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The Importance of Measuring the Costs of Environmental Quality and Its Role in the Optimal Utilization of Available Resources and Achieving Sustainable Development

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Abstract

The research aims to clarify the role of environmental quality costs in supporting optimal exploitation and their impact on preserving the environment in order to achieve sustainable development, through a set of elements that help to measure environmental quality costs (prevention and prevention costs, evaluation, internal and external failure). Environmental quality costs are one of the methods associated with the idea of reducing environmental costs and rationalizing expenditures by linking long-term goals with short-term goals in line with available economic resources.

1. Introduction

The costs of environmental quality and optimal utilization are among the latest findings of environmental thinking in the last two decades of the twentieth century as a result of increasing environmental awareness, which is considered a tool to raise the level of the environmental and financial performance of the company as it works to reduce the cost and improve environmental conditions simultaneously and thus achieve sustainable progress for the environment. The current information provided by accounting to its beneficiaries is no longer sufficient for the purposes of the environment, and from here there is the need to measure environmental costs, identify their nature and quality and know their effects, so environmental quality costs are a tool that provides beneficiaries and decision-makers with accounting information related to the costs of environmental performance and assistance in improving the information. This enables management and the beneficiaries of accounting information to rationalize administrative decisions and decisions related to investment and financing in a way that supports optimal utilization.

Section One
Research Methodology
First. Research Problem

Failure to follow appropriate methods for collecting, transporting and treating waste has led to an enormous increase in its quantity, and consequently pollution of the environmental elements of land, water and air, and depletion of natural resources in many regions of the world, and from here the imperative to search for the best contexts for positive dealing with those wastes harmful to the natural environment and to humans on this basis, the researcher's directions came to study the costs of environmental quality and its role in reducing the negative impacts on the environment, reducing costs and achieving sustainable development.
In light of this, the research problem was identified through the following questions:
1- Do environmental quality costs have a role in implementing the optimization technology?
2- How can optimal utilization contribute to protecting the environment and reducing costs?
3- Do environmental quality costs have a role in implementing sustainable development?

Second. Importance of Research

The importance of the research stems from the importance of using the optimum utilization and focuses on the environmental and human side on the one hand and reducing costs on the other hand, and because of its great role in maintaining the use of economic resources, which makes them consume the least amount of energy and resources, and clarifying the role of environmental quality costs in providing the foundations that the company enables the research field to recognize the importance of optimal exploitation and its role in sustainable development.

Third. Research objective:

The research aims to clarify the role of environmental quality costs in supporting optimal utilization and its impact on preserving the environment and reducing costs in light of the new variables of the business environment, labor market requirements, and information that enables the company's management to take appropriate decisions.

Fourth. Research Hypotheses

The research is based on the assumption that the costs of environmental quality play a role in the optimal use of products and the achievement of sustainable development.

Fifth. Research Methodology

Dependence will be made by researchers on the inductive approach by observing the phenomenon as it appears naturally, then reviewing previous studies and relying on scientific theories to determine the theoretical hiddenness of the research hypothesis, to form the theoretical framework of the research, and to determine the appropriate methodology to conduct the applied study necessary to test the hypothesis Research and access to the results and generalizations of the study, by specifying the type of data required, the appropriate community sample, the method of data collection, the means of obtaining it, conducting tests and statistical analyzes, and drawing results to reach the results of the public research.

Section Two

First. Definition of Environmental Costs

Determining and measuring the costs of environmental materials and activities and using this information to make environmental management decisions, that environmental costs for sustainable development or environmental accounting, whatever the name, means (the comprehensiveness and integrity of the process of measurement and accounting and economic disclosure of activities and programs that affect the environment that are practiced by economic units to meet the needs of Different Parties in Society) (Al-Jawad: 2012.10). Also, environmental costs that are included in the financial statements resulting from business in the economic unit were defined due to the need for decision-makers in economic units to show those costs in order to know the amounts and future obligations to them and to work on providing them in a timely manner (International Journal: 2009).

Second. The importance of determining environmental costs

The US Environmental Protection Agency (EPA) indicates the importance of focusing on environmental cost accounting for the following reasons (8, EPA 1995):

1- That many of the environmental costs can be reduced or even avoided altogether, given that these costs do not add any value to the products and these costs may be operational or investment, or involved in re-designing the products themselves, or choosing alternative operating systems.

