

THE FUTURE OF SUSTAINABILITY REPORTING: ENVIRONMENTAL DISCLOSURES PRACTICES IN JORDAN

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ABSTRACT

Purpose: Due to social corporate responsibility, environment protection act, and stakeholders' rights, companies have to include environmental reports in their corporate profile as an aspect of corporate sustainability. Therefore, Environmental disclosure has become a critical issue for every corporate. This paper is an attempt to study the conceptual aspects of corporate environmental reporting and its regulatory framework. It also examines the consistency of Jordanian industrial companies in disclosing environmental issues as per GRI guidelines, as GRI indexes popularly adopted in the corporate world.

Design/Methodology/Approach: This study also attempts to identify the extent of environmental disclosure under the seven of GRI indexes of the 46 Listed Industrial Companies in ASE. For the study, all the listed Industrial companies in ASE investigated. The data collected from secondary sources particularly from the annual corporate reports 2019. Statistical tools such as the ANOVA analysis technique initially used. ANOVA techniques test the study's Hypothesis over the frequencies of issues that have stated in the Global Reporting Initiative (GRI) which are concerned with the environmental issues explored. A single factor or one-way ANOVA used to test two null hypotheses.

Findings: The study found the disclosure practices of the seven GRI indexes practically among Jordanian industrial companies not significantly practiced. This concluded that Jordanian companies do not consider their environmental reporting. In addition, the disclosure practices of the seven GRI indexes practically among Jordanian industrial companies are not the same.

Originality/Value: The study provided disclosure practice of the GRI standards concerned with environmental issues. In addition, it classified as the first study limited to study the GRI environmental standards in Jordan.

Practical Recommendation: There is a suggestion for the Amman Stock Exchange (ASE) to adopt the internationally recognized sustainability reports and indicators such as GRI standards so that the disclosure process is uniform and consistent and thus unifies the mechanism of disclosure of sustainability indicators in general and the environment in particular. This mechanism also enables effective comparison between companies in the same sector and other sectors at the local, regional and global levels.

JEL Classification: M40.

Keywords: Sustainability Reporting, Environmental Indicators, Global Reporting Initiative GRI, Environmental Disclosure Practice, Jordan.

INTRODUCTION

Since Rio de Janeiro Summit in 1992 to the Paris Climate Agreement in June 2017, the environmental issues such as greenhouse, gas emission and global temperature are still controversial. The reason behind that, nowadays, these issues might have a great influence on the path of our lives. Governments, organizations, and individuals are engaged with the environment directly or indirectly. In modernized societies with developed and diversified technology, the environment becomes profoundly affected and polluted. Thus, to protect the environment, some serious actions should be taken at the proper level to provide a favorable and healthy climate to the human being. Some actions, for example, the majority of world countries issued particular legislation to protect the environment. Some academic actions also taken, it is noticeable in the last two decades that a new field of accounting which is called environmental accounting has been raised. The application of this field can help in different areas. It can provide accurate and adequate information (financial and non-financial) to all environmental interested parties (stakeholders). Such information can be provided and collected by environmental accounting are information about the events occurred, resources used and people who participated in environmental issues. But the significant contribution of environmental accounting provides actual environmental costs that already caused mainly by manufacturing companies (Islam & Deegan, 2010). The accounting environment can provide financial and non-financial information which is expected to help the stakeholders in their different decision-making (Altarawneh, 2015).

At an international level, many real actions are taken to pay attention to environmental issues. For example, in 1992, a global summit conducted in Brazil (Rio de Janeiro) called Erath Summit. This summit raised the environmental issues as crucial and critical agenda to the United Nations (United Nation, 2002). Due to the Earth Summit recommendations, many countries abroad the world issued particular laws to protect the environment. Following the Earth Summit in Rio de Janeiro in 1992, international and local organizations become aware and concern about the environmental impacts on their operational activities and techniques. Even individuals became more concerned with environmental issues and needed more information about organization environmental activities. Civil society associations with different goals through the glob have been established to enhance the knowledge of the environment among the members, to protect the environment and to control the governments' and organizations' activities concerning environmental issues (United Nation, 2002).

