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2006

Online at <https://mpra.ub.uni-muenchen.de/42997/>

MPRA Paper No. 42997, posted 03 Dec 2012 16:22 UTC

# Internet Corporate Reporting in Greece

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*Published:*

*European Journal of Economics, Finance and Administrative Sciences, 2006, Issue 7*

## **Abstract**

This paper investigates the internet corporate reporting practises of Greek listed companies. The aim is twofold: to contribute to the growing literature by examining internet corporate reporting for a small open European capital market; and to present a model of online dissemination of information by companies of all size in Greece. An Internet Disclosure Index (IDI) of 50 items is constructed, which incorporates content and presentation criteria. A total of 141 corporate websites were screened, and both partial and aggregates scores were produced. The scores show that the Greek companies have a lot of work to do in order to enhance the investor relations activities on the internet. On average, the larger, more established companies have significantly higher levels of disclosure for both financial and non-financial data. The contribution of this study is to describe how corporate reporting practices have evolved in an emerging European country, where investor confidence was considerably damaged by speculative events of 1999 and 2000. This study also provides some useful insights into corporate reporting via the internet in smaller listed companies, which have not been researched extensively.

**Keywords:** Corporate Reporting, Investors' Relations, Internet

**JEL Classification No:** G34; G14, G39

## **1. Introduction**

An efficient disclosure regime is a fundamental instrument for protecting investors and enhancing confidence in the capital markets, especially in light of recent accounting and mismanagement scandals in the US and Europe. Many studies show that disclosure reduces information asymmetry, enhances the stock market liquidity and, hence, reduces the cost of equity capital [1] (Botosan and Plumlee, 2002; Welker, 1995; Healy *et al.*, 1999; Diamond and Verrecchia, 1991). The use of internet for corporate reporting and communication is expanding rapidly. Institutional investors rely increasingly on corporate website in order to acquire annual reports, periodic financial statements and other relevant information. It is worth noting that the OECD (2004) Principles of Corporate Governance encourage the use of the internet and other information technologies, in order to improve information dissemination and to facilitate equal, timely and cost-efficient access to relevant information by investors. Corporate websites vary greatly across companies and countries in terms of presentation and content. Most of the studies focus in developed capital markets, while little research has been done in emerging capital markets.

This paper examines internet corporate reporting by Greek listed companies, which has not been done before. In order to evaluate company websites a checklist of criteria has been developed. The criteria were used to construct an Internet Disclosure Index, which was used to assess the company websites. Greece and other less technologically-advanced countries have been slower than other EU countries to exploit the technology and to recognize internet's advantages for investor relations purposes. The aim of this study is twofold. First, it examines corporate reporting via the internet in the context of a European emerging capital market. Most previous studies had examined reporting by large listed companies in advanced capital markets, while smaller listed companies had not been well explored. Since small and medium-sized companies dominate the Greek market this study aims to make a contribution by examining corporate reporting via the internet in smaller listed companies in a small open capital market. Second, this study presents a tool that can be used to measure the level of disclosure of investor-related information on the internet. The main contribution of this study is to describe how corporate reporting practices have evolved in an emerging European country, where investor confidence was considerably damaged by speculative events of 1999 and 2000.

## **2. Literature Review**

The evolution of the internet has created new challenges for corporate reporting, as it can facilitate timely and cost-efficient dissemination of information. Many companies usually complain that disclosure requirements create substantial cost of printing and posting paper reports to the hundredths or thousands of shareholders (and others, like students) who request them every year. Web-based disclosure gives the opportunity to a wider audience to access the corporate information. The internet enables the corporate information to be kept much more up-to-date, through the regular maintenance of corporate websites, than more traditional means of communication allow. The benefit is also particularly important for the users of the relevant information (shareholders, potential investors, other stakeholders), who might otherwise have to incur substantial cost to obtain the data (Patten, 2002) The ongoing discussions have also mentioned the potential elimination of information asymmetry (where users have different level of access to companies) that internet reporting offers (Gowthorpe, 2004; Jensen and Sandlin, 1997)

