

## The Influence of Observing Environmental Rules on Financial Performance of Productive Companies

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**Abstract:** Accompanying with economic growth the pressure on natural systems and earth resources increases. As the constant growth of cancer finally kills its host and annihilates its survival supporting system the constant growth of world economic annihilates its host i.e. environment gradually. This research evaluates the influence of observing environmental rules on financial performance of productive companies. That is whether benefits and expenses resulted from observing environmental rules have positive or negative influence on financial performance. The chosen and studied population includes accepted productive companies in negotiable document exchange whose activities cause environmental pollution. in order to evaluate the influence of observing the environmental rules on financial performance of productive companies the environmental benefits and expenses have been compared by using questionnaire distribution among financial managers of statistical populations. Statistical T test has been used to analyze data and test hypotheses. The results of data analysis show that on financial managers' opinions the only reason of not observing the environmental rules in their companies is that environmental expenses are more than environmental benefits.

**Key words:** environmental rules, environmental expenses, environmental benefits, financial performance

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### INTRODUCTION

The erer-increasing social changes in recent decades reveal that accountancy nature and identity requires some revisions. Accountants must abandon their past limited and narrow point of views and they accept new attitudes paying more attention to other user groups (not just managers and stockholders) use non-monetary scales in reporting processes and put more emphasis on expenses and external influences of business entities. Attention on social aims in reporting processes of companies don't cause profit- acquisition be removed or decreased. In other words a kind of correlation must be between profit- acquisition and other social aims of business entities and a fair confrontation with a social issue may have a positive influence on financial performance of the organization both short – termly and long – termly.

#### *Environment and Accounting:*

Environment protection and green- house gases reduction has become the main issue of many large conferences in the world. To some extent industrialized countries have recognized this crisis and have tried to reduce pollutions and acquire more profits by proper planning to observe environmental rules. for instance, %78 of paper trashes are recycled in Germany and on the other hand this country has been able to end the bureaucracy nightmare in clerical administrative bank and even acceptably in university system. While despite all such bureaucracy in Iran administrative system, only % 4 of paper trashes is recycled and the rest pollute the environment. On the other hand Preparation of such papers needs cutting trees which annihilate jungles. The industrial activities potentially cause environment pollution because of their technological nature. The prevention and control of environmental pollution in industries can improve production process and increase profit- acquisition and accessibility to world-wide markets(which has recently sensitive in to environment more strongly) So production with less environmental damages must be one of the main purposes of industries.

In Iran basic plans must be prepared to decrease environmental pollutions too. Recently international hygiene organization has introduced Tehran as one of the most polluted cities in the world. Each citizen breathes 0.4 gram of lead in Tehran daily. The amount of polluting materials in Tehran sky including floating

bits sulphur dioxide and lead has a great gap with the standard amount cited by international hygiene organization. About %60 of productive factories of Iran has been centralized in Tehran. And more than 15% of Tehran air pollution is resulted from activities related to such factories and industries. Every day lots of water in such industrial activities turns into waste water that has an important role in water pollution. On the other hand the most vital soil- polluting sources in Tehran are trashes which are evacuated in solid or liquid form.

Every day in newspapers and news sites we see environmental violations of some environmental-polluting companies. the managers of such companies claim that the first and perhaps the most important reason for their violation or persistence against environmental rules is that environmental expenses are more than environmental benefits.

In this research, in order to prove or reject the claims presented by the mangers of such companies , the influence of observing environmental rules on financial performance of productive companies has been analyzed by making a comparison between the expenses and benefits of observing such rules based on the views presented by financial managers of included companies. Evidently, if the environmental expenses exceed the environmental benefits, it will have a negative influence on financial performance of companies and will reduce company profits. So they avoid following environmental rules.

In this research, environmental expenses are divided into three groups:

1. The expenses of reducing the legal environmental punishments which mostly result from the expenses related to guiding and putting off the waste waters in productive companies.
2. The expenses pertaining to renewed and best use of wastages and left overs which are mainly resulted from the expenses of transporting trashes, poisonous chemicals, and dangerous materials in productive companies.
3. The expenses of protection and promotion of environmental reputation which is mainly resulted from the expenses of installing air-conditioning chimneys and their cowls in productive companies.

