

The Extent of Jordanian pharmaceutical Companies Commitment to Implement Environmental Accounting Disclosure Requirements

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ABSTRACT: This study aims to identify the extent of Jordanian pharmaceutical companies commitment to implement environmental accounting disclosure requirements, The study sample consisted of all (11) Jordanian pharmaceutical companies listed at ASE, which have data available about it in the financial market during the period (2016-2018). In order to achieve the study objectives, an environmental accounting disclosure requirements were built which consist of (28) factors, and depend on a number of previous studies, laws, and the annual financial reports of these companies. Study results found that overall ratio of the environmental accounting disclosure amounted to approximately (48%), and recommend that companies should focus on raising the awareness and environmental education of accountants and companies' auditors with the negative impact on environment, by conducting training courses for them and keeping up with the international versions in this area. It also recommend to encourage all companies to comply with the energy savings item, due to its major importance in reducing costs, improving product quality, and increasing revenues, therefore it will lead to an increase in company's value.

Keywords: Environmental Accounting Disclosure Requirements, Jordanian Pharmaceutical Companies, Amman Stock Exchange (ASE).

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I. INTRODUCTION

The environment issues and negative effects related to it become one of the interesting issues among many parties, all over the world (Weigand & Philip, 2012), where there wasn't any clear and active role of accounting to address those issues until the end of 1970s, but in early 80s of the same century many states and professional accounting organizations began to have interest in the topic of saving the environment and protecting it, by issuing the laws and legislation, as well as issuing an international standards and guidelines to address and handle the environmental issues through the accounting disclosure of environmental information at the financial reports for many companies (Mansour & Alomari, 2017).

The environmental accounting disclosure seeks to provide the environmental data and information needed to measure it in accordance with the laws and legislation that govern the environment, and provide assistance to face the shortcomings in traditional disclosure to meet these needs. Therefore, there are intensive efforts giving by the legislative institutions and professional organizations, in many countries of the world toward passing the legislations that demand the need to disclose those information and determine the size of environmental risks, which result from the practice of various activities and its impact on society, where one statistic indicate that (70%) of the American economical firms disclose the environmental information in its yearly reports, makes it first in the world followed by the economical firms in Europe, led by the economical institutions in Norway where the concern about environment witnesses a thriving movement, which indicates that developed countries have given great importance to the topic of accounting, controlling, and the disclosure of firms' accounting data that contribute to pollute the environment (Helen & Gray,2001).

However, the developing countries didn't notice or recognize the dimensions of environmental accounting disclosure except in recent years, where the companies in those countries didn't have environmental accounting information within its accounting system, in order to clarify the environmental information that should to be disclosed, and show the importance of disclosing this information (Alkubaisi & Saleh, 2015). Therefore, lots of different bodies in those countries started to demand the industrial projects, in particular to provide control and disclosure of the environmental pollution, and require it to protect and safeguard the environment by following an accounting methods and procedures within the working accounting system in it (Al-Boaseifi & Al-lafi, 2017).

Accordingly, this study derives its importance from the importance of the role played by the pharmaceutical companies in developing and strengthening the Jordan's economy (Bataineh, 2018), where the

disclosure of environmental accounting requirements contribute to the development of trust among recipients of companies' reports and financial statements, which provide the adequate data and information for their decisions, and this can't be achieved without having the environmental accounting disclosure which show the accounting treatments and ongoing policies to embody the environmental costs, and its impact on the financial position and business results of the companies operating in the field of pharmaceutical industry in Jordan.

The importance of this study also represented in the role that environmental accounting played in identifying the areas that are harmful to the environment and measuring it, in order to familiarize Jordanian pharmaceutical companies about its contribution to such damages and its role to reduce it, and make initiatives for those companies to disclose their environmental performance, as part of its commitments to the environment, whether this disclosure is mandatory or voluntary, with giving the environmental areas a place within the accounting system to improve the measurement of environmental performance, at performing its functions to provide the useful information that serve the environment and society, and rescue them from the dangers of pollution.