2- That these costs may be implicitly incorporated into the indirect costs.

3- The optimal management of environmental costs leads to improving the environmental performance of the economic unit, as well as the positive effects of this trend on the health of society, according to the increase in the success and development of the institution.

4- Reconsidering the existing operating systems and understanding the environmental costs helps the organization to provide more accurate information on environmental costs, pricing its products, and then design products with (environmentally friendly) specifications in order to achieve better profitability.

5- Achieving competition for the company's products through advertising and promotion of (environmentally friendly) products.

Third. The Relevance of The Concept Of (TQEM) To Environmental Costs

The concept of (TQEM) has been associated with the concept of environmentally friendly green products and thus the concept of increasing the total costs of production and lowering the profitability of the economic unit, but the concept can be changed. The economy has adopted cleaner technology and using multiple methods starting from the stage of designing the factory and the product and designing its own processes, and adopting the design method for the environment (DFE) because (TQEM) focuses on the environment, health and safety in the initial stages of product design as one of the most effective means to reduce costs Environmental (Al-Swaihli, 2009: 2). In order to get rid of all these costs and add other resources to the economic unit, green accounting applied a new concept called industrial symbiosis, which is the existence of a link between two or more economic units whose wastes become raw materials for others. This type of industrial synergy provides

commercial and environmental benefits. It involves creativity in great innovations in the use of waste, for example, the use of waste casting sand in horse racing tracks, and the use of ceramic industry waste in decorations, and among the giant companies that used these procedures, the company (DELL) specialized in computer, software and high technology. Where it provided an Asset recovery service, under which the consumed products of the company are collected, the main parts of the products are recycled, others are renewed and resold to low-income countries or donated to charitable institutions and disadvantaged children. It is true that companies can sell computers and dispose of them after their consumption. Do these companies have the ability to safely empty hard drives? As university studies proved that only (17%) of the drives were completely empty, so DELL ensured that sensitive information did not fall into the wrong hands, and at the same time got rid of potential fines. Where the fine on each machine was estimated at $ 25,000 if it was disposed improperly and caused damage to the environment, as it was agreed with companies specialized in separating metals, precious materials and plastics and recycling them into raw materials again, and under this service, all products will return to their origin in The end of its life, DELL claims that through providing this service millions of products have been recycled and that only about 1% of the products have been collected and ended up in a landfill (Zero Waste Scotland, 2011: 10).

Section Three

First. The Impact of Environmental Quality Costs in Supporting Optimal Utilization

In large companies, the purchasing function acquires the largest percentage of the total expenses of the company, which makes it no less important than the manufacturing function and the need for optimal exploitation, the financial function and the need for environmental quality costs. As the cost of environmental impacts is increasing significantly, which increases operational costs as is the case with increasing environmental taxes, waste disposal costs, and the costs of the company's anti-environmental reputation. Purchasing can be defined as the process of obtaining suitable materials or products in the appropriate quantity from the appropriate source and supplying them at the appropriate time and place at the appropriate price. In the procurement process, the six essential conditions appear: material, source or resource, quantity, time, place and price.

This definition is based on two types of factors that are taken into consideration(Najm, 2012: 260-262):

1- The operational physical factors that relate to the availability of appropriate procurement in terms of quantity, quality, and place and time of supply.

2- Financial factors related to the procurement being at the appropriate price and within the allocations of the procurement budget.

The principles related to the costs of environmental quality to support optimum utilization are:

1- Making environmental purchasing part of the company's ongoing operations (Botti, 2011: 44).

2- The supplier has an environmental management system in accordance with international standards (i.e., ISO 14001 certified).

3- That the resource does not use environmentally banned materials in the process of extraction, processing or manufacturing.

4- That the final products do not contain banned substances (Najm, 2008: 162).

5- Emphasis on pollution prevention in the procurement process: Pollution prevention is less expensive and more effective than correcting the problem after it has occurred. During the procurement process, an emphasis on pollution prevention can lead to significant savings (such as avoiding disposal costs) with significant improvements in environmental performance.

6- Collecting appropriate and accurate information about the supplier, its manufacturing processes and products to make an environmentally preferable purchase decision (Najm, 2012: 268-270).

