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# THE DETERMINANTS OF ENVIRONMENTAL ACCOUNTING DISCLOSURE: EVIDENCE FROM JORDANIAN NON-FINANCIAL LISTED COMPANIES IN THE AMMAN STOCK EXCHANGE

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## ABSTRACT

This study investigates the impact of various determinants on corporate environmental accounting disclosure (ED) by reviewing relevant published studies. The paper covers ten years, from January 1, 2012, to December 31, 2021. A variety of determinants have been identified through an extensive review of the pertinent literature. To achieve the research objectives, the study employs a quantitative approach using logistic regression. The sample comprises 74 non-financial companies listed on the Amman Stock Exchange. The findings are expected to inform future policy development and enhance the environmental disclosure process. This study contributes to the existing literature by offering a more disaggregated examination of environmental accounting disclosure practices. Drawing on stakeholder theory, the study analyses annual reports of non-financial companies listed on the Amman Stock Exchange, which constitute the majority of firms engaged in direct interaction with the environment. The results reveal that environmental accounting disclosure is significantly influenced by factors such as industry membership, the presence of environmental certification, and the establishment of a CSR committee. Despite the numerous challenges in assessing ecological disclosure, this study's findings provide valuable insights for advancing sustainable development and improving CSR reporting across the service and industrial sectors. This research emphasises the importance of adopting a renewed perspective on the underlying factors shaping environmental disclosure and their implications for enhanced transparency in ecological accounting.

## 1. INTRODUCTION

Environmental accounting is a field that identifies resource use, measures, and communicates the costs of a company's or a nation's economic impact on the environment (Brammer & Pavelin, 2008; Schaltegger & Burritt, 2017). The environment provides natural resources to the economy, which are transformed through the production process and converted from energy into goods, so that these natural resources and energy return to the environment in a desirable form rather than as undesirable waste (Liu & Liu, 2021).

Disclosure in general is the publication of appropriate financial and descriptive information for the beneficiary in the audited financial statements (Joyce, 2020; Thabit & Jasim, 2016). As a result, environmental disclosure refers to the company's performance or contribution to the definition of the ecological activities it engages in (Schaltegger & Burritt, 2017). It is information related to the performance and activities of the company's environmental management, as well as the financial aspects involved, in the past, present, and future.

Pressure from various parties, particularly the general public, on businesses to disclose transparent information about their environmental activities has arisen

due to ecological pollution caused by the companies' activities (Maulia & Yanto, 2020). Furthermore, companies are under greater pressure to address environmental pollution as public interest in environmental issues and their preservation grows. There has been a significant increase in general awareness of environmental problems over the last few decades (Ham et al., 2016; Sobhani et al., 2009). Therefore, a company's responsibility to stakeholders includes disclosing environmental information.

The stakeholder theory is based on the interests of stakeholders affected by the company's nature, operations, and activities, whether internal or external (Alshurafat et al., 2022; Ananzeh, 2020, 2022). Therefore, this study identifies and highlights three determinants that would better meet the needs and demands of these parties. The three determinants are industry membership, environmental certification, and the CSR committee, respectively. The presence of these variables enhances the company's ecological accounting disclosure, as they are closely related to it (Ananzeh et al., 2022; Bugshan, et al., 2022).

The issue of environmental damage caused by industrial firms in Jordan is currently in the spotlight (Al-Nimer, 2015). Because the waste produced by company activities has raised concerns among the locals due to the environmental harm it has caused (Bani-Khalid & Kouhy, 2017; Shatnawi et al., 2022; Tiwari et al., 2025), this paper is conducted taking into account the importance and appropriateness of the environmental processes that impact disclosure procedures as having value to all stakeholders at the corporate and society level, thereby encouraging the accomplishment of sustainability in the environment as a whole. "Since disclosures are essential when made on the basis of rapid growth, the disclosure process contributes to preserving environmental damage" (Suileek & Alshurafat, 2022, p. 4).

Environmental accounting disclosures have garnered significant attention in developed markets, where regulatory frameworks and stakeholder expectations have driven companies to adopt more transparent and comprehensive reporting practices of their environmental impact (Abdellatif, 2021; Majali et al., 2022; Rahman & Hossain, 2025). However, the determinants influencing such practices in emerging markets, particularly in Jordan, remain largely unexamined (Ananzeh et al., 2022; Chaklader & Gulati, 2015). In Jordan, the escalating environmental degradation attributed to industrial enterprises has become a pressing issue that cannot be overlooked. The country is grappling with various environmental challenges, including air and water pollution, waste management issues, and the depletion of natural resources (Ananzeh, 2022). As a result, there is an increasing urgency for companies operating in this region to address their environmental footprints and to communicate their efforts and impacts transparently (Chaklader & Gulati, 2015). Stakeholders, including consumers, investors, and regulatory bodies, are demanding greater accountability and transparency in environmental reporting, which places additional pressure on businesses to enhance their disclosure practices (Ananzeh, 2022).

Despite this growing demand, a notable research void persists concerning the factors that shape environmental accounting disclosures in Jordan. Prior investigations

have predominantly concentrated on established economies, where the regulatory environment, market maturity, and stakeholder expectations differ significantly from those in emerging markets (Ananzeh, 2022; Gerged, 2021; Senn & Giordano-Spring, 2020). This oversight neglects the distinct regulatory, economic, and environmental landscapes that characterise countries like Jordan, which may influence how companies approach ecological reporting.

