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The impact of corporate governance on the timeliness of corporate internet reporting by Egyptian listed companies

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Abstract

Purpose – This study seeks to examine the key factors that affect the timeliness of corporate internet reporting (CIR) by the Egyptian listed corporations on the Cairo and Alexandria Stock Exchange.

Design/methodology/approach – The authors use firm characteristics and corporate governance variables to investigate the influence on the timeliness of CIR. They also develop a disclosure index to measure the timeliness of CIR for the listed Egyptian corporations.

Findings – The primary analysis finds a significant relationship between the timeliness of CIR and firm size, type of industry, liquidity, ownership structure, board composition and board size. The results indicate that firms typically in the service sector, that are large and have a high rate of liquidity, a high proportion of independent directors, a large number of board directors and a high free float disclose more timely information on their web sites. Furthermore, a significant association between the entire independent variables and some items of timeliness of CIR is found.

Originality/value – This study is one of the first empirical studies to investigate the relationship between the corporate governance and the timeliness of CIR in an emerging market.

Keywords Corporate governance, Egypt, Financial reporting, Stock exchanges, Online operations

Paper type Research paper

1. Introduction

Timeliness has long been recognised as one of the qualitative attributes of general purpose financial reports (American Institute of Certified Public Accountants (AICPA), 1973; Accounting Principles Board (APB), 1970; FASB, 1979). As the purpose of corporate reporting is providing information that will aid the users in decision making, timeliness become one of the most important characteristics of financial accounting information for the accounting profession (Soltani, 2002). Timeliness requires that information should be made available to financial statement users as rapidly as possible (Carslaw and Kaplan, 1991) and it is a necessary condition to be satisfied if financial statements are to be useful (Davies and Whittred, 1980, pp. 48-9). Empirical research on timeliness of financial reporting provides evidence that the degree of timeliness of information release has information content (Beaver, 1968) and affects firm value (Chambers and Penman, 1984; Givoly and Palmon, 1982; Kross and Schroeder, 1984). Many regulatory agencies and listing authorities around the world have issued requirements and recommendations regarding the timely disclosure of financial information (Abdelsalam and Street, 2007). Consequently, the usefulness of published corporate reports depends on their accuracy and their timeliness for the different stakeholders. This is confirmed by FASB in which defining the primary qualities that make accounting information useful, highlighted timeliness to be an important factor defined as:

> Having information available to decision makers before it loses its capacity to influence decisions is an ancillary aspect of relevance. If information is not available when it is needed

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or becomes available so long after the reported events that it has no value for future action, it lacks relevance and is of little or no use (FASB, 2000).

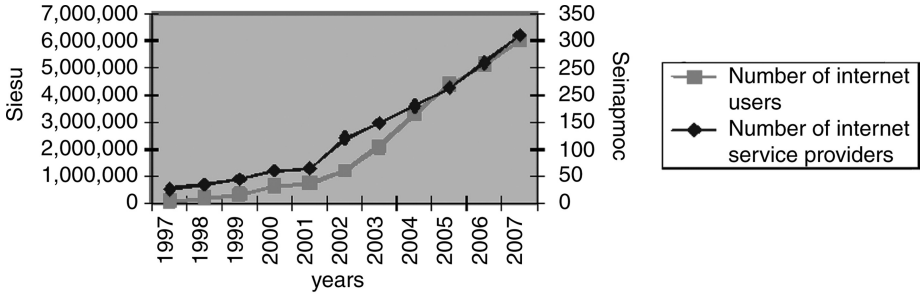
Therefore, the usefulness of the information disclosed in company annual reports will decline as the time lag increases, and it has been argued by Abdulla (1996) that "the longer the period between year end and publication of the annual report, the higher the chances that the information will be leaked to some interested investors" (FASB, 2000).