#### ***Environmental Accounting:***

Environmental accounting has been defined as follows:

The collection, analysis and use of financial and non-financial data to optimize the economic and environmental performance of business entities and to acquire reasonable consumption of natural resources in business entities.

Firstly, environmental accounting, as traditional accounting, is defined by defining main users and its chief purpose is preparing related and useful data for organization managers .In order to provide better supporting for different responsibilities of managers including planning , making decisions,

Controlling, etc, environmental accounting emphasizes on differentiating managers from outsiders.

The data scope covered by environmental accounting is not clearly specified. But what has popularly been accepted is that the used data are not limited to financial data only, but it contains non-financial data too.

Other definitions say that environmental accounting is a system that supports constant development, that is, more profit-acquisition especially in multi-national energy companies. Environmental accounting means managing the environment and economic performance through parts and system development and suitable strategies related to environment .Such process may include reporting and auditing in some companies. Environmental accounting discusses about the environmental expenses manner to answer questions related to calculation of total expenditures including recognition, evaluation, and allotment of conventional expenses, environmental and social expenses related to judgments, productions, activities and budgets.

#### ***Why must We Do Environmental Accounting?:***

Environmental expenses are one of various expenses which a company must spend to produce its goods and services. Nowadays, environmental performance is one of the important criteria to measure business success. Environmental expenses and performance attract manager's attention because of the following reasons:

1. Much of main environmental expenses can be greatly reduced or omitted as the result of business decision-making
- 2.Environmental expenses may be vaguely considered as a surcharge account or it hasn't been considered at all.
- 3.Lots of environmental expenses can be omitted by income acquisition resulted from selling useless be omitted by income acquisition resulted from selling useless by-products or receiving green-technology certification.

4. Better management of environmental expenses can improve environmental performance and produce important advantages for human health and on the other hand provide the business entity a great success.

5. Comprehending environmental expenses and production process can cause more precise and correct budgeting and valuation for products and can help the companies to design processes to produce their goods and services with more emphasis on environmental issues.

6. From a competitive point of view, services in which environmental issues have been observed are preferred environmental issues have been observed are preferred services.

7. Regarding environmental management system, environmental accountancy and performance can support a company's development and its affairs. (The need for using ISO-14000 for companies which are involved in international commerce)

**Research Question:**

Does the observing of environmental rules by productive companies cause the excess of environmental expenses on its benefits and have negative influence on financial performance of those companies?

**Research Purposes:**

The main purpose of this research is the study of the influence of observing environmental rules on financial performance of productive companies. That is whether benefits and expenses resulted from observing environmental rules have any negative or positive influence on financial performance of the company.

Some other incidental purposes that can be considered along with the main purpose are as follows:

- Doing an attempt to eradicate difficulties and barriers on observing environmental rules in productive companies by presenting suitable suggestion and strategies.
- Presenting the research results to productive companies and other authorities especially environment protection organization to be noticed in their own decision-making processes.

**Research Methodology:**

Although the researcher tried a lot to collect and find out environment expenses and benefits directly. He didn't succeed because:

1. Environmental expenses and interests weren't reported in financial statements of studied companies of Tehran negotiable document exchange.
2. Some environmental expenses and benefits weren't measurable.
3. Many companies fled environmental rules.
4. There were not enough coherence data about environmental conditions of companies in environment production organization.

Because of above-mentioned reasons, the researcher has inevitably applied questionnaire procedure for collecting data, although there are lots of deficiencies in questionnaire procedure.

In this study, the researchers himself have directly distributed 64 questionnaires among included companies in statistical population. After collecting the questionnaires it has been found that 57 questionnaires are qualified enough to be studied. 3 questionnaires weren't filled out at all. 4 questionnaires weren't qualified to be studied because the companies which had filled them didn't have any significant environmental pollution.