Although the possibilities offered by the internet for more symmetrical information have been well identified, there are many critical and complex issues to be considered yet. The latter include (Poon *et al.*, 2003), (i) the coverage and depth (what type of financial information to report online? Should objective or subjective financial information be reported?), (ii) the frequency and time (how long should the financial performance data be posted?), (iii) the format and location (are online

financial data downloadable in a format that facilitates analysis by the users? Is the online information placed in the appropriate section on the corporate website?), and (iv) the people in the company who are involved (who are responsible for deciding, verifying, approving and posting the online information?) in internet corporate reporting. Moreover, the regular maintenance of websites can create additional cost, while the security of those parts of the website containing financial information is also very important.

Prior research on internet reporting contains both descriptive and empirical studies. The latter try to test empirically for factors that might explain the differences between company websites. Most companies in the US and in Western Europe provide web-based financial reports similar to their printed reports or some sort of fundamental financial information (Gray and Debreceny, 1997; Gowthorpe and Amat, 1999; Hedlin, 1999; Brennan and Kelly, 2000; Ettredge *et al.*, 2001).

Most websites were found to make relatively unsophisticated use of internet technology, like email contact to the investor relations departments, mailing lists etc. The option to engage in interactive activities with investors, like video/audio recordings and online participation in general meetings, was rarely found (Deller *et al.*, 1999; Geering *et al.*, 2003)

Almost all the studies that investigated the correlation between the level of disclosure on the internet and certain variables found that company size was the most common significant explanatory variable for internet corporate disclosure (Ashbaugh *et al.*, 1999; Craven and Marston, 1999; Brennan and Kelly, 2000; Ettredge *et al.*, 2002; Debreceny *et al.*, 2002; Marston and Polei, 2004). Other factors, like the level of technology, foreign listing and fee float were also statistically significant in predicting internet financial reporting (Debreceny *et al.*, 2002; Marston and Polei, 2004). On the other hand, leverage, profitability, shareholding by institutional investors, and industry sector appeared not to be significant explanatory variables (Ashbaugh *et al.*, 1999; Brennan and Kelly, 2000).

Most previous studies have focused mainly on large companies in developed capital markets. This paper analyses Greek companies and intends to be an important addition, providing greater understanding of internet financial reporting in a European emerging open capital market, which was experienced speculative events damaging investors' confidence.

### **3. Methodology**

#### **Sample description**

The initial sample consisted of 141 companies listed on the Athens Exchange. The sample represents the complete group of companies within the three main indices of the Athens Exchange, FTSE/ASE-20 (the 20 biggest companies based on market capitalization), FTSE/ASE Mid-40 (the 40 next biggest companies) and FTSE/ASE Small Cap-80 (the 80 next biggest companies) [2]

The screening of the corporate websites was carried out in July and August 2005. First, the 141 companies were examined to find out whether they have a website on the internet. The websites of the listed companies were located by the Athens Exchange website, which provides company profiles and stock indices information [3]. If no company website found there, the most popular search engines (e.g. Google, Altavista, Yahoo) was used in order to discover it. Out of a total of 141 listed companies, 136 (96.5%) had a website. 15 companies were also excluded, because the website was still under construction, or the site server was persistently down, or the website was used exclusively for promotional purposes and provided no financial and investor relations information at all. The websites of 121 companies were therefore assessed.