In the same direction over the last years, the revolution in information technology has paved the way to discover new tools, which may assist in different aspects of life. One of the most popular developments of the widespread use of information technology is the use of the internet in many different aspects of life. Consequently, it is not surprising to find that most companies begin to benefit from the widespread use of the internet in conveying useful information to their stakeholders within the suitable time to increase the value of the information. According to Jones and Stanwick (2001) investors realise that the value of financial information declines with time, which has the effect of shortening the reporting cycle from annual or quarterly intervals to what is effectively real-time reporting. Therefore, the internet may serve as an important tool to facilitate a better functioning of financial markets by enhancing companies' ability to provide investors with up-to-date, timely information (Abdelsalam and Street, 2007).

Many changes have happened in the Egyptian environment in the last few years. Among them are: the moving toward extensive economic reforms by adopting the privatisation policy of its public sector companies, issuing a package of laws and regulations required for more stability in the Egyptian economy; such as Capital Market Law No.95 of 1992 that was issued by the Capital Market Authority (CMA) and the beginning of applying corporate governance rules to most listed corporations. These changes have led to consequent changes in the Egyptian Stock Market which has witnessed a massive increase in the volume of traded shares.

As a result of these changes, the clientele of Egyptian users of accounting information and their needs will change. As a consequence, they should expect to receive more timely, accurate and adequate information to aid them in making rational decisions. This requires a change in the information which is disclosed in the corporate annual report and its disclosed means. At the same time, the internet begins to increase broadly in the Egyptian environment. Figure 1 illustrates the increased usage of the internet in the Egyptian environment.

Based on these new requirements, the study seeks to examine the timeliness of the disclosed information by the most active listed 50 Egyptian companies at the end of 2006. In addition, the study investigates the relationship between corporate governance, firm



Source: Internet Usage Statistics (2007)

Figure 1.
The development of number of internet users and internet service providers in Egypt between 1997 and 2007

characteristics and the timeliness of corporate internet reporting (CIR). We find that company size, liquidity, ownership structure, service activity, board composition and board size are positively associated with CIR timeliness. However, no evidence was found to support the association between CIR timeliness and the other variables: issue of shares, leverage, profitability and role duality. Additional exploratory analysis indicates that all the independent variables are associated with different timeliness items.

The remainder of the paper is organised as follows. Section 2 reviews the literature that addresses CIR timeliness and discusses the hypotheses of the study. Section 3 outlines sample selection and the measurement of dependent and independent variables. Section 4 presents the data analysis and discussion of the results. Finally section 5 summarises the study and sets out the limitations and directions for future research.

2. Literature review and hypotheses' formulation

2.1 Literature review

Many studies investigate the potential effect of using the internet in disclosing information on the corporate web site. Some of these studies are descriptive, examining the extent of the web-site and the type of the information disclosed either in one country or in more (Barac, 2004; Ettredge *et al.*, 2001; FASB, 2000; Fisher *et al.*, 2000; Hedlin, 1999; Lybaert, 2002; Petravick and Gillet, 1998). The other type of CIR studies are empirical, investigating the relationship between online disclosure and its determinants (Ashbaugh *et al.*, 1999; Bollen *et al.*, 2006; Brennan and Hourigan, 2000; Debreceny *et al.*, 2002; Debreceny and Rahman, 2005; Marston and Polei, 2004; Momany and Al-Shorman, 2006; Sriram and Laksmana, 2006; Trabelsi and Labelle, 2006; Xiao *et al.*, 2004).

Although many studies investigate the extent of CIR and its determinants, few studies focus on the timeliness. Pirchegger and Wagenhofer (1999) analyse the use of the internet to present financial information at the end of December 1997 and 1998, respectively. The study used three samples: two of them are related to Austrian companies at the end of December 1997 and 1998, while the third one is related to German DAX 30 companies at the end of 1998. To analyse the web sites, the study demonstrates many criteria such as: content, timeliness, technology and user-support. Five dimensions are used to measure the timeliness: updating the web site frequently, distinguishing between current and past information, availability of daily stock quotation, the response rate to a standard request and the response rate to a special request. The study reveals that on average 66.3 per cent of both Austrian and German companies disclosed timely information on their web sites.

