Environmental Accounting Practice: Analyzing the Extent and Qualification of Environmental Disclosures of Turkish Companies Located in BIST-XKURY Index

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Abstract—Environmental pollution has detrimental effects on the quality of our life and its scope has reached such an extent that measures are being taken both at the national and international levels to reduce, prevent and mitigate its impact on social, economic and political spheres. Therefore, awareness of environmental problems has been increasing among stakeholders and accordingly among companies. It is seen that corporate reporting is expanding beyond environmental performance. Primary purpose of publishing an environmental report is to provide specific audiences with useful, meaningful information. This paper is intended to analyze the extent and qualification of environmental disclosures of Turkish publicly quoted firms and see how it varies from one sector to another. The data for the study were collected from annual activity reports of companies, listed on the corporate governance index (BIST-XKURY) of Istanbul Stock Exchange. Content analysis was the research methodology used to measure the extent of environmental disclosure. Accordingly, 2015 annual activity reports of companies that carry out business in some particular fields were acquired from Capital Market Board, websites of Public Disclosure Platform and companies’ own websites. These reports were categorized into five main aspects: Environmental policies, environmental management systems, environmental protection and conservation activities, environmental awareness and information on environmental lawsuits. Subsequently, each component was divided into several variables related to what each firm is supposed to disclose about environmental information. In this context, the nature and scope of the information disclosed on each item were assessed according to five different ways (N.I: No Information; G.E.: General Explanations; Q.E.: Qualitative Detailed Explanations; N.E.: Quantitative (numerical) Detailed Explanations; Q.&N.E.: Both Qualitative and Quantitative Explanations).

Keywords—Environmental accounting, disclosure, corporate governance, content analysis.

I. INTRODUCTION

As far as corporate sustainability and corporate social responsibility is concerned, it can be said that one of the fundamental regulations that formulate an enterprise’s responsibilities to its stakeholders is corporate governance principles. It is mentioned in the definitions of corporate governance about systems regarding effective and efficient management of enterprises’ operations and also about auditing and reporting these operations to the shareholders for ensuring transparency and accountability. Problems like economic and financial crises, company scandals based on accounting errors, lack of job security and environmental risks occurred in recent decades as well as employees’ rights have highly emphasized the necessity of corporate governance in terms of ensuring transparency and accountability [8]. However, today, companies should assume not only the responsibilities of their goods, profitability ratios and merely economic growth but also of all stakeholders in the society where the companies operate in a way that environmental, economic and social performance are taken into consideration all together [7]. This is because, stakeholders request from companies a responsible legal entity besides profitability and growth based accountability and they ask for more transparency and information about companies’ methods of creating added value [3]. The definition of “transparency” has changed and its scope has extended today. Stakeholders demand more transparency from companies and they also want to be informed about companies’ social and environmental performance in addition to financial performance. Sustainability reports, that provide stakeholders with an assessment regarding companies’ strategy, management approach and commitments, are also seen as a tool of accountability and communication [3].

The environment is one of the fundamental stakeholders of enterprise. Improving the performance of companies thanks to meeting the needs of stakeholders raises the importance of environment further. Therefore, companies publish reports to reveal their effects on the environment as well as activities intended to protect the environment and their progress on such protection efforts [7]. Within the context of environmental responsibility, these qualitative and quantitative disclosures of companies are located in annual activity reports and generally in corporate social responsibility subtitle on a voluntary basis [6]. Taking into consideration of this fact, it can be asserted that activity report is a significant indicator that presents environmental performance of companies depending on policies followed by them with regard to protection of environment.

Environmental performance is the total amount of direct or indirect effects created by the company on the environment where it operates [19]. In order to control their environmental performance, whereas some companies formulate environmental management policies, others implement environment management systems or standards developed by regulatory organizations and institutions [9], [12]. ISO 14001
is one of the most widely used environment management standards.

As it is understood, making reports related to environmental responsibilities, one of the crucial aspects of corporate sustainability and corporate social responsibility is an explanation for environmental stakeholders. These explanations are usually located in activity reports of company as it mentioned before.

