

ENVIRONMENTAL ACCOUNTING DISCLOSURES: THE CASE OF MANUFACTURING LISTED COMPANIES IN PALESTINE SECURITIES EXCHANGE

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ABSTRACT

The current study aimed to examine the level of environmental accounting disclosure by a sample of listed manufacturing companies at the Palestine Securities Exchange (PEX). It also aimed to investigate the problems associated with environmental disclosure and providing some suggestions to overcome these in the future. In order to achieve this, primary data was gathered through a questionnaire distributed to managers and professionals at top management levels of the companies. The results indicated the following: There are not enough information disclosed about environmental practices in general, there are many problems associated with disclosing environmental practices; including: lack of awareness, lack of regulations, lack of training programs, no environmental accounting programs, no regulatory framework for environmental disclosure, problems with measuring environmental costs, and the unlikely of companies to disclose information about environmental damage. The study suggested enforcing an environmental accounting regulatory framework, and the need for further education and training on the issue of sustainable reporting. It also recommended establishing a committee from experts at Hebron University, and other Palestinian universities to help companies adapt to environmental accounting and disclosure.

Keywords: Palestine Securities Exchange, Environmental accounting disclosure, Manufacturing companies.

INTRODUCTION:

Environment and environmental protection have become one of the most important topics in the global economy nowadays. This is due to the increasing role of environment in people's life (Clarkson et al, 2011). It is also due to the industrial revolution which magnified the bad effects of human actions on environment (Alkababji, 2014). Pollution became a serious problem as many industries around the world are expanding in both scale of production, and amount of emissions they send to the air, waste they put in earth, and waste they put in sea. This; associated with increasing world population led to harming the environment by consuming sources of energy, as well as wasting a lot of raw material from nature, and damaging green areas.

In order for countries and industries to stop this process of consuming the limited natural resources, both the private and public sectors have to work together. Companies have to monitor their operations and control and reduce the sources of pollution, whereas the regulating bodies have to enforce environmental protection laws, and ask companies to disclose the information related to environmental engagements, whether being good or bad (Alkababji, 2014). Companies also have to disclose such information in order account for their environmental practices, as this information is now gaining more interest from stakeholders in general (Clarkson et al, 2011). The problem is gaining more interest in Palestine as the country is small and population is increasing at a fast pace (Shahin, 2015). Environmental accounting is also gaining interest as occupation is consistently attacking and confiscating both land and water resources. Thus, industrial companies have to consider the need to safeguard the remaining natural resources for current and future consumption needs of the Palestinian community (Alkababji, 2014). Environmental accounting is widely defined as the practice of using traditional accounting and finance principles to calculate the costs that business decisions will have on the environment (Abu Zaid, 2007). A businesses uses three generally accepted methods to implement environment accounting: financial accounting, managerial accounting and national income accounting. Financial accounting is the process of preparing financial reports, such as earning statements, for presentation to investors, lenders, governing bodies and other members of the public. In this instance, environmental accounting estimates are presented as part of the financial accounting reports. Managerial accounting is used solely for internal decision making. In this capacity, department heads use environmental accounting to collect data used by senior management to make business-critical decisions, such as those surrounding procurement. Alternatively, environmental accounting is used by government agencies to calculate the nation's gross domestic product and how business decisions affect the country's economic wellbeing (Taher, 2011, Alkababji, 2014).

On an international scale, environmental accounting gained additional attention through many regulations. For example, ISO 26000 for CSR (2010). The International Organization for Standardization (ISO) developed a mutli-stakeholders approach involving experts from more than 90 countries, and more than 40 regulating bodies involved in CSR worldwide. These were from different stakeholders groups from both developed and developing countries. Recognizing that organizations are at various stages of understanding and integrating social responsibility, this International Standard is intended for use by those beginning to address social responsibility, as well as those more experienced with its implementation. The standard includes 7 core subjects: one, Organizational governance (4 issues); two, human rights (8 issues); three, labor practices (5 issues); four, the environment (4 issues); five, fair operating practices (5 issues); six, consumer issues (7 issues); and, seven, community involvement and development (7 issues). The standard is not a mandatory requirement, but some issues and related recommendations might be incorporated into a country's legal framework. It also provides seven principles of CSR: accountability, transparency, ethical behavior, respect for stakeholders interests, respect for the rule of law, respect for international norms and behavior, and respect

for human rights. As this standard is intended for different organizations and in different parts of the world, many Palestinian organizations adapted a combination of this standard into their operation.¹