#### **Internet Disclosure Index (IDI)**

To measure the type and amount of investor-related information disclosure on a company's website, an Internet Disclosure Index (IDI) of 50 items was developed. A checklist instrument categorized investors' information into six major themes: (1) accounting and financial information; (2) corporate governance information; (3) corporate social responsibility (CSR) and human resources information; (4) contact details to investor relations (IR) and related conveniences; (5) material processable formats; and (6) technological advantages and user support. The first four items were associated with disclosure content, while the rest two with presentation format. Definitions applied in the checklist model were based on an extensive literature review of prior web-based disclosure studies (see Deller *et al.*, 1999; Pirchegger and Wagenhofer, 1999; and Marston and Polei, 2004). In order to minimize potential overlapping of interpretations we conducted relevant pretesting techniques. The instrument checklist was pilot tested by numerous participants in the Greek capital market (Union of Institutional Investors, Hellenic Bank Association, Athens Exchange, Greek Capital Market Commission, and IR Association), academics and users across Greece. The instrument was then tested using 2003 annual reports. The content was revised accordingly.

The content disclosure criteria category included 40 variables:

- *Accounting and financial information (15 items)*: the criteria in this group measured the content of accounting and financial information, including the availability of balance sheet, profit and loss account, cash flow statement, interim reports and annual reports (both current and past). Press releases, current and historical share and dividend data, and analysts' coverage were also investigated by this group.
- *Corporate governance information (9 items)*: the assessment criteria examined whether companies make available certain corporate governance information on the website. They included information about directors and executive officers, ownership structure, remuneration, articles of association and others.
- *CSR and human resources information (8 items)*: these criteria examined disclosure of CSR and human resources content areas on the website. They covered areas like environmental awareness, employee profile and training, and donations to community groups and charitable bodies, and discussion on product quality and safety. The availability of CSR Report and special CSR page was also examined.
- *Contact details to IR and related conveniences (8 items)*: this group of items measured the extent to which the companies provide adequate investor relations contact details (name, email, postal address, telephones) and other conveniences, like pages with answers to frequently asked questions, financial calendar, and English pages and reports.
- *Material processable formats (3 items)*: these items investigated whether processable formats for data (like xls and txt) and reports (like pdf-format) were used. It was also checked whether video or audio files are available.
- *Technological advantages and user support (7 items)*: these criteria examined whether companies made use of advanced technological options in order to make the website user

friendly. They included the number of “click” necessary to go to investor relations and press releases pages, mailing lists, internal search engine, site map, online investor information order service and links to related sites.

All the categories and variables are listed and explained in Appendix A. Any investor-related disclosures made by companies on websites, were firstly classified by category (content disclosure or presentation format) and then by variable. Each criterion was formulated on a simple yes/no basis, encoded as 1 and 0, respectively. In order to calculate the total score, individual weights were assigned to each group of criteria. Weighting was the greatest difficulty, as it inevitably had to include subjective judgement. Following Pirchegger and Wagenhofer (1999) and Marston and Polei (2004), content variables were perceived to be more important than presentation variables for users. Weightings were also discussed with members of the Greek Union of Institutional Investors and were confirmed to reflect the priorities and the evaluation of the participants in the market. The subgroups were weighted as follows:

**(A). Content variables: 60%**

Group A1 - Accounting and financial information: 30%

Group A2 - Corporate governance information: 25%

Group A3 - CSR and human resources information: 15%

Group A4 - Contact details to IR and related conveniences: 30%

**(B). Presentation variables: 40%**

Group B1 - Material processable formats: 40%

Group B2 - Technological advantages and user support: 60%

Weights usually prove to be critical in developing scoring systems like this (Pirchegger and Wagenhofer, 1999; Lang and Lundholm, 1993; Chow and Wong-Boren, 1987). It is recognized that the weights in this study are not free of subjectivity, although they were designed in order to best capture the importance of each group. The final score was calculated then as the weighted combination of subgroups scores. All the calculated scores were normalized in order to lie in the range between 0 and 100.

#### **4. Research results and analysis**

Table I provides descriptive statistics for the total sample. The mean score across the 121 Greek companies in the IDI for all the 50 items was 45.7 points (total score), while the standard deviation was 16. The scores were ranged from 85.5 points (highest score) to 6.5 points (lowest score), indicating a wide variation in the disclosure level on corporate websites. Disclosure scores for the content (45.6 points) and presentation (43.8 points) format items were calculated as well. As expected, the better scores were received by larger companies (60.3 points), and results deteriorated as firm size (based on market capitalization) decreased (50 points the medium-sized companies and 39.9 points the small-sized companies).