Ettredge *et al.* (2002) investigate the speed with which accounting reports are posted at corporate web sites of 50 random US companies at the end of June 1999. The results indicate that on average there is a delay between the dates of filed annual reports and the dates that they were disseminated on the web site. The study differentiates between two groups of updating web sites: speedily and slowly updating web sites. The study examines seven firm characteristics that explain the variation in the time it takes firms to update their web site financial information. It concludes that shorter delays are associated with greater profitability, shorter lags in announcing earnings through press releases and the use of multiple file formats for form 10-K presentation. On the other hand, longer delays are associated with external links to the electronic data gathering, analysis and retrieval system which is required by the law to file forms (by US companies) with the Securities and Exchange Commission.

Lybaert (2002) reports on the extent to which the internet is used for financial reporting in The Netherlands. The sample of his study consists of 188 Dutch

companies listed on the AEX in June 2000. The study uses four criteria to measure the online disclosure, namely: content, timeliness, technology and user-support. Eight dimensions were used to measure the timeliness of disclosed information. These dimensions are: the date of the last update, the availability of current information, the availability of a share quotation, the ability to update a quotation during the day, the response rate for a standard request, the time used to mail annual reports, the response rate for an especial request and the day of this response. The highly disclosed items are: the response to a standard request (76 per cent), the response to an especial request (43 per cent), and finding current information (42 per cent).

Davey and Homkajohn (2004) review the extent and quality of internet financial reporting among the top 40 Thai listed companies. The study depends on four categories to measure the extent and quality of internet financial reporting, namely: content, timeliness, technology and user-support. The timeliness category is classified into four dimensions: press release existence, unedited latest quarterly results, stock quotation and vision/forward-looking statements. They demonstrate that the most frequent item of disclosure on corporate web sites was press release (89 per cent). It found that the categories of disclosure relating to user-support and content scored higher than timeliness and technology on the Thai companies' web sites.

Barac (2004) examines the use of internet reporting in South Africa. The sample consists of the 94 largest South African companies ranked by turnover size in June 2002. The study relies on only three items to examine the timeliness of the web sites. These items are: current press releases (92 per cent), share price information (77 per cent) and real-time or 20-min share prices (75 per cent). The most recent study conducted by Abdelsalam and Street (2007) examines the timeliness of CIR by 115 UK companies listed on the London Stock Exchange based on market capitalisation. The study illustrates that timely CIR is significantly related to board experience, board independence, audit fees and the number of analysts. Finally, the study recommends that UK listed companies need to focus on improving the timeliness dimensions of their CIR.

2.2 Hypotheses formulation

This paper examines the timeliness of disclosed information on the web sites of the 50 most active listed Egyptian companies on the Egyptian stock market at the end of 2006 (see Appendix). Moreover, the study investigates the relationship between timeliness and both the corporate governance attributes and firm characteristics, which are related to the timeliness of internet reporting in particular and the online disclosure in general. Consequently, the study classifies the variables into two groups: firm characteristics and corporate governance.

2.2.1 Firm characteristics. This category contains six variables namely: size, type of business, profitability, leverage, liquidity and issue of shares. The discussion of these variables and the related hypotheses are as follows:

Size. Size represents one of the most common variables in determining the extent of disclosure. There are a lot of studies that investigate the relationship between size and voluntary disclosure in general (Ahmed and Nicholls, 1994; Cooke, 1991, 1993; Haniffa and Cooke, 2002; Hossain *et al.*, 1994; Malone *et al.*, 1993; Raffournier, 1995; Karim *et al.*, 2006). This relationship can be interpreted according to the stock market pressure that force the large companies – which look forward to increasing their outside capital to enhance their performance – to disclose more information on their web sites to assist them in the marketability of securities and to achieve their objectives. Therefore, large companies may be more able to access financial markets if they disclosed more

information online (Bonsón and Escobar, 2002). Many of the empirical studies investigate the relationship between the size of the companies and online disclosure and they found that size has a significant relationship with the online disclosure (Ashbaugh *et al.*, 1999; Bollen *et al.*, 2006; Bonsón and Escobar, 2002; Brennan and Hourigan, 2000; Craven and Marston, 1999; Debreceny *et al.*, 2002; Ettredge *et al.*, 2002; García-Borbolla *et al.*, 2005; Ismail, 2002; Larrán and Giner, 2002; Marston and Polei, 2004; Momany and Al-Shorman, 2006; Oyelere *et al.*, 2003; Pirchegger and Wagenhofer, 1999; Sriram and Laksmana, 2006; Xiao *et al.*, 2004). Therefore, based on these arguments, the first hypothesis is:

