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Web Sites As a Tool of Creating Value and Green Image: The Case of Istanbul Stock Exchange

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Abstract

During the past few years, new concepts like Green Management, Green Products, Green Company, Green Government, Green University, Green Image have been introduced in management literature as a result of increase in interest regarding social responsibility issue.

Taking into account the ever increasing prominence of environmental management in world, firms are facing growing pressure from stakeholders to become responsible and greener. In fact, social responsibility in general and green management in particular, is becoming an integral part of firm activities. In this regard, firms are enforced to communicate their environmental activities and interests to society which leads to image of a "green company". Thus, green image provides a defendable competitive advantage that cannot be imitated and maintains valuable relationships with critical stakeholders.

In the modern world, internet is widely used as a tool for communicating with stakeholders in relation to company's social responsibility and green activities. From this point of view, we designed our research as an exploratory study to gain an insight into green image communication through web sites in Turkey. The main reason to conduct such a study is that there is limited research devoted to web sites as a communication medium for developing a green image. In our study we focused on the web sites of 100 companies from various sectors which are quoted on the Istanbul Stock Exchange. We focused on related key words that lead a customer to content that might indicate the company is a "green" one. After conducting the content analysis sixteen dimensions regarding green company were determined and activities related to these dimensions were discussed thoroughly.

Keywords: *Green Management, Green Image, Content Analysis, Worldwide Web*

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1. Introduction

A key question that should be taken into account and answered by the organizations is "*Why green management matters and how it has progressed?*" In 1960's and 1970's corporations were denying their impacts on the environment. Then a series of highly visible ecological problems such as damage of ozone layer, extinction of specific species,

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climate change have emerged. In order to prevent these problems, strict governmental regulations regarding environment have come on the scene. In 1990's, especially after the publication of the report "*Our Common Future*" in 1987 by the World Commission on Economic Development (WCED, 1987), the term sustainable development has seen wide use, and is generally defined as a practice "to meet the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43).

Today many companies have accepted their responsibility to do no harm to the environment. Products and production processes are becoming cleaner. Thus, in the industrialized nations, more and more companies are going "green" as they realize that they can reduce pollution and increase profits simultaneously (Hart, 1997:70). In this regard; creating a green image which is based on green management has become an integral part of the strategy of the organization and decision makers' roles.

2. Green Management

Organizations understand that green management can be a major factor affecting their competitiveness, through *economic benefits* such as reductions in the consumption of input materials, increased demand for products that reduce pollution and *strategic benefits* such as improving the organization's institutional image, renewing its portfolio of products, increasing its productivity, improving relationships with stakeholders (Molina-Azorin et al., 2009:1094). Thus, green management can be defined as the organization-wide process of applying innovation to achieve sustainability, waste reduction, social responsibility, and a competitive advantage via continuous learning and development by embracing environmental goals and strategies that are fully integrated with the goals and strategies of the organization (Haden et al., 2009:1052). However, it is seen that nearly every major business in the world today has recognized the claims of green management not just as a defensive mechanism to retain legitimacy and the right to operate, but as a centerpiece of an organization's ongoing mission and reason for being (Marcus and Fremeth, 2009: 17).

While researchers and authors have failed to develop a clear definition of the specific term "green management", several accounts of what "green" managers actually do to manage their organizations in an environmentally conscious way have been documented in the literature (Haden et al., 2009:1046). In this regard; managers establish environmental management systems and standards to show and communicate their determination towards being green. Besides, green management in organizations has to go beyond regulatory compliance and needs to include conceptual tools such as pollution prevention (Lee, 2009:1102). Environmental management and corporate sustainability are also terms that have been used in close conjunction with or as a substitute for green management. Both concepts seem to extend beyond simply reducing waste, and therefore more accurately embrace the idea of creating a green philosophy regardless of regulatory compliance.

In this regard; companies should make some changes in their ongoing operations for being green. These are creating green philosophy, having environmental management

systems, green product design, new product development, raw material selection and usage, production method and technology, waste management, green packaging and warehousing, green supply chain management. In this context, ISO 14000 and EMAS are being implemented by many organizations as environmental management systems throughout the world.

With regard to the green management literature, there are environmental management variables and environmental performance variables. These variables are shown in Table 1. Environmental management encompasses the technical and organizational activities undertaken by the firm for the purpose of reducing environmental impacts and minimizing their effects on the natural environment. The output of environmental management is environmental performance, which refers to the effects of the firm's activities and products on the natural environment (Molina-Azorin et al., 2009:1084).

3. Green (Ecological) Image

The companies that show good environmental initiatives will most probably acquire a high green image (Miles and Covin, 2000). Firms that adopt proactive environmental strategies may benefit from premium pricing and increased sales because of enhanced market legitimacy and greater social approval. Such approval may allow environmentally conscious organizations to market their management procedures as selling points for their products, and create a means to differentiate their products from their competitors (Rivera, 2002). Alexander and Bucholtz (1978) used environmental image as a measure of environmental performance. Thus, green image can be defined as the basic difference which distinguishes the company from other competitors, creates a distinguished added value of products and services, attracts and maintains valuable relationships with critical stakeholders. This image leads to a defendable competitive advantage that cannot be imitated (Biloslavo and Trnavcevic, 2009:1160).