Throughout this study the researcher will test the acceptance level of stakeholders and experts to the proposed environmental disclosure index, based on the publications of professional organizations and the previous studies in the field of environmental disclosure, and the laws and legislation published in this field to determine the environmental information articles, whether it was financial, quantitative, or descriptive represented in the primary information related to the environmental performance to align with the pharmaceutical industry in Jordan and arrange it according to its importance to the recipients, in term of financial and non-financial information statements and reports.

Accordingly, study aims to identify the extent of Jordanian Pharmaceutical Public Shareholding Companies listed at Amman Stock Exchange (ASE) commitment toward implementing the requirements of environmental accounting disclosure, which are (the disclosure of environmental costs and risks, the compliance with environmental laws and regulations, pollution control, sustainable development, pollution treatment, and the disclosure of environmental activities management), during the period (2016-2018).

II. CONCEPTUAL FRAMEWORK

2.1 Environmental Accounting

Environment Accounting is a common phrase that refer to combining the environmental affairs at the macro or micro level (Oyedokun et al., 2019), where Mohamed (2002) goes with the opinion that environmental accounting at the micro level means whole field of accounting for the environment purpose, which include financial accounting, reporting and auditing, and environmental accounting management, while Kayode (2011) goes for the opinion that describe environmental accounting as the report of company's manager who make effort to quantify the costs and benefits of company's operations with regard to the environment. Later Kayode (2011) clarified that environmental accounting is more than accounting of environmental benefits and costs, but its accounting for whichever costs and benefits that occur from the changes to a company's products or processes, with the fact that changes also contain a change in the environmental impact.

The purpose of environmental accounting would be to reach the sustainable development, by keeping a positive relationship with the community and following an effective and efficient environmental protection activities (Japan Business Accounting Council, 2000), and as revealed by this council, accounting procedures should permit the firm to identify the environmental protection cost throughout the typical line of business and offer the finest quantitative measurement methods to support, analyze, and examine its results. At this point, environmental protection can be defined as the prevention, reduction, and/or escaping of environmental impact, elimination of such impact, reinstallation pursuing the event of a disaster, and other activities. According to Japan Environmental Accounting procedures environmental impacts are the load on environment from business functions, human conducts, and possible obstructions, which may hinder the protection of a positive environment, but as said by the international federation of accountants (IFAC), environmental accounting is a broad expression that can be employed in a variety of unrelated perspectives, which contain: estimation and revelation of environmental related financial information in the way of financial accounting and reporting; evaluation and utilization of environmental interrelated material and financial information; assessment of external environmental impact and cost, commonly known as Full Cost Accounting (Oyedokun et al, 2019).

2.2 Environmental Accounting Disclosure Requirements

The disclosure about information related to the environment consider a strong indication of company's commitment to the environmental issues, and also consider very important for financial statements users to recognize company's efforts of reducing environmental pollution and justify the additional financial costs related to the environment. The growing interest in accounting disclosure of environmental information stems from the fact that environmental performance information are a quantitative and financial nature, which make these information directly affect the financial position of company, and the results of its activities (Rangamathan & Ditz, 1996), where the financial statements must visualize and represent the actual and potential obligations that

result from lack of company's commitment to the environmental protection laws. Environmental disclosure express and reflect the way that company use to tell the different parts of society about its various events and activities related to the environment, where environmental accounting consider as one of the accounting field and a appropriate tool to achieve this goal through the financial statements (Al-TaHER, 2011).