**Table 1:** Descriptive statistics of the scores achieved by the Athens Exchange companies in 2005

<b>Total sample</b>	<b>Total score</b>	<b>Content score</b>	<b>Presentation score</b>
Mean	45.7	46.4	44.6
Median	46.3	45.6	43.8
Standard deviation	16.0	18.8	16.7
Minimum	6.5	10.8	0.0
Maximum	85.5	87.9	91.4

A total of 88 (72.7%) of the sample companies were found to have IR pages. IR pages were found for 100% of the large listed companies, 80% of the medium-sized listed companies and 63.6% of the small listed companies.

As Table II shows, regarding scores for content, the financial and accounting information category received the highest score, followed by contact details to IR and corporate governance information. Disclosure of CSR and human resources information appeared to be not a priority, as the score achieved was very low (27.9 points). Regarding presentation, the scores appeared to be very similar for the two categories (material processable formats received 44.1 points and technological advantages and user support received 45 points) It is worth noting that differences between the large and the medium-sized companies were not significant at presentation levels. A series of tests was conducted for each of the 4 groups of companies.

**Table 2:** Internet Disclosure Index (IDI) by company grouping

	<b>Total sample (121)</b>	<b>Large Cap (18)</b>	<b>Mid Cap (35)</b>	<b>Small Cap (66)</b>	<b>GSPI (50)</b>
<b>A. Content</b>	46.4	64.7	49.7	40.2	56.2
<i>A1. Accounting and Financial Information</i>	67.7	83.0	69.9	62.9	75.1
<i>A2. Corporate Governance Information</i>	33.7	47.5	34.7	29.7	42.2
<i>A3. CSR and Human Resources Information</i>	27.9	63.9	28.2	18.8	38.5
<i>A4. Contact Details to IR and Related Conveniences</i>	44.7	61.1	52.9	37.1	57.7
<b>B. Presentation</b>	44.6	53.6	50.3	39.4	51.4
<i>B1. Material processable formats</i>	44.1	51.9	50.5	38.9	48.1
<i>B2. Technological Advantages and User Support</i>	45.0	54.8	50.2	39.7	53.6
<b>Total IDI</b>	45.7	60.3	50.0	39.9	54.2

## Content

Accounting information was fairly evenly distributed across sample firms. Differences between the larger, more established companies (FTSE/ASE-20) and the medium-sized companies were not significant at traditional levels. The most common financial and accounting items (see Table III) were press releases (97.5 points), current financial statements (interim reports received 97.5 points and balance sheets received 95.9 points) and current annual reports (95 points). These results indicate that the Greek companies, even the smaller listed companies, have realized the importance of timely online traditional financial reporting. Financial statements and annual reports of former

years were scored lower (88.4 balance sheets & profit and loss accounts and 72.7 points annual reports). Disclosure of current and previous year's cash flow statements was scored relatively low (47.1 and 46.3 points respectively).

The lowest scored items were dividend of previous years (30.6 points), analysts' assessment reports (32.2 points) and analysts' list (33.9 points). Possibly, the analysts' information scores appeared low because the companies, especially those in bad financial health, feared to place comprehensive analysts' report that might include negative assessments and make negative recommendations.

