impressions of the company, and raise the probability that investors will choose to make investments that are advantageous to the company. Websites are therefore a crucial part of the disclosure process because they make it simple for stakeholders to get the information they need. The key elements of the business environment, such as pressure of stakeholders, media attention, and legal requirements, as well as the firm's size, profitability, capital structure, and ownership structure are extrapolated from the statements of financial position and income statements from the annual reports.

However, firm profiles contain details about the age and type of the business. Based on knowledge from prior studies, a firm receives 3 points for information disclosed in monetary terms, 2 points for information disclosed in quantitative terms, 1 point for information disclosed in descriptive terms, and 0 point for no disclosure. A list of 20 environmental themes is used to create the disclosure score (GRI, 2006; GRI, 2011; Beck et al., 2010; Kamal et al., 2012; Ullah et al., 2014).

3.3 Data Analysis and the Model

In order to evaluate the hypotheses and quantify the connections between firm characteristics, the business environment, and EnD, this study employed structural equation modelling for the data analysis. The following model was used in the hypothesis testing and to identify the variables affecting environmental disclosure:

$$\text{EnD} = i_1 + c \text{FiC} + e_1 \dots\dots\dots (1)$$

$$\text{EnD} = i_2 + a \text{FiC} + b \text{BuE} + e_2 \dots\dots\dots (2)$$

$$\text{BuE} = i_3 + a \text{FiC} + e_3 \dots\dots\dots (3)$$

$$\text{EnD} = i_4 + b \text{BuE} + e_4 \dots\dots\dots (4)$$

Where:

EnD = Environmental Disclosure

FiC = Firm Characteristics (age of firm, type of firm, ownership structure, capital structure, size of firm, profitability of firm)

BuE = Business Environment (stakeholders pressure, media visibility, legal requirement)

ε = Error term, α_0 = Constant term, i_1 - i_6 = coefficients

3.3 Variables and Measurements

The study's nine independent variables, three mediating variables (pressure of stakeholders, media exposure, and regulatory requirements), one dependent variable (environmental disclosure), and six direct variables (size of firm, age of firm, type of firm, ownership structure, capital structure, and profitability of the firm) were employed. The variables were chosen because they are dependable markers of internal company characteristics, the business environment, and environmental disclosure, respectively, and because the literature on them is easily accessible.

Table 1: Variables and Measurements

Variables	Measurement
Firm Age, FiA	Years since inception
Firm Type, FiT	Stream level: Down-stream 3, Mid-stream 2, Up-stream 1
Stakeholder Pressure, StP	Natural logarithm value of corporate social responsibility
Ownership Structure, OwS	Concentration of ownership, i.e. shareholding of $\geq 5\%$
Firms Size, FiZ	Total assets measured by a Natural logarithm value
Media Visibility, MeV	Costs of advertisements' Natural logarithm
Capital Structure, CaS	Debt-equity ratio
Legal Requirement, LeR	Natural logarithm of environmental fines and penalties
Firm Profitability, FiP	Return on assets
Environmental Disclosure, EnD	Total number of disclosure scores

4. Results and Discussions

4.1 Industry Characteristics

As evidenced by the low averages of 0.37 and 0.99, respectively, the data in Table 2 show that pressure of stakeholders in the extractive industry appeared to be lowered by the unique stakeholders of oil and gas enterprises, whereas in the mining group, the pressure appeared to be higher, at 1.37. StD 2.3 in the industry group and StD 1.6 in the oil and gas group indicating that the pressure appeared to be comparable across the groups, but StD 2.5 in the mining group indicating that it was slightly higher, which may have been a result of the 2017 mining reforms, which included an amendment to the Mining Act, 2010 that added a mining commission and increased fines.

All of the groups exhibited consistent media attention, with the industry, oil and gas, and mining groups having StDs of 6.1, 6.7, and 5.5, respectively. The oil and gas industry spent the most (mean: 8.5), followed by the industry group with a mean of 6.8 and the mining group with a mean of 5.8. All organisations spent a lot of money to gain media attention. The highest prices for oil and gas may be justified

because the sector is still in its infancy stage and needs more advertising to meet the demands of stakeholders for customers, suppliers, and investors.