III. LITERATURE REVIEW

Environmental disclosure attracted the attention of many researchers in all specialities, including accounting taking into account the importance of environmental problems which began to throw its negative effects on all countries. These studies and researches took various areas, the most important of those were the one that measured the level of companies' disclosure in its annual reports about the environmental contributions, and some of those studied did measure the relationship between companies' environmental disclosure and the characteristics of those companies, and the following will display some of the studies that have relationships with the topic of this study:

The study of Bewley & Li (2000) appealed to voluntary disclosure theory to examine the environmental disclosures of Canadian manufacturing firms, where they used the Wiseman index to measure the 1993 annual report disclosures of (188) firms and industry memberships to push for pollution inclination. Study results indicate that firms with higher pollution inclination and greater media coverage of their environmental performance are more likely to disclose general environmental information, and these results align with the socio political theories.

On the contrary, (Hughes, et al., 2001) study aimed to examine the environmental disclosures made by U.S. manufacturing firms in 1992 & 1993, using a modified Wiseman index to measure the disclosure in the president's letter, MD & A, the notices section of annual report, and the CEP rankings that call for environmental performance. Hughes et al arrived to the conclusion that firms which rated poor by the CEP normally make the most disclosures.

But the study of (Al-Tuwaijri, et al., 2004) aimed to employ the simultaneous equations approach to investigate the relationships between the environmental disclosure, environmental performance, and the economical performance. Researchers used an alternative for environmental performance by using the ratio of total waste generated, recycle identified using the TRI database, and measure environmental disclosure using a content analysis in four categories, potential responsible parties' designation, toxic waste, oil and chemical spills, and environmental fines and penalties disclosures, which are mostly mandatory.

While Salama (2005) study used regression analysis method to measure the impact of environmental performance on financial performance. Study results indicate a positive relationship between the environmental performance and firm's financial performance.

The study of Khasharmeh & Suwaidan, (2010) also dealt with the analysis of environmental and social disclosure in the Gulf Cooperation Council (GCC) countries, where the study included (60) industrial firms at GCC. Main results of the study indicate a low level of environmental disclosure, with an average of (26%) at GCC.

In a similar study, Bataineh et al (2018) aimed to identify the disclosure level of corporate social responsibility CSR in the financial reports of Jordanian pharmaceutical companies, researchers studied number of CSR elements include: employees, society, product, power, and the environment, which have data available in this financial market during the period (2014-2016). The study results found that overall ratio of the CSR amounted to approximately 46%, and the study recommended that companies should focus on their role in CSR from the inside, through the employees' element, the need to focus on elements, such as occupational safety and health insurance.

The research of (Musa et al, 2015) aimed to analyze the environmental accounting disclosures' practices of Nigerian selected firms. Study sample consist of (8) companies that were selected out of (19) consumer goods' firms listed on the Nigerian stock exchange. Results showed that accounting standards don't considerably influence the environmental accounting disclosures, where the non-existence of standards lead to lack of consistency in disclosure and obtain differences in hypotheses testing. Study recommend that international accounting setting standards body should comes up with a uniform standards related to companies disclosure of their environmental accounting information, where companies under pressures will be forced to disclose all the information about their operations. It's worth mentioning that content analysis considers the most broadly used method for narrative analysis in the annual financial reports (Shil & Iqbal, 2005).

Therefore, this study adopted the content analysis to examine the level of environmental accounting disclosure by the selected pharmaceutical companies in Jordan, due to the fact that this method is frequently used by researchers. In addition, this study will add to the former studies in this line of researches by examining the relationship between social performance and firm performance through the market based and accounting based performance measurements and indicators. The study will also examine whether if there are differences in the level of environmental accounting disclosure across the industries, in an effort to get some practical verifications of these subjects from small rising markets.

IV. DATA & METHODOLOGY

It contains the following sections:

4.1 Study Sample & Population

Study population represented in the Jordanian public shareholding industrial companies listed at Amman stock exchange, while study sample represented in all pharmaceutical companies, as part of the industrial sector which include (11) companies for a period of (3) years to detect the disclosure level of environmental accounting requirements, during the period (2016-2018) www.ase.com.jo.