Moreover, several critical elements that could impact environmental accounting disclosure in Jordan have yet to be thoroughly investigated within the local framework (Elmaghrabi, 2021). For instance, industry affiliation plays a crucial role in determining the level of environmental disclosure, as different sectors may face varying degrees of regulatory scrutiny and public pressure (Elmaghrabi, 2021). Additionally, ecological certifications can catalyse improved reporting practices, as companies seek to enhance their credibility and demonstrate their commitment to sustainability (Maulia & Yanto, 2020; Elmaghrabi, 2021). Furthermore, the establishment of CSR committees within organisations may also influence the extent and quality of environmental disclosures, as these committees often drive sustainability initiatives and reporting efforts.

Furthermore, global discussions on corporate transparency and sustainability have highlighted gaps in how firms in emerging markets, including Jordan, disclose their environmental impact (Ananzeh 2022; Jaggi et al., 2018). While multinational corporations often adhere to international sustainability standards, domestic firms may lack the necessary incentives or resources to engage in robust environmental reporting (Andrikopoulos & Kriklani, 2013).

Addressing these gaps will help provide a clearer understanding of the factors shaping environmental disclosure practices and contribute to policy development. This study aims to bridge this gap by examining the role of these determinants in shaping environmental disclosure practices in Jordanian non-financial firms, leveraging recent literature from the past five years to establish the relevance of these variables in both local and global contexts.

This study examines the impact of various determinants on corporate environmental disclosure (ED) among Jordanian firms. Understanding these determinants enables companies to make more informed decisions that support environmental stewardship and align with sustainable development goals (Gerged, 2021; Senn & Giordano-Spring, 2020). The significance of this research stems from the growing global and national emphasis on environmental responsibility across economic, regulatory, and institutional domains. Moreover, the study is timely given the increasing attention from governmental bodies, private organisations, and international institutions to environmental governance and the urgency of achieving sustainability targets (Andrikopoulos & Kriklani, 2013; Maulia & Yanto, 2020). By providing empirical insights into emerging economies, particularly in the Middle East, this research helps address knowledge gaps in the environmental disclosure literature. It supports broader efforts to enhance corporate accountability.

Understanding the determinants of environmental accounting disclosure is crucial for businesses because it helps them create and maintain a sustainable competitive edge (Radu & Francoeur, 2017). The competitive success of the corporate environment depends in part on how well a company performs within it, given the intense competition among businesses globally in newly emerging green markets (Iqbal et al., 2013; Peattie & Ringer, 1994). As a result, this study has theoretical ramifications for academics, business managers, environmental advocates, and lawmakers, as it offers a thorough understanding of the factors that influence ecological disclosure.

The remainder of this study is organised as follows. The next section reviews the prior literature. The third section presented the study theory and developed the study hypotheses. Section four illustrates the study methodology. Section five presents the study results. Section six discusses the study results. Section seven concludes the paper.

## **2. LITERATURE REVIEW**

### *2.1. ENVIRONMENTAL ACCOUNTING STANDARDS AND FRAMEWORKS*

An essential component of environmental governance is the establishment of robust environmental accounting standards (Adams et al., 2022). However, the general dissemination of ecological accounting information remains in its developmental stage in many regions. Environmental expenditure and accountability disclosures are often shaped by inconsistent regulatory frameworks and limited technical guidance (Senn & Giordano-Spring, 2020; Liu & Anbumozhi, 2022). Empirical evidence suggests that firms with stronger financial performance are more likely to engage in environmental disclosure practices than those with weaker economic performance (Cormier & Magnan, 1999; Fan et al., 2024). Environmental disclosures typically relate to the impacts of business operations on natural ecosystems (Campbell, 2004) and refer to the extent to which ecological consequences and practices are publicly reported (Bellamy et al., 2020; Suileek & Alshurafat, 2022).

Environmental reporting obligations have increasingly been viewed as mechanisms to enhance corporate environmental responsibility and transparency (Al Amosh and Khatib, 2025). The scientific and business communities alike have intensified their focus on environmental challenges due to their significant implications for ecosystems and human well-being (Alkurdi et al., 2023; Agyei-Boapeah et al., 2024). Environmental disclosure has also emerged as a strategic tool for gaining stakeholder legitimacy and societal acceptance of corporate practices (Al Amosh, 2025). A clearer understanding of the practical determinants of corporate environmental accountability can help reduce information asymmetry, allowing stakeholders, including investors, to make better-informed decisions and evaluate

companies' sustainability behaviours more effectively (Dahmash et al., 2021; Saeed et al., 2022).

Furthermore, there is increasing pressure from stakeholders, including regulators, investors, and international funding agencies, to promote environmental transparency to inform the public about the ecological consequences of corporate operations (Chaklader & Gulati, 2015; Chithambo et al., 2022). Industry green leaders, characterised by their innovation in both financial and environmental domains, tend to disclose more extensive environmental information (Lu & Taylor, 2018; Tao et al., 2024). As social and ecological issues gain strategic prominence across sectors, companies are actively developing long-term sustainability frameworks to secure competitive advantage and stakeholder trust (Bonsu et al., 2024).

Over the past decade, environmental issues have become central to corporate decision-making, particularly in light of shareholder expectations (de Villiers & van Staden, 2012). The evolving notion of environmental accounting, which recognises that corporations bear social and ecological responsibilities alongside profit-driven goals, continues to shape corporate sustainability discourse (Sdiri and Ammar, 2024).