With nearly identical mean values, i.e. 0.34, 0.34, and 0.35 in the industry group, oil and gas group, and mining group, respectively—although the latter was slightly higher—the three groups in the industry appeared to share a fear of legal action and the consequences associated with non-compliance. With StDs of 1.7 for the industry group, 2.1 for the oil and gas sector, and 1.4 for mining, variances in the fear or pressure to avoid litigation or expenses were also minor across all the groups. The industry's use of a single law enforcement agency to implement the same Act and well-known regulations that have been in existence since 2004 and 2005 may be the cause of the consistency.

Table 2: Descriptive Statistical Analysis

Factors	Mean	Std Deviation	Min.	Max.
Mining				
Stakeholder Pressure, StP	1.3720	2.5473	1.6194	10.3874
Media Visibility, MeV	5.8219	5.4557	3.5288	18.5639
Legal Requirement, LeR	.3467	1.3947	.0000	8.0064
Oil and Gas				
Stakeholder Pressure, StP	.3666	1.5768	.0000	12.6115
Media Visibility, MeV	8.5300	6.6645	.0000	16.6737
Legal Requirement, LeR	.3384	2.1399	.0000	13.8155
Industry				
Stakeholder Pressure, StP	.994992	2.2819483	1.6194	12.6115
Media Visibility, MeV	6.837431	6.0666417	3.5288	18.5639
Legal Requirement, LeR	.343562	1.7077367	.0000	13.8155

4.2 Firm Characteristics in Relation to Environmental Disclosure

As a method for structural equation modelling analysis was used, the factors that influence business environmental disclosure were examined using Analysis of Moments graphics. Table 3 displays the estimates, level of significance, standard error, and critical ratios for each variable.

Table 3: Firm Characteristics in Relation to Environmental Disclosure

Independent Variables	Estimate	S.E.	C.R.			
FiP	3.58*	1.61	2.23			
CaS	-.12	.28	-.43			
FiT	.22	.44	.51			
FiA	.03**	.01	4.91			
FiZ	.74**	.06	12.28			
OwS	1.00	.44	.51			
Statistics	GFI	AGFI	RMSEA	P	CFI	CMIN/DF
Value	0.910	0.821	0.054	0.000	0.643	6.101

* Significant at 0.05 level

** Significant at 0.01 level

The significant and positive impact of age of the firm, size of firm, and profitability of firm on environmental disclosure is seen in Table 3. The presence of the variables is supported by the non-zero estimates, small standard errors, critical ratios under 1, and p values under 0.05. This shows that bigger companies disclose more environmental information than smaller companies; older companies publish more environmental information than younger companies; and more profitable companies release more environmental information than losing companies. The goodness of fit indices, intercepts, and estimates were also sufficient to come to the conclusion that the model fitted the data well, as shown by GFI of 0.910, AGFI of 0.821, and p-value of 0.000. There was no need to conduct CFA because every variable in this model was quantified objectively. The choice to employ the model is based on all of the indices because studies have shown that the RMSEA for a population must be between 0.05 and 0.1, but it can be bigger for a sample (Kenny, 2020). As a result, all the 6 variables were eligible for further investigation because the constructed model successfully fitted the data.

4.3 Mediation Effect on Business Environment

The independent (characteristics of the firm) and dependent (environmental disclosure) variables must be significantly correlated, as well as the independent and mediating (business environment) factors. The mediating and dependent variables must also be significantly correlated. In 1986, Baron and Kenny developed these three standards. The results show that, for the first condition, while the other variables were not significant, the effects of age of firm, size of firm, and business profitability on environmental disclosure were substantial and positive at

1%, 1%, and 5%, respectively. The variables were examined to determine whether they all satisfied the requirements for mediation.

The results in Table 4 show that the second condition was also met in that there was a significant correlation between firm characteristics and the business environment for size of the firm and visibility by the media at 1%, profitability of firm and pressure of stakeholders at 5%, capital structure and pressure of stakeholders at 5%, age of firm and pressure of stakeholders at 5%, and ownership structure and visibility by the media at 5%. However, there was no apparent relationship between firm characteristics and legal requirements, demonstrating that there was no mediating role of law requirements in the association between corporate characteristics and environmental disclosure.