LITERATURE REVIEW: ENVIRONMENT ISSUES AND ACTIVITIES

To pay attention to the environmental issues, several studied conducted by Belal (2000); Sahay (2004); Lodhia (2006); Makori & Jagongo (2013) and Altarawneh (2015). As mentioned above, environmental accounting is a tool for providing actual financial information about environmental matters. Therefore, in this sense, Makori & Jagongo (2013) conducted an empirical study of companies listed on the Bomby Stock Exchange. This study was an attempt to explore the relationship between environmental accounting and the profitability of the selected firm. The study was carried out over 14 companies selected randomly and used multiple regression to analyze the data collection. He studied many accounting profitable measurements such as net profit margin (NPM), DPS, ROE and EPS and their relationship with the accounting environment. He found a strong positive correlated relationship between environmental accounting and the NPM and DPS. While the relationship with ROE and EPS are strongly negative. Based on the study results, Makori provided a financial suggestion to the

Indian government, that the government should grant a credit tax to the companies which meet and exercise their environmental responsibilities and involve environmental issues in their annual report or a separate report. In his opinion, this suggestion will enhance the corporate environment.

One of the Accounting environment functions is providing and integrating the variety and amount of financial and non-financial environmental information. In applying this function, Sahay (2004) investigated the content of environmental reporting issued by Indian companies. He concluded that the awareness of Indian companies is increased about two issues, the variety and amount of environment information. As a result of Sahay's study, knowledge about the ecosystem has been observed and expanded due to the environmental impacts of manufacturing and business activities.

Another study conducted by Lodhia & Jacobs (2013) in Australia. The study carried out over the public sector of Australian commonwealth departments. The study aimed to explore the content of environmental and social responsibilities reports in the Australian Commonwealth public sector. The content of annual reports Australian Commonwealth of these were analyzed from 2003-2008. The data collected by using interviews and the method of analyzing documentary data, which enabled researchers to conduct an in-depth study of selected departments. Also, the study adopted the legitimacy theory and Bourdieu's theory of practice. In their opinion and study results, these two theories can provide a better understanding of how the two Commonwealth departments practice their social and environmental responsibilities.

In the context of Jordan, Jordan adopted several economic reforms, such as amendment a lot of its legislations and regulations, privatization programs and improve the investment environment. These reform programs also aimed to encourage foreign investments. Besides, provide awareness concerning environmental issues. In this context, Altarawneh (2015) conducted a study to investigate how industrial and mineral Jordanian companies practice the environmental issue in their annual reports. The study conducted between 2010 and 2013, and collected annual reports of the selected companies. She found, lack of environmental corporate report in terms of issuance single report or the nature of the information presented in the annual reports. She suggested that the Jordanian government should improve environmental regulation to meet the international requirements and should put real actions and forces to employ them. These actions might be helping the stakeholders to improve their decision making. Even the Jordan issued the Environmental Protection Law No. 52 of 2006 (old version) and No. 6 of 2017 (new version), but it needs more executive procedures to enhance and protect environmental issues. During the last five years, negative environmental matters have noticed due to poverty, the rapid increase of population due to the numbers refugees from different Arabian countries and very lack of awareness of the environmental issues among organizations or individuals.

From the foregoing, the majority of studies have focused on environmental information published in annual reports. Since publishing environmental information is voluntary in many countries' legislation, many companies may disclose them in special reports or on their websites, so this study attempts to explore the extent of environmental disclosure practices in industrial companies in Jordan. This study will focus on the most widely used environmental standards in the world, which is the Global Reporting Initiative, GRI. The following section focuses on these criteria and their use in empirical studies.

Empirical Studies Over GRI Standard

The companies reported and designated these reports as part of their Corporate Social Responsibility (CSR), which generally now known as a sustainability report. The growing global attention toward sustainability motivated researchers to explore, explain and assess sustainability practice reports among companies. Table 1 summarizes the research studies about the corporate sustainability report in general and the environment disclosure practice in particular use the GRI indexes.

Table 1				
EMPIRICAL STUDIES ANALYZING SUSTAINABILITY DISCLOSURE PRACTICES				
Authors	Year	Sample	Research Method	Findings
Turner et al.	2006	32 companies UK; 2005	Questionnaire	17 companies (53%) have not heard of the GRI, 6 companies asserted that they did not use any of the GRI guidelines in their reporting. Based on these results, the UK companies show limited acceptance of GRI guidelines.
Guthrie & Farneti	2008	7 Australian organizations ; 2005-2006	Content analysis	The study identified that 32% of the GRI's elements were used by the selected organizations and the Labor Practices category showed the highest disclosure of 54%.
Dilling	2010	124 companies – from 25 countries;	The Fisher's exact test, the Pearson chi-square test, univariate and multivariate logistic regression	The study found a positive association between G3 reports.
Li et al.	2011	66 largest forest companies, 2006 Worldwide	Content analysis As per the GRI framework. regression analysis	The results of regression analysis suggest that company size and business diversity are significantly associated with disclosure, whereas profitability and regional differences are not decisive factors in formulating sustainability reporting strategies in the forest industry.
Hahn& Lülfs,	2014	Sample of US Dow Jones Industrial Average Index and on the German DAX Index	Using qualitative content analysis of GRI-oriented sustainability reports from companies listed on the US Dow Jones Industrial Average Index and the German DAX Index	They found the legitimization strategies aiming at modifying the perception of legitimizing stakeholders does not meet the requirement of impartiality as postulated by the GRI guidelines
Bhatia & Tuli (14a)	2014a	14 companies producing separate sustainability report (2010-11) out of 30 SENSEX	Content Analysis is applied for data collection and ANOVA is used for data analysis	Following the GRI guidelines, near to 50% have provided separate sustainability reports for the year 2010-2011. While, at the inter-industry wise disclosure, no significant difference was found