In this paper, 2015 published annual activity reports of the companies, listed on the Corporate Governance Index (XKURY) in Istanbul Stock Exchange (BIST) were assessed. Then, environmental disclosures presented in these reports were analyzed by means of “content analysis” method. It is mentioned in the first part of the paper about annual activity reports where the necessary data collected. In the second part, information about the Corporate Governance Index in Istanbul Stock Exchange (BIST-XKURY), which was preferred due to interaction between corporate management and corporate social responsibility to make company list for collecting data, is given. In the third part of the paper, information about the purpose and extend of the study and implemented methods is given and results are explained and interpreted by means of tables and graphs.

II. ANNUAL ACTIVITY REPORTS

An annual activity report formed in compliance with the law and legislation by managing body is a comprehensive report on a company's activities throughout the preceding year. It reflects flow of activities and financial statement of the relevant year in a true, exact, unequivocal, realistic and fair way. It also includes information about company progress and potential risks [16]. In other words, annual reports are a primary information source for present and potential investors and stakeholders. There are some principles that must be considered when preparing annual activity reports. These are [4]:

- Responsibility Principle: Reports should be in compliance with financial transparency by ensuring accountability.
- Accuracy and Objectivity Principle: Information that is presented to stakeholders in the report should be accurate, reliable, unprejudiced and unbiased.
- Clarity Principle: Information that is presented in the report should be clear and intelligible by using plain language.
- Comprehensive Disclosure Principle: Information that is presented in the report should be whole and complete enough to explain every part of company’s activities and its results.

In addition to principles that must be considered when preparing annual activity reports, there are also certain regulations, which enforce to submit some compulsory chapters in the report and particular subjects on it. In this context, one of the compulsory chapters that must be presented in annual activity reports is “Corporate Social Responsibility” chapter. Corporate social responsibility is a chapter including information with regard to social responsibility projects carried out in the various fields from education to art, sport to scientific researches and environment [4]. In this paper, only environmental disclosures and statements are included to scope of the research within those social responsibilities.

III. CORPORATE GOVERNANCE INDEX

BIST Corporate Governance Index is established to assess price and return performances of companies that already have corporate governance rating within the scope of Capital Markets Board of Turkey (CMB) regulations and principles. BIST-XKURY aims to measure the price and return performances of companies traded on Borsa Istanbul Markets (except companies in Watch List and Lists C and D) with a corporate governance rating of minimum 7 over 10 as a whole and minimum of 6.5 for each main section. The corporate governance rating is determined by the rating institutions incorporated by CMB in its list of rating agencies as a result of their assessment of the company's compliance with the corporate governance principles.

The corporate governance rating is a view about the level of enterprises’ attaching importance to shareholder’s right, public disclosure activities, relations with stakeholders and board of director’s credibility [21]. This view measures risks that may be encountered by a company against its own interests and assets, shareholders, stakeholders, environment and community [18]. Hence, corporate governance assessment results are a valuable tool for companies, acting in accordance with corporate governance principles, to strengthen trust of all stakeholders inside or outside the company [22]. This grade, a result of corporate governance assessment, can be seen as an appraisement of how the governance of a company serves for shareholders’ interests [21].

Corporate Governance Index was started to be calculated on August 31, 2007 with 5 companies, but now there are 50 companies in the Index.

IV. CONTENT ANALYSIS OF ENVIRONMENTAL DISCLOSURE

A. Purpose, Extend and Importance of the Research

The primary purpose of this paper is to analyze the content of public companies’ environmental disclosures which must be presented in annual activity reports in corporate social responsibility section. Public companies’ disclosures are not only essential for inside stakeholders; in order to fulfill the public disclosure requirement, they are also important for outside stakeholders in terms of their future decisions.

Corporate governance principles in Turkey were launched by CMB in 2003 and complying with these principles has become mandatory as from 2004. Due to the relation between corporate governance principles and corporate social responsibility, companies registered in BIST Corporate Governance Index (XKURY) were selected for the analysis of this paper. Within this framework, 2015 published annual activity reports of the 50 companies in XKURY were completely examined. Then, environmental disclosures that must be presented especially in “Corporate Social Responsibilities” section of these reports were analyzed. This
work has importance from the point of the fact that it enables us to determine extend and qualification of environmental disclosures that are presented in compliance with corporate governance principles and social responsibility by public companies in annual activity reports.

B. Research Methodology

Methodology of this paper can be classified as a descriptive research. Content analysis, one of the qualitative research methods was used to analyze environmental disclosures in the annual activity reports of 2015 of above mentioned companies.