Another development was the Global Reporting Initiative (GRI). The reporting includes the following main areas: economic, environmental, and social (including: labor practices, human rights, society, and product responsibility).² The current study uses both primary and secondary data to gain a better understanding of environmental disclosures of a sample of manufacturing companies which are listed at the Palestine Securities Exchange (PEX) during 2016. The following are the current study main objectives:

- To identify the concept of environmental accounting in terms of its objectives, associated costs, and benefits of disclosing environmental practices.
- To determine the level of environmental awareness among Palestinian manufacturing listed companies.
- To determine whether Palestinian manufacturing listed companies disclose information about environmental engagements.
- To identify some problems associated with environmental disclosure by Palestinian manufacturing listed companies in Palestine.
- To propose some suggestions to overcome problems associated with environmental disclosure of Palestinian manufacturing listed companies.

The current study tries to identify the extent of environmental disclosure by manufacturing listed companies in Palestine. This is due to the great need of the Palestinian community to protect the remaining of its natural resources, as well as encouraging better environmental practices by these companies. Industrial companies have to report all environmental engagements, their costs, and revenues generated as a result of using natural resources, and have to enhance the understandability of environmental disclosures among its employees. The current study attempts to answer the following questions:

- What is Environmental accounting? And how do companies report it?
- What is the level of awareness about environmental accounting in Palestinian manufacturing listed companies?
- Do Palestinian manufacturing listed companies disclose environmental engagements?
- What are the problems facing environmental disclosure of Palestinian manufacturing listed companies?
- What are some suggestions to overcome problems associated with environmental disclosures of Palestinian manufacturing listed companies?

THEORETICAL BACKGROUND:

The literature on the area of environmental accounting is still limited (Taher, 2011, Alkababji, 2014). This is due to many reasons, including: lack of awareness from the public in general about the issue, lack of understanding by top management of the importance of environmental accounting, past and current environmental scandals, especially in the Western countries, and Capitalism which is concerned with profits only (Alkababji, 2014, Shahin, 2015).

Environment includes all natural resources that are created by Allah for humans to nurture and consume (Naji, 2006, Setyorini and Ishak, 2012). Human relationship with environment is based on cause and effect relationship. Where a human uses natural resources to satisfy his needs and wants, and is the place where human actions happen, environment on the other hand is affected by the use of its resources and the actions of humans. Environment includes many resources: land, water, air, plants, animals, and the atmosphere (Shahin, 2015). Also environment now expanded its definition to include: culture, education, economic, technical, and social systems (Jijan, 2012).

Environmental accounting gained an increased importance in the last two decades as a result of increased interest in the environment. It played a major role in providing information for different stakeholders. (AICPA) identified environmental accounting as 'The process by which environmental costs are measured, distributed, and combined with the decisions of a company, as well as providing such information to users of a company's financial reports' (Jarbou, 2007). It was also identified as 'A social system for managing environmental aspects including the costs and expenses of damaging the environment by companies' practices and reporting these in the financial reports' (Urban, 2005, Setyorini and Ishak, 2012).

The importance of environmental disclosure is evident in the environmental practices of companies. The companies dispose of their waste without considering the environmental impact, and how its operations are harming the local community in general (Jijan, 2012). The main objectives of environmental accounting include: improving the company's reputation in the local community (Jarbou, 2007), protecting the environment and the limited natural resources within, reducing pollution, reducing waste in production, reducing environmental taxes, and sustaining the environment for future generations (Marzoqi, 2004, Alkababji, 2014). The following figure (1) shows the different reasons for environmental disclosures³:

¹ ISO official website <https://www.iso.org/obp/ui/#iso:std:iso:26000:ed-1:v1:en:sec:6> retrieved on 17th, March, 2019

² Global Report Initiative official website <https://www.globalreporting.org/standards/Pages/default.aspx> retrieved on 20th, March, 2019