Swain et al.	2017	top 50 Indian companies are listed in the Bombay stock exchange, sample 2014-15	The coefficient of variation, proportion test, and chi-square test has been used.	There is no consistency in disclosing environmental factors by the Indian Companies as per GRI guidelines
Prasad et al.	2017	137 Indian companies.	Content analysis of 137 companies' annual reports the years 2011–2012 and 2014–2015	There is no consistency in the standalone reports released by firms. Some companies release Business Responsibility Reports, while others issue Sustainability Reports using the GRI guidelines

Disclosure of environmental information in annual corporate reports or any means of reporting is largely voluntary in nature except those stated in many countries' environmental acts. An efficient way in disclosing information on companies' sustainability is through sustainability reports, such as the global reporting initiative (GRI) framework (Agostinho et al., 2021). Thus, several organizations abroad the world such as Global Reporting Initiative, GRI and for instance see more organizations in Table 2, have issued environmental reporting guidelines as a road map to follow. Although, the guidelines are not mandatory in nature, but many companies are adopted as a technique for the disclosure of their environmental information. It is acknowledged that these guidelines are aimed to build the uniformity of corporate environmental reports. GRI aims to synthesis different documents into a single set of guidelines. It is a voluntary, cross-sectoral and multi-stakeholder joint effort. It is the main goal to achieve comparability and uniformity of sustainability reports. The following section provides more information about GRI that this study focuses on it.

Organization	Year of foundation
International Council of Chemical associations (ICCA)	1985
Public Environmental Reporting Initiative (PERI)	1993
Deloitte Touche Tomatsu International, (DTTI)	1997 and 2002
United Nations Environment Programme, (UNEP)	1994
Global Reporting Initiative, (GRI).	1997

Several studies focus on sustainability from different dimensions, social-economic, and environment. During the first decade of 21 century, different studies have focused on economic and societal dimensions such as (Belal, 2000; Sobhani et al., 2012; Nobanee & Ellili, 2016; Herbohn et al., 2014; Bhatia & Tuli, 2014b). And other studies focus on the environmental reporting practices based on different environmental disclosure guidelines such as (Wulansari & Sholihin, 2017; Altarawneh, 2015; Ullah et al., 2014; De Villiers & Van Staden, 2011; Bewley & Li, 2000). But less studies use the Global Reporting Initiative (GRI) as a base of environmental disclosure guidelines.

GRI was founded in Boston in 1997. Its roots lie in the US non-profit organizations the Coalition for Environmentally Responsible Economies (CERES), the Tellus Institute and in partnership with United Nations Environment Programme (UNEP). GRI is an international organization, generously supported by a diverse range of strategic partners. GRI's partners

include governments, multilateral donors and foundations. The strategic partners help shape GRI's agenda and support the work we do. GRI's partners include governments, multilateral donors and foundations. GRI is playing an important role in the field of sustainable reporting. GRI issued several versions of reporting guidelines, the first version in 2002 and the second in 2002. The third version issued in 2006. The fourth set of GRI guidelines known as G4 was issued in 2013. GRI guidelines are comprehensive in nature, and these are broadly divided into 2 parts. The first part deals with General Standard Disclosures. In October 2016, GRI launched the first global standards for sustainability reporting. Developed by the Global Sustainability Standards Board (GSSB), the GRI Standards enable all organizations to report publicly on their economic, environmental and social impacts – and show how they contribute towards sustainable development. These disclosures involve general information regarding the company in terms of different dimensions, social-economic, and environment. According to G4 guidelines, the contents of General Standard Disclosures as follow: strategy and analysis, organizational profile, identified Material Aspects and Boundaries and stakeholder engagement GRI Website 2019.

For the study, the study focuses on the environmental standards listed in table 4, which are issued by GRI standards (more details in the methodology section).