## 2.2. ENVIRONMENTAL REPORTING

Corporate environmental reporting has significantly grown over the past year (Gerged, 2021). For many stakeholders, ecological problems have become increasingly important. In an effort to find accurate and reliable information about environmental performance, attention has turned to the ecological effects of corporate activities (Clarkson et al., 2011). The volume of press coverage of a company's environmental activities, which indicates active stakeholder monitoring, increases the potential advantages of an open environmental reporting strategy and encourages greater disclosure (Al Amosh, 2024; Cormier & Magnan, 2003).

Environmental reports can, in reality, vary from a straightforward public relations statement to a thorough investigation of the business's environmental performance, policies, practices, and future course, as any ecological report's main goal should be to explain to the public the company's environmental performance (Azzone et al., 1997). Publishing a sustainability and corporate social responsibility (CSR) report that contains relevant information is a common business practice among multinational corporations. Environmental reporting has now become a standard practice in large corporations (Krasodomska et al., 2024).

The degree of environmental disclosure and stakeholder requests for environmental information are rising as awareness of environmental issues increases (Mei et al., 2016). The environmental performance and reporting of a firm should be viewed as strategic issues in business strategy, further supported by recent developments in the ISO 14000 standards, as many businesses are under external

pressure to enhance their environmental performance, particularly in developing nations (Al Amosh & Khatib, 2025).

In reaction to stakeholder calls for environmental accountability and responsibility, more businesses now publicly report on their environmental performance. According to Alkurdi et al. (2023), corporate environmental disclosures comprise seven categories: environmental planning considerations; top management support for institutionalising environmental concerns; environmental structures and organisational details; environmental leadership activities; environmental controls; external validations or certifications of environmental programs; and types of corporate environmental disclosures.

### 2.3. ENVIRONMENTAL PERFORMANCE MANAGEMENT

Companies that have improved their environmental performance through a proactive environmental strategy have an incentive to disclose more ecological data freely to educate investors and other stakeholders about their strategy (Clarkson et al., 2008). Burgwal and Vieira (2014) found that more stakeholders who care about environmental management and corporate goals should be satisfied with big corporations. At the same time, da Silva Monteiro and Aibar-Guzmán (2010) found that, due to the need to invest more financial and technical resources than those of medium and small companies, large corporations must pay higher prices for the preparation and publication of environmental data. According to Jenkins and Yakovleva (2006), the increased desire of investors to learn about the social responsibility of publicly traded businesses affects the social and environmental disclosure policies of these businesses and the level of ecological information they disclose.

Environmental performance includes “emission of pollutants, discharges, spills, waste management, recycling, the presence of installations and process controls, environmental management systems, compliance status, and facilities” (Radu & Francoeur, 2017, p. 7). Environmental performance is difficult to measure due to the diversity of industries and business sectors, the complexity of a firm’s activities and operations, and the difficulty of locating instruments and technological methods to measure emissions, unintentional releases, discharges, or spills (Hsu & Zomer, 2014).

Based on Cormier et al. (2005), more people are realising that environmental management is a significant source of risk in the workplace (e.g., International Auditing Standards). Companies that have improved their environmental performance through a proactive environmental strategy have an incentive to disclose more ecological data freely to inform investors and other stakeholders about their strategy (Clarkson et al., 2008).

According to prior research, businesses with greater environmental information disclosure have higher environmental success (Cooke et al., 2020; Fraj et al., 2015; Wells et al., 1992). Green businesses are more apt to disclose their environmental

performance (Lu & Taylor, 2018). The degree of ecological disclosure affects a company's financial performance, as measured by return on assets and return on equity (Ananzeh, Alshurafat, Bugshan, et al., 2022). With negative economic, social, and legal repercussions, environmental management has infiltrated boardrooms, factories, and commercial spaces (Sahay, 2004).

#### 2.4. ENVIRONMENTAL DISCLOSURE

According to Albertini (2014), environmental disclosure across all businesses will increase in technicality and accuracy; environmental innovations are also encouraged to boost energy efficiency and gain an edge in the green market. As a result, stakeholders and businesses are becoming more interested in the extent of company environmental disclosure.

Stakeholders benefit from a better grasp of how corporations can contribute to a more sustainable world when companies disclose their environmental performance (Baalouch et al., 2019). Freedman and Patten (2004) found that companies with poor environmental performance experience more negative market reactions than those with outstanding environmental performance, and that ecological disclosure in financial reports reduces the impact of toxic discharge inventories. Businesses in environmentally sensitive sectors are considered to pose the greatest ecological threat (Fatima et al., 2015; Hazaima et al., 2017).

In addition to the customary annual report, businesses can communicate with their stakeholders through a variety of readily available media channels (Burch, 2014). Stakeholders place varying values on different disclosure types and issues, so annual reports do not provide stakeholders with as much social and environmental information as CSR reports do (Lu & Abeysekera, 2017). Although there is a correlation between the degree of environmental actions taken by businesses and the reporting that follows, this relationship is part of the organisational change process because it shows how companies have responded to demands to care for the environment (Tilt, 2006). Increased transparency, an enhanced image, reduced information asymmetry, decreased agency costs and the cost of capital, improved cash flow, and higher share prices are typical outcomes of having a board of directors (Fernandes et al., 2019).

The environmental disclosure methods are represented as follows: first disclosure in independent environmental reports, second disclosure in management reports, and third disclosure within financial statements, as complementary to each other. The general practice of disclosing environmental information was established through publications such as annual reports and sustainability reports (Albertini, 2014).