**Table 3:** Accounting and financial information scores

	<b>Total sample (121)</b>	<b>Large Cap (18)</b>	<b>Mid Cap (35)</b>	<b>Small Cap (66)</b>	<b>GSPI (50)</b>
A11. Balance sheet & profit and loss account of current year	95.9	100.0	97.1	93.9	98.1
A12. Interim statements of current year	97.5	100.0	97.1	97.0	98.1
A13. Cash flow statement of current year	47.1	72.2	40.0	43.9	57.7
A14. Annual report of current year	95.0	100.0	91.4	95.5	98.1
A15. Balance sheet & profit and loss account of past years	88.4	100.0	94.3	81.8	94.2
A16. Interim statements of past years	82.6	94.4	91.4	74.2	90.4
A17. Cash flow statement of past years	46.3	77.8	51.4	34.8	61.5
A18. Annual report of past year	72.7	83.3	82.9	65.2	84.6
A19. Current share price	81.0	88.9	91.4	75.8	90.4
A110. Share price history	68.3	88.9	80.0	58.5	82.7
A111. Current dividend	46.3	88.9	37.1	40.9	59.6
A112. Dividend of past years	30.6	66.7	28.6	22.7	42.3
A113. Press releases or news	97.5	100.0	97.1	97.0	98.1
A114. Assessments/reports of analysts	32.2	44.4	28.6	31.8	32.7
A115. Analysts' list	33.9	38.9	40.0	30.3	38.5

Regarding the disclosure of corporate governance information (Table IV), directors' and executives' information received 54.5 and 48.8 points respectively. Almost all the companies provided the names of the directors and the executive officers, but only around half of them provided CV's. The disclosure of risks and members of the Audit Committee was very limited (13.3 and 12.4 points respectively) by the sample companies. It is interesting that while many companies provided general information about the role of the Audit Committee, they did not disclose its composition. Only two of the sample companies provided the remuneration of board members and executive officers on an individualized basis. Even the best scoring companies did not provide this kind of information, in line with local norms and protecting their executives from exposure.

**Table 4:** Corporate governance information scores

	<b>Total sample (121)</b>	<b>Large Cap (18)</b>	<b>Mid Cap (35)</b>	<b>Small Cap (66)</b>	<b>GSPI (50)</b>
A21. Ownership structure	46.3	50.0	48.6	43.9	59.6
A22. Organizational chart	73.6	72.2	88.6	65.2	82.7
A23. Directors' information	54.5	77.8	51.4	50.0	67.3
A24. Executive officers' information	48.8	61.1	48.6	45.5	57.7
A25. Members of the Audit Committee	12.4	44.4	14.3	3.0	23.1
A26. Remuneration of the members of the management board and directors	1.7	5.6	2.9	0.0	3.8
A27. Articles of Association	5.0	22.2	2.9	1.5	11.5
A28. Resolutions of shareholders' meeting	48.3	72.2	44.1	45.5	54.9
A29. Discussion and/or disclosure of risks	13.3	22.2	11.4	12.3	19.2

The results also suggest that the smaller companies provide very limited corporate governance information compared with the large listed companies. One possible explanation is that large companies in Greece have more external providers of funds (e.g. domestic and foreign institutional investors) and therefore face greater pressure than small companies to disclose more information about their governance structure and practises. Small listed companies in Greece are mainly family-owned with very low institutional shareholding.

It came no surprise that the Greek companies scored very low in the area of CSR and human resources disclosures (Table V). Only 18.3% of the sample companies provided a CSR page and 6.7% provided CSR report, indicating that this kind of reporting is relatively new. Although many companies included a general remark about environment, only 19.8% presented a clear environmental policy statement or specified special policies. The two areas receiving interest from the highest number of companies were employee profile (32.5 score) and discussion of product quality and safety (34.2 points). These results, although are low, indicate that Greek companies are quite sensitive in providing employee and consumer-related information. These results showed a wide variation across the sample firms. Chi-squared analysis indicated also significant variation between company groups at  $P \leq 0.05$  or better. In particular, large companies scored much higher than medium and small-sized companies. The former placed also great emphasis on the provision of sponsoring/donation information. However, many Greek companies have been criticized that they adopt a CSR agenda in order to protect their own self-interests, promote customer and community relations, and manage their reputation rather than tackling challenging issues [4].