Second. The importance of measuring the costs of environmental quality in achieving optimal exploitation and achieving sustainable development

The concept of sustainable development has emerged since 1972 at the Stockholm Conference for the first time discussing environmental issues, and based on that, the United Nations Environment Program was established, followed by the Rio de Janeiro Conference in 1992, which publicly and widely recognized that environmental quality and economic safety are linked. Sustainable development (SD) has been defined as the optimal management of natural resources by focusing on the maximum benefits of economic development on the condition that the services and quality of natural resources are preserved as rights for future generations (Al-Ayashi, 2008: 3).

Concept of sustainable development:

Sustainable development: means taking the necessary decisions now to achieve the vision to stimulate economic growth, address deficits, maximize welfare and protect the environment, without negatively affecting the ability of future generations to do the same. (DEFRA 2015).

Environmental sustainability is the goal of keeping human activities within the Earth's capabilities to continue to sustain human life. Firms should review their dependence on various natural resources from the point of view of

inputs, as well as their impacts on the outputs that their business operations have on the environment. Companies start by doing this by measuring their inputs (tons of raw materials, electricity, and water consumed, for example) and their outputs (like greenhouse gases). In fact, it is now necessary for UK listed companies to report their greenhouse gas emissions in their annual report after the 2008 Climate Change Act (Defra 2013: 73). Once a baseline is set for these inputs and outputs, many companies start setting targets for reducing them. ; It is often driven by the need to cut costs, but this can also have a beneficial effect on the environment and reduce the risks the company is exposed to in avoiding pollution fines or reducing dependence on key natural resources(Conway & Byrne, 2018: 35).

Third. The relationship between the environment and development

Determining the relationship of the environment to development is imposed by today's reality, which is subjected to an environmental imbalance and destruction of the ecological environment as a result of the irrational intervention of man in the context of his search for investing the surrounding environment and achieving economic development, not an environmental development that takes advantage of environmental resources and harnesses them to serve the economy. Therefore, development and environment must be reconciled with The method of calculating environmental revenues and costs, that is, through an analysis of environmental revenues and costs that take into account social returns and costs (Christian Brodhag, 2014).

Fourth. Dimensions of sustainable development:

Sustainable development focuses on several elements that constitute its main dimensions, as follows:

1- The economic dimension: It raises the issue of selecting, financing and improving industrial technologies in the field of employing natural resources and encouraging the process of developing economic development.

2- The social and environmental dimension: it means respecting the limits set by nature in the field of industrialization (Abdel Halim, No: 321).

3- The technical and administrative dimension: It is the dimension that is concerned with the shift towards cleaner production technology (CPT) and the transfer of society to an era that uses less energy and resources, and that the goal of this dimension is to produce a minimum of gases and pollutants and the optimal utilization according to certain standards that lead to the reduction of Waste flows and recycles waste internally and works with or support natural ecosystems. In order to preserve the environment and reduce the costs of environmental pollution (Labal, 2012: 21).

This means that environmental issues should not be dealt with in a partial manner that takes into account each of them separately, but rather confronted with a comprehensive, integrated method that is keen on economic development without compromising the environment to a degree that prevents its continuity (Al-Mashhadani, Al-Rikabi, 2011: 936).

Sustainable development (SD) at the company level is also defined as the company’s consumption of its resources, leading to the growth of net rights in it and the achievement of an adequate volume of cash flows, thus leading to the company’s continuation during the upcoming accounting periods (Hassan, 2007: 11).

Sustainable development (SD) translates into options and each option has a cost, which is an expression of the total environmental, social and economic costs versus the benefits returned from each option. Therefore, it is necessary to evaluate all the benefits and costs of sustainable development activities (SD), "accounting for internal and external environmental, economic and social benefits and costs" is an important step for achieving the requirements of sustainable development (SD).

The optimum utilization of sustainable development (SD) is the reconciliation between economic development and the preservation of the environment. To achieve this is achieved through the following goals (Abdel Halim, without: 322):

1- Optimum utilization of natural resources, i.e. preservation of natural resources.

2- Taking into account the limited capacity of the environment to absorb waste.

3- Restriction to optimal utilization is a sustainable outcome of renewable resources.

In light of the concern for the environmental problems closely related to sustainable development (SD), the importance of environmental quality costs has increased as one of the main axes in improving environmental performance, as the presence of environmental quality costs within the environmental performance system within the company would contribute to protecting the environment and thus achieving sustainable development (SD) (Mansouri and Ramzy, 2008: 16).

