Audit committee characteristics and their impact on the disclosure of carbon emissions: An Empirical study.

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ABSTRACT

The purpose of this study is to assess the influence of the committee of audit performance on the disclosures of climate change with regard to recent changes in capital market legislation. Among the companies identified on the Egyptian Stock market, about the decision issued by the Financial Regulatory Authority by Law No. 107 and 108 of 2021, the current study was conducted on the 100 largest identified companies, excluding financial and merged companies during the study period, From 2018 to 2023 with a statistical analysis with a sample of 376 observations, Using the content of annual reports, sustainability reports, climate reports, and board reports to study the impact of the characteristics of the committee of audit (experience of the committee of audit , size of the committee of audit , independence of the committee of audit , turnover of the committee of audit , diversity of the the committee of audit , the committee of audit meetings) at the level of climate change disclosure, it was found that there is a statistically significant effect of the the committee of audit characteristics (the committee of audit effectiveness) on the level of disclosure of climate change.

Keywords

Effectiveness' of committee of auditing, climate change, Financial Supervisory Authority, Law, Law No. 108 of 2021.

الملخص:

تناولت هذه الدراسة تحليل مدى تأثير أداء لجان المراجعة على إفصاحات تغير المناخ في ضوء التغييرات الأخيرة في قوانين سوق رأس المال. ومن بين الشركات المدرجة في البورصة المصرية، في ضوء القرار الصادر عن هيئة الرقابة المالية بالقانون رقم 107 و108 لسنة 2021، أجريت الدراسة الحالية على أكبر 100 شركة مدرجة، باستثناء الشركات المالية والمندمجة خلال فترة الدراسة، من عام 2018 حتى عام 2023 مع اجراء تحليل الإحصائي بوجود عينة مكونه من 376 ملاحظة وذلك باستخدام محتوى التقارير السنوية وتقارير الاستدامة وتقارير المناخ و تقارير مجلس الإدارة وذلك لدراسة اثر خصائص لجنة المراجعة (خبرة لجنة المراجعة، حجم لجنة المراجعة، استقلالية لجنة المراجعة ، معدل دوران لجنه المراجعة ، التنوع بلجنة المراجعة ،عدد اجتماعات لجنة المراجعة)علي مستوي الإفصاح عن التغيرات المناخية وقد وجد أنه يوجد تأثير ذو دلاله إحصائية لخصائص لجنه المراجعة (فاعلية لجنة المراجعة) على مستوي الإفصاح على التغيرات المناخية.

الكلمات الافتتاحية: فاعلية لجنه المراجعة ، التغيرات المناخية ، هيئة الرقابة المالية ،القانون ،القانون رقم108لسنه 2021.

Introduction

1.1 Background

Disclosure of climate change following the accounting concept (greenhouse gas emissions) can be defined as "a set of quantitative and qualitative information linked to the firm's past and projected carbon emission levels; its exposure to associated risks and benefits, and the financial implications thereof, its past and future actions to manage these risks and opportunities. This information can be disclosed in the firm's annual reports or sustainability reports themselves. via corporate websites, or through other frameworks that provide emissions disclosure guidelines such as the Climate Disclosure Standards Board (CDSB), Carbon Disclosure Project (CDP), and the Global Reporting Initiative (WRI) This is to provide more reliable and informative disclosure to stakeholders involved in the financial markets." (Najah, 2012).

Where scientists interested in environmental affairs saw that the causes of climate change are due to the increase in the concentration of greenhouse gases GHG (Greenhouse gas emission), which causes increase in the degrees of the earth, and the main emissions of these greenhouse gases are carbon dioxide, methane, nitrous oxide, hydrogen fluorocarbons, saturated fluorocarbons. Carbon dioxide was used as a standardized measure to express greenhouse gas emissions and to abbreviate the term (carbon) for all greenhouse gases (Ibrahim, 2020).

Considering the continuous demand for environmental protection, users of financial reports called on investors and stakeholders to disclose climate change to assess its impact on investors' decisions, and many financial analysts added the financial effects resulting from the disclosure of climate change in recommendations for investors and risk assessment. The company related to future environmental obligations (Eccles et al., 2011).

Therefore, the accounting disclosure of environmental performance here in our time has been of great importance, despite the lack of a clear definition of environmental disclosures, we can say that it is "the method or tool through which the accounting unit can inform all parties benefiting from its activities with environmental impacts and its reflection on the financial statements contained in the financial statements and attached to them" (Ahmed, 2014).