Building an image is a lengthy process that needs to be carefully planned and controlled. However, in some wealthy jurisdictions, consumers are considering environmental criteria in their choice of product, and this situation has created an incentive for many firms to go beyond existing regulations and establish a "green image" (Hoberg, 2001: 195). In this process, creating effective websites which have multiple sections, each targeted to a different audience can be beneficial tools to communicate green practices of companies. In this regard; studies analyzing the internet and web sites as tools for communicating with stakeholders in relation to company's social responsibility have been growing in number (Esrock and Leichty, 1998, 2000; Williams and Pei, 1999; Maignan and Ralston, 2002; Cooper, 2003; Snider et al., 2003; Douglas et al., 2004; Patten and Crampton, 2004).

While impression management is seen as an important competence in dealing with external stakeholders (Rosenfeld *et al*., 1995), firms can announce their green management activities which lead to creation of a green image via impression management. Thus, impression management is purposive, goal directed behavior (Bozeman and Kacmar, 1997:9) which consists of strategic communications designed to

establish, maintain, or protect desired identities (Rosenfeld, et al., 1995). In this context it is suggested that announcement of green management activities can create green image that will support the interest of various stakeholder groups in or outside the organization.

4. Methodology

As websites are significant medium for developing green image, websites of 100 companies quoted on the Istanbul Stock Exchange were analyzed using content analysis. The sample obtained the top 100 companies of Istanbul Stock Exchange List that have the most market value. When determining the top 100 companies we excluded banks and financial institutions. We tried to take companies that may have the most effect on environment into account. According to the green management literature, Table 2 shows that the set of firms, industries and countries were varied in most studies. Most of the studies on environmental management were conducted regarding manufacturing sectors. In literature, only a few studies limited their analysis on one industry. In consistent with the literature, our study also encompasses various manufacturing sectors such as mining, manufacturing industry (food, beverage and tobacco, textile, wearing apparel and leather, wood products including furniture, paper and paper products, printing and publishing, chemicals petroleum, rubber and plastic products, non-metallic mineral products, basic metal industries, fabricated metal products, machinery and equipment), other manufacturing industry, electricity gas and water, construction and public works, defense and holdings.

We focused on links and related key words that lead a customer to think that the company is a "green" one. Before starting up with the content analysis, we analyzed the websites of each company thoroughly and determined main *thematic contents* and *dimensions* regarding green management. Besides we analyzed previous studies on environmental/green management variables. (Refer to Table 1) Finally, sixteen main dimensions as thematic contents had been determined within the context of the study. These thematic contents were existence of a distinct title regarding "environment", "environmental projects", "environmental agreements signed by companies", "environmental units", "waste treatment and management", "environmental training", "adaptation to sectoral regulations", "recycling", "a distinct environment part in corporate governance reports", "environmental awards", "green products", "announcement of environmental impact assessment (EIA) report", "sustainability concept", "environmental management system and standards", "existence of an environmental issue in strategic intents" and "environmental policy". Activities related to these thematic contents and dimensions were also exemplified and discussed.

The main reason to conduct such a study is that there is no research devoted to web sites as a communication medium for developing a green image in Turkish context. We acknowledge our conclusions as limited due to focusing on only the practices and routines mentioned in their websites.

5. Results

As mentioned before, we focused on the web sites of 100 companies from various sectors which are quoted on the Istanbul Stock Exchange and searched for the related key words that lead a customer to content that might indicate the company is a "green" one. Thus, we summarized our results under sub-titles regarding each thematic content and dimension (refer to Table 2).

5.1. Existence of a Distinct Title Regarding "Environment" in Websites

Having a distinct title regarding "environment" in the websites is considered as an important indicator of green company. In this regard; it is found out that 41 % of companies have a distinct title regarding "environment". There are 85 companies in manufacturing industry and 35 of them have such a distinct title (41%). The result is not surprising as most of the manufacturing companies have negative impacts on environment due to their activities. There are 9 holdings taken into account within the context of the study and 4 of them have a distinct title for "environment (45%). The websites of 3 companies operating at Electricity Gas and Water Sector is analyzed and it is seen that only one of them has a distinct title. There is one company in both "Construction and Public Works" and "Defense" industries, and is found out that none of them have a distinct title. In mining sector which has influential effects on environment and environmental resources one company is analyzed and it has a distinct title regarding environment.

When the content of distinct titles are explored, it is seen that there are various sub-titles such as; Environmental Policy, Environmental Management System, Hazardous Waste Treatment Plant, Afforestation and Replantation of Neighborhood, Creating an Indispensable Conscious towards the Significance of Environment in accordance with green management.

5.2. Existence of a Distinct Title Regarding "Environmental Policy" in Websites

It is found that 38 (45%) of manufacturing industry companies have distinct titles regarding environmental policies in their websites. These companies are operating at various sectors and the number of companies having a distinct title regarding environmental policies are distributed as follows: Food, beverage and tobacco 6 (50%); Paper and paper products, printing and publishing 3 (43%); Chemicals petroleum, rubber and plastic products, 5 (31%); Non-metallic mineral products 4 (25 %); Basic metal industries 6 (67%); Fabricated metal products, machinery and equipment, 13 (69 %); Other manufacturing industry, 1 (100%). One firm (100%) from Construction and public works and 3 (34%) holdings make an announcement about their environmental policy in their websites. According to these results it's clear that companies at fabricated metal products, machinery and equipment sector give more importance to environmental policy when compared to others.

