
The corporate environmental disclosures on the internet: the case of IBEX 35 Spanish companies

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Abstract: This paper seeks to investigate the practices of corporate environmental disclosures of the IBEX 35 Spanish firms on their websites. Three areas are studied: (1) the disclosure of non-financial environmental reporting; (2) the disclosure of financial environmental reporting; and (3) the analysis of some aspects of the corporate websites that, in our opinion, could affect the availability of the corporate environmental reporting. The main findings of this paper are: (a) environmental disclosures made by firms present a slight concentration of the data; (b) the compliance of the standards of GRI guide is a key variable for non-financial environmental disclosures on the internet; (c) financial environmental reporting disclosed in the financial statements is quite limited, and (d) there is a need to link non-financial environmental reporting and financial environmental reporting, so that the user of the information can have a greater detail of the influence of environmental concerns in the management of the firm.

Keywords: environmental disclosures; World Wide Web; IBEX 35 Spanish firms.

Reference to this paper should be made as follows: Rodríguez Bolívar, M.P. and Senés García, B. (xxxx) 'The corporate environmental disclosures on the internet: the case of IBEX 35 Spanish companies', *Int. J. Accounting, Auditing and Performance Evaluation*, Vol. x, No. x, pp.xxx-xxx.

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1 Introduction

In the last few years, corporate environmental disclosures are in a spectacular development process. The requirements of environmental reporting by stakeholders are increasingly taking into account the materiality of this type of information to take decisions [1]. Many standards bodies have undertaken the issuance of some guidelines to make a harmonised framework to improve the presentation and understanding of environmental disclosures.

Many research works have examined the state-of-the-art in the disclosure of corporate environmental reporting in hard copy format [2] –at an international level –, and [3] –in Spain). Although hard copy format has always been used by the companies as the most traditional media to issue and disclose all kind of information, we think that the trend in business to disclose environmental reporting should be on the way of its dissemination through more versatile media as internet. The internet can be particularly valuable for benchmarking the policies, practices, tools and techniques [4]. Besides, it can be a useful tool for corporate environmental disclosures because it would allow a bigger flexibility, ability and availability of this type of information.

2 A Bigger Flexibility, Ability And Availability Of This Type Of Information

These concerns have made firms to disclose greater environmental and social disclosures on their corporate websites. It has been demonstrated by the studies carried out by the Pensions & Investments Research Consultants Limited [5], the United Nations Environment Programme (& Sustainability) [6] and the Environmental Resources Management [7]. These empirical evidences have been joined to the recommendations of the Global Reporting Initiative (GRI) –one of the main standards bodies to issue Sustainability Reports –which encourages the use of the internet to disclose environmental disclosures [8], p. 17.

$$(1) \quad a = b + c$$

$$(2) \quad b = c + d$$

$$(3) \quad c = d + e$$

In spite of the importance that is based on the previous comments, the internet could have to disclose corporate environmental reporting, few empirical studies



have been conducted to know the state of the art. Likewise, studies have not been conducted to analyse the content of environmental disclosures on the internet and their effect in the annual reports of the firms. In fact, these studies are almost non-existent in the current environmental literature.

This state of the art makes us to question if the leading Spanish companies, besides being aware of the relevance of preservation of the natural environment, also begin to worry about incorporating on their websites their Environmental Reports and Sustainability Reports. This is the main reason that justifies our interest to analyse in what measure and in what way the information of this type is disclosed.

This paper seeks to contribute, therefore, to the prior literature related to corporate environmental disclosures in several ways. On one hand, this paper pursues to know the amount and type of environmental disclosures that Spanish firms included in the selective market index IBEX 35 are providing to the different stakeholders on the corporate websites. Second, corporate annual reports have been examined to observe the financial incidence of corporate environmental concerns. Finally, some basic elements of corporate websites in which corporate environmental disclosures take place are analysed. In short, this paper analyses some aspects related to the navigability, design and accessibility to environmental reporting on the corporate websites.

The remainder of this paper is organised as follows. First, the advantages of the internet to disclose information regarding to paper-based reporting are highlighted. Second, literature review section provides an overview of the prior literature related to corporate social disclosures both in paper-based reporting and on the internet reporting. Later, this paper describes the methodology of the research work. The empirical results are shown in the section fifth of our paper. Finally, the main conclusions of our research work as well as a discussion of their potential implications are highlighted.