It was necessary to examine whether there was a significant relationship between the business environment and environmental disclosure across all variables in order to ascertain whether the third condition had been satisfied. Pressure of stakeholders accounted significantly for the relationship at the 5% level, visibility at the 1% level, and law requirements at the 1% level. All business environment mediator variables—pressure of stakeholders, media exposure, and law requirement—as well as size of firm, age of firm, and profitability of firm qualified for mediation because they met all requirements. Other elements, however, were not subjected to the mediation analysis.

There was a strong direct correlation between environmental disclosure and company age when the mediator was introduced. This association supports the 1% level of significance with a S.E. of 0.01, a C.R. of 6.09, and a p-value of 0.00. Additionally, firm type with S.E. of 0.41, C.R. of 2.21, and p-value of 0.03, as well as size of the firm with S.E. of 0.06, C.R. of 9.24, and p-value of 0.00, indicated that they were supported at the 5% significant level. Since they were not significant, other variables including ownership structure, firm type, and capital structure were not considered for the mediation test. Profitability of the company changed from being significant to being irrelevant. Given that the mediators' presence reduced the firm's profitability from being significant to being negligible, full mediation may be conceivable. However, this possibility is less plausible, given that the firm's age and size are still important, indicating only partial mediation.

Table 4: Business Environment Mediation Effect

	Paths		Estimates	S.E.	C.R.	P
MeV	<---	FiZ	.73	.08	8.85	***
StP	<---	FiZ	-.03	.04	-7.0	.49
StP	<---	FiA	-.01	.00	-1.88	.05
LeR	<---	FiP	.21	.49	.44	.66
MeV	<---	FiP	1.66	2.22	.75	.45
StP	<---	FiP	2.48	.97	2.56	.01
LeR	<---	FiA	.00	.00	.03	.97
LeR	<---	FiZ	-.01	.02	-.53	.60
EnD	<---	FiA	.03	.01	6.09	***
EnD	<---	LeR	.55	.20	2.78	.01
EnD	<---	StP	.22	.10	2.21	.03
EnD	<---	MeV	.28	.04	6.58	***
EnD	<---	FiP	1.0	1.42	.71	.48
EnD	<---	FiZ	.56	.06	9.24	***
EnD	<---	FiT	.90	.41	2.21	.03

After three hypotheses were tested using direct relationship estimate findings as a baseline, an indirect model was used to provide a set of estimate results necessary for the hypotheses testing. The changes in estimates before and after the introduction of mediators were used to test hypotheses using qualifying variables such profitability of firm, age of firm, and size of firm, as shown in Table 5.

Table 5: Business environment factors effects on firm characteristics

Variables and estimates						
Variables	Direct Relationship			Indirect Relationship		
				StP	MeV	LeR
FiP	3.58*			2.48*	1.66	.21
FiA	.03**			-.01*	.00	.00
FiZ	.74**			-.03	.73**	-.01
CaS	-.12			-.36*	.20	-.14
FiT	.22			-.33	.72	.08
OwS	1.00			.073	-.71*	.02
Statistics	GFI	AGFI	RMSEA	P	CFI	CMIN/DF
Value	0.998	0.874	0.053	0.001	0.996	2.484

* Significant at 0.05 level

** Significant at 0.01 level

The business environment model's initial results had a p-value of 0.000, and all significant intercepts and variable estimations were non-zero. The goodness of fit indices, which included GFI of 0.998, AGFI of 0.874, and RMSEA of 0.053, demonstrate how well the model matched the data. The decision to use the model was made based on all indices, all of which fell within the suggested values, proving that all three variables fairly qualified for further analysis. Research has shown that the RMSEA for a population must be between 0.05 and 0.1, but it can be greater than 0.1 for a sample (Kenny, 2020).

Table 5 shows that pressure of stakeholders fully mediated the association between corporate profitability and environmental disclosure, proving that pressure of stakeholders was solely a cause for this relationship. On the other hand, profitable enterprises may withhold some environmental information in response to stakeholder requests because they may perceive no other reason to do disclose. The results also show that the relationship between age of firm and environmental disclosure was partially mediated by pressure of stakeholders, which implies that older businesses were less likely to disclose environmental information as a result of pressure of stakeholders. Older companies may disclose less information if there is no shareholder pressure because they may not be concerned about their legality. Additionally, the relationship between size of the firm and environmental disclosure was partially mediated by media visibility, suggesting that visibility by the media, to some extent, encourages firms to disclose less and only relevant environmental information in order to avoid overexposure to the general public and stakeholders; without media pressure, it's possible that more information couldn't be disclosed.