Content analysis is defined as an empirical method identifying contextual and stylistic properties of statements in a systematic and objective way [14]. It is expected from the content analysis that it should gather similar data together within the frame of particular concepts and themes [2]. Content resolution is used with intent to make objective, measurable and verifiable explanations of explicit and apparent content [15]. As it is understood from above mentioned arguments, content analysis is one of the appropriate methods to objectively and systematically analyze various disclosures and reports like annual activity reports which is an efficient and significant communication tool between enterprises and its stakeholders [6].

Content analysis measures percentile distribution of studied text or report by classification within the context of categories which are previously identified by means of qualitative and quantitative codification. For the purpose of codifying environmental information into content analysis, categories have to be identified and environmental information that is in the scope of these categories should be detected. It is shown as follows that the main and sub-categories were constituted according to literature review for implementing content analysis for this study [6]:

C. Collecting Data and Information

The data used in the study were obtained from 2015 annual activity reports of public companies, available on the companies’ own website and Public Disclosure Platform (KAP)’s website. Public companies in Turkey have to report every kind of disclosures to KAP. Information in sub-categories is identified as: no information (0), general explanations (1), qualitative explanations (2), quantitative explanations (3), both qualitative and quantitative explanations (4). In order to implement content analysis effectively, three technical requirements must be met. The first of these conditions is that classification categories must be defined clearly and precisely. The second of them is that there should be a systematic data collection and the third one is that reliability and validity properties must be ensured [11]. Classification, that was created by Kavut based on other classifications in prior studies [1], [5], [10], [13], [17], [20] [6], is used in this study for the purpose of fulfilling those conditions together.

D. Research Result and Interpretation

In this section, findings resulting from the research were explained and interpreted by means of frequency tables.

50 companies listed on XKURY in BIST are in the scope of this study and it is seen from Table 1 that majority of them have been operating in manufacturing and financial institutions sector. Furthermore, as can be seen from Table 1, 40% of the companies in the scope of this study have been operating in manufacturing industry, 44% of them in financial institutions sector and the remaining 16% in construction and public works, mining, technology, wholesale and retail trade, hotels, and restaurants, transportation, telecommunication and storage sectors.

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Number of Companies (Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing Industry</td>
<td>20</td>
</tr>
<tr>
<td>Construction and Public Works</td>
<td>1</td>
</tr>
<tr>
<td>Mining</td>
<td>1</td>
</tr>
<tr>
<td>Financial Institutions</td>
<td>22</td>
</tr>
<tr>
<td>Technology</td>
<td>2</td>
</tr>
<tr>
<td>Wholesale and Retail Trade, Hotels, and Restaurants</td>
<td>2</td>
</tr>
<tr>
<td>Transportation, Telecommunication and Storage</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
</tr>
</tbody>
</table>

1. Findings Related to General Environmental Policies

It is seen that 18% of the companies did not provide any information about “General Environmental Policies” in their annual activity reports of 2015, whereas nearly half of them provided general content information which can be denoted as “General Explanation”. Moreover, it is determined that 34% gave “Qualitative Detailed Explanation” except from “General Explanation”. Also, it is found out that only one company gave “Both Qualitative and Quantitative Explanation” and no company presented information as “Quantitative Detailed Explanation” regarding general environmental policy.

2. Findings Related to Specific Environmental Policies

In the annual activity reports, largely no information was given place regarding “Specific Environmental Policies”, whereas 8% of them gave “General Explanation” and 42% gave “Qualitative Detailed Explanation”. The number of companies providing information that is classified as “Quantitative Detailed Explanation” is just one. Besides, it is confirmed that information as “Both Qualitative and Quantitative Explanation” is provided in reports of 4% of the companies.

3. Findings Related to Environment Management System

It is found that whereas 56% of the companies did not provide any information about “Environment Management System”, 32% of them provided information as “General Explanation”. In these general explanations, it is seen that there exists an environment management system or it is in the preparation process. Furthermore, disclosures of 10% of the companies are “Qualitative Detailed Explanation” and of 2% of them are “Both Qualitative and Quantitative Explanation”. On the other side, information as “Quantitative Detailed Explanation” related to environment management system has...
not discovered in any annual activity reports of the companies.