RESEARCH METHODOLOGY

To take the issues that discussed and presented in different studies into our account, this study conducted over the Jordanian Industrial Companies listed in the Amman Stock Exchange (ASE), which consists of 46 companies. According to the Amman Stock Exchange, those listed companies are classified into 8 categories as shown in the Table 3. See more detail about the listed companies in appendix A (Shil & Iqbal, 2005).

Industrial Companies Listed in ASE	NO. of Companies
G1: Pharmaceutical and Medical Industries	4
G2: Chemical Industries	7
G3: Food And Beverages	9
G4: Tobacco and Cigarettes	2
G5: Mining and Extraction Industries	10
G6: Engineering and Construction	8
G7: Electrical Industries	3
G8: Textiles Leathers and Clothings	3
Total	46

Therefore, the study will be an attempt to evaluate the nature, volume, and type of environmental corporate disclosure practices of these companies. This study classified as a quantitative approach. Thus, the ANOVA technique will be used to analyze the environmental information content of annual reports of 46 companies listed in the Amman Stock Exchange. The study will conduct in 2019 over the listed industrial companies in ASE. To make contemporary study so far, data must be of the latest and modern year. Accordingly, 46 sample annual reports collected from the sample companies due to the 2019 Annual Report and other sources included disclosed environmental issues regarding those companies.

Data Collection

Data Collection based on different secondary sources; the Amman Stock Exchange website, companies' websites, periodicals, magazines, articles to highlight the environmental disclosure issues that investigated and examined in the previous researches. In general, the annual reports of the Jordanian industrial companies that issued in 2019 have followed to collect the data regarding their environmental disclosure practice and other electronic resources such as websites on the sampled companies.

Data Collection Analysis Techniques

This study mainly based on the environmental disclosure practice that issued by the list of industrial companies in their annual reports, websites, electronic resources or any independent environmental reports. As mentioned earlier the quantitative approach is adopted to carry out this study. Therefore, statistical tools such as the ANOVA analysis technique initially have been used. ANOVA techniques test the study's Hypothesis over the frequencies of issues that have stated in the Global Reporting Initiative (GRI) which are concerned with the environmental issues, have been explored. The Global Reporting Initiative (GRI) has 7 standards which are listed in table 4 (see more details in Appendix B).

GRI Standards	Relaunched year	Scope	Disclosure Practice
GRI 301: Materials	2016	Addresses the topic of materials.	Provide information about an organization's impacts related to materials, and how it manages these impacts
GRI 302: Energy	2016	Addresses the topic of energy.	Provide information about an organization's impacts related to energy, and how it manages them
GRI 303: Water and Effluents	2018	Addresses the topic of water and effluents.	The disclosures in this Standard are designed to help an organization better understand and communicate its significant water-related impacts, and how it manages them.
GRI304: Biodiversity	2016	Addresses the topic of biodiversity.	Provide information about an organization's impacts related to biodiversity, and how it manages them
GRI 305: Emissions	2016	Addresses emissions into the air	This Standard includes disclosures on the management approach and topic-specific disclosures.
GRI 306: Effluents and Waste	2016	Addresses the topic of effluents and waste.	Provide information about an organization's impacts related to effluents and waste, and how it manages these impacts.

GRI307: Environmental Compliance	2016	Addresses the topic of environmental compliance	The disclosures in this Standard can provide information on an organization's compliance with applicable laws and regulations.
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Hypothesis Development

As stated before, the study aimed to explore the environmental disclosure practice of industrial companies and whether the GRI standards concerned with the environmental issues are disclosed in the same degree or not. To achieve these goals, two hypotheses developed, as follow:

1. Regarding the significance of the Environmental Disclosure practice experienced by listed industrial companies in ASE.

H_0 : *There is no significant Environmental Disclosure practice experienced by listed industrial companies.*

H_1 : *There is a significant Environmental Disclosure practice experienced by listed industrial companies.*

2. Environmental Disclosure practice of the GRI indexes are the same among the listed industrial companies in ASE.

H_0 : $GRI301=GRI302=GRI303=GRI304=GRI305=GRI306=GRI307$

Alternative,

H_1 : *At least one mean is different.*

These hypotheses measure the variation in company environmental disclosure practices regarding the different items covered in the GRI disclosure index (7 standards). For the purpose of this study, the data collection about existence of the disclosure of the GRI items. Thus, if the GRI index is disclosed in the corporate reporting or and other report, the weight of (1) is given and a weight (0) is given for non-disclosure. In addition, Chi square test has used to check the association between GRI index and the disclosure by the listed industrial companies at ASE.