**Research Hypotheses:**

**Main hypotheses:**

Observing environmental rules by productive companies cause the excess of environmental expenses over its benefits so that it has negative influence on financial performance of those companies.

**Incidental Hypotheses:**

1. The expenses of reducing legal environmental punishments are more than the amount due to such punishments.
2. The expenses of renewed and best use of wastages and historicizes are more than the benefits achieved.
3. The expenses of protection and promotion of environmental reputation are more than the benefits achieved.

**Hypothetical Framework of the Research:**

Regarding to the research topic (the influence of observing environmental rules on financial performance of productive companies) and the comparison between the environmental expenses and benefits to analyze the respective influence we can say that:

- Observing environmental rules can be assumed as the independent variable.
- Environmental expenses and benefits are incidental dependent variable which finally can influence financial performance of companies as main dependent variable.

***Research Time Scope:***

All the main processes of the following research including questionnaire distribution, collection and the resulted data analysis have been carried out in autumn in 2009.

***Research Location Scope:***

The statistical population of the following research includes financial managers of included productive companies in Tehran negotiable document exchange whose activities have environmental pollutions and they are working in Tehran.

Because of the importance of environment issue in Tehran province, all the included companies in statistical population were precisely studied. So the number of patterns and statistical populations are equal to 64 financial managers of companies.

***The Procedure of Statistical Analysis:***

Because the number of patterns is more than 30 and several questions examine one hypothesis and also the average of the answers related to the included questions is a constant number between 1 to 5 in inferential statistic The simple T test along with SPSS software have been applied.

Since in research questionnaire, the answers have been averaged by a five-level range from very low level to very high level, if the arranged of examinees answers is lower than the number 3 which has been marked for the third choice it will mean rejecting any incidental hypotheses, So we can compare the examinees' averages by the number 3 based on T test.

$\mu$  is considered equal to the average of examinees' comments in each hypothesis. Statistical null hypothesis is defined as follows:

$$H_0: \mu \leq 3 \quad H_1: \mu > 3$$

***Questionnaire Credit and Reliability:***

The research questionnaire was investigated by several professors specialized in financial and environmental.

The questionnaire reliability was examined by SPSS software and Cronbach Alfa test. The Alfa coefficient was %74. So the questionnaire has enough reliability and doesn't need any changes in its questions.

***Data Analysis:***

The total number of distributed questionnaire among statistical population was 64 from which 67 questionnaires were returned and 4 questionnaires were set aside. After questionnaire distribution and their careful correction each hypothesis scores were acquired and then were evaluated statistically by using T test.

***Testing the First Incidental Hypothesis:***

For testing the first incidental hypothesis the questions number 1 to 4 are used. The answers of these 4 questions are used to calculate the average of each tested. Since the answer of each question is one of the numbers ranging from 1 to 5 the average number is a constant number between 1 to 5.

So for examining the first incidental hypothesis statistical null hypothesis is defined as:

$$H_0: \mu \leq 3 \quad H_1: \mu > 3$$

In which  $\mu$  is equal to the average of examinees' answers to the first 4 questions.

Most of the answers given to the first 4 questions are the choices 3, 4 and 5 the average of the lowest amounts equals to 3.5 and the average of the largest amount equals to 4.75 and also their average equals to 4. The mean of answers is 4 and the most frequency refers to the number 4. So it can be said that the first incidental hypothesis is verified.

If we want to base our conclusion on a significant level it will show that if the acquired significant level is lower than the desired error level i.e. Lower than 5%, the null hypothesis will be rejected and if is more than 5%, the null hypothesis will be verified.

The results of testing the first incidental hypothesis show that the significant level (sig = 0.000). so the null hypothesis is rejected and the first incidental hypothesis is verified.

***Testing the Second Incidental Hypothesis:***

The questions number 5 to 8 were used for testing the second incidental hypothesis. The answers of these 4 questions are used to calculate the average of each tested. Since the answer of each question will be one of the numbers 1 to 5. So the average will be a constant number "between" 1 to 5. Therefore for testing the second incidental hypothesis the statistical null hypothesis is defined as follows:

$$H_0: \mu \leq 3 \quad H_1: \mu > 3$$

In which  $\mu$  equals to the average of examinees' answers to the second 4 questions.