### Table II

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>Presentation of Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Categories</td>
<td>Sub-Categories</td>
</tr>
<tr>
<td>Environmental Policies</td>
<td>General Environmental Policies</td>
</tr>
<tr>
<td></td>
<td>Specific Environmental Policies</td>
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<tr>
<td>Environment Management System</td>
<td>Environment Management System</td>
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<td></td>
<td>Environmental Audit</td>
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<td></td>
<td>Environmental Impact Assessment (EIA-Reports)</td>
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<td></td>
<td>ISO 14001 Certificate Ownership</td>
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<tr>
<td>Environmental Protection and Preservation Activities</td>
<td>Past and/or Present Environmental Expenditures</td>
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<td></td>
<td>Estimated Future Environmental Expenditures</td>
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<tr>
<td></td>
<td>R&amp;D Endeavors</td>
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<td></td>
<td>Information on Waste and Emission</td>
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<tr>
<td></td>
<td>Waste Reduction Activities and Recycling Practices</td>
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<tr>
<td>Environmental Awareness</td>
<td>Natural Resource Conservation-Forestation</td>
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<td></td>
<td>Trainings on Environmental Awareness</td>
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<td></td>
<td>Environmental Awards</td>
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<td></td>
<td>Environmental Organization Membership and Accession to Agreements</td>
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<tr>
<td></td>
<td>Information on Environmental Lawsuit Against the Company</td>
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</tbody>
</table>

N.I: No Information; G.E.: General Explanations; Q.E.: Qualitative Detailed Explanations; N.E.: Quantitative (numerical) Detailed Explanations; Q.&N.E.: Both Qualitative and Quantitative Explanations

3. Findings Related to Environmental Audit

Environmental audit means that the activities are conducted voluntarily or according to a legal requirement as part of the companies. 56% of the companies did not provide any information about "Environmental Audit", whereas 26% and 16% of them expressed information as "General Explanation" and "Qualitative Detailed Explanation", respectively. Also, it is appeared that information about "Both Qualitative and Quantitative Explanation" was included by merely one company and information as "Quantitative Detailed Explanation" was not included by any company.

4. Findings Related to Environmental Impact Assessment (EIA-Reports)

72% of the companies listed in BIST-XKURY did not provide any information about "Environmental Impact Assessment", whereas 22% and 6% of them gave "General Explanation" and "Qualitative Detailed Explanation", respectively. It is realized that neither "Quantitative Detailed Explanation" nor "Both Qualitative and Quantitative Explanation" with regard to environmental impact assessment was included in any annual activity reports of the companies.

5. Findings Related to ISO 14001 Certificate Ownership

58% of the companies did not provide any information about "Having ISO 14001 Certificate" Moreover, whereas 40% of them expressed information as "General Explanation", 2% of them gave "Qualitative Detailed Explanation". On the other hand, it is attracted the attention that no company presented information as "Quantitative Detailed Explanation" and "Both Qualitative and Quantitative Explanation" regarding having ISO 14001 Certificate in their annual activity reports.

6. Findings Related to Past and/or Present Environmental Expenditures

86% of the companies did not provide any information about "Past and/or Present Environmental Expenditures" in their annual activity reports of 2015. Besides, 6%, 6%, and 2% of them provided information as "General Explanation", "Quantitative Detailed Explanation" and "Both Qualitative and Quantitative Explanation", respectively. Moreover, it is seen that no company provided information as "Qualitative Detailed Explanation" on this topic in their annual activity reports.

7. Findings Related to Estimated Future Environmental Expenditures

Almost all of the companies (96%) did not provide any information about "Estimated Future Environmental Expenditures", whereas 2% of them gave "General Explanation" and again 2% of them gave "Qualitative Detailed Explanation". With regard to possible environmental expenditures in future, it is seen that neither "Quantitative Detailed Explanation" nor "Both Qualitative and Quantitative Explanation" was included in any annual activity reports of the companies.

8. Findings Related to R&D Endeavors

80% of the companies in the scope of the study did not provide any information about "R&D Endeavors", whereas 12%, 6%, and 2% of them presented information as "General Explanation", "Qualitative Detailed Explanation", and "Both Qualitative and Quantitative Explanation", respectively. It is observed that no company gave "Quantitative Detailed Explanation" towards environmental R&D endeavors.