In this study, we study how such disclosures are affected using three variables: industry membership, environmental certification, and the presence of a CSR committee. Industry membership is considered, as different industries face varying levels of regulatory pressure, stakeholder expectations, and environmental impacts

(Lu & Abeysekera, 2017). For instance, industries such as oil and gas, mining, and manufacturing are often subject to stricter environmental regulations and greater scrutiny due to their high resource consumption and pollution levels. In contrast, service-based industries, such as technology and finance, may place greater emphasis on social responsibility initiatives, including diversity and community engagement (Matten & Moon, 2008). Research suggests that industry membership influences the type and extent of CSR activities firms undertake. For example, companies in environmentally sensitive industries are more likely to adopt proactive environmental strategies to mitigate risks and enhance their reputation (Clarkson et al., 2011). Additionally, industry norms and peer pressure can drive firms to align their CSR practices with sector-specific standards, creating a competitive advantage.

On the other hand, environmental certifications, such as ISO 14001 or LEED, are a formal recognition of a firm's commitment to sustainable practices. These certifications signal to stakeholders, including investors, customers, and regulators, that the organisation adheres to internationally recognised environmental standards (Monteiro et al., 2023). Studies have shown that firms with environmental certifications are more likely to implement robust environmental management systems, reduce their ecological footprint, and achieve operational efficiencies (Monteiro et al., 2023). However, the effectiveness of environmental certifications in driving meaningful change has been debated. Some scholars argue that certifications can lead to symbolic compliance, where firms focus on obtaining the certification rather than implementing substantive environmental improvements (Boiral & Henri, 2012). Nonetheless, certifications remain a valuable tool for enhancing transparency, accountability, and stakeholder trust, particularly in industries with high environmental impact.

Finally, the establishment of a dedicated CSR committee within a firm's governance structure is increasingly recognised as a best practice for managing CSR initiatives. A CSR committee typically comprises board members and senior executives who oversee the development, implementation, and monitoring of CSR strategies (Rao & Tilt, 2016). The presence of a CSR committee is associated with greater accountability, strategic alignment of CSR goals with business objectives, and improved stakeholder engagement (Michelon & Parbonetti, 2012). Research indicates that firms with CSR committees are more likely to adopt comprehensive CSR policies, report on their sustainability performance, and achieve higher ESG ratings (Helfaya & Moussa, 2017). Furthermore, CSR committees play a critical role in integrating CSR into corporate governance, ensuring that sustainability considerations are embedded in decision-making processes.

### 3. THEORY AND HYPOTHESES

#### 3.1. STAKEHOLDER THEORY

Freeman (2015) defines a stakeholder as any group or individual that can affect or is affected by an organisation. This wide sense of the term includes suppliers, customers, stockholders, employees, communities, political groups, governments, media, and so on". The level of environmental disclosure and stakeholder requests for environmental information are both rising as ecological challenges are becoming more widely known. Many corporations today pay attention to their stakeholders' needs for social and environmental information (Khalid et al., 2017). As such, this paper examines how corporate characteristics (determinants) may influence ecological accounting disclosures in the service and industry sectors in Jordan. Industry membership, environmental certification, CSR committee, firm size, firm age, profitability, and leverage are the main factors examined in this study.

A broad range of empirical evidence has been developed using the body of knowledge in CSR and corporate governance, which serves as the foundation for this study (Ananzeh et al., 2021). The empirical data in the prior literature have been analysed using a multiple theoretical perspectives, including legitimacy theory (Cormier & Magnan, 2015), stakeholders' theory (Ananzeh et al., 2021), agency theory (Mallin et al., 2013), and institutional theory (Cormier et al., 2005). This study uses stakeholder theory. The practice of environmental disclosures is justified by stakeholder demand, and managers respond by providing what they perceive to be genuine stakeholder demand for environmental information (Lu & Taylor, 2018). In addition, stakeholder theory holds that a business benefits from a wider range of parties beyond its shareholders (Azzone et al., 1997).

According to Freeman (1984), all business practices affect stakeholders, including shareholders, vendors, clients, employees, rivals, social workers, legislators, academics, indigenous peoples, labour unions, municipal officials, and the government. Furthermore, according to Ullmann (1985), stakeholder theory holds that if a stakeholder controls a significant source of business, the company will find a means to meet their needs. Disclosure of environmental information is regarded as a successful strategy that addresses stakeholder relationships and meets their requirements. On the other hand, the study (Chiu & Wang, 2015; Roberts, 1992) shows that in the disclosure of environmental information, the yield on equity is positive and the debt-to-equity ratio is reversed.

Parties affected by the organisation's achievement of its objectives, whether internal or external, are referred to as stakeholders (Ananzeh et al., 2022). The ethical branch of stakeholder theory, which adopts normative views of how organisations operate, and the management branch, which explains when company management is likely to be concerned about the expectations of significant stakeholders, are the

two main divisions of stakeholder theory. According to Lu and Abeysekera (2014), the expectations of special interest groups are central to stakeholder theory. The type and level of impact that each stakeholder has over the business's operations vary as well. The intensity of competing demands and preferences of influential stakeholders is described by stakeholder theory, which suggests that companies emphasise broad notions of overall responsibility to a variety of stakeholders (Baalouch et al., 2019).

### 3.2. HYPOTHESES DEVELOPMENT

Drawing on stakeholder theory, this paper argues that industry membership, environmental certification, and CSR committees are determinants that pressure companies to report on ecological accounting disclosures. In this study, structurally firm-specific factors, which are strong determinants, characteristics, or variables that have a substantial impact on environmental accounting disclosure, have received the majority of attention. Based on the existing literature (e.g. Ananzeh et al., 2022; Baalouch et al., 2019), this study considered in the model plausible independent variables, which have been employed in earlier studies to explain the disclosure of environmental information: firm size, firm age, profitability, and leverage as control variables (Al Amosh, 2024; Alkurdi et al., 2023; Ananzeh et al., 2022). In addition, Industry membership, environmental certification, and the CSR committee as independent variables.