Table 5 gives results on arguments the theories that the business environment acts as a mediating factor when the regression weights or estimates on the direct association between firm characteristics and environmental disclosure are reduced. Based on the findings and condition tests, this is stated. Full mediation occurs if the direct impact of firm characteristics on environmental disclosure is reduced from being significant to being inconsequential. However, partial mediation would happen if the direct influence was still considerable when a mediating variable is added.

The first hypothesis (H₁), according to which pressure of stakeholders moderates the effect of business characteristics on environmental disclosure, was tested using structural equation modelling. The results show that the direct model estimates of company age and profitability of firm decreased from $\beta = 0.03^{**}$ and 3.58^* to $\beta = -0.01^*$ and 2.48^* , respectively, when pressure of stakeholders was incorporated as a mediator. Age of firm continued to be 1% significant after the mediator was included, but profitability of firm lost its significance. This proves that pressure of

stakeholders totally mediates the link between corporate profitability and environmental disclosure, as well as somewhat partially mediating the link between age of firm and environmental disclosure.

When the mediator was added, the capital structure coefficient considerably decreased, dropping from $\beta = -0.12$ to $\beta = -0.36^*$ at the 5% significant level. However, because the variable did not match condition 1, the mediation impact could not be seen. Therefore, the hypothesis was not rejected because estimates for age of the firm and profitability of the firm fell when pressure of stakeholders as a mediator was used. The hypothesis was rejected for the variables size of the firm, company type, capital structure, and ownership structure since these variables did not meet the requirements for assessing the mediation effect.

The findings show that, in the case of the second hypothesis (H_2), which claimed that visibility by the media has a mediating effect on the influence of firm characteristics on environmental disclosure, the direct estimate of size of firm decreased after the introduction of media visibility from $\beta = 0.74^{**}$ to $\beta = 0.73^{**}$. Because company size remained significant at 1% even after the mediator was taken into consideration, visibility by the media partially mediated the relationship between business size and environmental disclosure. The variable did not meet condition one, thus the mediation effect could not be noticed, even though the ownership structure coefficient drastically decreased when the mediator was added—from $\beta = 1.00$ to $\beta = -.71^*$ at the 5% significant level. When media visibility was included as a mediator, the estimates of size of firm shrank, which shows that the hypothesis was not refuted in the case of size of firm. Age, type, capital structure, profitability, and ownership structures of the firms were all left out of the analysis since they did not meet the requirements for establishing the existence of the mediation effect.

Using structural equation modelling, the third legal requirement hypothesis (H_3) was investigated, and the results show that the hypothesis was untrue for all variables. According to this theory, corporate characteristics' effects on environmental disclosure were not mediated by regulatory obligations. Although legal requirement had a significant impact on environmental disclosure at 1% and significant, firm characteristics (age of firm, size of firm, and profitability of firm) had an impact on environmental disclosure in condition one; there was no significant interaction between the two, so none of the variables met condition two. This demonstrates that regulatory requirements are not a mediating factor in the relationship between environmental disclosure and all business factors (age of firm, type of firm, size of firm, capital structure, profitability of firm, and ownership

structure). The estimates for the legal requirement showed a general drop, even though they were not statistically significant, showing that they had some impacts but they did not mediate.

In general, the business environment had both full and partial mediation effects, which alternately retained the significance of the impact of firm characteristics on environmental disclosure and changed important variables in direct models to inconsequential. This is shown by the general interaction in Table 5, where pressure of stakeholders entirely mediated profitability of firm, and pressure of stakeholders and visibility by the media partially mediated age of firm and size of firm. In contrast, no relationship between corporate characteristics and environmental disclosure was mediated by regulatory requirements.

In agreement with these findings, Hickman (2020) demonstrates that stakeholders, particularly non-owner stakeholders, have a greater influence on corporate social responsibility reporting, while Dobbs and Staden (2016) suggest that shareholder rights and community concerns are the most crucial variables influencing corporate reporting decisions. This indicates that the motivations for disclosure are shareholder rights and societal concerns. Community expectations for local entities' environmental performance are also shown by Qian et al. (2011), whereas Charl and Chris (2012) believe that disclosure is essential for stakeholders because it will have an impact on policies.