RESULTS AND DISCUSSIONS

The environmental disclosure practices of industrial Jordanian companies listed in ASE summarized as follow:

Company Disclosure Practice

Company symbol	Total GRI	No. of GRI disclosed	Mean	Variance
DADI	7	5	0.714286	0.238095
JPHM	7	4	0.571429	0.285714

HPIC	7	3	0.428571	0.285714
PHIL	7	4	0.571429	0.285714
ICAG	7	4	0.571429	0.285714
ACDT	7	3	0.428571	0.285714
JOIC	7	4	0.571429	0.285714
NATC	7	4	0.571429	0.285714
JOIR	7	4	0.571429	0.285714
MBED	7	1	0.142857	0.142857
IPCH	7	1	0.142857	0.142857
JPPC	7	3	0.428571	0.285714
JODA	7	4	0.571429	0.285714
GENI	7	2	0.285714	0.238095
UMIC	7	2	0.285714	0.238095
NATP	7	2	0.285714	0.238095
AIFF	7	3	0.428571	0.285714
NDAR	7	1	0.142857	0.142857
JVOI	7	2	0.285714	0.238095
SNRA	7	1	0.142857	0.142857
EICO	7	3	0.428571	0.285714
UTOB	7	0	0	0
AALU	7	1	0.142857	0.142857
NAST	7	1	0.142857	0.142857
JOPH	7	4	0.571429	0.285714
JOCM	7	1	0.142857	0.142857
APOT	7	2	0.285714	0.238095
JOST	7	2	0.285714	0.238095
NATA	7	2	0.285714	0.238095
TRAV	7	1	0.142857	0.142857
MANS	7	2	0.285714	0.238095
NCCO	7	1	0.142857	0.142857
MANR	7	1	0.142857	0.142857
JOPI	7	2	0.285714	0.238095
WOOD	7	2	0.285714	0.238095
RMCC	7	1	0.142857	0.142857
ASPM	7	2	0.285714	0.238095
AQRM	7	0	0	0
ASAS	7	2	0.285714	0.238095
SHBA	7	1	0.142857	0.142857
WIRE	7	1	0.142857	0.142857
AEIN	7	0	0	0
UCIC	7	0	0	0
CEIG	7	1	0.142857	0.142857

JOWM	7	0	0	0
ELZA	7	1	0.142857	0.142857
Total mean score (%)			0.282609	

It can understand from Table 5 that the total percentage mean of the GRI environmental disclosure score of the Industrial Companies listed in ASE is 28.26%. The range score of the mean is between 0% and 71.42%. From the table, the highest score of disclosure is company Dar Al Dawa Development & Investment (DADI) (71.42%) and is followed by the flowing companies 8 companies got (57%) score: JPHM; PHIL (Pharmaceutical and Medical Industries); ICAG; JOIC; NATC; JOIR (Chemical Industries); JODA(Food And Beverages) and JOPH(Mining and Extraction Industries). Among 9 companies above 50% score 7 companies from (G1: Pharmaceutical and Medical Industries) and (G2: Chemical Industries). It concluded that those companies are aware of the environmental issues more than others are, because those companies are pioneer companies in ASE in terms of the trading transactions and the market values. Table 5 shows more results, there are 5 companies obtained 0% score, this result may due to the disclosure of environmental issues is voluntary in nature (Swain et al., 2017).

These weak practices seem to because environmental reporting still voluntary in Jordan. The companies have different approaches to disclosure their environmental reporting. Whatever the result the study shows this voluntary endeavor by the Jordanian Industrial Companies deserves appreciation and needs more encouragement.

From table 5, notice differences in the percentage of disclosure practice scores of companies. Furthermore, to see if there is a significant disclosure score of various companies or not, a single factor or one-way ANOVA is used. The results are shown in Table 6.

Source of Variation	Sum of Squares	df	Mean Square	F	P-value	F critical
Between Groups	11.56832	45	0.257074	1.320922	0.093905	1.415883
Within Groups	53.71429	276	0.194617			
Total	65.28261	321				

Thus, it seems that the significance of the Environmental Disclosure practice experienced by listed industrial companies in ASE, A single factor or one-way ANOVA is applied to test the null hypothesis, there is no significant disclosure practice and alternate hypothesis, there is a significant disclosure practice (Dilling, 2010).