**Table 5:** CSR and human resources information scores

	<b>Total sample (121)</b>	<b>Large Cap (18)</b>	<b>Mid Cap (35)</b>	<b>Small Cap (66)</b>	<b>GSPI (50)</b>
A31. Special CSR page	18.3	66.7	17.1	6.2	30.8
A32. CSR report	6.7	33.3	2.9	1.5	15.7
A33. Environmental policy statement	19.8	66.7	22.9	6.1	38.5
A34. Recycling and related energy savings information	20.0	61.1	17.1	10.8	32.7
A35. Employee profiles	67.5	83.3	68.6	64.6	75.0
A36. Employee training	32.5	66.7	40.0	20.0	36.5
A37. Donations/sponsoring to community groups and charitable bodies information	26.9	77.8	22.9	15.6	40.4
A38. Discussion on product quality and safety	34.2	55.6	34.3	29.0	38.5

Table VI shows that 58.7% of the companies provided an email to investor relations department, 52.1% offered a phone number, 47.9% offered the postal address and only 38.8% provided the name of the investor relations officer. It is worth noting that the medium-sized companies outperform the large-cap companies. The latter were commonly provided one or two of the three options, but rarely four of them altogether (email, phone, address and name). With regard to the use of bilingual websites 86.8% of the companies offered information both in Greek and in English, while only 35.5% of the corporate websites offered an English version of their current annual report. However, translations in many small-sized companies were limited to certain parts of the website. In addition, languages other than English were rarely offered. Also notable is that very few companies offered answers to frequently asked questions (19.8 points) and even fewer provided an up-to-date financial calendar (18.2 points).

**Table 6:** Contact details to IR and related conveniences scores

	<b>Total sample (121)</b>	<b>Large Cap (18)</b>	<b>Mid Cap (35)</b>	<b>Small Cap (66)</b>	<b>GSPI (50)</b>
A41. Name of investor relations officer	38.8	38.9	54.3	31.8	50.0
A42. Email to investor relations	58.7	72.2	74.3	48.5	76.9
A43. Phone number to investor relations	52.1	66.7	68.6	40.9	69.2
A44. Postal address to investor relations	47.9	55.6	62.9	39.4	61.5
A45. English version of website	86.8	100.0	80.0	87.9	88.5
A46. English version of annual report	35.5	77.8	42.9	21.2	63.5
A47. Frequently asked questions (FAQ)	19.8	27.8	25.7	15.2	23.1
A48. Financial calendar	18.2	50.0	14.3	12.1	28.8

## Presentation

As shown in Table VII, annual reports were commonly provided in a downloadable pdf file format (94.2 points). However, financial data were rarely provided in a processable format (25.6 points), e.g. Excel spreadsheets, worsening the position in terms of time and cost savings of financial analysts who usually need to transfer financial data for further processing. Surprisingly, large companies scored very low (5.6 points) and even more surprisingly lower than mid cap (45.7 points) and small cap companies (21.2 points). Video or audio presentations of shareholder meetings, company executives' speeches, or company's information were also rarely found (12.4 points).

**Table 7:** Material processable formats scores

	Total sample (121)	Large Cap (18)	Mid Cap (35)	Small Cap (66)	GSPI (50)
B11. Annual report in pdf-format	94.2	100.0	97.1	90.9	100.0
B12. Financial data in processable format	25.6	5.6	45.7	21.2	19.2
B13. Video or audio files	12.4	50.0	8.6	4.5	25.0

Table VIII provides the scores of all the items in the technological advantages and user support category. The most frequently included items were one-click linkage to press releases (74.4 points), one-click linkage to investor relations page (70.2 points) and sitemap (63.6 points). Internal search engines were offered by 44.6% of the Greek companies. Mailing lists and links to relate sites were generally used infrequently (26.4 and 22.5 points respectively). Chi-squared analysis indicated that the frequency of all the items in the technological advantage category differed significantly between groups at  $P \leq 0.05$  or better. The larger, more established firms were more likely to offer technological advantages and user support services.