³ Arranged by researchers

Figure (1): Different reasons for environmental disclosure

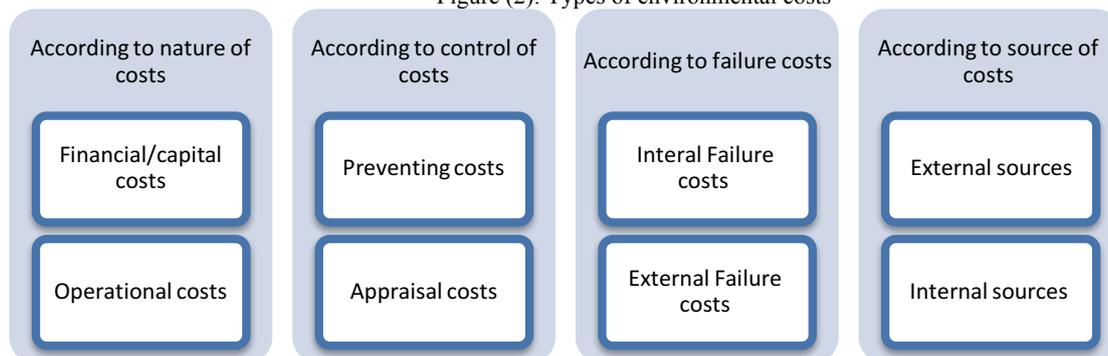


The determination of environmental costs could help reduce these costs in the following ways:

1. Some environmental costs could be eliminated as they have no added value on products, and usually relate to replacing old production methods with new ones (Jarbou, 2007)
2. These are usually indirect costs that are not completely ignored.
3. achieving better reputation as a result of being eco-friendly. Thus reducing marketing costs (Setyorini and Ishak, 2012).
4. It helps the companies support the enforcement of modern TQM systems that enables these to receive more rewards and tax deductions (Bamzahem, 2008).

In the following figure, the different types of environmental costs which should be accounted for a company are stated⁴:

Figure (2): Types of environmental costs



It is noted that the role of regulatory bodies in enforcing environmental accounting has improved during the last few years. The following are some examples (Jijan, 2012):

1. IASB.1, paragraph 9 which states that a company must introduce information about its environment health and safety and any fees or taxes paid for not following regulations (Carreira et al, 2014)
2. IFAC, 2004, standards 250 and 1010 which are used for environmental disclosures.
3. FASB 5 Accounting for contingencies which is used to justify further environmental disclosures.
4. Global Reporting Initiatives GRI.3 and GRI.4 which focus on environmental issues as part of sustainability reporting (Alkababji, 2014).

It is worthy on the other hand to say that in Palestine there are no separate regulations with regards to environmental disclosures, as it is considered a voluntary part of CSR of a company. The Palestine Securities Exchange (PEX) still has no mandatory requirements for disclosing environmental information by any listed companies.

The (PEX) was established in 1995 in order to promote investment in Palestine. There are currently 46 listed companies with a market capitalization of \$3.199 billion across five main economic sectors: banking (7), insurance (6), investment (8), industry (12), and services (13)⁵. The current study focuses on the industrial sector which is considered the second largest sector in PEX (%26.1 of total listed companies).

STUDY HYPOTHESIS:

Based on the previous discussion on environmental accounting disclosures, the researcher investigates the manufacturing industry in Palestine, as this industry is directly linked to environmental issues, and is a growing sector that needs much more attention to help direct its activities towards protecting the environment in Palestine. The industry is assumed to practice and disclose some environmental information based on the regulatory framework and code of CG imposed by the PEX. This leads to hypothesizing the following:

H.0 (1) Palestinian manufacturing listed companies do not disclose environmental practices.

⁴ Arranged by researchers

⁵ <https://www.pex.ps/PSEWEBSITE/English/AboutPSE.aspx?TabIndex=0>

On the other hand, and as the industry is still young in age, it faces many problems, some of these relate to community, other relate to governmental agencies and regulatory bodies, and finally some relate to the companies themselves. These all lead to hypothesizing the following:

H.0 (2) Palestinian manufacturing listed companies do not face problems when disclosing environmental practices.

Methodology:

The current study uses a quantitative approach to further investigate and explain the nature of environmental disclosures and practices of manufacturing companies in Palestine. The current study uses an analytical descriptive methodology (Sekaran and Delahaya, 2001), based on gathering quantitative and qualitative data through the following steps.

- Reviewing the available literature about the manufacturing industry in Palestine and legal framework of operations, as well as international standards and previous studies on the topic
- Preparing questionnaire based on literature and previous studies and consulting experts in the area.
- Distributing questionnaires to targeted respondents.
- Performing statistical analysis of the questionnaires.