H1. There is a significant relationship between company size and CIR timeliness.

Type of business activity. There are two general types of business activity: first is industrial activity and the second is non-industrial (service) activity. Many empirical studies use the type of business activity in explaining the relationship with online disclosure. The results are mixed. Some studies show that there is a significant relationship between online disclosure and type of business activity (Ashbaugh *et al.*, 1999; Bonsón and Escobar, 2002; Brennan and Hourigan, 2000; Craven and Marston, 1999; García-Borbolla *et al.*, 2005; Ismail, 2002; Oyelere *et al.*, 2003), while the others show the insignificant relationship (Debreceny and Rahman, 2005; Larrán and Giner, 2002; Trabelsi and Labelle, 2006). Based on the majority view, the second hypothesis can be stated as follows:

H2. There is a significant relationship between type of business activity and CIR timeliness.

Profitability. Many empirical studies denote profitability as an important factor that may affect the disclosure levels. There are many reasons for the importance of studying the relationship between profitability and online disclosure. According to agency theory, managers of the highly profitable companies are prone to disseminate more information on the web site of the company to achieve personal advantages such as the continuance of their positions and compensation justification (Haniffa and Cooke, 2002; Wallace *et al.*, 1994). Many studies conclude that profitability has a non-significant relationship with online disclosure (Larrán and Giner, 2002; Marston and Polei, 2004; Momany and Al-Shorman, 2006; Oyelere *et al.*, 2003; Xiao *et al.*, 2004). Correspondingly, other studies show a significant relationship (Ashbaugh *et al.*, 1999; Debreceny and Rahman, 2005; Ismail, 2002). Consistent with the latter, the third hypothesis can be stated as follows:

H3. There is a significant relationship between profitability and CIR timeliness.

Leverage. Leverage (gearing) refers to the use of the finance resources such as debt and borrowed funds to increase the return on equity. So, highly leverage companies will be responsible for satisfying the creditors' need by disseminating reliable information on the web site to make these creditors more confident about the ability of the companies to pay their debts. Similarly, both the shareholders and creditors would demand more information to assess the firm's financial ability (Ismail, 2002; Larrán and Giner, 2002; Oyelere *et al.*, 2003; Xiao *et al.*, 2004). Empirical studies which investigate the relationship between leverage and online disclosure are inconclusive. Some studies show a significant relationship (Ismail, 2002; Momany and Al-Shorman, 2006; Xiao *et al.*, 2004), while others show an insignificant relationship (Bollen *et al.*, 2006; Brennan and Hourigan, 2000; Debreceny *et al.*, 2002; Larrán and Giner, 2002; Oyelere *et al.*, 2003). Depending on the above debate, the fourth hypothesis is:

H4. There is a significant relationship between leverage and CIR timeliness.

Liquidity. Liquidity refers to the ability of companies to convert their assets into cash with minimum loss of value. Wallace and Naser (1995) stated that "The ability of a firm to meet its short-term financial obligations without having to liquidate its long-term assets or cease operations is an important factor in the evaluation of the firm by interested parties such as investors, lenders and regulatory authorities". Although the importance of a liquidity variable in the disclosure issue is recognised, there are few studies examining the relationship between liquidity and online disclosure (Momany and Al-Shorman, 2006; Oyelere *et al.*, 2003). According to this, the fifth hypothesis is stated as follows:

H5. There is a significant relationship between liquidity and CIR timeliness.