Most answers to question 5 to 8 refer to the choices 2 to 5. The average of the lowest amounts equals to 2.5 and the average of the largest amounts equals to 4.5 and also their average equals to 3.90. The mean of answers and the most frequency refers to the choice .4 so it can be concluded that the second incidental hypothesis is verified. If we want to base our conclusion on a significant level it will mean that if the acquired significant level is lower than the desired error level i.e. lower than %5, the null hypothesis will be rejected and if it is more than . %5 null hypothesis will be verified.

The results of testing the second incidental hypothesis show that the significant level (sig= 0.000). So the null hypothesis is rejected and the second incidental hypothesis is verified.

***Testing the Third Incidental Hypothesis:***

The questions number 8 to 14 of the questionnaire are used for testing the third incidental hypothesis. The criteria used to calculate each examinee's average is the answers to these 6 questions. Since the answers of each question is one of the numbers 1 to 5. So the average is a constant number between 1 to 5, so for testing the third incidental hypothesis the, statistical null hypothesis is defined as follows:

$$H_0: \mu \leq 3 \quad H_1: \mu > 3$$

In which  $\mu$  equals to the average of the examinees' answers to the last 6 questions.

Most answers to the questions number 8 to 14 are the choices 3 to 5. The average of the lowest amounts equals to 3.99 and the average of the largest amounts equals to .425 and also their average equals to 4.059. The mean of the answers and the most frequent choice is the choice number 4. So we can say that the third incidental hypothesis is verified. if we want to base our conclusion on a significant level it will mean that if the acquired significant level is lower than the desired error level i.e. lower than 5%, the null hypothesis will be rejected and if it is more than 5% Null hypothesis will be verified.

The results of testing the third incidental hypothesis show that the significant level (sig=0.000). so the null hypothesis is rejected and third incidental hypothesis is verified.

***Testing the Main Hypothesis:***

Since all the three incidental hypotheses were verified and these hypotheses were weighed equally so it can be concluded that the main hypothesis is also verified. The verification of the main hypothesis means that observing the environmental rules by productive companies cause the excess of environmental expenses over environmental benefits and according it has negative influence on financial performance of those companies.

***The summary of the research carried out by Paul Lanoie, Benoît Laplante, Maité Roy on the topic: Can Capital Markets Create Incentives for Pollution Control?:***

The offered hypothesis in this research is: The reduction of the value of share market related to the environmental- polluting companies is more important than environmental punishments.

The results of this research shows that if environmental performance of environment- polluting companies is revealed, their share values will decrease and the amount of such decrease is much more than environmental punishments.

***The Summary of the Research Carried out by Nicole Darnall, Inshik Seol and Joseph Sarkis on the Topic: Perceived Stakeholder Influences and Organizations' Use of Environmental Audits:***

The most vital purpose of this research refers to the influence of environmental auditories on stockholders. This research aims at finding the fact that whether environmental issues are important for stockholders or not.

***The First Hypothesis:***

"The applied environmental auditories by the organizations have positive relation with internal stockholders' influence exercise."

***The Second Hypothesis:***

"The applied environmental auditories by the organizations have positive relation with legislator stockholders' influence exercise."

***The Third Hypothesis:***

"The applied environmental auditories by the organizations have positive relation with social stockholders' influence exercise."

***The Forth Hypothesis:***

"The applied environmental auditories by the organizations have positive relation with stockholders' influence exercise in presentation-distribution cycle."

The statistical results of this research show that the applied environmental auditories by organizations have positive relation with internal stockholders' influence exercise. (The first hypothesis)

The evaluation of the relation between applied environmental auditories by organizations and legislator stockholders' influence exercise has an important influence on using environmental auditories. (The second hypothesis).