"Environmental policy", "corporate environmental policy", "environment, health and safety policy at work" are widely used titles in the websites of these companies regarding environmental policies. The following statements are mentioned in the websites:

- Obeying the legal regulations of environment and environmental dimensions.
- Discouraging suppliers and other subcontractors for being sensitive about environment.
- Training of employees about environmental consciousness and providing their participation for environmental policy.
- Evaluating impacts that arise after product usage and at the end of product life cycle.
- Searching for alternative use areas for wastes in the context of sustainable development.

5.3. Existence of "Environmental Issues in Strategic Intents of Companies"

Strategic management literature points out the significance of strategic intent in communicating the firm's direction to stakeholders. Strategic intents are one of the impression management tools of companies. Thus; Hamel and Prahalad (1989, 1995) describe the notion of "strategic intent" as the companies' main philosophy. There is a hierarchy of strategic intents which every organization strives to achieve such as (1) a broad vision of what the organization should be; (2) the organization's mission, (3) specific goals that are operationalized as various, (4) strategic objectives (Kesken and Kelgokmen, 2005: 62). From this point of view, strategic intent is a good tool to evaluate the companies' environmental consciousness.

It is found that 33 (39%) of manufacturing industry companies have information regarding environmental issues in their strategic intents. These companies are operating at various sectors and the number of companies having a information regarding environmental issues in their strategic intents are distributed as follows: Food, beverage and tobacco 2 (17%); Textile, wearing apparel and leather 1 (25%) Paper and paper products, printing and publishing 4 (57%); Chemicals petroleum, rubber and plastic products, 10 (63%); Non-metallic mineral products 8 (50%); Basic metal industries 2 (22%); Fabricated metal products, machinery and equipment, 6 (32%). Totally 39 firms have environmental issues in their strategic intents. The companies operating in "Wood products including furniture", "Other manufacturing industry", "Construction and public works" and "Defense" sectors don't mention about environmental sensitivity in their strategic intents at their websites. The result is not surprising as most of the companies do not attribute enough value to environmental protection.

Most of the companies operating at "chemicals petroleum, rubber and plastic products" sector consider environmental issues strategically when compared to others. The most common terms used in companies' strategic intents are as follows: Being aware of their responsibility to the society and environment; Being sensitive to environment; To fulfill their responsibilities about environment and nature; Being respectful to human beings and the nature; Being conscious about environment in their all production processes.

The mission statement of an influential company for Turkish economy is given as an example to emphasize the tendency towards green strategic intent: " ... *is in accordance with all laws and regulations for decreasing the environmental pollution and ... makes too much effort for creating, implementing, controlling and developing its all processes to decrease its impacts to lowest level*."

5.4. Existence of Environmental Management Systems and Standards

An environmental management system (EMS) is a well-documented and structured approach to cope with regulations and customer requirements related to environmental issues. ISO 14000/14001 is being implemented by many organizations throughout the world as an environmental management system and standard. EMS provides the framework for organizations to achieve continuous environmental improvement through the effective management of environmental impacts. It also examines issues such as allocation of resources, alignment of responsibilities, and systemic evaluation of practices, procedures and processes (Wu and Tan, 1996). As an analytical model, the ISO EMS consists of five principle components (Lin et al., 2001: 74):

1. environmental policy;
2. planning;
3. implementation and operation;
4. checking and corrective action;
5. review and improvement.

There is another EMS system in EU called as "EU Eco-Management and Audit Scheme (EMAS)". It is a management tool for companies and other organizations to evaluate, report and improve their environmental performance. Since 2001 EMAS has been open to all economic sectors including public and private services (http://ec.europa.eu/environment/emas/index_en.htm). Taking into account the ever increasing prominence of environmental management in world and literature (Lindsey, 1990; Thumann, 1991; Turner, 1993; Reyahi, 2004; Mark et.al.; 1996; Abbaspour, 2006), the implementation of green management systems have become also important. Such systems could enhance managerial recommendations as well as improve the preparedness of organizations to face up with the future challenges such as consequences of global warming (Green Government, 2004 in Abbaspour, 2006: 213).

In this context green management system can be considered as a management system, which is entrusted with dynamic and continuous arrangement and assessment of activities and processes from the environmental perspective and to monitor, prevent and control contaminants (Karbassi, et al., 2006 in Abbaspour, 2006: 213).

It is found that 42 (50%) of manufacturing industry companies have mentioned about "Environmental Management Systems and Standards" in their web sites. These companies are operating at various sectors and the number of companies having an information regarding systems and standards are distributed as follows: Food, beverage

and tobacco 5 (42%); Textile, wearing apparel and leather 2 (50%); Paper and paper products, printing and publishing 2 (29%); Chemicals petroleum, rubber and plastic products, 3 (19%); Non-metallic mineral products 9 (56%); Basic metal industries 4 (%45); Fabricated metal products, machinery and equipment, 16 (%84). Besides 1 company from "other manufacturing" industry (100%); 1 company from "electricity gas and water" (33%); and 1 company from "construction and public works" industry 1 (%100) and 4 Holdings (44%) have given information about their environmental management system and standards in their websites. The total number of companies mentioning about this information is 48. All of these companies have ISO 14000/14001 Environmental Management Systems.

In addition to these standards; one of the important companies operating in wearing apparel sector has communicated the existence of its "Ecotex (Oeko-Tex) standard 100" in the website, which is a global testing and certification system for screening harmful substances in consumer textile products.