#### 3.2.1. INDUSTRY MEMBERSHIP (IND)

Several studies have identified the influence of industry membership on the level of environmental disclosures. Industries that are more environmentally sensitive are under greater pressure from society and the government, leading to more thorough reporting (Prasad et al., 2017). Businesses operating in ecologically sensitive sectors are required to comply with stricter environmental standards due to the focus of numerous ecological laws (da Silva Monteiro & Aibar-Guzmán, 2010). Accordingly, this study expects that environmental information disclosure will be higher in companies operating in environmentally sensitive industries. Based on that, the first hypothesis can be stated as follows.

H1: Industry membership has a positive impact on environmental disclosure (ED).

#### 3.2.2. ENVIRONMENTAL CERTIFICATION

Environmental certification reduces the disparity between the business and social value system (Plumlee et al., 2015). Companies that have created an environmental

management system EMS that has been certified by ISO 14001 or that are listed with the EMAS will disclose more ecological data than other companies (da Silva Monteiro & Aibar-Guzmán, 2010). For this reason, this study has included the environmental certification variable as a factor that may influence the level of environmental information disclosed by Jordanian companies. Because only organisations that adhere to the standards and objectives set by certification services are eligible for certification, it is clear that environmental certification expresses the company's commitment to international quality standards (Chaklader & Gulati, 2015). Based on that, the second hypothesis can be stated as follows.

H2: Environmental certification has a positive impact on ED.

### 3.2.3. CSR COMMITTEES

The majority of the studies in the review focused on the impact of CSR committees on CSR reporting or environmental reporting. There are also hints that CSR groups have had a beneficial effect on environmental reporting (Helfaya & Moussa, 2017; Jaggi et al., 2018; Kılıç & Kuzey, 2018). Compared with companies without CSR committees, those with one exhibit superior CSR performance and strategy, as well as fewer CSR controversies (Elmaghrabi, 2021). Therefore, companies with a corporate social responsibility committee care about society and are keen to keep it clean and visible in the best possible way. These companies disclose environmental information and the activities they undertake to protect the environment. The following hypothesis can be stated.

H3: The CSR committee has a positive impact on ED.

## 4. METHODOLOGY

### 4.1. RESEARCH DESIGN

For this study, a quantitative research approach is adopted. Furthermore, this paper examines the variables that impact environmental accounting disclosure. The study used secondary data extracted from annual reports and financial statements of companies listed on the Amman Stock Exchange (ASE). The paper covered 10 financial years, from January 1, 2012, to December 31, 2021. This period was selected because data were available. Annual reports of firms included in the sample are available on the ASE website. However, information on these firms' environmental disclosures is not readily available; it must be collected manually through content analysis. Due to the global pandemic of the new coronavirus, data for 2019 was released on time. Hence, 2019 was included in the study. Most previous studies have used multiple regression

as a statistical tool for empirical analysis (Deswanto & Siregar, 2018; Fondevila et al., 2019). This type of statistical software analyses the statistical values and relationships among the variables in the model and performs a series of statistical analyses on the sample data (Seles et al., 2019). The analysis technique adopted in this study is logit regression using Stata statistical software.

#### 4.2. POPULATION AND SAMPLE

The sample has been selected from the ASE website to collect secondary data extracted from the selected companies. All non-financial companies in the service and industry sectors are included in this study, totalling 74. Table 1 shows the number of companies in each sub-sector in the service sector and the industry sector.

**Table 1.** Distribution of companies in this study sample over the sub-sector.

Sub-Sector Name	Number of companies
Panel A: Service sector	
Health Care Services	2
Educational Services	5
Hotels and Tourism	9
Transportation	9
Technology and Communication	2
Utilities and Energy	5
Commercial Services	9
Panel B: Industry sector	
Pharmaceutical and Medical Industries	3
Chemical Industries	5
Food and Beverages	7
Tobacco and Cigarettes	1
Mining and Extraction Industries	7
Engineering and Construction	7
Electrical Industries	2
Textiles, Leathers and Clothing	1

Source: Authors

The sampling frame was determined based on the official sectoral classifications provided by the ASE. All companies within these two sectors that consistently published annual reports during the study period were included. This census-style

sampling approach was chosen to avoid sampling bias and ensure full representation of environmentally relevant industries.

This study focuses on listed service and industrial companies for several reasons: First, because these sectors are the most interactive with the environment and have the most influence over it, some of them are sensitive sectors, some have environmental activities, and some mitigate damage to the environment through waste recycling to benefit from it later (Brammer & Pavelin, 2008; Sen et al., 2011). Second, a firm's environmental disclosure approach appears to be heavily influenced by its industry membership (Cormier & Magnan, 1999, 2003; Holder-Webb et al., 2009). Third, listed manufacturing companies must comply with stringent environmental laws (Albertini, 2014). This paper can therefore assume that regulations have at least encouraged/induced a 'compliance' approach. Finally, industrial businesses utilise substantial energy; as a result, they have altered their manufacturing processes to save energy or gain a competitive edge in the market for green products through a "proactive" environmental strategy (Albertini, 2014).

As this study is based exclusively on publicly available secondary data obtained from annual reports and financial statements, no human participants were involved. Consequently, issues of informed consent, confidentiality, and participant risk do not arise. Nonetheless, the study adheres to ethical research standards by ensuring accurate representation of firms' reported information, avoiding data manipulation, and maintaining transparency in data collection and analysis procedures. All data sources are properly acknowledged, and the study complies with the institution's ethical guidelines for research using secondary data.