The issuance of share. Most companies seek to increase their capital by more than one resource, and one of these resources is issuing more shares. Companies, which need new financing, will seek to disclose more information on their web sites to attract more investors and increase their confidence about the position of the companies, which may encourage those investors to invest in them. There are many studies which investigate the relationship between the issuance of shares and disclosure in general (Gibbins *et al.*, 1990 cited by Frankel *et al.*, 1995; Lang and Lundholm, 1993; Sriram and Laksmana, 2006). In addition, there are many studies which show a significant relationship between this variable and online disclosure (Ettredge *et al.*, 2002; Sriram and Laksmana, 2006; Xiao *et al.*, 2004). Depending on the above debate, we can formulate the sixth hypothesis as follows:

H6. There is a significant relationship between the issuance of shares and CIR timeliness.

2.2.2 Corporate governance. Corporate governance searches for more accuracy of disclosed information and organises the relationship between the shareholders, board of directors and management. Many variables related to corporate governance are investigated in previous studies. Most of these studies try to investigate the relationship between these variables and company performance and company value, while few studies examine the relationship with disclosure. In terms of online disclosure there are few studies investigating the relationship between corporate governance variables and online disclosure. This study seeks to examine this relationship as a need for greater transparency in the Egyptian market and to illustrate the influence of corporate governance on the existence of web sites for the Egyptian listed corporations as required by the CMA. The variables, which will be used in this study, are as follows:

Ownership structure. In term of equity's scope, there are two clusters: either the concentration or the dispersion of the ownership. Concentration of ownership refers to the group who has the most influence among the equity owners, while dispersion (diffusion) of ownership looks only at the separation of ownership between managers and equity owners as a group (Haniffa and Cooke, 2002). Companies whose ownership structure is diffuse (widely held companies) tend to disclose more information on their web sites to supply the shareholders with necessary information, while closely-held companies (with a concentrated ownership structure) tend to disclose less information on their web sites because their shareholders can access the required information and obtain it internally (Marston and Polei, 2004). The results of ownership structure are mixed; some studies show no significant relationship between this variable and online disclosure (Abdelsalam and Street, 2007; Trabelsi and Labelle, 2006), while others

prove a significant relationship (Debreceny and Rahman, 2005; Marston and Polei, 2004; Momany and Al-Shorman, 2006; Oyelere *et al.*, 2003). According to the latter, the seventh hypothesis is:

H7. There is a significant relationship between ownership structure and CIR timeliness.

Board composition. Board composition is identified as "the proportion of outside directors to the total number of directors" (Haniffa and Cooke, 2002) and also is known as independent directors. So, this variable determines the proportion of executive directors (inside the company), who generally work in the company and the non-executive directors (outside the companies), who do not work in the company. The results of previous studies which have examined the relationship between board composition and disclosure are mixed. Studies show a significant relationship which is either positive (such as Abdelsalam and Street (2007), Adams *et al.* (1998) and Chen and Jaggi (2000)), or negative (such as Eng and Mak (2003)), while Haniffa and Cooke (2002) and Ho and Wong (2001) did not find any significant relationship. Consequently, this study investigates the relationship between ownership structure and online disclosure. The eighth hypothesis is as follows:

H8. There is a significant relationship between board composition and CIR timeliness.

Role duality. Role duality occurs between the CEO (chief executive officer) and the chair when one of them holds the two positions at the same time. In other words, this is when the CEO is also the chair of the board. The CEO is a full-time position and is responsible for the daily management of the company as well as setting and implementing company strategies. However, the position of the chair is usually part-time and the main responsibility is to ensure the effectiveness of the board (Weir and Laing, 2001). The results of previous studies are mixed. Some studies found that role duality is associated significantly with a lower level of voluntary disclosure (Gul and Leung, 2004; Haniffa and Cooke, 2002) and less timely CIR (Abdelsalam and Street, 2007), while others found an insignificant relationship (Ghazali and Weetman, 2006). The contradictory nature of these results supports the need to examine the relationship between role duality and CIR timeliness. So, the ninth hypothesis is:

H9. There is a significant relationship between role duality and CIR timeliness.