The evaluation of the relation between applied environmental auditories by organization and social stockholders' influence exercise show that social stockholders' influence exercise doesn't have significant influence on using environmental auditories. (Rejection of the third hypothesis)

And the statistical results show that there is a positive relation between stockholders' influence exercise in presentation –distribution cycle and the use of environmental auditories in companies. (The forth hypothesis)

***The summary of the research came out by Shreekant Gupta & Bishwanath Goldar in the topic: Do Stock Markets Penalise Environment-Unfriendly Behavior? Evidence from India:***

The main question in this research is:"Does the share market of India react significantly against environmental ranking of industries? And if there is any reaction, what is its nature?"

The research results show that there is a positive correlation between the companies' share values and their environmental performance level.

***The Research Results:***

1. The expenses of reducing legal environmental punishments are more than the amount due to such punishments.
2. The expenses of renewed and best use of wastages and left overs are more than the benefits achieved.
3. The expenses of protection and promotion of environmental reputation are more than the benefits achieved.

***And in the Long Run:***

Observing environmental rules by productive companies cause the excess of environmental expenses over its benefits so that it has negative influence on financial performance of those companies.

***Comparing the Results of the Research Carried out by Lanoie, Laplante and Roy with the First Incidental Hypothesis of Research:***

Their research is to some extent related to the first incidental hypothesis of our research.

In the first incidental hypothesis, the expenses related to the reduction of Environmental pollution and amount environmental punishments were compared. The result of such comparison can show the preventing power of environmental punishments in Iran. Regarding to the emphasis of the above research hypotheses and the first incidental hypothesis, we can infer that in studied countries in above research and Iran, environmental punishments don't have enough preventing power.

In above research, the policy of government organizations (in studied countries) is that companies must report their own environmental performance. Such report can influence companies' share market value. The loss caused by reducing share values is much more than environmental punishments and also the expenses of reducing environmental pollution.

In Iran, there is no compulsion for reporting environmental Performance and even there isn't any voluntarily environmental reporting that can influence the value of share market. So, in Iran, the above discussion ends to unpreventability of environmental punishments and non observance of the whole environmental rules in companies.

***Comparing the Results of the Research Carried out by Darnall, Seol, and Sarkis with the Third Incidental Hypothesis of Our Research:***

Their research is, to some extent, related to the third incidental hypothesis of our research.

In the third incidental hypothesis the expenses and benefits of the protection and promotion of environmental reputation were compared. The above research revealed that in developed countries environmental reputation is very important for stockholders. The verification of 3 hypotheses of 4 hypotheses shows that fact. The third incidental hypothesis in our research reveals that environmental reputation is not important for the stockholders of companies in Iran.

***Comparing the Results of the Research Carried out by Gupta and Goldar with the Main Hypothesis of Our Research:***

Their research is, to some extent, related to the main hypothesis of our research. Main hypothesis generally compares the expenses and benefits of observing the environmental rules. Such Comparison indicates the influence of such expenses and benefits on financial performance of Iranian productive companies.

A general looking on the results of the above – mentioned research and the main hypothesis of our research show that financial performance of Indian companies has a direct relationship with their environmental performance. It mean that the positive environmental performance cause positive influence on their financial performance and the negative environmental performance cause negative influence on their financial performance. But the results achieved from the test of main hypothesis of our research show that there is almost an upside – down relationship between the environmental performance and financial performance of companies in Iran.

It means that the positive environmental performance , to a great extent, cause negative influence on financial performance of the companies and the negative environmental performance cause positive influence on financial performance of the companies.

***Conclusion:***

Environmental pollution has been recognized as one of the most important difficulties in modern human society. Such reality necessitates applying environmental accounting as an attempt for environmental protection. Since each country has its own political, economic, social and cultural particularities, we can study the available body of knowledge and experiences all over the world and then harmonize them with cultural, economic, and social particularities of Iran.

Undoubtedly, if a well – established environmental accounting creates in of Iran, accountants can act as powerful arms that can help the government to control financial and economic affairs of companies.

The government can also enact new rules and legal punishments for environment – polluting companies so that it can help reducing pollution.

Furthermore, environment authorities must also aim at setting the culture of observing the environmental rules in the society.

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