#### 4.3. VARIABLES MEASUREMENT

The information on environmental disclosure in companies' annual and sustainability reports served as the data sources for this paper. Regression analysis was applied to examine the relationship between ecological disclosure, the dependent variable, and the independent variables described in this study. The measurements for the variables are summarised in Table 2.

**Table 2.** Variables measurement

<b>Variables</b>	<b>Measurements</b>	<b>References</b>
Industry membership	1 if the firm is in an environment-sensitive sector and 0 otherwise.	Fontana et al. (2015)
Environmental certification	'ECO label' or 'ISO 14000'.	Chaklader and Gulati (2015)
CSR committee	1 if a firm has a CSR committee and 0 otherwise.	Baalouch et al. (2019)

Firm age	Number of years of the company's existence.	Wichianrak et al. (2021)
Firm size	Employees number, sales volume, total assets, or index rank.	Burgwal and Vieira (2014)
Profitability	ROA / ROE	Burgwal and Vieira (2014)
Leverage	Total debt divided by total assets.	Abdullatif et al. (2019)
Environmental disclosure	1 if the company discloses and 0 if the company does not disclose.	(Angela & Handoyo, 2021)

Source: Authors

**Dependent Variable:** Environmental disclosure can be measured in different ways. Based on Wichianrak et al. (2021), ED can be calculated using the GRI 3.1 environmental disclosure indicators. Given data availability, this study relies on a measure developed by Angela and Handoyo (2021), which assigns ED a value of 1 if the company discloses environmental information and 0 if it does not.

**Independent Variables:** The independent variables in this paper include industry membership, environmental certification, and a CSR committee. These independent variables are considered the most critical determinants to ensure that the company's activities and operations are compatible with the external environment (Chaklader & Gulati, 2015; Plumlee et al., 2015; Prasad et al., 2017). The first independent variable is Industry membership, which is measured as 1 if the firm is in an environmentally sensitive sector and 0 otherwise (Fontana et al., 2015). The second independent variable is Environmental certification, which is coded 1 if a company has an environmental certification such as an 'ECO label' or an 'ISO 14000', and 0 otherwise (Chaklader & Gulati, 2015). The third independent variable is the presence of a CSR committee, measured as 1 if a firm has one and 0 otherwise (Guo & Yu, 2022).

Following previous research, this paper includes several control variables, including firm age, firm size, profitability, and leverage. Firm age is measured by Wichianrak et al. (2021) as the number of years since the firm's inception and its listing. Firm size is calculated as total assets, as in Burgwal and Vieira (2014). Additionally, profitability is measured by return on assets (ROA) and return on equity (ROE). Finally, leverage is calculated as total debt divided by total assets, as reported by Abdullatif et al. (2019).

#### 4.4. THE STUDY MODEL

The logistic regression equation for the study model can be written as follows:

$$\log\left(\frac{p}{1-p}\right)_{it} = \beta_0 + \beta_1 Indm_{it} + \beta_2 Env cet_{it} + \beta_3 CSRC_{it} + \beta_4 Fsize_{it} + \beta_5 age_{it} + \beta_6 prof_{it} + \beta_7 Leverage_{it} \quad (1)$$

Where:

p: represents the probability of the dependent variable (environmental disclosure) taking the value 1 (i.e., disclosure exists).

$\beta_0$ : represents the intercept or constant term in the model.

$\beta_1$ - $\beta_7$ : represent the coefficients for each of the independent variables.

Industry membership, environmental certification, and the CSR committee are independent variables for this paper.

Firm size, firm age, profitability, and leverage are the control variables used in this paper.

## 5. RESULTS

### 5.1. DESCRIPTIVE STATISTICS

The descriptive analysis of the models consisting of independent and dependent variables for 74 observations is shown in Table 3. Table 3 presents the descriptive statistics of the main pooled sample variables of this study.

**Table 3.** Summary of descriptive analysis.

Variable	Obs	Mean	Std. Dev.	Min	Max
Environmental disclosure	740	0.661	0.474	0	1
Environmental certification	740	0.526	0.5	0	1
Industry membership	740	0.635	0.482	0	1
CSR committee	740	0.082	0.275	0	1
Firm age	740	3.14	0.652	1.099	4.419
Firm size	740	17.305	1.51	12.856	21.31
Leverage	740	34.213	22.872	0.097	99.829
Profitability	740	2.037	9.86	-85.716	38.668

Source: Authors

The independent variables used in the study are environmental certification, industry membership, and CSR committee, and the control variables are firm age, firm size, leverage, and profitability, which affect ROA and ROE. In contrast, environmental disclosure serves as the dependent variable. Table 3 reveals a mean (average) environmental disclosure of 0.661 and its standard deviation of 0.474. Leverage has a high mean value and a high standard deviation. Firm size has a mean of 17.305 and a standard deviation of 1.51. Firm age has a mean of 3.14 and a standard deviation of 0.652. Profitability has a mean of 2.037 and a standard deviation of 9.86. Industry

membership has a mean value of 0.635 and a standard deviation of 0.482. The mean and standard deviation of environmental certification are 0.526 and 0.5, respectively.

## 5.2. CORRELATION ANALYSIS

The correlation matrix, including the correlation coefficients and the statistical significance of the variables, is shown in Table 4.