Environmental quality costs play a vital role in economic developments, stressing that economic development does not contradict environmental protection, and it is part of the information system that allows identifying, collecting, tabulating and operating data and managing environmental risks and costs (EC) with the aim of improving environmental performance, cost control and environmental assistance in Preparing a comprehensive environmental management system towards improving environmental efficiency and contributing to achieving sustainable development (SD) (Abdel Halim, Bla: 304).). Through the important role it plays in achieving the integration of sustainable business systems and developing sustainable reporting tools and procedures aimed at measuring and disclosing the sustainable performance of companies in support of sustainable development (SD)

decisions (Al-Jawzi, 2012: 80). Environmental quality costs are a tool used for multiple purposes, such as: improving environmental performance, controlling costs, optimizing utilization, developing green processes and products, and rationalizing decisions related to product formation, preservation and pricing (Abdel Halim, Bla: 316).

The Applied Study

The Research Sample:

Whereas, the sample was chosen using the "simple random sample" method, and the sample consisted of 75 individuals: The simple random sample was chosen and the response rates were 86% from professors and specialists in accounting.

Statistical Methods Used:

The statistical program (SPSS) was used in conducting the statistical analysis of the study data, and the researchers adopted in analyzing the data on the following statistical methods:

Relative importance :

In order to arrange the most important phrases (variables) within each dimension of the study, to conduct a descriptive analysis of the study variables

Mann-Whitney test:

It is a non-parameterized hypothesis test that is compared between two independent samples (not subject to normal distribution) from the sample population.

Reliability and validity coefficient:

Reliability is used to perform the reliability test of the questionnaire questions used in data collection using one of the reliability parameters such as Alpha Cronbach, and the Cronbach alpha values range between zero and one, and the higher the reliability coefficient values and the closer to one, this indicates an increase in the reliability of the data, while the validity coefficient is It is equal to the root of the coefficient of stability and indicates that the scale measures what was put to measure it, and its value also ranges between zero and one.

Test hypotheses of the study:

These hypotheses aim to test the relationship between the role of environmental quality costs in supporting optimal exploitation and their impact on preserving the environment in order to achieve sustainable development. To achieve that goal, this hypothesis was formulated towards the following: **Environmental quality costs have a role in the optimal use of products and the achievement of sustainable development.** The metadata for the hypothesis test is represented as follows:

No.	Item	Mean	Standard Deviation
1	Increased competition between factories and increased spending on environmental costs.	1.25	0.562
2	Providing the necessary information to achieve product quality and rationalize consumers' tendency to use environmentally friendly products	1.33	0.698
	Deepening factory strategies with detailed plans for financial and non-financial activities to ensure environmental preservation.	1.25	0.587
	The necessity to provide information that reflects the environmental performance of the plant to all members of society.	1.62	0.548
	The prosperity and growth of the performance of factories when preparing and providing the community with environmental information	1.36	0.254

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No.	Item	Mean	Standard Deviation
1	Firms report any accounting negative aspects they track that relate to accounting for environmental costs	1.58	0.622
2	The company is making efforts to rationalize energy consumption.	1.38	0.569
3	The company contributes to the acquisition of new sources of energy.	1.34	0.257
4	Companies are aware of the penalties and penalties imposed on them as a result of their failure to perform their environmental responsibility	1.89	0.871
5	Environmental impacts are taken into account when making any investment decision	1.67	0.968
6	The company publishes information on the extent to which the environment is included in its vision and mission.	1.36	0.578
7	The company is keen to provide support to all accountants and encourage them to employ the concept of environmental accounting.	1.92	0.548

8	The companies publish information on the extent of consumption of natural resources in their annual report	1.54	0.215
9	The company views social responsibility as a random effort	1.98	0.648
10	Firms control the resources available to them	1.56	0.482

From the above table, it is noticed that Item No. 1 (increasing competition between factories and increasing spending on environmental costs) and 3 (deepening factory strategies with detailed plans for financial and non-financial activities to ensure the preservation of the environment) occupies the lowest number in the arithmetic mean of (1.25) and the relative importance (76.5%) and 92 recurrences. It also notes that item No. 3 (the company contributes to the acquisition of new energy sources) and 6 (the company publishes information on the extent to which the environment is included in its vision and mission) in the table (that the costs of environmental quality have a role in achieving sustainable development) occupies the lowest number in the arithmetic mean It is (1.28), the relative importance is (72.5%), and the frequency is 85 for the target groups of the study.