- There are several ways to disclose accounting for greenhouse gas emissions that cause climate change

1-Disclosure of carbon emissions within the annual reports The annual financial reports must reflect the environmental and social information and the responsibility that the company bears in this context, so the report gives an integrated idea of the company, including its findings, which are integrated reports (IIRC.,2013).

2- Disclosure of carbon emissions in separate reports Financial information and environmental information must be separated, as each achieves different objectives, and these reports are either quantitative reports that include the costs and benefitsof the company's environmental activities or descriptive reports that include theextent of the company's commitment to environmental legislation andlaws (Holland & Foo., 2013).

1.2 Research Problem

Egypt drew attention to the climate issue and had a prominent role by hosting one of the important international forums on climate change in Sharm El-Sheikh COP27, Egypt is a member of the Group of 77, China, the African Group and the OPAC Group according to the division of the United Nations, although Egypt is one of the affected countries Significantly from greenhouse gas emissions and thus the phenomenon of climate change, it is one of the countries that produce the least amount of those emissions,

the 10 countries that produce the largest amount of those emissions, which are estimated at 68%, Egypt's policy in this issue is moving towards rejecting any mandatory commitment on developing countries to confront the effects of this phenomenon and emphasizes the rule of the Bali Action Plan and the Rio de Janeiro Declaration and the shared responsibility between both developing and developed countries Egypt is one of the country's most at risk of these changes and their climate impacts, although it is the least contributing globally to those emissions by 0.6%, according to the recent statement informing Egypt of the volume of those emissions of greenhouse gases ,Egypt joined the United Nations Framework Convention on Climate Change in 1994, and ratified the Kyoto Protocol in 2005, Egypt's participation in the work of the 2016 Climate Summit Egypt is among 194 countries that have signed the climate agreement, and one of its most important items is the pledge of the international community to keep the earth's temperature below 2 degrees Celsius and seek to reforest forests and reduce the emission of those greenhouse gases and the use of an alternative and environmentally friendly renewable energies and others. Egyptian State Information Service (2022)

It was within Egypt's Vision 2030 to preserve the environment and develop together through the optimal use of resources to protect the rights of future generations to face the effects of climate change and confront and enhance the ability of ecosystems to adapt and the ability to face risks and natural disasters and rely on Renewable energy and sustainable production.(Abu El-Enin & El-Geyoushi,2021).

The Financial Supervisory Authority in Egypt played a very important role in transforming these disclosures from optional to mandatory by issuing two decisions No. (107) and (108) of 2021 in July, in which firms identified on the Egyptian stock market required firms running in Non-banking financial activities to provide environmental, social, and governance disclosure reports related to sustainability (ESG standards), Environmental Social Governance, others related to impact. Finance for Climate Change represents (TCFD recommendations) Force on climate financial disclosure Within the firm's annual report attached to company's annual financial statements, ESG disclosure reports will be applied to all firms identified on the Egyptian stock markets and companies engaged in financial activities that are not banking whose issued capital or net equity is not less than EGP 100 million,

while companies whose capital is not less than EGP 100 million, while companies whose capital is not less than Net equity of EGP 500 mn from firms lidendified on the Egyptian stock markets and operating in financial activities that are not banking via completing climate change disclosures following the recommendations of the Working Group for Disclosure of the Financial Impacts of Climate Change known as (TCFD) in its annual report approved by the Board of Directors (Financial Supervisory Authority, 2021).

Regulators, investors, corporate boards, and other stakeholders have acknowledged the significance of incorporating climate change implications in corporate reports since the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations were released in 2017 (TCFD, 2023) (O'Dwyer and Unerman, 2020; Chua et al., 2022; Cosma et al., 2022; Braasch and Velte, 2023).

The primary research question might be expressed as follows in light of the previous. What effect does the the committee of audit 's effectiveness assessment have on the degree of climate change disclosure?

1.2 Study Questions

The following sub-questions comprise the primary research question.

1. Does the financial experience of the committee of audit members influence the degree of disclosures on climate change?

2. Does the size of the committee of audit influence the quantity of disclosures about climate change?

3. Does the independence of the committee of audit members affect the degree of disclosures on climate change?

1.4 sub- objective

This study seeks to achieve its main objective, which is

1- Identifying the influences of the committee of audit members' financial experience on climate change disclosure levels.