The selection of pharmaceutical companies, as a sample for this study return to the following reasons: the nature of these companies which aim to provide medical services by producing and manufacturing the medicines and treatments needed for many human diseases, medication consider a commodity that produced by these companies, which directly affect peoples' live, health, and continuation, it provide services to the society and researches, and continuously contribute to discover cures for diseases that people suffer from in the society, and it provide those treatments and medicines at an affordable costs, which enable individuals to purchase them, in addition to the fact that these pharmaceutical companies make up (23%) of the industrial sector (Bataneh et al, 2018).

4.2 Methodology

It was difficult to statistically measure the study results, due to the small sample study, which only include (11) pharmaceutical companies, therefore researcher rely on these companies' financial reports and study the details of information contained in those reports, during the period (2016-2018) to detect the commitment level of Jordanian pharmaceutical companies listed in Amman financial market to the disclosure of environmental accounting requirements, by analyzing and describing the situation of these companies, and arriving to a number of results. Researcher, in this study also relied on a number of previous studies to measure the full disclosure of those companies to the environmental accounting requirements, through a number of requirements which include: (the disclosure of environmental costs and risks, the compliance with environmental laws and regulations, pollution control, sustainable development, pollution treatment, and the disclosure of environmental activities management), based on the studies of (Wiseman, 1982), (Al-Rubaiy, et.al, 2018), and (Alhashmi, 2017), which are related to the topic of environmental accounting disclosure. Weights were also given to the required disclosure items by assigning a value of (1) to the companies that have disclose the environmental accounting requirements, and assigning a value of (0) to the companies that failed to disclose those requirements.

4.3 The Total Disclosure of Environmental Accounting

The total environmental accounting disclosure index (TEADI) was designed to contain the following six items: the disclosure of environmental costs and risks, the compliance with environmental laws and regulations, pollution control, sustainable development, pollution treatment, and the disclosure of environmental activities management, where each item contain several requirements that total to (28), and were distributed as follow: the disclosure of environmental costs and risks was measured with (7) requirements, the compliance with environmental laws and regulations was measured with (4), pollution control was measured with (6), sustainable development was measured with (3), pollution treatment was measured with (5), and disclosure of environmental activities management item was measured with (3) requirements.

(TEADI) = Total of articles disclosed / Total disclosure requirements, amounted to (28)
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Index has been built for the partial disclosure of each item, as follows:

Disclosure of environmental accounting for environmental costs and risks = Disclosure requirements/total requirements (7)
Disclosure of environmental accounting for compliance with environmental laws and regulations = Disclosure requirements/total requirements (4)
Disclosure of environmental accounting for pollution control = Disclosure requirements/total requirements (6)
Disclosure of environmental accounting for sustainable development = Disclosure requirements/total requirements (3)
Disclosure of environmental accounting for pollution treatment = Disclosure requirements/total requirements (5)
Disclosure of environmental accounting for environmental activities management = Disclosure requirements/total requirements (3)