**Table 4.** Correlation analysis.

<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>	<b>(6)</b>	<b>(7)</b>	<b>(8)</b>
Environmental disclosure	1.000							
Environmental certification	0.515	1.000						
Industry membership	0.243	0.257	1.000					
CSR committee	0.183	0.049	-0.294	1.000				
Firm age	0.312	0.299	0.238	-0.054	1.000			
Firm size	0.116	0.230	0.002	-0.016	0.245	1.000		
Leverage	0.077	0.094	0.205	-0.122	0.145	0.387	1.000	
Profitability	0.110	0.082	-0.131	0.064	0.099	0.269	-0.206	1.000

Source: Authors

Karl Pearson first used the word “correlation coefficient” in 1896. As a result, this measure, which was created over a century ago and is still in use today, is second only to the mean in terms of usage (Ratner, 2009). Using the Pearson correlation test, environmental disclosure indicators were analysed. Although the maximum correlation found is almost 0.515, it is still considered a moderate correlation (Ratner, 2009).

The correlation matrix quantifies the overlap among variables (Daemen et al., 2020). If the percentage is less than 80%, there is no overlap between the variables, indicating that the study is correct. If the rate exceeds 80%, the variables overlap, leading to collinearity (Bun et al., 2017; Burda et al., 2004). Multicollinearity is a relationship between two or more external variables in which the independent variables are strongly related to each other (Franke, 2010). When independent factors are highly correlated, multicollinearity becomes apparent (Alin, 2010) These preliminary findings suggest that this study is valid.

Additionally, Table 5 presents the multicollinearity analysis of the independent variables, performed using the variance inflation factor (VIF) method.

**Table 5.** Multicollinearity analysis.

<b>Variable</b>	<b>VIF</b>
Environmental certification	1.105
Industry membership	1.033
CSR committee	1.182
Firm age	2.005
Firm size	2.101
Leverage	2.225
Profitability	3.770

Source: Authors

According to Myers (1990), there is no concern if the VIF value is less than 10. Table 4 shows that all values conform to this principle, indicating that there is no multicollinearity among the independent variables.

### 5.3. REGRESSION RESULTS

Table 6 reports the logistic regression estimates explaining whether a firm discloses environmental information (ED = 1) versus not (ED = 0). The model is jointly significant ( $\chi^2 = 199.029$ ,  $p < 0.001$ ) and shows meaningful explanatory power for a binary outcome (Pseudo  $R^2 = 0.323$ ), indicating that the included organisational and governance factors capture an economically relevant share of cross-firm variation in environmental disclosure.

Across the main predictors, environmental certification is strongly and positively associated with disclosure ( $\beta = 2.317$ ,  $p < 0.01$ ). Substantively, this implies that certified firms have much higher odds of disclosing environmental information than non-certified firms, consistent with the idea that certification functions as an external commitment device that strengthens reporting incentives and credibility. Likewise, industry membership (environment-sensitive sector) is positive and significant ( $\beta = 0.939$ ,  $p < 0.01$ ), suggesting that firms operating in environmentally exposed industries face stronger stakeholder scrutiny and regulatory salience, which translates into a higher propensity to disclose. The presence of a CSR committee also exhibits a large positive coefficient ( $\beta = 3.514$ ,  $p < 0.01$ ), indicating that formalised CSR governance is strongly linked to the likelihood of environmental disclosure, plausibly because it institutionalises responsibility, oversight, and reporting routines.

Regarding controls, firm age is positive and highly significant ( $\beta = 0.896$ ,  $p < 0.01$ ), implying that more established firms are more likely to disclose—consistent with reputational concerns, accumulated reporting capacity, and greater exposure to stakeholder expectations over time. Firm size is negative and only weakly significant

( $\beta = -0.162$ ,  $p = 0.05$ ), suggesting that, conditional on the governance and sector variables in the model, larger firms in this sample are not systematically more likely to disclose; however, given the borderline significance, this effect should be interpreted cautiously rather than as a strong inference. Leverage is statistically insignificant ( $p = 0.261$ ), indicating no reliable association between financing structure and disclosure propensity in this setting. Profitability is positive and significant ( $\beta = 0.026$ ,  $p = 0.017$ ), but the magnitude is modest, implying that better performance slightly increases the likelihood of disclosure, consistent with the notion that financially stronger firms can more easily bear the costs of disclosure and reporting systems.

For interpretation, logistic coefficients should be translated into odds ratios by exponentiating the coefficients:  $OR = \exp(\beta)$ . Importantly, the odds ratio is not computed by multiplying the coefficient by itself. For example, for industry membership, the odds ratio is  $\exp(0.939) \approx 2.56$ , meaning that environmentally sensitive firms have about 2.56 times the odds of disclosing environmental information compared with firms in non-sensitive sectors, holding other factors constant.

**Table 6.** Logistic regression results.

<b>Environmental disclosure</b>	<b>Coef.</b>	<b>St.Err.</b>	<b>t-value</b>	<b>p-value</b>	<b>[95% Conf</b>	<b>Interval]</b>	<b>Sig</b>
Environmental certification	2.317	.218	10.61	0	1.89	2.745	***
Industry membership	.939	.22	4.26	0	.507	1.371	***
CSR committee	3.514	.735	4.78	0	2.074	4.954	***
Firm age	.896	.171	5.23	0	.56	1.232	***
Firm size	-.162	.083	-1.96	.05	-.324	0	*
Leverage	.007	.006	1.12	.261	-.005	.018	
Profitability	.026	.011	2.38	.017	.005	.048	**
Constant	-1.306	1.34	-0.97	.33	-3.932	1.32	
Mean dependent var		0.662				SD dependent var	0.473
Pseudo r-squared		0.323				Number of obs	725.000
Chi-square		199.029				Prob > chi2	0.000
Akaike crit. (AIC)		643.970				Bayesian crit. (BIC)	680.659

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Source: Authors

## 6. DISCUSSION

The criterion for accepting or rejecting hypotheses for this paper will depend on the significance level ( $\alpha$ ) that can be set for the analysis results. As a result, in this study, the p-values associated with the independent variable coefficients are examined to test the hypotheses. If the p-value is less than the significance level, the results indicate a statistically significant relationship between the independent and dependent variables, and the hypothesis is accepted. In contrast, if the p-value exceeds the significance level, the hypothesis is rejected and cannot be accepted.