The size of the board of directors. The number of directors on the company's board should play a critical role in monitoring of the board and in taking strategic decisions. Some studies argue that a large board assists in: performing more monitoring, providing companies with the diversity that help them in providing critical resources and eliminate environmental uncertainties, alleviating the dominance of the CEO, and increasing the pool of expertise that yields from the diversity of the board (Singh *et al.*, 2004; Yermack, 1996). Other studies illustrate that a large board could cause more conflict between the members of the board that may delay critical decisions or cancel them. In addition, a large board causes poorer communication and processing of information (Huther, 1997; John and Senbet, 1998). Depending on the above argument, it is expected to find a relationship between the size of the directors' board and the online disclosure, as a result of the diversity of the board's membership and their desire to disclose more information on their company's web site to attract more investors and satisfy the shareholders' needs. Consequently, the larger the number of the board's

directors, the greater the desire for online disclosure. The tenth hypothesis, which is derived from this point, is:

H10. There is a significant relationship between the size of the board of directors and CIR timeliness.

3. Methodology

3.1 Sample and data

The study examines web sites of the most active 50 Egyptian listed companies on the Cairo and Alexandria Stock Exchange (CASE) at the end of 2006. The companies were sorted by market capitalisation and were visited in December 2006. After excluding the companies which did not have a web site, the rest was 37 companies.

The study takes a snapshot in December 2006 to investigate the web sites of the sampled companies. The CIR timeliness was measured by designing a checklist that contains 11 items. Each company was examined and takes one if one of the timeliness items was found on its web site or takes 0 if any of the timeliness items was not found on its web site or if the company did not have web site[1]. Following Barac (2004), Davey and Homkajohn (2004), and Pirchegger and Wagenhofer (1999), the criteria that determine CIR timeliness are as follows:

- current press releases or news;
- current share price;
- calendar for future financial events;
- pages indicate the latest update;
- monthly or weekly sales or operating data;
- market share of key products;
- the date of the last web site update; and
- option to register for future e-mail alerts regarding press releases or newsletters.

3.2. Main model

The data on the chosen independent variables (see below) were obtained from Egypt Information Dissemination Company (EGID) and from the Disclosure Book issued by CASE in July 2007. The following multiple-regression model is proposed:

$$\text{TIDI}_i = \beta_0 + \beta_1\ \text{Size} + \beta_2\ \text{Type} + \beta_3\ \text{Prof} + \beta_4\ \text{Lev} + \beta_5\ \text{Liq} + \beta_6\ \text{Issue} + \beta_7\ \text{Owner} + \beta_8\ \text{B Comp} + \beta_9\ \text{Duality} + \beta_{10}\ \text{B Size} + \varepsilon$$

where:

- TIDI: CIR timeliness index;
- i: number of indices of CIR timeliness;
- β_0 is the intercept;
- Size: denotes to company size and is measured by the natural logarithm of market capitalisation at December 2006;
- Type: is a dummy variable for type of business and it is "1" if the company is industrial and "0" if the company is a service;

- Prof: denotes to profitability and is measured by the ratio of net profit to total equity (ROE);
- Lev: denotes to leverage and is measured by the ratio of liabilities to total equity;
- Liq: denotes to liquidity and is measured by the ratio of current assets to current liabilities;
- Issue: denotes to issue of shares and it is "1" if the company issues shares during 2006, "0" if not;
- Owner: denotes to ownership structure and is measured by per cent free float;
- B Comp: denotes to board composition and is measured by the number of non-executives members to total members on the board of directors;
- Duality: denotes to role duality and it is "1" if the chairman is the same as the CEO, "0" if not;
- B Size: denotes to board size and is measured by the number of board of directors; and
- ε: the error term.