**Table 8:** Technological Advantages and User Support

	Total sample (121)	Large Cap (18)	Mid Cap (35)	Small Cap (66)	GSPI (50)
B21. One click to get to investor relations page/information	70.2	88.9	74.3	62.1	78.0
B22. One click to get to press releases/news	74.4	72.2	80.0	71.2	82.0
B23. Online investor information order service	13.2	11.1	22.9	9.1	18.0
B24. Mailing list/email news alert	26.4	33.3	31.4	22.7	30.0
B25. Internal search engine	44.6	61.1	54.3	36.4	56.0
B26. Site map	63.6	72.2	62.9	60.9	78.0
B27. Links to related sites	22.3	44.4	25.7	15.2	32.0

In general, the Greek corporate website provided only the minimum technological-advanced features and did not make use of more sophisticated elements (e.g. online investor information order service, data in processable format) that increase their user-friendliness to investors. The interesting finding was that large companies did not make an exception.

## 5. Discussion and Conclusions

This study was based on a sample of 141 companies listed on the Athens Exchange of which 136 had a website. The websites of 121 companies were finally assessed. The mean score for all items (50) of the Internet Disclosure Index was 45.7 points. The mean scores for the content (45.6 points) and presentation (43.8 points) format items were 45.6 and 43.8 points respectively. Greek companies rely mostly on common and traditional internet reporting practises, and there is room for improvements in order to utilize the full potential of the internet. Although a direct comparison with companies in other markets cannot be made (the model used in this study is different from that used in earlier studies), one can probably suspect that Greek companies still lag behind those in some other developed market in corporate reporting via the internet

Internet corporate reporting practices are not independent from the corporate governance framework of the Greek capital market. Traditionally Greek listed companies were, and most of them still remain, family owned. The majority of them try to comply with the mandatory corporate governance and disclosure rules and rarely go beyond them (Spanos, 2005; Spanos *et al.*, 2005). An earlier study showed that the Greek listed companies were rated relatively low in the disclosure practises, especially concerning the use of modern technology (Tsipouri and Xanthakis, 2004). Our study would appear to support these findings. Adequate corporate disclosure via the internet is mainly confined to a small number of large listed companies that are more in tune with the international practises. That said, overall, larger companies received 60.3 points versus 50 and 39.9 points of the medium and small-sized companies respectively. However, the full potential of the internet as a vehicle to distribute investor-related information is not yet exploited even by the larger companies.

This study also provided some useful insights into corporate reporting via the internet in smaller listed companies. As shown, smaller companies use the internet mainly to disseminate fundamental traditional financial information, like financial statements and annual reports. They fail, however, to exploit the potential of the internet for improving the content and presentation of investor-related information. For example, only 30.3% of the websites of the smaller firms provided analysts' lists, 22.7% mailing list, 21.2% an English version of the annual report, 12.1% a financial calendar and 4.5% video/audio files.

As the users become more diverse and demanding companies are expected to change their internet reporting practices, in terms of content and presentation. To the extent that more extensive use of the internet for information disclosure can improve the efficiency of the corporate disclosure regime, it is expected that more companies will improve their internet reporting practises. Even smaller companies that wish to expand further and attract investors (domestic and foreign) are expected to use the internet as an alternative channel to distribute information faster and less costly.

The study has a number of limitations and identifies many questions, which deserve further research. First, the research is limited to the Greek setting and, therefore, the results cannot be necessarily generalized to represent the state of emerging markets elsewhere. Second, the model used in this study is different from that used in earlier studies, and therefore, a direct comparison cannot be made. Third, since websites are regularly updated and upgraded, the results of this study represent only a snapshot of internet corporate reporting practises of Greek listed companies. A second-round rating for the same corporate websites in the future would enable to have comparable data. Finally, an interesting question is how users can balance demand for more information and the problem of information overload [5]. For example, too much data might confuse users and make the task of navigation more difficult. Therefore, further analysis could be undertaken into the forms, and the quantity and quality of any data offered via the internet.