H_0 : *There is no significant Environmental Disclosure practice experienced by listed industrial companies.*

Alternative,

H_1 : *There is significant Environmental Disclosure practice experienced by listed Industrial companies.*

The decision rule of this statistical tool (A single factor or one-way ANOVA) that If $F < F$ critical, we accept the null hypothesis. In this case, the F value is 1.320922 and F critical value is 1.415883 and. So, in this case, we accept the null hypothesis H_0 . Therefore, it means that all of the disclosure practices of the seven GRI indexes practically among Jordanian industrial companies are not significantly practiced. This shown that Jordanian companies do not consider their environmental reporting. This result echoes the same that is concluded by Altarawneh (2015), the lack of environmental disclosure by Jordanian companies due to the voluntary in nature. Also, the Jordanian legislation and regulations regarding the disclosure environmental issues are not mandatory.

GRI Indexes Disclosure

GRI indexes disclosure presents in table 7, which expresses the percentage of GRI disclosure score.

GRI Environmental indexes	No. of observations	No. of Company disclosed	Percentage %	
GRI 301: Materials	46	12	0.26087	0.197101
GRI 302: Energy	46	8	0.173913	0.14686
GRI 303: Water and Effluents	46	21	0.456522	0.253623
GRI 304: Biodiversity	46	0	0	0
GRI 305: Emissions	46	19	0.413043	0.247826
GRI 306: Effluents and Waste	46	3	0.065217	0.062319
GRI 307: Environmental Compliance	46	28	0.608696	0.243478
Total mean score (%)			0.2826	

The above table illustrates that the total disclosure score for all GRI indexes is 28% and the “GRI 307: Environmental Compliance” has the highest disclosure score of 60%. Also, the table shows that the majority of the GRI indexes disclosed by the companies is less than 50%, “GRI 303: Water and Effluents” (45%), “GRI 305: Emissions” (41%), “GRI 301: Materials” (26%), “GRI 302: Energy” (17%) and “GRI 304: Biodiversity” (0%). From the mean disclosure score performance GRI indexes, it is obvious that the “Environmental Compliance” is taken more consideration followed by “Water and Effluents” and “Emissions”, while Biodiversity is never taken upon (Global Reporting Initiative, 2019).

From table 7, notice the differences in percentage of GRI disclosure practice scores. Furthermore, to see if there is a significant disclosure score of various.

GRI indexes or not, a single factor or one-way ANOVA is used. The results shown in Table 8.

Source of Variation	Sum of Squire	df	Mean Square	F	P-value	F critical
Between Groups	13.47826	6	2.246377	13.65925	8.60E-14	2.127402
Within Groups	51.80435	315	0.164458			
Total	65.28261	321				

A single factor or one way ANOVA used to test the null hypothesis, i.e. the mean from all the population is equal. And the alternate hypothesis is at least one among the mean is different.

$$H_0: \quad GRI301=GRI302=GRI303=GRI304=GRI305=GRI306=GRI30$$

Alternative,

$$H_1: \quad \text{At least one mean is different.}$$

The decision rule of this statistical tool (A single factor or one-way ANOVA) If $F > F$ critical, we reject the null hypothesis. In this case, the F value is 13.65925 and F critical value is 2.127402. So we reject the null hypothesis H_0 and accept the alternate hypothesis H_1 . Therefore, it means that all of the disclosure practices of the seven GRI indexes practically among Jordanian industrial companies are not significantly practiced the same. This shown that Jordanian companies do not consider their environmental reporting.

From the above tables, the Jordanian industrial companies appear to be less aware of the environmental issues. Although the Jordanian Environmental Protection Law No. 6 of 2017 and the approval of the Jordanian government on the decisions and outcomes of the Rio de Janeiro Summit in 1992 and the Paris Climate Agreement on June 2017 summit encourage companies to disclose of the potential environmental impacts resulting from the manufacturing processes. The commitment of Jordanian companies to protect environmental elements such as the preservation of water sources from the risks of pollution and misuse, energy sources, air pollution, and gas emissions are highly stated clearly the acts. In other words, Jordanian industrial companies only apply some GRI indexes related to the environment but indirectly way (Guthrie & Farneti, 2008). It is acknowledge that the environmental protection activities are voluntary. For example, Jordanian companies did not mention that they apply GRI306 related to wastewater and how to treat it directly in the annual reports issued by the industrial companies listed in the Amman Stock Exchange. There was a disclosure on the websites of companies and various websites on the Internet that the Jordanian industrial companies and through manufacturing processes are trying to conserve water sources. As for the disclosure of the gas emission, the Jordanian industrial companies did not disclose it directly according to GRI305. However, the Arab Bank's Sustainability Report 2018 asserted that the Arab Bank provided financial facilities to the Jordanian companies with more than \$ 253 million to support environmentally friendly infrastructure projects (Arab Bank, 2018). By reviewing the Jordanian Environmental Protection

Law No. 6 of 2017, we note that there is a detailed explanation for the treatment of wastewater resulting from the manufacturing process, so the companies should install a special devices to control it (Hahn & Lulfs, 2014).