5.5. Existence of "Sustainability Concept" in Websites

Achieving sustainability will require stabilizing or reducing the environmental burden (Hart, 1997:71). Since the Brundtland Commission first defined sustainable development, hundreds, of scholars and practitioners have articulated and promoted their own alternative definition (Kates et al., 2005: 20). However, the most widely accepted definition is as follows: "Humanity has the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs." (WCED, 1987: 8) Sustainable development has been also defined as "meeting the needs of the present without compromising the ability of future generations to meet their needs" (Brundtland Commission, 1987). Companies as a production unit of the society have significant role for sustainable development. Today many companies in developed countries have accepted their responsibility to do no harm to the environment and products and production processes are becoming clear for achieving sustainable development.

In this research it is found out that only 17 (20%) of companies operating at manufacturing industry mention about sustainability at their websites. Besides 4 Holdings (44%) have such an information in their websites. There are 21 companies in total that have mentioned sustainability and only 4 of these companies (2 of them are international companies) have distinct "*sustainability reports*". These results show that Turkish companies, in the context of the study, haven't recognized the importance of the sustainability concept for their future success.

5.6. Announcement of Environmental Impact Assessment (EIA) Report in Websites

Environmental assessment is a procedure ensuring that the environmental implications of decisions are taken into account before the decisions are made. Environmental assessment can be undertaken for individual projects, such as a dam, motorway, airport or factory, on the basis of Directive 85/337/EEC, as amended (known

as 'Environmental Impact Assessment' – EIA Directive) or for public plans or programmes on the basis of Directive 2001/42/EC (known as 'Strategic Environmental Assessment' – SEA Directive). The Directives on Environmental Assessment aim to provide a high level of protection of environment and to contribute to the integration of environmental considerations into the preparation of projects, plans and programmes with a view to reduce their environmental impact. They ensure public participation in decision-making and thereby strengthen the quality of decisions (http://ec.europa.eu/environment/eia/home.htm).

It is found that the number of companies operating at various sectors and having EIA in their websites are distributed as follows: 3 companies from Food, beverage and tobacco, 2 from Chemicals petroleum, rubber and plastic products, 2 from Non-metallic mineral products, 2 from Fabricated metal products, machinery and equipment, 2 from Electricity gas and water companies and 1 from Holdings. Besides, 1 company from Food, beverage and tobacco, 2 form Fabricated metal products, machinery and equipment and 1 from other manufacturing industry announce that they took a declaration of "*EIA isn't necessary for this company*" from a governmental institution within the context of Ministry of the Environment.

5.7. Existence of Information Regarding "Green Products" in Websites

For some companies, green management has created opportunities for competitive advantage. These companies not only have been able to lower costs and achieve cost leadership by pursuing environmental efficiency, but also have pursued a differentiation or a focus strategy based on developing "green products" for niche markets (Shrivastava, 1995 in Marcus and Fremeth, 2009: 19). Thus, eco-efficiency involves producing and delivering goods while simultaneously reducing the ecological impact and use of resources (Schmidheiny, 1992; Starik and Marcus, 2000 in Molina-Azorin et al., 2009: 1082).

In this regard green products can be defined as products with an alternative design such that less physical resources are required during its life cycle (Janssen and Jager, 2002: 288). In literature the term eco-product is also used to describe green products.

According to Mark, Roy and Potter (1996: 3) "green products" are those which have a reduced impact on the natural environment arising from their materials, production, use or disposal – as well as satisfying the more usual design factors such as performance, aesthetics, cost, safety, etc. As consumers become more and more sensitive towards environmental issues, they have begun to buy and look for greener products. In this regard, companies start to focus on concepts and systems related with green management as mentioned before.

In this research, it is found out that only 11 (12%) of the companies operating at manufacturing industry have mentioned about their "green product" in the web sites. These companies are operating at various sectors and the number of companies having an information regarding green products are distributed as follows: Paper and paper products, printing and publishing 1 (14%); Textile, wearing apparel and leather 1(% 25):

non-metallic mineral products 2 (12%); Basic metal industries 3 (33%); Fabricated metal products, machinery and equipment, 5(%26), Electricity gas and water, 1 (33%). Besides, 2 Holdings (22%) and totally 15 firms give specific information about their green products in their websites.

One of the most important household appliance companies with influential effects on Turkish economy is in a leader position for its environmental products like "ecologist" dish washer which uses the lowest level energy in the world. In household appliance industry companies produce their products with Fuzzy Control and Aqua Spar sensor for reducing electric energy water usage. In automotive sector, small cars with clean diesel technology, cars using bio-energy, and hybrid models are some examples for green product features.

5.8. Existence of Environmental Awards in Websites

In this research it is found out that 17 of 100 companies have totally 71 environmental awards. 13 (15%) of manufacturing industry companies have 61 rewards and 4 Holdings have 10 awards. Most of these companies operate at White Goods sector which are exporting most of their products to EU countries. Besides these companies are main suppliers of important manufacturers in the world. Thus, they have to meet the international standards and show their responsibility to environment via awards and other mechanisms.