2- Identifying the influence of the committee of audit's size on the climate change disclosure level.

3- Identifying the influence of the committee on the audit's independence on climate change disclosure levels.

1.5 Study Methodology

The researcher relied on two approaches, the inductive approach and the deductive methodology, in studying the influence of the determinants of the committee of audit effectiveness on the disclosure level of climate change, in addition to laws and decisions addressed in the study.

1.6 Literature Review and Hypothesis Development

the study (Chariri et al., 2018) aimed to study the influence of the characteristics of the committee of audit (meeting, experience and independence) on carbon emission disclosure, 105 companies were used as a sample of the firms participated within the carbon disclosure project by Nordic companies that were registered in 2015 and this study found The existence of a positive impact between the characteristics of the committee of audit (independence of the committee member, experience of committee members, the committee of audit number of meetings) positively affected the disclosure of those carbon emissions.

The study (Bicer & feneir.,2019) aimed to know the influence of characteristics of the committee of audit (the committee of audit size, number of meetings, the committee of audit experience) on the level of environmental and social disclosure through a sample of banks identified on the stock exchange in Istanbul through a sample of 13 banks for the year 2017 and the study found that there is no effect of each of the characteristics of the committee of audit (size of the committee of audit, Number of meetings, the committee of audit expertise) in environmental disclosures and no relationship between the committee of audit characteristic's (number of meetings, size of the committee of audit, the committee of audit expertise) and social disclosures.

The study (Budiharta & Kacaribu., 2020) aimed to study the impact of the Board of Directors' size, administrative ownership, and the committee of audit on the disclosure of carbon emissions, and the size of the committee of audit was used as a measure to measure its impact on the disclosure process for a selection of non-financial firms identified in BEI in Indonesia size 63 in the period from 2016 to 2018 and the study found that there is a Positive influence of administrative ownership on the disclosure of carbon emissions It also found that there was no influence of both the members of the committee of audit (the size of the committee of audit) and the Board of Directors in detecting these carbon emissions.

aimed to study the impact of the effectiveness of the committee of audit on reporting greenhouse gas emission practices in Malaysia. The current study targeted the Malaysian farm sector as a sample and included 43 public firms identified on the Malaysian stock market from 2016 to 2019. The study indicated the efficiency of the audit committee. (independence, size of the audit committee, the committee of audit meeting) is effective, vital in the process of disclosing greenhouse gas emissions. The efficiency of the the committee of audit leads to better practice for corporate disclosures. (Salleh et al.,2022)

While the study (Widagdo et al., 2022) aimed to study the influence of both the committee of audit characteristics (the committee of audit meetings and the committee of audit size) and financial performance on the disclosure of carbon emissions and greenhouse gases, a sample of 99 high-emission industrial firms identified on the Indonesian stock market for the year 2020 was used and found that there is a strong positive impact on the number of the committee of audit on Greenhouse Gas Disclosure There is no impact of the size of the committee of audit on the disclosure of those GHG emissions.

Based on the preceding debate, it may be concluded. that dealt with the relationship between the committee of audit and the disclosures of greenhouse gas emissions of carbon emissions from one research to another,

Some studies indicated the effects of the characteristics of the committee of audit on the disclosure of carbon emissions, so a research (Salleh et al., 2022) found that there is an influence of the characteristics of the committee of audit appear in (independence, size of the audit committee, number of meetings of the committee of audit) on the disclosure of greenhouse gas emissions, and a study (Chariri et al., 2018) found an influence of the characteristics of the committee of audit (independence, experience and number of meetings) on the disclosure of carbon emissions, and a study (Widagdo et al., 2022) found an influence of both the characteristics of the committee of audit (the number of meetings of the committee of audit and audit committee size) and financial performance on the disclosure of carbon emissions, while another study found that the committee of audit did not affect carbon emission disclosures (Budiharta & Kacaribu, 2020),

The scientific contribution is to try to identify the influence of the determinants of the effectiveness of the committee of audit on the level of climate change disclosure, which is represented in some characteristics to identify their impact on those disclosures (the experience of the committee of audit - the size of the committee of audit - the independence of the committee of audit - the duration of stay of the members of the committee of audit - the number of times a meeting the committee of audit - Diversity in the Audit Committee) and that application in the Egyptian environment, and the impact of the duration of the stay of the Audit and Diversity Committee in the committee of audit and its effects within the characteristics of the committee of audit in the disclosure of climate change has not been studied,

in light of Laws 107 and 108 that were issued by the Egyptian Financial Supervisory Authority and the efforts made by the state towards achieving environmental preservation and the importance of those disclosures in motivating companies that disclose other companies Others in terms of the advantages gained from these disclosures from other companies that do not carry out the disclosure process, and in which the importance of disclosures on climate change in investors' decision-making.