Hypothesis test results

No.	Item	Mann-Whitney	P-Value	Test Result
1	Increased competition between factories and increased spending on environmental costs	1684	1.54	Significant
2	Providing the necessary information to achieve product quality and rationalize consumers' tendency to use environmentally friendly products	1754	1.25	Significant
3	Deepening factory strategies with detailed plans for financial and non-financial activities to ensure environmental preservation.	1258	1.58	Significant
4	The necessity to provide information that reflects the environmental performance of the plant to all members of society.	1589	1.68	Significant
5	The prosperity and growth of the performance of factories when preparing and providing the community with environmental information	1687	1.47	Significant

Environmental quality costs have a role in achieving sustainable development

No.	Item	Mann-Whitney	P-Value	Test Result
1	Firms report any accounting negative aspects they track that relate to accounting for environmental costs	1845	1.34	Significant
2	The company is making efforts to rationalize energy consumption.	1278	1.48	Significant
3	The company contributes to the acquisition of new sources of energy.	1542	1.27	Significant
4	Companies are aware of the penalties and penalties imposed on them as a result of their failure to perform their environmental responsibility	1780	1.64	Significant
5	Environmental impacts are taken into account when making any investment decision	1542	1.48	Significant
6	The company publishes information on the extent to which the environment is included in its vision and mission.	1697	1.67	Significant
7	The company is keen to provide support to all accountants and encourage them to employ the concept of environmental accounting.	1452	1.45	Significant
8	The companies publish information on the amount of consumption of natural resources in their annual report	1872	1.97	Significant
9	The company views social responsibility as a random effort	1348	1.48	Significant
10	Firms control the resources available to them	1648	1.79	Significant

From the previous table it becomes clear that for the result of the (moral) test, Item No. 4 of Table No. 1 (The necessity to provide information that reflects the environmental performance of the plant to all members of

society) occupied the highest number, which reached (1.68), as well as item No. 8 of Table No. 2 (The companies publish information on the volume of consumption of natural resources in their annual report) the highest number which is (1.97), from the above it is clear that the opportunities are correct that ((that the costs of environmental quality have a role in the optimal use of products and achieving sustainable development).

Conclusions and Recommendations

First. Conclusion

1. The application of environmental quality costs requires the combined efforts of the various workers in the company, including engineers, technicians, and administrators, as well as accountants, in order to effectively contribute to improving the quality of information provided to various parties and thus rationalizing the various decisions in order to support the application of better exploitation.
2. Better utilization is a practical way to achieve sustainable development. It allows for greater and more efficient production by using less raw materials, resources, energy, and the secretions of waste and emissions.
3. The application of better utilization will positively affect the health of workers and the work environment in general, and thus reduce the prevalent occupational diseases.
4. Development cannot be stopped in order to preserve the integrity of the environment. Conversely, development cannot continue in the prevailing manner when environmental considerations are not taken into account. Therefore, development and the environment must be reconciled by adopting green accounting.
5. Environmental quality costs are among the methods associated with the idea of reducing environmental costs and rationalizing spending, as they help link long-term goals with short-term goals in line with the economic resources available to economic units.

Second. Recommendations

1- Working on applying the best utilization in all the factories and departments of the companies due to the benefits and returns they achieve that contribute to reducing costs and improving the environmental conditions in order to achieve sustainable development.
2- Paying attention to the application of environmental quality costs because it enhances and supports the application of cleaner production technology, as well as creating a good information base.
3- The use of environmental quality costs would contribute to preparing environmental cost reports at the company level and thus contribute to preparing cost reports at the sectoral and national levels, which are useful in obtaining indicators that enable the follow-up of pollution resulting from the various activities of companies and conduct the necessary studies regarding them.
4- Urging decision-makers to introduce better exploitation as a natural and integral element and not as a burden in their policies and plans.
5- Encouraging governments to pursue better exploitation by setting environmental policies and incentives such as exemption or reduction of taxes for projects that apply better exploitation, in order to encourage them to protect the environment and impose green taxes on companies that cause environmental deterioration.

References

Abdel Halim, Nadia Radi, (The Growth of Development of the Environmental Management Accounting System to Contribute to the Development of the Organization), Journal of Financial and Business Studies, Faculty of Commerce, Cairo University, Issue 2, 20003.