9. Findings Related to Information on Waste and Emission

46% of the companies did not provide any information...
about “Waste and Emission”, whereas 18%, 12%, and 2% of them disclosed information as “General Explanation”, “Qualitative Detailed Explanation”, and “Quantitative Detailed Explanation”, respectively. Also, 22% of them gave information about waste and emission as “Both Qualitative and Quantitative Explanation”.

10. Findings Related to Waste Reduction Activities and Recycling Practices
   It is observed that 34% of the companies did not provide any information about “Waste Reduction Activities and Recycling Practices”. On the other hand, 24%, 16%, 14%, and 12% of them provided information as “General Explanation”, “Qualitative Detailed Explanation”, “Quantitative Detailed Explanation”, and “Both Qualitative and Quantitative Explanation”, respectively.

11. Findings Related to Natural Resource Conservation-Forestation
   74% of the companies did not provide any information about “Natural Resource Conservation-Forestation”, 6%, 10%, and 4% of them provided information as “General Explanation”, “Qualitative Detailed Explanation”, and “Quantitative Detailed Explanation”, respectively. Also, 22% of them gave information about “Natural Resource Conservation-Forestation” as “Both Qualitative and Quantitative Explanation”.

12. Findings Related to Trainings on Environmental Awareness
   Half of the 50 companies did not provide any information about “Trainings on Environmental Awareness”, whereas 32% of them gave “General Explanation”. Moreover, it is found that 10%, 2%, and 6% of them provided information as “Qualitative Detailed Explanation”, “Quantitative Detailed Explanation”, and “Both Qualitative and Quantitative Explanation”, respectively. From these disclosures, it is observed that these activities will contribute to social environmental awareness in such areas like afforestation and cleaning streams by means of providing trainings for employees of the company and local community in which it operates.

13. Findings Related to Environmental Awards
   78% of the companies did not provide any information about “Environmental Awards”, whereas 18% of them gave “General Explanation”. Furthermore, it is seen that 4% of the companies presented information as “Qualitative Detailed Explanation”, whereas neither “Quantitative Detailed Explanation” nor “Both Qualitative and Quantitative Explanation” as regards the award received was given place by any company in their annual activity reports.

14. Findings Related to Environmental Organization Membership and Accession to Agreements
   It is observed that more than half of the companies covered by the sample did not provide any information about “Environmental Organization Membership and Accession to Agreements”, whereas remaining 40% gave “General Explanation”. Only 4% of the companies provided information as “Qualitative Detailed Explanation”. It is also seen that disclosed information related to environmental organization membership and accession to agreements is not in the scope of neither “Quantitative Detailed Explanation” nor “Both Qualitative and Quantitative Explanation” in any annual activity reports of the companies.

15. Findings Related to Information on Environmental Lawsuit Against the Company
   If there is any environmental lawsuit against a company, there will be an obligation to provide information about it in activity reports. Almost all of the companies provide either no information or “General Explanation” about “Environmental Lawsuit Against the Company”. When the annual reports are examined, it can be concluded that not providing detailed information about those cases is mostly stemmed from absence of any case against the companies. Besides, solely one of the companies in the index gave “Qualitative Detailed Explanation” regarding environmental lawsuits.

V. CONCLUSION
Environmental disclosures in annual activity reports are taken into consideration in this study aiming to analyze environmental disclosures which should be provided for corporate social responsibility. It is determined that environmental disclosures, which are key issue of this study, are usually presented in “Corporate Social Responsibilities” sections in annual activity reports in compliance with CMB regulations. According to this study, which examined environmental disclosures in annual reports of 50 companies from different sectors in the index, it is observed that these disclosures can be mostly classified as “No information” or “General Explanation”.

As it can be seen from Table II, the highest rate in “No information” or “General Explanation” is in the category of environmental expenditures. Therefore, it is determined that information about expenditures in present year and estimated future expenditures of companies are quit insufficient. In addition, it is also seen that information about environmental R&D works is poorly provided in the reports.

It can be asserted that companies fail to provide detailed information on quantitative and qualitative environmental disclosures since they consider environmental disclosures as a corporate social responsibility rather than as a necessity and there is no standard reporting format for these environmental disclosures. In this respect, evaluating overall, as a result of inadequateness of the environmental disclosures by the companies in the index, it can be said that their environmental performances are highly inadequate.

REFERENCES