Based on the above discussion, the main study hypothesis is

There is a statistically significant influence of the audit committee on the level of climate change disclosure.

H1. The Audit Committee members' financial expertise has a statistically significant influence on the degree of climate change disclosures.

H2. The audit committee sizes have a statistically significant influence on the degree of climate change disclosure.

.H3. The audit committee's independence has a statistically significant influence on the degree of climate change disclosure.

1.7 Study plan

This study is organized into three main chapters, this chapter introduces the topic and discusses the study’s objectives, research problem, Study Questions, Importance of the study, Methodology of study, Literature audit, and hypotheses development,

Chapter (2) contains the literature audit of the Climate Change Disclosure and Audit Committee, separated into two sections

Chapter (3) This chapter aims to present the research methodology followed in this study, first is date source, procedures of sample, constructer, distribution of sample, module construction and definition of primary variables, then result of analysis. firstly, is descriptive statistics for variable used in the main analysis and discussion of empirical results and main findings in the study, study limitations and suggestions for future research.

Chapter (4) This chapter aims to present the Summary and conclusion also including Research limitations represented, recommendations for future studies and further research that can be included in future

2. Theoretical Framework

2.1 Introduction

The committee of audit is A subcommittee of the Board of Directors that in charge of financial reporting and audits. (Braiotta.,2015). Audit committees (ACs) are critical components of corporate governance. An audit committee's principal responsibility is to oversee financial reporting (Krishnan, Wen, and Zhao 2011). Audit committees (hereinafter ACs) serve a critical role in guaranteeing the reliability of financial reporting.

2.2 Egyptian Corporate Governance Code (CG)

The Egyptian Corporate Governance Code outlines a comprehensive framework for governance and related challenges. The corporate governance requirements are based on worldwide and regional best practices and apply to all types of Egyptian firms. The Code guides lawmakers in establishing control laws and directions for governance applications. The Code does not violate the Joint Stock firms Law No. 159 of 1981, the Capital Market Law No. 95 of 1992, or the Egyptian stock market identified and Delisting Rules published by the EFSA Board of Directors (EFSA.,2016).

2.3 Audit Committee and Corporate Disclosure according to our Egyptian code

The Corporate Governance Code of Egypt establishes an Advisory Committee (AC) to support the board of directors in carrying out its responsibilities. An AC should consist of independent and non-executive board members or individuals from outside the company. The board of directors shall approve the composition of ACs, specify member selection criteria, assign duties, monitor activities, and determine pay (ECCG, 2005; ECGC, 2016; EFSA, 2020).

Numerous researches have demonstrated that the existence and qualities of an AC have a favourable influence on CSR disclosure (Appuhami & Tashakor, 2017; Garas & ElMassah, 2018; Khan et al., 2013; Said et al. 2009). However, the impact of Audit Committee characteristics on CSRDL in Jordan is not known yet. Forker (1992) found that the existence of AC in public businesses decreases agency costs, potentially improving corporate performance. According to agency theory, the committee of audit can operate as a oversight organization to encourage corporate disclosure and openness.

According to Said et al. (2009), audit committees serve as internal governance tools in corporations, reducing conflict between shareholders and management and addressing social issues through CSR disclosures. According to (Alotaibi &Hussainey.,2016), an effective audit committee discloses more CSR information to decrease agency problems and demonstrate managers' achievement in balancing societal and environmental concerns.

2.4 Characteristics of the Audit Committee and Climate Change Disclosure

2.4.1 Independent Audit Committees and Climate Change Disclosure

In Egypt, (Samaha, Khlif, and Hussainey.,2015) discovered that audit committees influenced voluntary corporate disclosure. (Samaha et al.,2012) found no significant link with Egyptian corporate governance disclosures.