Table (1) Items Index

Item	Item Index Requirements	% of disclosure companies			Number of disclosure companies		
		2016	2017	2018	2016	2017	2018
Environmental costs and risks	Investments in the area of environment protection	36%	45%	45%	4	5	5
	Future estimated environmental investments	36%	45%	45%	4	5	5
	Environmental expenditures	100%	100%	100%	11	11	11
	Future estimated environmental expenditure	81%	81%	81%	9	9	9
	Environmental liabilities	45%	54%	54%	5	6	6
	Estimated reserves for future environmental expenditures	45%	45%	45%	5	5	5
	Estimated reserves for future environmental risks	36%	27%	27%	4	3	3
Compliance with environmental laws and regulations	Environmental taxes and fines	27%	27%	27%	3	3	3
	Current and expected lawsuits related to the environment	9%	9%	9%	1	1	1
	Environmental accidents	9%	9%	9%	1	1	1
	Treatment of environmental risks and damages	9%	9%	9%	1	1	1
Pollution control	Treatment of environmental pollution	36%	36%	36%	4	4	4
	production waste management	72%	72%	72%	8	8	8
	Environmental pollutants emission	0%	9%	9%	0	1	1
	The existence of pollution control methods	72%	72%	72%	8	8	8
	Noises and odors of environmental pollution	18%	9%	9%	2	1	1
	use of energy saving methods	18%	63%	63%	2	7	7
Sustainable development	Recycling	27%	27%	27%	3	3	3
	The protection of natural resources	72%	72%	72%	8	8	8
	Natural resources consumption ratio	63%	63%	63%	7	7	7
Pollution treatment	Spoils and wastes	81%	81%	81%	9	9	9
	Remove debris and remains from work sites	63%	63%	63%	7	7	7
	Leakage of harmful substances in environment	9%	9%	9%	1	1	1
	Pollution treatment efforts	90%	90%	90%	10	10	10
	Future commitments of the workplace	81%	81%	81%	9	9	9
Environmental activities management	Company's environmental policies follow-up	45%	54%	54%	5	6	6
	Existence of environmental audits in the company	36%	45%	45%	4	5	5
	Identification of environmental goals	63%	72%	72%	7	8	8

It notice from the results of table (1) that the item related to disclosure requirements of "environmental expenses and risks", which measured through (7) elements, showed that all companies have disclosed their environmental expenditure and risks at a rate of (100%). In regard to the item of "investments in environmental protection area", companies disclosed information about it at a rate of (36%) in spite of its importance in comparison with the disclosure of "environmental commitments", which amounted to (54%). Results also showed that companies pay attention at a rate of (54%) to the "estimated reserves of future environmental expenditures", and a medium degree of disclosure with nearly 6 firms revealed that element, but in relation to the item of "future environmental risks estimated reserves", only 4 companies showed interest in providing this requirement where the companies' disclosure rate reached (36%), which is relatively good ratio.

But in relation to the item "compliance with environmental laws and regulations", which was measured through (4) elements, results showed that "environmental taxes and fines" element has attained a ratio of approximately (27%) disclosure, which less than the medium degree and reflect the role of this type of companies to avoid paying environmental fines, as a result of its commitment to the environmental disclosure requirements, which reflect on its role to maintain a clean society environment. It also showed that these companies don't directly disclose any information about the "environmental accidents", "environmental damages", and "handling the lawsuits", which amount to (9%) respectively.

In regard to "pollution control" item, which was measured through (6) elements, the results showed that (8) companies have disclose information about the "production waste management requirement" element at a rate of (72%), and also the existance of "pollution control methods" with its importance, companies did disclose about it at (72%) in comparison with the "treatment of environmental pollution" element, which reached about (36%). Results also showed that companies never disclose any information about "emissions of environmental pollutants" element, but disclosed a small amount of the element "noises and odors of environmental pollution" at (9%). In regard to the element "use of energy saving methods", results showed that companies saved in (2017 & 2018) on the used energy in production through the installation of solar and renewable energy systems, where (7) companies cared to provide this requirement and disclosed information about it at a rate of (63%), which is relatively good ratio.

But in relation to the "sustainable development" item which was measured with (3) elements, results showed that (72%) of companies disclose information about the "preservation and protection of natural resources", which is a good percentage for the pharmaceutical companies, in addition results showed these companies did care about "recycling" topic at below medium rate and disclose only (27%) about it.

In regard to the item "pollution treatment", which was measured by (5) elements, it consider one of the most important elements in these companies, where results showed that Jordanian pharmaceutical companies pay great attentions to "pollution treatment efforts" with a disclosure ratio of about (90%), which considers high and logical index taking into account these products are the center to protect consumers' health, and also are important to achieve the planned revenues, while these companies disclose only a small amount of (9%) about the element "leakage of harmful substances in the environment".