There is considerable interest in Jordan at the level of governments (public sector) and companies (private sector) in terms of water conservation and optimal use because Jordan is very poor in water resources. Therefore, the Environmental Protection Law sets strict conditions for the treatment of wastewater, especially from industrial processes (Prasad et al., 2017).

Concerning the practice of industrial companies on environmental disclosure, the disclosures item on the Amman Stock Exchange website shows that there are mandatory reports such as disclosure of financial statements, and there are optional reports such as sustainability reports. But this report (sustainability report) found blank for all sample companies because it is optional. Therefore, there is a suggestion for the Amman Stock Exchange to adopt the internationally recognized sustainability reports and indicators such as GRI standards so that the disclosure process is uniform and consistent and thus unifies the mechanism of disclosure of sustainability indicators in general and the environment in particular. This mechanism also enables effective comparison between companies in the same sector and other sectors at the local, regional and global levels (Turner et al., 2006).

CONCLUSION AND RECOMMENDATIONS

In this paper, the extent of sustainability environmental reporting practices, in particular, the GRI indexes of the listed industrial companies in ASE explored at two perspectives. The first, the significant practice of environmental disclosure of GRI indexes by the Jordanian Industrial companies. The second, whether the Environmental Disclosure practice of the GRI indexes are the same among the listed industrial companies in ASE.

Jordanian industrial companies need more motivation on the path of environmental reporting as no companies producing separate environmental reports. Moreover, company disclosure practice analysis reveals that the Dar Al Dawa Development & Investment Company (DADI) (71.42%) is obtained a high score of other companies. Although, the one way ANOVA discloses that the disclosure practices of the seven GRI indexes practically among Jordanian industrial companies are not significantly practiced. This shown that Jordanian companies do not consider their environmental reporting. The same in the case of the GRI disclosure practices, although the analysis reveals that the GRI 307 "*Environmental Compliance*", but the majority of GRI indexes have a disclosure less than 50%. The significant variation in disclosure scores because of that the environmental issues are voluntary in nature. It recommended that the ASE should adopt acceptable international standards for sustainability reporting in general and environmental reporting in particular such as GRI that could be mandatorily applied by the Jordanian companies.

Further research needs to be conducted to determine whether the GRI has a role to play in future stakeholder engagement. In the context of Jordan, research needs to conduct all listed companies from different sectors in ASE about the possibility of applying the GRI standards,

may this research provide a practical recommendation to the ASE to adopt the GRI standards in the sustainability report.

Appendix A			
GENERAL INFORMATION ABOUT THE LISTED INDUSTRIAL COMPANIES			
Industrial Companies Listed in ASE			
G1: Pharmaceutical and Medical Industries			
Company's Name	Symbol	code	Market
Dar Al Dawa Development & Investment	DADI	141012	2
The Jordan Pharmaceutical Manufacturing	JPHM	141204	2
Hayat Pharmaceutical Industries Co.	HPIC	141210	1
Philadelphia Pharmaceuticals	PHIL	141219	1
G2: Chemical Industries			
The industrial Commercial & Agricultural	ICAG	141009	2
Premier Business and Projects Co. LTD	ACDT	141010	2
Jordan Chemical Industries	JOIC	14126	2
National Chlorine Industries	NATC	141054	2
Jordan Industrial Resources	JOIR	141055	2
The Arab Pesticides & Veterinary Drugs MFG. Co.	MBED	141209	1
Intermediate Petrochemicals Industries Co. LTD	IPCH	141217	2
G3: Food And Beverages			
Jordan Poultry processing & Marketing	JPPC	141002	2
Jordan Dairy	JODA	141004	2
General Investment	GENI	141029	1
Universal Modern industries	UMIC	141052	1
National Poultry	NATP	141084	2
The Arab International Food Factories	AIFF	141092	2
Nutri Dar	NDAR	141094	2
Jordan Vegetable Oil Industries	JVOI	141141	2
Siniora Food industries PLC	SNRA	141222	2
G3: Tobacco and Cigarettes			
Al-Eqbal Investment company LTD	EICO	141048	1
Union tobacco & Cigarette Industries	UTOB	141074	2
G4: Mining and Extraction Industries			
Arab Aluminum Industry /Aral	AALU	141006	1
National Steel Industry	NAST	141011	2
Jordan Phosphate Mines	JOPH	141018	2
Jordan Cement Factories	JOCM	141042	2
The Arab Potash	APOT	141043	1
Jordan Steel	JOST	141070	2
National Aluminum Industrial	NATA	141091	2
Travertine Company LTD	TRAV	141203	2
United Iron 7 steel Manufacturing Co. P.L.C	MANS	141220	2
Northern Cement Co.	NCCO	141224	1
G5: Engineering and Construction			