3 Disclosure on the web: advantages over paper-based reporting

According to ?, in the future, it will be increasingly important to strengthen the company's communication abilities not only on environmental performance and results, but sustainability in broader terms, including social responsibility. The widespread development of the Technologies of the Information and Communications, which has taken place in all environments of the economic and social life in the last years, can help companies to meet these needs of communication. As corporate reporting is rooted in society, currently there are pressures on corporate reporting to adapt to a more knowledge-based society ?. This view is embraced within legitimacy theory ?, which is not competing, but complementary, with stakeholder and political economy theories when applied to corporate social reporting ?.

Consistent with the perspective provided by legitimacy theory, corporate environmental reporting is disclosed for strategic reasons, rather than on the basis of any perceived responsibilities ?. In fact, to make the internet professionally usable for reporting represents a managerial challenge implying several strategic, organisational, personal, legal and technical consequences ?. Dowling and Pfeffer ?, p. 127, outline the means that are used by organisations, when faced with legit-



imacy threats, to legitimate their activities. Organisations can attempt, through communication to alter the definition of social legitimacy, to become identified with symbols, values or institutions, and to alter expectations of the organisation ?. In fact, literature on managing legitimacy both explicit and implicitly states that controlling and communicating tactical responses is one of the means of managing legitimacy ??????. In this regard, we think that opportunities offered by the implementation of new technologies can help companies to meet these needs through the improvement of the communication of corporate environmental reporting.

On the other hand, consistent with the perspective provided by stakeholder theory, the opportunity for companies gaining competitive advantage from environmental management systems depends on the ability to communicate attitudes and performance to the stakeholders. Nowadays, the new ‘threat’ to companies will be that stakeholders’ expectations are high in terms of communication ?. A WSSD Business Survey seems to demonstrate the latter concern because in this survey the expectations on companies got a higher score than governmental regulations and it was the highest scored item in the section of roles and responsibilities of multinational companies ?. Stakeholders will come to expect a greater and greater level of transparency and the internet by way of facilitating this shift will be torch for ethical and sustainable conduct ?. Therefore, it is very important to identify stakeholders and critical systems heuristics can help in resolving this problem ?. In particular, political and internal stakeholder groups as well as customers are the major drivers for European countries in environmental matters ???. In summary, in future, reporting and communicating will require that companies

- know what their stakeholders want to know
- are able to mobilise critical information at the right time and in the right format for purchases and other stakeholders to obtain the benefit or ‘value’ of the information ?, p. 27.

The form that the connections between organisations and the stakeholders take can engage stakeholder ? and, this way, new technologies can aid companies again to meet these needs in the future. Although there are many modes of disclosing corporate performance reporting such as press releases, analyst briefings and conference calls, internet has been heralded as the information superhighway. In this section, we identify the main characteristics of internet corporate reporting.

In reference to financial reporting, several papers have shown the advantages that internet can offer to disclose financial reporting regarding the paper-based reporting (see Table 1). In fact, the birth of the World Wide Web (Web) has allowed the firms to meet, in a more efficient way, the most stakeholders’ needs, offering a higher flexibility in the way and quality of the information supplied.

The possibility to disseminate information to a wider spectrum of users has been a key feature that firms have conferred internet regarding hard copy format. The corporate disclosures on the website are available, except when it is offered under a certain cost, to all visitors of the corporate websites. They need not have specialist knowledge in the information disclosed –this process has been called ‘*democratization of business information*’ ?, p. vii. As the number of people with a computer set connected to internet is increasing in the last years, internet can make corporate reporting globally accessible to all types of users within and beyond national boundaries.



Only in Spain, a recent study of the Association for the Investigation of the Media reveals that, in February–March 1996, 6,208,000 people with 14 years or over used the computer and 242,000 people were accustomed to connect to internet. In October–November 2002, these figures rose spectacularly until reaching the 11,527,000 computer users and 7,856,000 users of internet ?. These numbers clearly demonstrate the Net’s greater potential for broad dissemination of information.