In 2015, (Chariri, Januarti, Nur, and Yuyetta.,2018) did a cross-sectional study utilizing agency theory to evaluate the relationship between audit committee independence and carbon emission disclosure. The survey was done in the Nordic area (Scandinavia, Finland, and Iceland) and included 105 organizations. Using regression analysis, the researchers discovered that audit committee independence had a considerable beneficial impact on carbon emission disclosure.

According to (Odoemelam and Okafor.,2018) OLS regression analysis of Nigerian-listed non-financial corporations, audit committee independence does not impact corporate environmental disclosure. The research, however, was a cross-sectional analysis of 86 businesses.

2.4.2 The Audit Committee's Expertise and Climate Change Disclosure

The Egyptian one, especially in 2016, when control authorities began providing more attention to the features of an audit committee and recommended that audit committees contain at least one financial specialist, would have strengthened the legitimacy of these judgments (ElHawary, 2021).

Financial skills helped the members of the audit committee to oversee management and external audits while also ensuring high-quality financial reporting (Bédard & Gendron, 2010). As a result, the requirement for CSR disclosure has been raised (Appuhami and Tashakor, 2017; Helfaya and Moussa, 2017; Jizi et al., 2014). This increases openness in business reporting and alleviates agency worries about information flows.

(Buallay and Al-Ajmi.,2019), (Badolato et al.,2014), (Lumpur.,2016), (Appuhami and Tashakor.,2017), and (Buallay and Al-Ajmi.,2019) discovered a negative correlation between the AC's financial experience and corporate disclosure, while financial expertise and the frequency of AC director meetings had no significant effect on company voluntary disclosure (Madi et al.,2014).

2.4.3 audit committee size and climate change Disclosure

According to Egyptian corporate governance regulations, the auditing board must consist of at least three non-executive board members. According to the agency theory, larger audit committees are less focused and participate less than smaller ones (ElHawary, 2021).

The impact of the audit committee on carbon emission disclosure. It is possible to conclude that the audit committee has a considerable and beneficial influence on carbon emission disclosure. The audit committee can also put pressure on management to disclose carbon emissions from firm activities, including environmental performance, particularly to climate change (Simamora et al.,2022).

(Buallay and Aldhaen.,2018) studied the impact of AC features on sustainability report disclosure for 59 GCC-listed firms from 2013 to 2017, The study found that firms with larger audit committees disclose more about sustainability. (Royale and Ebrahimi.,2015) found that audit committee size does not impact voluntary ethical disclosure.

3.1 The empirical study:

3.1.1 The research population and sample.

The initial sample of the study was filtered by applying the following conditions

1-The companies should be among the best hundred companies in total trading volume on the Egyptian Exchange from 2018 to 2023.

1- Excluding companies belonging to financial sectors such as banks and non-banking financial services companies such as insurance companies and financial brokerage companies from the final sample of the study, due to the different standards, laws, and control rules that apply to them that can affect the performance and behavior of sustainability disclosure (Zhang & Lucey, 2022),(Wu,2023; Wei et al.,2023).

2- These companies rarely receive commercial credit (Liu et al., 2019) and have a high debt ratio (Zheng & Aishan, 2023), making them incomparable to other companies.

3- Exclusion of merged or split companies during the study period from 2018 to 2023 due to the impact of mergers on the company's financial statements After applying the previous conditions, the final size of the sample of the research represented 65 non-financial firms with 390 views distributed over 16 sectors and representing 14 missing views, most of which belong to 2018, due to the difficulty of reaching those views, it will be 376 observations.

4- **Table 1: distribution of the final sample**

Sector	2018	2019	2020	2021	2022	2023	Number of observations
Food, beverages, and tobacco	5	8	9	9	9	9	48
Engineering, contracting, and construction	6	9	9	8	8	8	48
Real estate	4	5	5	5	5	5	29
Basic resources	4	6	7	7	6	6	36

Health care and medicine	6	5	5	5	5	5	31
Service, industrial product, and car	11	14	12	12	12	10	71
Communication, media, and information technology	5	5	6	7	7	6	36
Energy and support service	10	12	12	14	14	14	77
Total (sector)	51	64	65	67	66	63	376

3.1.2 Research Hypotheses

Main hypothesis: There is a statistically significant influence of the audit committee's features on climate change disclosure.