By pointing out that reporting is primarily driven by proactive justifications with enlightened self-interest and image-building, in terms of reactive motivators, Hossain et al. (2017) identify reasons for disclosure to be stakeholders' motives, self-interest, and certain rationales. This is required to show the influence of pressure of stakeholders on environmental disclosure. The stakeholder theory, which contends that businesses report to appease the requirements and preferences of their stakeholders, is supported by these data. Due to stakeholder demand, environmental disclosure is driven, which explains the connection between business profitability, age of firm, and environmental disclosure. Therefore, it may be claimed that profitable businesses report more environmental information than they would otherwise because there is little incentive to do so when there are no stakeholders present. This protects their profits.

The results also imply that media importance partially mediates the relationship between size of firm and environmental disclosure. Despite the fact that there are other factors that should be considered, visibility by the media is the most

important one because, according to studies by Gamerschlag et al. (2011), Michelon (2011), and Wang (2013), visibility by the media is positively correlated with social and environmental disclosure with a focus on corporate social responsibility. This suggests that big businesses release environmental data to lessen their risk of being exposed to the media.

The findings once again show that only business size affects visibility by the media. The media often cover the most obvious factors, which could be the cause. Large companies are compelled to reveal their environmental efforts to appease the stakeholders watching their operations because they are visible to the media and community. The media seem to have no interest in other firm attributes (age of firm, type of firm, profitability of firm, ownership structures, and capital structure), which appear to be internal. These findings suggest the importance of media exposure for environmental disclosure. This is consistent with Dienes et al. (2016), who maintain that visibility by the media is a key factor in determining how sustainability reports are reported. If there is no media pressure, firms might not feel the need to disclose their environmental efforts because there is no incentive or purpose to spend on reporting without a return.

While Cho and Patten (2007) contend that businesses use reporting as a tool to increase exposure to the political environment, Cho et al. (2012) provide evidence that businesses use reporting of environmental capital spending as a strategic tool to address their exposure to political concerns. These data show that, in the process of meeting stakeholder needs, media awareness is a key factor in environmental disclosure. From the perspective of the stakeholders, businesses that are exposed to the media tend to report more environmental issues in order to lessen their political exposure and steer clear of bad press. As a result, one of the crucial elements influencing environmental disclosure in Tanzania's extractive industry is the influence of visibility by the media.

The findings also show that regulatory requirements do not mediate any of the firm characteristics in contrast to Dianne (2013) who argues that the motive for certain firms to increase environmental disclosure is to avoid, or lessen, the risks and the accompanying financial penalties. As there is no incentive or motive for spending on reporting without profits, it is argued that enterprises may not feel the need to disclose environmental operations in the absence of legal pressure and the costs associated with non-compliance.

The results of this study further show that even a limited amount of environmental disclosure is advantageous for firms, and that a legal mandate is a substantial

rationale for environmental disclosure. Jason et al. (2014) claim that even a partial disclosure of impending environmental sanctions on a company's financial statements reduces the amount of compensation and punitive damages awarded. Additionally, they contend that enhanced presentational techniques reduce the overall cost of damages.

The study contradicts the majority of previous studies (Martinov-Bennie and Hecimovic, 2010; Charl and Chris, 2012; Haddad et al., 2017) that contend that laws and regulations have a significant impact on environmental disclosure. This shows that the findings are at odds with all of these studies and do not support any of them. Additionally, it offers less support to the stakeholder theory, which contends that businesses share environmental information to avoid fines and other penalties.

The findings also suggest that regulations and laws may not be the only factors driving disclosure, suggesting that businesses may have more compelling motivations for doing so than avoiding fines and other costs connected with non-compliance and legal action. With mean values that were virtually equivalent at 0.34, 0.34, and 0.35, respectively, the three industry groups—industry, oil and gas, and mining—seem to have comparable statutory needs in the context of Tanzania. The situation is a little worse in the mining industry, according to Citizen Correspondent (2013), who cites fines levied by NEMC on gold miners for infringing on environmental standards.