STUDY POPULATION AND SAMPLE:

The current study targeted 12 companies listed in the PEX during 2016. A sample of financial managers and accounting department managers at these companies were targeted. A total of 80 questionnaires were distributed and 61 were received for a response rate of %76.3. The following table represents the demographics of respondents:

Table (1): Demographics of respondents

Demo.		Number	%
Gender	Male	52	85.2
	Female	9	14.8
	Total	61	100
Education	Undergraduate	43	70.5
	Master degree	11	18
	Diploma	7	11.5
	Others	0	0
	Total	61	100
Position	Financial manager	22	36.1
	Head of accounting dep.	21	34.3
	Head of budget dep.	10	16.3
	Others	8	13.3
	Total	61	100
Age	30 years and below	16	26.3
	31-40 years	36	59
	41-50 years	6	9.8
	Above 50 years	3	4.9
	Total	61	100

The above table shows that most respondents are males (%85.2). The table also shows that undergraduates had the highest percentage of educational level, followed by masters degree holders and finally diploma holders. The respondents were mainly financial managers (%36.1) and heads of accounting departments at their companies (%34.3). The table also shows that respondents age was the highest for (31-40 years) with 36 respondents, followed by (30 years and below) with 16 respondents, (41-50 years) with 6 respondents, and finally (above 50 years) with only 3 respondents.

STATISTICAL ANALYSIS:

The study used both descriptive statistics measures including means, standard deviation, and percentage to explain the different responses received. It also used t-test to test the hypothesis of the study. The questionnaire was divided on a five point likert scale where if a mean of respondents to a paragraph was 3.5/5 or higher, it means that the company is disclosing environmental information. Similarly, if the mean of respondents to a paragraph was 3.5/5 or higher, it means that the company is facing a the problem stated in that paragraph. The one sample t-test is also used to test the hypothesis later on (Nik Ahmed and Sulaiman, 2004).

HYPOTHESIS TESTING AND RESULTS:

In order to test the study hypothesis, means and standard deviations for responses about each paragraph of the questionnaire were calculated. The following is a brief discussion of the main findings:

HYPOTHESIS H0 (1)

H.0 (1) Palestinian manufacturing listed companies do not disclose environmental practices.

The respondents means were calculated, the results were judge based on the following criteria:

1. If the mean of responses was 3.5 or higher, it means that the companies disclose information about the item
2. If the mean of responses was less than 3.5, it means that the companies do not disclose information about the item

The following table shows the means and standard deviations calculated for each paragraph based on responses from the study sample:

Table (2): Means and standard deviations of the area of environmental disclosures

Paragraphs	Mean	St. dev.
Your company discloses quantifiable information about environmental practices	1.867	0.985
Your company discloses descriptive information about environmental practices	2.243	1.100
Your company uses both descriptive and quantifiable environmental disclosures	2.164	0.847
Your company prepares separate environmental reports	2.399	0.921
Your company prepares income statement that includes environmental revenues and expenses	1.832	0.842
Your company prepares balance sheet that shows environmental practices	1.167	0.514
Your company discloses all information about environmental practices	1.204	0.895
Your company discloses environmental information that do not negatively affect it	2.355	0.874
Your company discloses environmental information online	1.008	1.118
Your company discloses accounting standards relevant to environmental practices	2.598	0.365
Your company discloses environmental practices alongside the BoD report	3.017	1.080
Total	2.694	1.021

The above table indicates a very low level of environmental disclosure by listed manufacturing companies in Palestine. The highest mean was 2.598 and the lowest was 1.008. This all indicate a lack of environmental disclosure which could be a result of many factors including: lack of awareness about environmental practices by the companies, and that companies usually tend not to disclose environmental practices as they occur. The table also indicate that the least mean was that of not having environmental disclosures published online. This might be as a result of having little or no disclosures about environmental projects undertaken by the companies published on their websites (Marzoqi, 2004). It also could be a result of lack of interaction with stakeholders through the companies' websites (Nik Ahmed and Sulaiman, 2004).

The overall results indicate a weak disclosure of a mean of 2.694 only. The standard deviation was 1.021 which indicate a high level of conflict between respondents about environmental accounting practices and disclosures. In order to test the hypothesis (H0.1) one sample t-test was used by comparing the results with the statistical significance level of (0.05). The following table shows t-test result:

Table (3): T-test for the hypothesis on environmental disclosure

Mean	Std. dev.	T value	Sig. level	Degree of freedom
2.694	1.021	-18.965	1.000	395

The T value calculated was 18.965, whereas the mean was 2.694. As the significance level is 1.000 which is higher than 0.05, we accept the null hypothesis which state that Palestinian listed manufacturing companies disclose no environmental practices. This is expected as many of the companies lack awareness about environmental disclosures and often include these in the CSR reports rather than a separate environmental report. Also, the lack of management support to such activities, and the need to enforce more control over production process of their companies.