The main model of the study is as follows

Main model

$$CCR = \beta_0 + \beta_1(AC\ SIZE) + \beta_2(AC\ INd) + \beta_3(AC\ MEET) + \beta_4(AC\ TENURE) + \beta_5(AC\ Exp) + \beta_6(AC\ Diversity\ ) + \beta_7(COMPSIZE) + \beta_8(ROA) + \beta_9(LEV) + E$$

Whereas,

(CCR) = Dependent variable of climate change disclosure

β_0=The constant value that expresses the value of CCR Which is not affected by independent and control variables The level of disclosure of climate change for the company was measured based on the fact that if the level of disclosure is high, it will be given 1 and if the level of disclosure is lo w, it will be given 0. then independent variable

β_1=(AC SIZE),β_2=(AC IND),β_5= (AC exp*)*,

control variablie are $\beta_7 = (\mathrm{COMPSIZE})$,$\beta_7 = (\mathrm{COMPSIZE})$,$\beta_9$=(LEV),E=Random error

<u>The main hypothesis of the study is divided into a set of sub-hypotheses</u>

H1. The Audit Committee members' financial expertise has a statistically significant influence on the degree of climate change disclosures.

H2. The audit committee sizes have a statistically significant influence on the degree of climate change disclosure.

.H3. The audit committee's independence has a statistically significant influence on the degree of climate change disclosure.

3.1.3 Results of the Descriptive Analysis

Table 6: Descriptive Statistics

variables	N	Minimum	Maximum	Mean	Std. Deviation
AC SIZE	**388**	**0**	**12**	**3.86**	**1.601**
AC INd	**381**	**0.08**	**1.00**	**0.69**	**0.22**
AC MEET	**388**	**0**	**27**	**5.27**	**3.249**
AC TENURE	**388**	**0**	**1**	**0.56**	**0.496**
AC Exp	**388**	**0**	**6**	**2.72**	**0.974**
WITHOUT COMP	**384**	**7.10**	**25.46**	**18.71**	**3.79**
ROA	**384**	**-0.308**	**1.00**	**0.077**	**0.142**
LEV	**384**	**0**	**1.00**	**0.445**	**0.259**
Valid N (listwise)	**376**				

Based on the previous presentation of the descriptive statistics table (6), the researcher can clarify some important observations as follows:

1- The audit committee's average size is 3.86, with a minimum of zero and a high of 12, which indicates that there is a large variation among the sample companies in terms of the audit committee's size.

2- As For the independence of the committee of auditing, the average independence of the audit committee is 0.69, which is high, and the minimum is 0.08 and the maximum is 1.00, and the standard deviation is 0.22, which is low, and as a result, it can be said that the independence ratios of the audit committees for the companies of the study sample are close to the value of the arithmetic average.

3-As for the experience of the committee of auditing, the minimum number of members who have experience within the Committee was 0 members, while the maximum was 6 members and the arithmetic average was approximately 3 members.

3.1.8. Pearson Correlation Matrix

Table***(8)*** shows the correlation matrix for the study variables, where the Spearman correlation coefficient was calculated for the variables since the study data do not follow the normal distribution, and the following is*an audit* of the correlation matrix as follows***:***

variables	CCR	AC SIZE	AC INd	AC MEET	AC TENURE	AC Exp	AC Diversity	WITHOUT COMP	ROA	LEV
CCR	1.000									
AC SIZE	.012	1.000								
AC INd	.188**	-.198**	1.000							
AC MEET	.125*	.445**	-.069	1.000						
ACTENURE	.086	.179**	-.018	.147**	1.000					
AC Exp	.017	.358**	.261**	.064	-.124*	1.000				
AC Diversity	.163**	.144**	-.045	-.065	.048	-.010	1.000			
WITHOUT COMP	.123*	.053	-.128*	.059	.035	.016	.117*	1.000		
ROA	.065	.163**	-.026	.108*	.030	.085	.156**	-.001	1.000	
LEV	-.130*	-.065	.077	-.043	.086	.075	-.162**	-.102*	-.111*	1.000

Indicates statistical significance at 1%, .5% respectively. * ،**

3.1.9 Results of a statistical hypothesis test

From the previous correlation matrix several points can be deduced as follows

1- There is no linear duplication between the independent variables, as there is no correlation coefficient between two variables greater than 0.7.

2. The table shows a significant positive relationship at the level of 1% between the independence of the audit committee and the level of climate change disclosure.