Afaq Holding for Investment & Real Estate Development Co. P.L.C	MANR	131259	2
The Jordan Pipes Manufacturing	JOPI	141019	2
Jordan Wood Industries /JWICO	WOOD	141038	2
Ready Mix Concrete and Construction Supplies	RMCC	141065	1
Arabian Steel Pipes Manufacturing	ASPM	141098	1
Al-Quds Ready Mix	AQRM	141208	2
Assas For Concrete Products Co. LTD	ASAS	141214	2
Sheba Metal Casting	SHBA	141223	2
G6: Electrical Industries			
National Cable & Wire Manufacturing	WIRE	141039	2
Arab Electrical Industries	AEIN	141072	2
United Cable Industries	UCIC	141215	2
G6: Textiles Leathers and Clothings			
Century Investment Group	CEIG	131097	2
The Jordan Worsted Mills	JOWM	141014	1
El-Zay Ready Wear Manufacturing	ELZA	141061	2

Appendix B		
GRI ENVIRONMENTAL STANDARDS		
GRI Standards	Scope	Disclosure Practice
GRI 301: Materials 2016	Addresses the topic of materials. The inputs used to manufacture and package an organization's products and services can be nonrenewable materials, such as minerals, metals, oil, gas, or coal; or renewable materials, such as wood or water.	Provide information about an organization's impacts related to materials, and how it manages these impacts
GRI 302: Energy 2016	Addresses the topic of energy. An organization can consume energy in various forms, such as fuel, electricity, heating, cooling or steam). Using energy more efficiently and opting for renewable energy sources is essential for combating climate change and for lowering an organization's overall environmental footprint.	Provide information about an organization's impacts related to energy, and how it manages them
GRI 303: Water and Effluents 2018	Addresses the topic of water and effluents. Access to fresh water is essential for human life and wellbeing, and is recognized by the United Nations (UN) as a human right. The amount of water withdrawn and consumed by an organization and the quality of its discharges, can impact the functioning of the ecosystem in numerous ways.	The disclosures in this Standard are designed to help an organization better understand and communicate its significant water-related impacts, and how it manages them.
GRI 304: Biodiversity 2016	Addresses the topic of biodiversity. Protecting biological diversity is important for ensuring the survival of	Provide information about an organization's impacts related to biodiversity, and

	plant and animal species, genetic diversity, and natural ecosystems.	how it manages them.
GRI 305: Emissions 2016	Addresses emissions into air, which are the discharge of substances from a source into the atmosphere. Types of emissions include: greenhouse gas (GHG), ozone-depleting substances (ODS), and nitrogen oxides (NOX) and sulfur oxides (SOX), among other significant air emissions. GHG emissions are a major contributor to climate change and are governed by the United Nations (UN) 'Framework Convention on Climate Change' and the subsequent UN 'Kyoto Protocol'.	This Standard includes disclosures on the management approach and topic-specific disclosures. These are set out in the Standard as follows: <ul style="list-style-type: none"> • Management approach disclosures • Disclosure Energy indirect and indirect GHG emissions • Disclosure GHG emissions intensity and Reduction of GHG emissions • Disclosure Emissions of ozone-depleting substances (ODS) and Disclosure Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions
GRI 306: Effluents and Waste 2016	Addresses the topic of effluents and waste. This includes water discharges; the generation, treatment and disposal of waste; and spills of chemicals, oils, fuels, and other substances.	Provide information about an organization's impacts related to effluents and waste, and how it manages these impacts.
GRI 307: Environmental Compliance 2016	Addresses the topic of environmental compliance, covering an organization's compliance with environmental laws and/or regulations. This includes compliance with international declarations, conventions and treaties, as well as national, sub-national, regional, and local regulations.	The disclosures in this Standard can provide information on an organization's compliance with applicable laws and regulations, and with other instruments concerned with environmental protection

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Received: 23-Oct-2022, Manuscript No. JMIDS-22-12797; **Editor assigned:** 25-Oct-2022, Pre QC No. JMIDS-22-12797 (PQ); **Reviewed:** 08-Nov-2022, QC No. JMIDS-22-12797; **Revised:** 11-Nov-2022, Manuscript No. JMIDS-22-12797(R); **Published:** 18-Nov-2022