HYPOTHESIS H0 (2)

H.0 (2) Palestinian manufacturing listed companies do not face problems when disclosing environmental practices.

The respondents means were calculated, the results were judge based on the following criteria:

1. If the mean of responses was 3.5 or higher, it means that the companies face problems when disclosing environmental practices,
2. If the mean of responses was less than 3.5, it means that the companies do not face problems when disclosing environmental practices.

The following table shows the means and standard deviations calculated for each paragraph based on responses from the study sample:

Table (4): Means and standard deviations of problems associated with environmental disclosures

Paragraphs	Mean	St. dev.
Lack of understanding the concept of environmental accounting	3.368	1.127
Hard to measure environmental costs	3.641	0.854
No AIS to help environmental disclosures	4.024	0.731
Lack of education and training programs about environmental accounting	4.529	0.622
Lack of enforced regulatory framework for environmental accounting	4.361	0.684
Lack of accounting standards about environmental disclosures	3.957	0.891
No clear way of disclosing environmental practices	4.011	0.599
No government interference with companies about environmental practices	4.662	0.521
Total	4.301	0.821

The above table indicates a very high level of problems faced by listed manufacturing companies in Palestine with regards to environmental disclosures. The highest mean was 4.662 and the lowest was 3.368. This all indicate a combination of problems faced by listed companies when providing environmental disclosures which could be a result of many factors including: lack of awareness about environmental practices by the companies, lack of governmental and other regulating bodies interference with manufacturing companies to enforce more environmental disclosures. The table also indicate that the least mean was that there is a general lack of awareness about environmental accounting. This might be as a result of lack of training for employees, lack of

programs that promote environmental awareness in the local community (Marzoqi, 2004), and no governmental tax being imposed with regards to environmental practices (Nik Ahmed and Sulaiman, 2004).

The overall results indicate a strong level of problems at a mean of 4.30. The standard deviation was 0.821 which indicate a high level of agreement between respondents about the problems faced when disclosing environmental practices. In order to test the hypothesis (H0.2) one sample t-test was used by comparing the results with the statistical significance level of (0.05). The following table shows t-test result:

Table (5): T-test for the hypothesis on environmental disclosure

Mean	Std. dev.	T value	Sig. level	Degree of freedom
4.301	0.821	24.061	0.000	284

The T value calculated was 24.061, whereas the mean was 4.301. As the significance level is 0.000 which is lower than 0.05, we reject the null hypothesis which state that Palestinian listed manufacturing companies do not face problems when disclosing environmental practices. The result is also supported by the fact that many problems face the companies in Palestine, including: lack of regulating bodies power over the companies, lack of awareness, and lack of capital to support eco-friendly production in these companies.

Conclusions and recommendations

Environmental accounting is becoming an important issue worldwide. Both environmental practices and disclosures are gaining more attention by researchers, especially in developing countries as these are harming the environment and randomly using the limited natural resources available for their population. The study objectives focused on measuring the level of disclosure, awareness and problems faced by manufacturing listed companies in Palestine. The previous parts revealed that the manufacturing industry is the second largest segment of the financial market in Palestine, which could pave the way for enforcing some regulations on these as part of their listing requirements. The literature also indicated that manufacturing companies have little environmental disclosures, which is the result of many problems. including: no government interference with the private sector with regards to these companies, lack of education and training about environmental accounting, and lack of an enforced regulatory framework for environmental disclosure.

Based on the above conclusions, the researchers suggest the following:

- Establish an Environmental Experts Council (EEC) from experts in environment and environmental accounting based at Hebron University, and with the help of other Palestinian universities to give consulting services to companies on how to engage and report environmental-related activities.
- Regulating bodies should adapt to this study results and work closely with the private sector to overcome problems related to environmental practices and accounting disclosures.
- Promoting awareness about environmental accounting both within the companies, and the local community, and
- The need to have a clear reporting system about environmental practices, especially measuring the costs and rewards of having good environmental practices.

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