One of the most important petroleum company has "The most energy saver and environmental company" reward. A Household Applicant company has following awards: 2008 Plus X Competition - Award for "Ecology Category" - Elektrabregenz Solo - Combi KFS 1443 C refrigerator; 2008 Plus X Competition - Award for "Ecology Category" - Elektrabregenz WAF 7260 S Washing Machine; 2008 Plus X Competition - Award for "Ecology Category" - Blomberg 7462 S Washing Machine. An Automobile Company has "Environment Award" from Adapazarı Chamber of Commerce And Industry;

- "Friend of Environment Award" from Association of Environmental Technologies Implementation Center
- "The Cleanest Company for environment Award" from Sakarya Governorship

5.9. Existence of a Distinct Information Regarding Environment in Corporate Governance Reports

The trend of developing corporate governance guideline and codes of best practices began in the world in the early 1990s after the financial crises and company scandals. Corporate governance guideline and codes of best board practices have been issued firstly by OECD in 1999 and revised in 2004. The guideline is generally the list of practices that demonstrate how the board of directors will oversee the management of the firm and carry out its responsibilities to the firm's suppliers of capital. The guideline can be

viewed as a proactive mechanism in order to demonstrate good governance (Rubach and Picou, 2005: 30).

In 2004, Capital Markets Board of Turkey decided that the companies which are quoted on the Istanbul Stock Exchange must publish a corporate governance report ever year in their websites. In this report there is a part for shareholders. The shareholders are governed in a separate section within the scope of the Principles. This section mainly focuses on the company's basic policies towards stakeholders and social responsibility issue. It is said that "The company should consider of its social responsibilities; should act in accordance with the company's ethical rules and rules with respect to the environment, the consumers and the public health" (CMB, 2003: 45). It is very important for our research to analyze "Environment" title within the shareholders part as one of the most important social responsibility of companies in these reports.

It is found out that 38 (44%) of companies operating at manufacturing industry mention about environment in their corporate governance reports and are distributed as follows: Food, beverage and tobacco 7 (58%); Textile, wearing apparel and leather 2 (50%) Paper and paper products, printing and publishing 3 (42%); Chemicals petroleum, rubber and plastic products, 5 (31%); Non-metallic mineral products 5 (31%); Basic metal industries 6 (%66); Fabricated metal products, machinery and equipment, 10 (52%). Besides there is 1 company in construction and public works industry (%100), and there are 5 Holdings (%55) that have mentioned environment in the report. Totally there are 44 companies which have a distinct part for "environment" in their corporate governance reports.

Most of these companies use the statement that "There isn't any trial and disagreement about environmental pollution and damages caused by our company this year" under the title of "environment" at these reports. This statement isn't enough to say that 44 companies have tendency and sensitivity towards green management. Only 2 petroleum, 6 fabricated metal products, machinery and equipment and 5 Non-metallic mineral products companies have larger information about their environmental policies, products, and standards at their reports.

5.11. Existence of A Distinct Title Regarding "Recycling" in Websites

There is a swing to natural and renewable ingredients and materials that not only prevent damage, but enhance well-being of users. In every field, at both industrial and end user level, consumers are asking for more 'green-friendly' products, product attributes, and marketing concepts, with services to facilitate longer life, e.g. re-use, reconditioning, *recycling* and end-of-life waste and disposal management. Recycling of a variety of materials has proven to be not only environmentally sound but economically worthwhile (Vandermerwe and Ollif, 1990).

In this regard; it is found out that only 27 % of companies have "recycling" practices and they are mentioned in their websites. This percentage is too low. There are 85 companies in manufacturing industry and 21 of them have such a distinct title (24%). There are 9 holdings taken into account within the context of the study and 5 of them

have a distinct title for "recycling" (56%). The websites of 3 companies operating at Electricity Gas And Water Sector is analyzed and it is seen that none one of have implications regarding recycling. There are one company in both "Construction And Public Works" and "Defense" industries, and it is found out that only one of the company in "Construction And Public Works" industry has a title regarding recycling. In mining sector there is one company analyzed and it has no distinct title regarding recycling.

When the content of titles regarding "recycling" is explored, it is seen that there are various sub-titles and activities such as; planning of recycling activities, decomposition of wastes, creation of biologic waste treatment facilities and wastewater treatment plants.

5.12. Existence of A Distinct Title Regarding "Adaptation To Sectoral Regulations" in Websites

It is found out that only 35 % of companies have implications regarding "adaptation to sectoral regulations" which are mentioned in their websites. This percentage is not high enough when compared to the importance level attributed to green image. There are 85 companies in manufacturing industry and 31 of them have such a distinct title (36 %). There are 9 holdings taken into account within the context of the study and only 3 of them have implications regarding "adaptation to sectoral regulations" (33 %). The websites of 3 companies operating at Electricity Gas and Water Sector is analyzed and it is seen that one of have mentioned sectoral regulations. There are one company in both "Construction and Public Works" and "Defense" industries, and it is found out that none of them have such adaptation efforts. In mining sector there is one company analyzed and it has also no distinct title regarding the regulations.

There are many sectoral regulations in accordance with European Union Integration Process. Besides, global trends emerging all over the world and leading to emergence of Green Management field has lead to many environmental regulations such as; WEEE-Waste of Electrical and Electronic Equipment, RoHS-Restriction of the Use of Certain Hazardous Substances, EuP-Eco Design Requirements for Energy Using Products, Registration, Evaluation, and Authorization of Chemicals (REACH) and The International Plant Protection Convention (IPPC). In textile industry having Eco-label standards are important too. However, when the implications of companies within the context of study are analyzed in details, it is seen that only a company, which is operating at household appliances industry tries to operate in accordance with most of the regulations mentioned above. We also see that this company has a high rank in Istanbul Stock Exchange due to its profitability and sales volume. The reason lying behind that ranking can be explicated by the importance given to green management leading to green image.