This study hypothesised a set of relationships to examine the links among environmental disclosure, industry membership, environmental certification, and the CSR committee. In addition, this study considers the impact of these relationships. This study has been conducted in the context of Jordanian service and industrial companies listed on the ASE. The first hypothesis (H<sub>1</sub>) is supported by the results, indicating that industry membership has a significant, positive effect on environmental disclosure levels. This finding aligns with previous studies suggesting that firms operating in environmentally sensitive industries are more likely to disclose environmental information due to higher stakeholder expectations and regulatory scrutiny (Fontana et al., 2015; Lu & Abeysekera, 2014; Prasad et al., 2017).

The conceptual framework presented in this paper considers a number of relationships within a research model to help readers understand the variables influencing environmental disclosure in Jordan. The results of testing the three hypotheses outlined in this chapter confirm a statistically significant relationship between the variables affecting ecological disclosure and the study's general hypotheses. Each hypothesis's outcome was corroborated by a related finding from prior studies. H<sub>2</sub>, the second hypothesis, which asserted a positive relationship between environmental certification and environmental disclosure, was supported by the study's analysis. This variable was used in accordance with previous studies (Chaklader & Gulati, 2015; da Silva Monteiro & Aibar-Guzmán, 2010).

This paper finds a positive relationship between the CSR committee and environmental disclosure using stakeholder theory. This means that H<sub>3</sub>, the third hypothesis, is accepted, consistent with previous studies (Lu & Abeysekera, 2014). Based on the statistical results of this paper, hypotheses 1, 2, and 3 are supported.

The findings of this paper are consistent with previous studies on environmental accounting disclosure. According to da Silva Monteiro and Aibar-Guzmán (2010), industry membership positively affects ecological disclosure. In addition, Chaklader and Gulati (2015) found a positive relationship between ecological certification and environmental disclosure. Moreover, Baalouch et al. (2019) found that the presence of a corporate social responsibility committee in a company increased ecological disclosure.

## 7. CONCLUSIONS

This study examined the determinants of environmental accounting disclosure among Jordanian non-financial firms, focusing on industry membership, environmental certification, and the presence of a CSR committee. The findings confirm that environmental disclosure is shaped by a constellation of organisational and external pressures, thereby reinforcing prior research which emphasises that ecological reporting is a dynamic and context-dependent process. Consistent with earlier studies, the results demonstrate that firms operating in environmentally sensitive industries, those that obtain ecological certifications, and those with established CSR committees are more likely to disclose environmental information. These determinants collectively highlight the role of both internal governance structures and sector-level pressures in enhancing ecological transparency.

A key conclusion emerging from the study is that industry-specific pressures remain a dominant driver of environmental disclosure in Jordan. Stakeholders—including investors, regulators, and the public—expect firms in environmentally exposed sectors to be more transparent regarding their ecological impacts. The analysis also underscores the importance of governance mechanisms: companies with structured CSR oversight and certification systems appear better equipped to meet stakeholder expectations and implement consistent disclosure practices. Nevertheless, while these mechanisms are influential, their effectiveness should be interpreted cautiously, as disclosure does not automatically imply substantive improvements in environmental performance.

The study's practical implications extend to regulators, managers, and policymakers. For regulators, the evidence suggests that clearer reporting guidelines and stronger enforcement could improve disclosure consistency. For firms, developing internal governance structures—such as CSR committees—may support more credible, organised reporting processes. However, the implications should be viewed cautiously: while enhancing disclosure mechanisms can increase transparency, such efforts do not guarantee substantive improvements unless supported by genuine environmental management practices. Policymakers in Jordan and similar emerging contexts may also draw on these findings when designing regulations that incentivise the adoption of certifications and structured sustainability governance.

Despite its contributions, the study has several limitations that should be acknowledged. First, the reliance on binary disclosure measures may not fully capture the depth, quality, or specificity of environmental reporting. Second, the study focuses on a limited set of determinants, while other influential factors—such as ownership structure, board composition, media scrutiny, and institutional pressures—remain unexplored. Third, data availability in the Jordanian context restricts the ability to assess longitudinal improvements in disclosure practices. Finally, environmental disclosure in emerging markets may be affected by informal institutional norms, weak

enforcement mechanisms, and varying interpretations of reporting standards, all of which future research should examine more thoroughly.

Given the growing importance of environmental accountability, several avenues for future research remain. Scholars could explore the moderating role of media visibility, gender diversity, and ownership patterns on disclosure practices. Moreover, examining whether firms with environmental committees demonstrate substantive ecological performance rather than merely increased reporting would offer deeper insight into the authenticity of their disclosures. Future studies could also employ more refined content analysis techniques or machine learning approaches to assess disclosure quality rather than merely its presence. Extending the analysis to additional sectors or cross-country comparisons may further illuminate how institutional environments shape environmental reporting practices in emerging economies.

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