Moreover, in this study it is also revealed that some of the most visited websites were financial websites such as, for example, www.invertia.com and www.spanishshare.com ?, pp. 59, 60. In fact, the use of financial reporting is one of the activities referred by interviewers when they connected to internet –28% of interviewers pointed out this activity ?, 47 Finally, a generalisation of internet usage is taking place due to the accessibility to this media by people. So, people is connecting to internet at

Table 1 Comparison between the annual report in hard copy format and the websites
Comparison between the annual report in hard copy format and the websites

<i>Characteristic</i>	<i>Annual report in hard copy format</i>	<i>Websites</i>
Time to access to the message by the stakeholders	Depends when stakeholders want to read the annual report	None: The website is available whenever stakeholder wants
Availability space of the media	Limited by the size of the page	Unlimited
Graphic contents	Yes	Yes
Audio contents	No	Yes
Flexibility to move the site to a more appropriate localisation	No	Yes

Source: ????????



home or at the work place, and the internet is practically used everyday –almost 75% of interviewers connect to the internet at home (?, p. 22).

Theorem 3.1. *Perhaps the accessibility to the information is one reason for the web to be perceived as the best media to meet the needs of stewardship and management disclosures of the entities, for financial as well as non-financial reporting ???. Nonetheless, in accordance with ?, the external environment of the firm is a significant influence on a new and global medium for disclosure such as internet. The general internet usage and the disclosure environment at national level are likely to induce or subdue corporate disclosure.*

On the other hand, in the European Business Environmental Barometer Survey, the cost of information was identified as the most important obstacle that companies face when they implement an environmental policy ?. Gathering and disseminating information on ‘best practice’ may overcome information cost barriers. This is thought to be particularly important for small and medium-sized enterprises where access to information is often most restricted ?. Although the use of internet to disclose corporate environmental reporting only represents a sound first step to take advantage of information technology for sustainability purposes, it becomes important to save large quantities of paper, staff time and money ?. Therefore, the possibility to disclose information with a lower cost is another main advantage of internet. Empirical evidence is shown in research papers and reports. For instance, ? examined and analysed the nature of environmental reporting of large, public, US companies. In their research, the authors pointed out that some companies indicated that they were no longer printing as many reports, particularly as other cheaper forms of distribution, such as internet, become common. Likewise, ? concluded that peripheral modules such as printing, scanning or writing a document often generate a larger burden than the transfer of data itself, via e-mail or postal service. Finally, in the report prepared by ENVIRON ?, a survey was sent out to a total of 109 companies, of which 38 were FTSE100 companies, a further 17 were FTSE350 companies and the remaining were ‘other’ environmental reporters. The survey questionnaire was developed to allow companies to disclose the costs and benefits associated with developing an Environmental Report. The results indicate that companies that wish to limit the costs of environmental reporting could be encouraged to consider the production of electronic versions of their Environmental Report as opposed to the publication of hard copy. Also, the cost of updating this information is practically non-existent with independence of the number of users of information. In other words, the marginal cost for user is zero.

Lemma 3.2. *Previous commentaries can make that firms provide the corporate reporting on corporate websites and send statements to stakeholders through e-mail if the stakeholder consents to receiving the information in that manner and the company can prove a stakeholder actually received the information. Some Regulations all around the world as, for example, SEC release No. 33-7233 in the USA, allow the delivery of information through an electronic medium. By this way, the company no longer has to bear any realised costs of printing and postage that usually suppose a great part of the budget of the firm (?, pp. 15; 44). In summary, internet-based reporting can be more cost-effective than paper-based reporting.*



Besides, the paper form has become limited in capacity to disclose all information needed by the users of information. In hard copy format, the size of the paper and the length of the report are clearly restricted by problems regarding their cost and distribution ?. The new technological advances have helped the firms to disseminate information without any problems. The capacity of information storage in computers is increasing and the needs for hardware to process it have been met fully. It makes firms to be tempted to provide a higher amount of information to the different stakeholders on their corporate websites about compulsory as well as voluntary disclosure ????. Indeed, the growing accessibility of the Web coupled with greater release of environmental reporting is raising stakeholder for additional disclosure ?.