Finally, in regard to the disclosure of the item "environmental activities management" which was measured by (3) elements, results showed that (72%) of companies disclose information about the environmental objectives in their annual reports, which is good ratio for the Jordanian pharmaceutical companies, and results also showed these companies to have interest in following the topic of "environmental policies", and existance of "environmental audit" at medium disclosure ratios of (45%), (54%) respectively.

Table (2) Disclosure requirements ratios of each item in the index or indicator

Item	2016	2017	2018	% changes
Environmental costs and risks	54%	56%	56%	+2%
Compliance with environmental laws and regulations	13%	13%	13%	0
Pollution control	36%	43%	43%	+7%
Sustainable development	54%	54%	54%	0
Pollution treatment	65%	65%	65%	0
Environmental activities management	48%	57%	57%	+9%
Total disclosure	45%	48 %	48 %	

Table (2) showed percentages of the six items, as part of the total disclosure index where percentage of total disclosure was about (48%), which consider relatively high compared with the previous studies of (Khasharmeh & Suwaidan, 2010) (Bataneh, 2018), where the results of it showed high disclosure rates of environmental accounting requirements at Jordanian companies. The results of this study showed no differences at different years between (3) of the partial disclosure standards (compliance with environmental laws and regulations, sustainable development & pollution treatment), but the disclosure of "environmental costs and risks" item have increased by (2%) in 2017 & 2018, and also the (disclosure of environmental pollution management & pollution control) items increased by (7%), for each of them in 2017 & 2018, and therefore this change reflected on the overall disclosure index ,which increased in the same period by (3%). It showed through the results that the highest percentage of disclosure at all companies was for the item of "pollution treatment" at (65%), while the lowest disclosure was for the item "compliance with environmental laws and regulations" at (13%), which contains the elements of "environmental accidents, environmental lawsuits & treatment of environmental risks and damages", and it's very important elements.

V. CONCLUSIONS

Study results showed that environmental accounting disclosure rates are relatively high in the pharmaceutical sector, if it compared with other sectors, where the highest disclosure percentage reached (65%) and the lowest was (13%), while the medium rate of (48%) consider very good compared with the rates of similar companies, in different sectors listed at Amman stock exchange. The results also showed that most companies have almost (100%) disclosure of the environment expenditures, among the "Environmental activities management" disclosure item, which consider reasonable percentage that reflect the importance and role of environment expenditures in the companies. It also noticed from the results that most Jordanian pharmaceutical companies don't directly disclose information about the environmental accidents, environmental lawsuits, treatment of environmental risks and damages, which amounted to (9%) for each.

The results also showed that companies pay great attentions to the pollution treatment, with a disclosure amount of almost (65%), which consider logical percentage in light of the government's role to oblige and require these companies to preserve and protect the environment. In addition, the roles of these companies to protect and preserve the environment align with its role in the prevention and treatment field. Results also showed that companies look for a sustainable development, where their disclosure ratio amounted to (54%) which is reasonable considering that product is the key for companies' survival. It also showed through the data that were collected from the financial reports of these companies that (72%) of the Jordanian pharmaceutical companies disclose information about the environmental objectives in their annual reports, which consider good ratio for those companies.

VI. RECOMMENDATIONS

The study recommended that companies should focus on the following:

- Conduct additional studies and researches, and hold a number of conferences, by stakeholders and beneficiaries in the sensitive companies to environment on the type of environmental information that must be disclosed in the financial reports, lists, and statements, in order to determine the environmental information needed for the environmental disclosure index to align with users' needs of financial statements.
- The parties that finance the projects of stakeholders and beneficiaries, with negative impact on the environment to put as part of their terms before lending to those projects that companies disclose its environmental information items related to the protection of environment, and there are no environmental violations.
- Urge and persuade all companies to pay more attention to the energy savings item, due to its great importance in reducing costs, improving product quality, and increasing revenues, and therefore will lead to increase company's value, which will have reflection on the stakeholders, beneficiaries, society, and on company's role toward social responsibility in general.

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