5.13. Existence of A Distinct Title Regarding "Environmental Training" in Websites

There is a driving force for transforming irresponsible companies into companies that operate more responsibly. The key forces for such a transformation are environmental education and training which lead to rise in levels of environmental awareness (Tilley, 1999: 242).

It is found out that only 13 % of companies have implications regarding "environmental training" This percentage is too low to create a green philosophy. Only 10 companies in manufacturing industry out of 85 companies have mentioned implications regarding "environmental training" in their websites (12 %). There are 9 holdings taken into account within the context of the study and only 1 of them have such implications (11 %). The websites of 3 companies operating at Electricity Gas and Water Sector is analyzed and it is seen that one of have mentioned environmental training (33%). There are one company in both "Construction And Public Works" and "Defense" industries, and it is found out that only the company in "Construction And Public Works" industry has a title regarding environmental training.

When the training activities of companies are analyzed in details, it is found out that most of the implications regarding environmental training are mentioned under the sub-title of environmental policy. In this regard, it is seen that most of the trainings are aiming to raise awareness among employees regarding green management and policies. Besides, there are trainings related with ISO 14001:2004 Environmental Management Systems and on-the-job training.

5.14. Existence of A Distinct Title Regarding "Waste Treatment and Management" in Websites

"Waste management" is defined as the process of reduction, reuse and safe disposal of waste (Thaman *et al*., 2003). As environmental issues become more important due to sustainability problem regarding resources, waste treatment and management models and approaches have come on the scene. Current waste management models are categorized into two groups as "compromising models" and optimizing models" by Rogers (2001) and their implications are discussed in literature widely (Morrissey and Browne, 2004).

"Integrated waste management" (IWM) is defined as an holistic approach to waste management that attempts, simultaneously, to reduce, reuse, recycle and/or safely dispose of all forms of solid, liquid, gaseous, energy and sound waste, from all possible sources as a foundation for culturally, economically and environmentally sustainable development (Thaman *et al*., 2003).

It is found out that only 29 % of companies have implications regarding "waste treatment and management" This percentage is too low to say that companies make sufficient effort to be green. Only 10 companies in manufacturing industry out of 85 companies have mentioned implications regarding "waste treatment and management" in their websites (29 %). There are 9 holdings taken into account within the context of the study and 3 of them have such implications (33 %). The websites of 3 companies operating at Electricity Gas and Water Sector is analyzed and it is seen that one of them have mentioned about waste treatment and management (33%). There are one company in both "Construction and Public Works" and "Defense" industries, and it is found out that none of them have such activities to reduce their impacts on environment.

However; there are good examples from various companies within the context of manufacturing industry. One company operating at "Food, Beverage And Tobacco"

industry has categorized its waste treatment activities into four groups: 1) solid waste management, 2) Effluent management, 3) Gas waste management, 4) Hazardous waste management. When the training activities of companies are analyzed in details, it is found out that most of the implications regarding environmental training are mentioned under the sub-title of environmental policy. In this regard, it is seen that most of the trainings are aiming to raise awareness among employees regarding green management and policies. Besides, there are trainings related with ISO 14001:2004 Environmental Management Systems and on-the-job training. Another company operating at automotive sector has additional efforts such as waste storage systems.

5.15. Existence of A Distinct Title Regarding "Environmental Units" in Websites

The importance attributed to creating green image can be understood by investments made by companies. Companies invest in human resources extremely to create inimitable competitive advantage (Wright et al., 1994). In this regard; creating a specific unit or department regarding green management with employees specialized in green issues is a good way to create a green climate in the company and green image outside the company.

When the units created by companies are analyzed in details, it is found out that only six companies have special units regarding "environment" which is a very low number. Each of these units have different names such as; "Technical Safety and Environmental Chieftaincy", "Environmental Risk Administration", "Environmental Management", "Health, Safety and Environment Unit". It is seen that in three companies the same name "Health, Safety and Environment Unit" is preferred.

5.16. Existence of A Distinct Title Regarding "Environmental Agreements Signed By Companies" in Websites

It is found out that only four companies out of hundred companies have signed environmental agreements. Three of these companies have signed "Global Compact Principles" in accordance with their green management philosophy. The United Nations Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labor standards, the environment and anti-corruption. There are ten principles and 7th, 8th and 9th principles are related with environment and they are as follows (http://globalcompactnetwork.org): Principle 7-*Businesses should support a precautionary approach to environmental challenges*; Principle 8- *undertake initiatives to promote greater environmental responsibility*; and Principle 9- *encourage the development and diffusion of environmentally friendly technologies*.

Besides, two companies have signed the Copenhagen Communiqué on Climate Change to show their determination towards creating green image. This communiqué is being issued by the business leaders of global companies. It calls for an ambitious, robust and equitable global deal on climate change that responds credibly to the scale and urgency of the crises facing the world today (http://www.cpi.cam.ac.uk/pdf/Copenhagen%20Communique%20%20English2.pdf).

It is also emphasized as imperative that developed countries need to take on immediate and deep emission reduction commitments. The Communiqué also identifies the need for "credible measurement, reporting and verification of emissions" which would be essential to enable "a robust global greenhouse gas emissions market" (Corporate Leaders Group on Climate Change, 2009).