The differences in the fear or pressure to avoid litigation or expenses were also minimal across all groups, with SDs of 1.7 for the industry group, 2.1 for the oil and gas group, and 1.4 for the mining group. The similarity may be due to the fact that there is only one law enforcement organisation in the business, the NEMC, which enforces the same well-known legislation that was implemented in 2004 and 2005. Environmental disclosure may not be required by law for a number of reasons, including absence of legislation or guidelines that direct disclosure in the financial and annual reports of firms (Adusei, 2017; Bracci et al., 2013; Wang'ombe, 2005) and the fact that disclosure is voluntary (Herath, 2005; Mohamed and Aziz, 2010). According to these findings, there is no link between corporate characteristics and environmental disclosure that is mediated by legislative requirements.

5.0 Conclusions and Recommendations

Using the viewpoints of the legitimacy and stakeholder theories in a Tanzanian extractive industry, the study sought to determine the business environment's

mediating role in the relationship between corporate characteristics and environmental disclosure. The findings demonstrate that the relationship between corporate profitability and environmental disclosure is fully mediated by stakeholder demand. This shows that profitable businesses only release environmental information in response to pressure or stakeholder requests. This suggests as well that shareholder pressure has an indirect impact on environmental disclosure in successful businesses. The association between business size and environmental disclosure is also partially mediated by pressure of stakeholders, demonstrating that stakeholders primarily pressure large enterprises to disclose environmental information. Other motivations for disclosure might exist, but none of them is as strong as the demand from stakeholders.

The findings also demonstrate that the relationship between size of firm and environmental disclosure is somewhat or partially mediated by media visibility. This suggests that, in order to lessen their political exposure and avoid bad press, big businesses are required to disclose environmental issues to the media. The results demonstrate that no firm feature and environmental disclosure are correlated, demonstrating that regulatory demands or pressure on businesses have little to no effect on environmental disclosure-related issues.

This shows that firms don't always disclose environmental information or engage in environmental initiatives for the sole purpose of avoiding litigation expenses, fines, and penalties. Because there are no standards, recommendations, or laws mandating environmental disclosure in annual reports and financial statements, there may not be a mediation effect for a legal obligation. The stakeholder theory, which contends that firms report to satisfy the requirements of stakeholders, is supported by these findings, which also support the mediation effects of pressure of stakeholders and media prominence.

The business environment serves as a mediating factor in this study's contribution for the first time in the relationship between firm characteristics and environmental disclosure in the extractive industry in the setting of Tanzania. By introducing a business environment factor that is made up of a legal requirement, visibility by the media, and pressure of stakeholders, it expands studies on environmental disclosure by departing from the norm and testing the relationship between environmental disclosure and business environment directly rather than by introducing mediating factors.

The study also demonstrates that stakeholder theory is effective when there are many powerful stakeholders, as seen by the failure of legislative requirements to mediate any variable and the partial mediating effects of pressure of stakeholders and media exposure on the majority of variables.

The general partial mediation of pressure of stakeholders, media exposure, and legal requirements having no indirect influence on environmental disclosure, or having no mediation effect, demonstrates that stakeholders, media, and laws alone may not significantly influence businesses to participate in disclosure of environmental information. Due to this, businesses and politicians must develop environmental rules that take into account elements other than the business environment that affect environmental disclosure.

The low disclosure level shown in the results (16%) could be improved by using tax incentives with the best declaring enterprises, using environmental disclosure as an indication in public tendering systems, using public awareness campaigns on the advantages of environmental disclosure, etc. This study calls for more specific standards on firm industry, size, age, capital structure, profitability, and form of ownership. It can be used by the International Accounting Standards Board (IASB), International Sustainability Standards Board (ISSB), and Tanzania's National Board of Accountants and Auditors (NBAA) to set standards in these areas.

Future researchers should take a qualitative approach in which they can acquire different perspectives by speaking with financial statement preparers, research other businesses in environmentally sensitive sectors, combine the extractive and manufacturing sectors, compare their findings, and use cross-sectional data to determine what drives environmental disclosure at a given point in time. Future studies may also investigate why a legislative requirement does not mitigate the association between any firm attribute and environmental disclosure by combining the extractive industry with other industries or by examining other industries independently.

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