## Notes

1. While the disclosure and the channels for the dissemination of information are important, recent corporate scandals highlighted problems of corporate earnings manipulation and other accounting tricks. The latter misled the investors, by making companies to appear more profitable than they really are.
2. They also form the Athens Exchange General Stock Price Index (GSPI).
3. <http://www.ase.gr/content/gr/Indices/Composition>
4. This view of CSR has been analyzed by the literature. See, for example, Doane (2005), Guthrie and Parker (1990) and Zeghal and Ahmed (1990).
5. The concern with information overload is well analyzed by Jones and Xiao (2004).

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## Appendix A

Internet Disclosure Index (IDI) criteria and explanations

Criteria	Explanations/comments
<b>(A). Content</b>	
<b>A1. Accounting and Financial Information</b>	
A11. Balance sheet & profit and loss account of	Only full accounts accepted
A12. Interim statements of current year	Any interim report accepted (biannual,
A13. Cash flow statement of current year	Only full accounts accepted
A14. Annual report of current year	Only full text accepted
A15. Balance sheet & profit and loss account of past	Only full accounts accepted; at least 2 years in
A16. Interim statements of past years	Any interim report accepted (biannual, quarterly etc.);
A17. Cash flow statement of past years	Only full accounts accepted; at least 2 years in
A18. Annual report of past year	Only full text accepted; at least 2 years in total
A19. Current share price	Current trading day; internal or external link
A110. Share price history	At least 2 years; internal or external link
A111. Current dividend	
A112. Dividend of past years	At least 2 years in total
A113. Press releases or news	
A114. Assessments/reports of analysts	

A115. Analysts' list	Analyst's name and contact details
<b>A2. Corporate Governance Information</b>	
A21. Ownership structure	Individualized
A22. Organizational chart	
A23. Directors' information	CV's
A24. Executive officers' information	CV's
A25. Members of the Audit Committee	
A26. Remuneration of the members of the management board	Individualized
A27. Articles of Association	Only full charter accepted
A28. Resolutions of shareholders' meeting	At least 2 latest shareholders' meetings
A29. Discussion and/or disclosure of risks	
<b>A3. Corporate Social Responsibility (CSR)</b>	

<b>Resources Information</b>	
A31. Special CSR page	
A32. CSR report	Not accepted when it is part of the annual
<b>Criteria</b>	<b>Explanations/comments</b>
A33. Environmental policy statement	Not accepted when it is a general environmental
A34. Recycling and related energy savings	
A35. Employee profiles	
A36. Employee training	Discussion of employee training and/or development
A37. Donations/sponsoring to community groups and groups	E.g. cultural and sport events, local groups, special
A38. Discussion on product quality and safety	
<b>A4. Contact Details to Investor Relations (IR) and Related</b>	
A41. Name of investor relations officer	
A42. Email to investor relations	Not accepted when it is a general email address outside
A43. Phone number to investor relations	
A44. Postal address to investor relations	
A45. English version of website	
A46. English version of annual report	At least current annual report
A47. Frequently asked questions (FAQ)	
A48. Financial calendar	Up-to-date
<b>(B). Presentation</b>	
<b>B1. Material Processable Formats</b>	
B11. Annual report in pdf-format	
B12. Financial data in processable format	Spreadsheet compatible (e.g., xls) or ASCII (asc, txt)
B13. Video or audio files	
<b>B2. Technological Advantages and User Support</b>	
B21. One click to get to investor relations	One click from the main page
B22. One click to get to press releases/news	One click from the main page
B23. Online investor information order service	E.g., to request hardcopy of annual report; accepted also if only email is give, but option to
B24. Mailing list/email news alert	Accepted as long as provides information or news with
B25. Internal search engine	
B26. Site map	
B27. Links to related sites	