5.17. Existence of A Distinct Title Regarding "Environmental Projects" in Websites

It is a common notion today that more and more activities and developments in our society are carried out in the form of projects. This is also the case for facilities and schemes that have important impact on human health and the environment. On the one hand, there are a multitude of projects that are mainly motivated by concerns other than the environment and which have different kinds of negative impact. On the other hand, there are an increasing number of projects, such as waste treatment plants and renewable energy facilities, an important aim of which is to achieve some kind of environmental improvement compared with the prevailing situation (Khala, 2005:125-126).

Given their complexity, environmental projects require cross-functional cooperation. This cross-functional approach provides the setting for consideration of the impacts of the environment on every aspect of the company, including both tangible and intangible, as well as short- and long-term, impacts (Epsteio and Roy, 2000: 43).

In this study, with the term of environmental projects we mean activities of companies that increase the awareness of consumers toward environmental issues. Besides, activities that have positive impact on environment conducted by the companies are also considered as environmental projects. It is found out that 30 companies have different environmental projects individually or cooperatively with some institutions. 4 companies from Food, beverage and tobacco; 2 companies from Paper and paper products, printing and publishing; 5 companies from chemicals petroleum, rubber and plastic products; 5 companies from Non-metallic mineral products; 2 companies from Basic metal industries; 6 companies from Fabricated metal products machinery and equipment, 1 company from Construction and public works, 1 company from Electricity gas and water and 4 holdings announce their environmental projects in websites.

6. Conclusion and Future Directions For Further Research

This is the first study conducted to describe and diagnose the green management activities of hundred Turkish companies by analyzing their websites as a tool for communicating green image. When the websites are analyzed generally, it is found out that the announcement of green management activities is limited. As Turkey is a developing country, most of the companies and consumers focus more on cost rather than environmental issues. In this context, companies operate with financial concerns instead of environmental concerns. Thus, the companies implement green management activities to act in accordance with environmental regulations set by the legal and governmental authorities in the EU integration process.

It can be said that the tendency towards green management is mostly apparent among companies operating in an international context. Besides these companies are in the upper rank in Istanbul Stock Exchange's market value list. According to these results, fabricated metal products, machinery and equipment industry is the one that breast the tape regarding announcement of green management activities in the websites. The main reason underlying such a result is the good practices of automobile and household appliances companies regarding green management. Especially household appliances companies have green products and environmental awards from various institutions due to their products and clean production facilities. Although non-metallic mineral products industry is the most harmful sector for environment, it is in the second rank among sectors with respect to green performance. Their high efforts related to green management can be the result of the need for transforming their bad image in the eyes of stakeholders into a greenest one. In this transformation process these companies use their websites to establish a green image.

Holdings are in the third rank in announcing green management practices in their websites. These companies also have "environmental consciousness" in their strategic intent. As a result of their size and long life cycle, holdings have become the most influential organizations in Turkish economy. These holdings are aware of the importance attach to them and try to fulfill their responsibilities to the society and the environment.

The results are promising, as 39 of the companies have mentioned environmental issues in their strategic intents. Although strategic intents are the starting point to create green philosophy, most of these companies do not implement other thematic issues concerning green management.

Our study was constrained by data availability, which is only based on the information announced in websites. Future research, which is supported by different methodologies such as surveys and in-depth interviews, can measure companies' green image activities more accurately and increase the generalizability of our results.

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Appendix

Table A1: Summary of The Literature Regarding Environmental Management Dimensions

Authors	Sample	Environmental Management Variables	Environmental Performance Variables
Hamilton (1995)	463 US firms		Toxic Release Inventory (TRI) emissions
Cohen et al. (1995)	S&P 500 US firms with environmental data available		TRI emissions, oil spills, chemical spills, environmental litigation cases
Hart and Ahuja (1996)	127 US firms in SIC listed in S&P 500 with SIC codes below 5000		Emission reductions based on TRI from the IRRC Corporate Environmental Profile data
Klassen and McLaughlin (1996)	US firms with environmental awards and crises (several industries)	Environmental Awards in the NEXIS database; chemical/oil spills, gas leaks or explosions	

Russo and Fouts (1997)	243 US firms (several sectors)		Environmental ratings (FRDC): compliance, expenditures, waste reduction
Cordeiro and Sarkis (1997)	523 US firms in SIC codes 2000-3999		TRI releases that are recovered, treated or recycled on-site
Judge and Douglas (1998)	196 US Firms (World Environmental Directory)	Integration of environmental issues into the strategic planning process (perceptual measures)	Environmental performance (perceptual measures)
Edwards (1998)	51 environmentally proactive firms in eight UK sectors	Environmental policy, environmental management system, impacts monitoring, supplier auditing	Greenhouse gas/ozone depleting substances emissions
Karagozoglu and Lindell (2000)	83 US companies representing a mixture of high-technology and traditional manufacturing sectors	Environmental strategy and environmental competitive advantage	
King and Lenox (2002)	614 US manufacturing firms (Compustat and TRI)	Pollution reduction means or methods (waste generation, waste prevention, waste treatment and waste transfer)	Total emissions
Melnyk et al. (2003)	1222 manufacturing firm managers	State of the environmental management system (EMS): no formal EMS, formal EMS and formal certified EMS. 17 environmental options.	
Gonzalez-Benito and Gonzalez-Benito (2005)	186 Spanish firms in the chemical sector (63), the electronic and electric equipment sector (96) and the furniture sector (27)	27 environmental management practices: planning and organisational (7), operational (4 product-related and 12 process-related), and communicational (4)	
Menguc and Ozanne (2005)	140 Australian manufacturing firms	Higher order construct of natural environment orientation (NEO): entrepreneurship, corporate social	