3-There is no significant relationship between the size of the audit committee, the experience of the audit committee, the profitability of the company, and the level of climate change disclosure

3.1.10 Regression analyses

Table (9)

Outputs of regression models that came out from the main model:

Model	**(1-1)**		**(1-2)**		**(1-3)**		**(1-4)**		**(1-5)**
variables	**B**	**Mr**	**B**	**Mr**	**B**	**Mr**	**B**	**Mr**	**B**
AC SIZE	-.006	.936							
AC IND			1.868	.001					
AC MEET					.081	.049			
AC TENURE							.38	.097	
AC Exp									.017
AC Diversity									
WITHOUT COMP	.059	.046	.090	.004	.053	.072	.06	.062	.059
ROA	.902	.305	1.38	.132	.769	.371	.86	.327	.87
LEV	-1.021	.024	-1.12	.016	-1.006	.027	-1.10	.016	-1.02
Nagelkerke R Square	.046		.102		.061		.056		.046
P-value	.013		.000		.002		.004		.013

From the previous table it can be concluded the following points

1- Results of the first sub-analysis of the main model

- The table shows that the first sub-model is significant, with a significant level of 0.013, which is less than the acceptable level of 5%, and the explanatory capacity of the first sub-model was .046, meaning that approximately 5% of the change in the level of climate change disclosure is due to the independent variables and control that have been tested.
- There is no significant influence of the size of the committee of auditing on the climate change disclosure level, this consists of the study of (Budiharta & Kacaribu., 2020) and this can be explained, based on the above, first sub-hypothesis (H1/1), which states that there is a statistically significant influence of the size of the committee of auditing on climate change disclosure level, is rejected.
- for control variables, there is a positive significant influence of the corporate 's size on climate change disclosure at the level of 5%, while there is an adverse significant influence of leverage on the level of climate change disclosure as well at 5%, while there is no significant influence on the company's profitability on climate change disclosure level.

2-Results of the second sub-analysis of the main model

- The table present that the second sub-model is significant, with a significant level of 0.000, and the explanatory capacity of the second sub-model is .102, meaning that 10.2% of the change in climate change disclosure level is due to the independent and control variables tested.
- there are a direct significant influence of the independence of the committee of auditing on the level of climate change disclosure at the level of 1%, which means that the greater the the audit committee's independence, the greater the level of disclosure of climate changes, and this is consistent with the study (Bicer & feneir.,2019) and this can be explained, based on the above, the second sub-hypothesis (H2/2) is accepted, which states that there is a statistically significant influence of the independence of the committee of auditing on climate change disclosure level.
- As for the control variables, there is a direct significant influence of the company's size on climate change disclosure level at the

level of 1%, while there is an inverse significant impact of leverage on climate change disclosure level at the level of 5%, while there is no significant impact on the firms profitability on the level of climate change disclosure.

3-Results of the third sub-analysis of the main model

- The table presented that the fifth sub-model is significant with a significant level of 0.013, while the explanatory capacity of the model was .046, meaning that approximately 5% of the change in climate change disclosure level is due to the independent, control variables tested.
- There is no significant influence of the expertise of the members of the committee of auditing on climate change disclosure level, and this is consistent with the study (Wang & Sun, 2022), and this can be explained, based on the above, the fifth sub-hypothesis (H3/3), which states that there is a statistically significant influence of the financial expertise of the members of the Audit Committee on climate change disclosure level, is rejected.
- As for the control variables, there is a direct significant impact of the firm's size on climate change disclosure level at the level of 5%, while there is an adverse significant impact of leverage on the level of climate change disclosure at the level of 5%, while there is no significant influence on the firm's profitability on climate change disclosure.

Conclusion

- The results presented that the size of the committee of auditing has no significant influence on climate change disclosure level (H1/1), which states that there is a statistically significant impact of the size of the committee of auditing on climate change disclosure level, is rejected.

- Expertise of the audit committee is the characteristics that have no significant influence on climate change disclosure level (H3/3), which states that there is a statistically significant influence of the financial expertise of the members of the Audit Committee on climate change disclosure level, is rejected.

- There is a direct significant influence of the independence of the committee of auditing on climate change disclosure level at the level of 1%, the second sub-hypothesis (H2/2) is accepted, which states that there is a statistically significant influence of the independence of the committee of auditing on climate change disclosure level.

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