Al-Atbi, Hussein Abd Ali, (Measurement and Analysis of Quality Costs and Its Impact on Strategic Performance in the Construction Sector), Applied Research in Saad Public Company, PhD Research, Higher Institute, University of Baghdad, 2012.

Al-Ayashi, Ajlan, Activating the role of environmental collection to achieve sustainable development, the International Scientific Conference - Sustainable Development and Efficiency in the Use of Available Resources, University of Muhammad Boudiaf in Al-Musliah, on April 7 and 8, 2008.

Al-Azzawi, Muhammad Abdel-Wahab, Quality and Environmental Management Systems (ISO 9000 & ISO14000), 2nd Edition, Wael Publishing House, Jordan, 2005.

Al-Jawad, Nariman, (Green National Accounting), Journal of Administrative and Financial Sciences Department, University College of Applied Sciences, Issue 2, Palestine, 2012.

Al-Mashhadani, Omar Iqbal Tawfiq and Al-Rikabi, Ali Khalaf, The role of accountability in preserving the environment and supporting sustainable development, the second international forum on the distinguished performance of organizations and governments, second edition, the growth of institutions and economies between achieving financial performance and the challenges of environmental performance, University QasdiMarbah - Ouargla, on November 22 and 23, 2011.

Al-Suwehli, Lutfah, The Use of Quality Costs to Estimate Environmental Quality Costs ((as an indicator to measure the performance of the Environmental Management System)), 2009.

Buthman,Arne, (Six Sigma project, the cost of poor quality) (COPQ),2010.
Christian Brodhag, 2014, "Developpement durable Site: doc download/Mulhouse papers/ Brodhage.
Conway & Byrne ,2018, "Contemporary Issuesin Accounting", The Current Developments in Accounting Beyond the Numbers.
DEFRA. 2013. Environmental Reporting Guidelines: Including Mandatory Greenhouse Gas Emissions Reporting Guidance. London: Department for Environment Food & Rural Affairs.
DEFRA. 2015. Government Definitions of Sustainability. London: Department for Environment Food & Rural Affairs.
Farouk, sherine. Cherian, Jacob. Jacob, jolly. Green Accounting and Managementfor Sustainable Manufacturing in Developing Countries. international Journal of Business and Management ; vol. 7, No. 20: 2012.
Garson, RH, and Noreen, Eric, translated by Muhammad Essam El-Din and Ahmed Hamed Al-Hajjaj, (Management Accounting), Dar Al-Marikh, Riyadh, 2002.
Harrington,James, (Quality and Reliability Engineering International),Issue4, McGraw-Hill, 2007.
Hassan, Ahmed Farghali, Environment and Sustainable Development, Knowledge Framework and Accounting Assessment, 2007.
Hilton,Ronald,(Mangerial accounting),6th,ed, Printice Hall Inc,2005.
Horngren, Charles, T., Foster, Georg & Srikant M. Datar,(Cost Accounting: A managerial Emphsis), 13th, ed. Printice Hall Inc., 2009.
International Journal of Research on the site (International journal, spt, 2009).
Khalif, Abbas Mahdi, (The Role of Green Accounting in Supporting Cleaner Production Technology), An Applied Study in Ur Public Company, Master Thesis, Al-Mustansiriya University, 2014.
Mansouri, Kamal Muhammad and Ramzi, Judi Muhammad, Environmental review as one of the requirements of the sustainable enterprise and the achievement of sustainable development, International Scientific Conference - Sustainable Development and Efficiency of Resources Use Bouti, Firsat Ali Shaaban, Evaluation of Green Supply Chain Management According to the Balanced Scorecard, Study A survey of sample views in a group of food industrial organizations in Duhok governorate, Master degree, unpublished, College of Administration and Economics, University of Mosul, 2011.
Najm Abboud, the green dimension of business, Al-Warraq Foundation for Publishing and Distribution, Amman, first edition, Tijani, Roqi and Abdel Halim, Western Abed, Green Accounting System in the context of sustainable development, the international scientific conference, sustainable development and efficiency use of available resources, April 7 and 8, 2008.
Suzan Zaki, article in Al-Gomhouri newspaper, Egypt, 2012, article on the website (www.gomhuriaonline.com).
Zaidan, Salman Khaled, (Total Quality Management Philosophy and Entrances to Work), Part Two, House of Curricula, Jordan, 2010.
Zero Waste Scotland, (Reduce Your Costs with Environmental Management Accounting), First published July, 2011.

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