		responsibility and commitment to the natural environment	
Link and Naveh (2006)	77 ISO 14001-certified organizations in Israel (chemical industry, hi-tech, food and beverages, and services sector)	ISO 14001 rules, policies and procedures	Emission of pollutions, use of recycled materials and other environmental aspects
Montabon et al. (2007)	45 companies in several industries	Environmental practices (recycling, waste reduction, remanufacturing, environmental design	
Wahba (2008)	156 Egyptian firms in several sectors (84 certified ISO 14001)	ISO 14001 certification	

Source: Molina-Azorin et al, 2009: 1085-1092

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Table A2. Summary of The Results

SECTOR	Number of Firms	environmental projects	environmental agreements	environmental units	waste management	environmental training	sectoral regulations	recycling	corporate governance reports	environmental awards	green products	EIA report	sustainability	EMS	strategic intent	environmental policy	environment
MINING	**1**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (%0)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1(100%)
MANUFACTURING INDUSTRY	**85**	24 (28%)	2 (2%)	5 (6%)	25 (29%)	10 (12%)	31 (36%)	21 (24%)	38 (44%)	13 (15%)	11 (12%)	7 (8%)	17 (20%)	42 (50%)	33 (39%)	38 (45%)	35 41%)
Food, Beverage And Tobacco	**12**	4 (33%)	1 (8%)	0 (0%)	3 (25 %)	2 (17%)	5 (42%)	3 (25%)	7 (58%)	2 (16%)	0 (0%))	3 (25%)	2 (17%)	5 (42%)	2 (17%)	6 (50%)	6 (50%)
Textile, Wearing Apparel And Leather	**4**	0 (0%)	0 (0%)	0 (0%)	2 (50%)	0 (0%)	1 (25%)	1 (25%)	2 (50%)	0 (0%)	1 (25%)	0 (0%)	0 (0%)	2 (50%)	1 (25%)	0 (0%)	2 (50%)
Wood Products Including Furniture	**1**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (%0)	0 (0%)	0 (0%)	0 (0%)
Paper And Paper Products, Printing And Publishing	**7**	2 (29%)	0 (0%)	0 (0%)	4 (57%)	0 (0%)	3 (42%)	2 (29%)	3 (42%)	0 (0%)	1 (14%)	0 (0%)	1 (14%)	2 (29 %)	4 (57%)	3(43%)	2 (29%)
Chemicals Petroleum, Rubber And Plastic Products	**16**	5 (31%)	0 (0%)	2 (13%)	3 (19%)	3 (19%)	2 (13%)	2 (13%)	5 (31%)	1 (6%)	0 (0%)	2 (13%)	4(25%)	3 (19%)	10 (63%)	5 (31%)	6 (38%)
Non-Metallic Mineral Products	**16**	5 (31%)	1 (6%)	0 (0%)	2 (12%)	1 (6%)	5 (31%)	3 (19%)	5 (31%)	0 (0%)	2 (12%)	0 (0%)	3 (19%)	9 (56%)	8 (50%)	4(25%)	7(44%)
Basic Metal Industries	**9**	2 (22%)	0 (0%)	1 (11%)	2 (22%)	1 (11%)	4 (44%)	2 (22%)	6 (6%)	3 (33%)	3 (33%)	0 (0%)	3 (33%)	4 (45%)	2 (22%)	6 (67%)	3 (34%)
Fabricated Metal Products, Machinery And Equipment	**19**	6 (32%)	0 (0%)	2 (11%)	9 (47%)	3 (16%)	11 (57%)	8 (42%)	10 (52%)	7 (37%)	5(26%)	2 (11%)	4 (21%)	16 (84%)	6 (32%)	13(69%)	8 (42%)

OTHER MANUFACTURING INDUSTRY	**1**	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)	1(100%)
ELECTRICITY GAS AND WATER	**3**	1 (33%)	0 (0%)	0 (0%)	1 (33%)	1 (33%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	3 (33%)	2 (67%)	0 (0%)	1(33%)	2 (67%)	0 (0%)	1(33%)
CONSTRUCTION AND PUBLIC WORKS	**1**	1 (100%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)	0 (0%)
DEFENSE	**1**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%))	0 (0%))	0 (0%)	0 (0%)	0 (0%)	0 (0%)
HOLDING	**9**	4 (44%)	1 (11%)	1 (11%)	3 (33%)	1 (11%)	3 (33%)	5 (56%)	5 (55%)	4(44%	2 (22%)	1 (100%)	4 (44%)	4 (44%)	3(34%)	3 (34%)	4(45%)
TOTAL	**100**	**30 (30%)**	**4 (4%)**	**6 (6%)**	**29 (29%)**	**13 (13%)**	**35 (35%)**	**27 (27%)**	**44 (44%)**	**17 (17%)**	**15(15%)**	**11(11%)**	**21 (21%)**	**48 (48%)**	**39(39%)**	**42 (42%)**	**41(41%)**