4 Environmental disclosures in paper-based reporting and internet reporting: prior research

4.1 Environmental disclosures in paper-based reporting: theoretical foundations and prior research

A number of post-1990 studies have focused on the relationship between corporate social reporting and the possible motivation underlying decisions to disclose this type of information ?. Guthrie and Parker ? and Patten and Trompeter ? assure that firms disclose this type of information as a mechanism used to be protected and to avoid the attention of regulatory bodies, particularly when sanctions for non-compliance are invoked ?. Moreover, corporate environmental initiatives may be used to shape government regulations attempting to pre-empt future legislation altogether or failing this, to soften the impact of the new laws by inducing regulators to set relatively weak standards ?). Other incentives include the compliance with industrial codes ?, the decrease of operating costs ??, the creation of shareholder value ?????, and the improvement of the image of the firm and the need to promote the relationship with customers and society ??????.

A study research in charged by the European Commission to ? seems to demonstrate the latter concern. In Jones' study research, a debate on internet was carried out and a questionnaire was designed and sent to some firms from the UK, the USA, Sweden, Germany, Finland, Netherlands, France, Belgium, Switzerland, Denmark, Norway, Canada, Japan and Italy, and to expert and advisory's bodies. In the study, the advertisement, the fulfilment of investors' needs and the financial incidence of the environmental concerns of the firm were pointed out as main reasons to disclose environmental reporting.

$$\int_{\Omega_1} (u_e)_t + \int_{\partial\Omega_1} a_e \nabla \varphi(u_e) \cdot \vec{n}_1 = \int_{\Omega_1} f$$

Anyway, corporate social disclosure in paper-based reporting has been analysed in many research papers that have contributed from different perspectives to its interpretation ?. Some of them have been focused in the analysis of environmental management strategies. The European Business Environmental Barometer Reports (EBEB) are among the most important surveys in European countries to analyse the state of the art in environmental management strategies. The questionnaire



of these surveys has been applied to European countries to get some interesting findings about this topic. For instance, in the EBEB 1997/1998, while the industrial response pattern to environmental challenges in French firms involve mainly reactive and corrective actions, although a more receptive response pattern began to emerge, in Irish firms, the response of companies to the environmental challenge was mixed. This way, many Irish firms appear to appreciate the importance of environmental management within the day-to-day management of the company operations, but too many do not translate their cognitive awareness into environmental actions.

$$(4) \quad \sum_{i=1}^n \int_{t_{i-1}}^{t_i} (\|f(t) - f_i\|_{L^1(\Omega)} + \|g(t) - g_i\|_{L^1(\Gamma_N)}) dt \leq \lambda$$

In the last EBEB report applied to Great Britain and Germany (EBEB 2001), relatively large similarities have been revealed with regard to observable environmental routines, the major stakeholders influencing adoption of such routines and obstacles to the adoption of routines. Nonetheless, the way organisations in both countries address these pressures through initial and gradually more systematic environmental routines that can be aggregated to empirically identified environmental strategies is, in contrast, quite different between the two countries ?.

$$(5) \quad \frac{dU}{dt} + \mathcal{A}_e U = H(\cdot, U) \quad \text{on } (0, T), \quad U(0) = U_0 := (u_0, 0).$$

Other research papers have approached the topic of environmental disclosures by companies. The majority of these studies appear to be from North America, Australia, the UK, Canada and, finally, Nordic countries. Some studies considered the effects of environmental disasters by companies. Another topic on environmental reporting has been focused in comparisons across industries of environmental reporting and disclosure provided by firms. In fact, these studies have driven to the most environmentally sensitive sectors of the economy such as electric utility industry, chemical industry, socially responsible investment sector, mining and mineral industries or water industry.

Other studies examined the general quality of environmental disclosures in 10k and annual reports, finding that many firms did not provide any discussion of corporate environmental philosophy or environmental disclosures. The relationship with financial performance and market reaction has been another main feature in corporate environmental performance. Finally, several research papers have been conducted to know the state of the art of corporate environmental disclosures in paper-based reporting in some countries as well as to emphasise differences on environmental disclosures between firms in an international context. In Table 2, an overview of the major findings of these latter research papers is summarised.

Acknowledgements

The authors would like to acknowledge the many helpful suggestions of two anonymous reviewers and the participants of the 2003 EAA Conference on earlier versions of this paper. We also thank Professor P.L. Joshi, the Editor.

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