4. Data analysis and results

4.1 Descriptive statistics

By checking the web sites of the sampled companies, the results that are shown in Table I demonstrate that the current share price is the most disclosed item on the Egyptian companies' web sites (67.6 per cent). This reflects the importance of this item according to the companies, and their desire to disseminate this item to different stakeholders to support them in making rational decisions. The register for future e-mail, regarding press releases and newsletters, was found in 64.9 per cent of the sampled companies, which means that the companies prefer to update the stockholders with their news regularly to provide greater transparency. Regarding the current dividends' announcements and the most recent interim financial reports, it can be noticed that these two items were less frequently disclosed on the Egyptian companies' web sites.

Items	Number of companies disclosing items	(%)
Current share price	25	67.6
Option to register for future e-mail alerts regarding press releases or newsletters	24	64.9
Link to the regulatory news service	22	59.5
Calendar for future financial events	21	56.8
Monthly or weekly sales or operating data	13	35.1
Market share of key products	12	32.4
Pages indicate the latest update	11	29.7
Current press releases or news	8	21.6
The date of the last web site update	8	21.6
Current dividends announcements	7	19.4
The most recent interim financial reports	7	18.9

Table I.
Timeliness items' disclosure

Note: This table presents the disclosure of the timeliness items on the web sites of the Egyptian listed companies at the end of December 2006

Due to the potential importance of these two items to the different stakeholders, the Egyptian companies should concentrate more in disclosing these items to keep the stakeholders updated with the most recent information that may affect their investments in these companies or at least keep their company loyalty. As mentioned before, the data of independent variables were obtained from EGID and from the Disclosure Book issued by CASE. Table II presents a descriptive analysis of independent variables.

From Table II, it can be shown that 18 (47.3 per cent) of the sampled companies have issued shares to increase their capital at the time of the study. Moreover, the majority of the sampled companies (64.9 per cent) have role duality on their boards while (35.1 per cent) of the sampled companies separate between the chairman and the CEO. Most of the sampled companies are industrial (56.8 per cent) while the services companies constitute a majority (43.2 per cent) of the sampled companies. Furthermore, the average profitability of the companies that have web sites is 20 per cent which demonstrates a decrease in the profitability rate for the sampled companies. The average liquidity of the sampled companies is also declining (1.6) while the average leverage (1.2) is, to some extent satisfactory. In addition, the average percentage of the companies' free floats is slightly low (36 per cent), which shows that the average sampled companies prefer to hold high percentages of the shares from traded them in the market. Finally, the average of the non-executives to the total number of the board members is (77 per cent) which indicates that most of the members in the sampled companies are independent.

Normality tests were performed using skewness/kurtosis tests (not presented to save space but available from authors upon request). The leverage, liquidity, size of board and board composition do not have a normal distribution. Therefore, following Abdelsalam and Street (2007), Lang and Lundholm (1993) and Wallace and Naser (1995), all the non-normality variables were transformed into ranks before running the

	No.	(%)	
Panel A: dummy variables			
Issue			
Yes	18	47.3	
No	19	52.7	
Type			
Industry	21	56.8	
Services	16	43.2	
Role duality			
Yes	24	64.9	
No	13	35.1	
Panel B: other independent variables:	*Minimum*	*Maximum*	*Mean*
Size	5.500	8.020	6.631
ROE	−0.473	0.939	0.201
Leverage	0.002	4.430	1.160
Liquidity	0.217	6.071	1.637
B Size	5.000	24.000	11.650
B Com	0.200	0.944	0.773
Owner	0.054	0.879	0.360

Notes: Size, company size; Type, type of business; ROE, profitability; Lev, leverage; Liq, liquidity; Issue, issue of shares; Owner, ownership structure; B Comp, board composition; Duality, role duality; and B Size, board size

Table II.
Descriptive analysis for independent variables

regression model. Also, before running the regression model the multi-collinearity problem was checked by producing a correlation matrix. Table III summarises the correlation matrix between the independent variables.

From Table III, it can also be noted that there is no serious multi-collinearity between the independent variables. The rule of thumb for checking problems of multi-collinearity is when the correlation coefficient is > 0.800 (Gujarati, 2003).

4.2 Multiple-regression results

The results of the primary regression models are shown in Table IV. The model is significant at $p = 0.0001$ with adjusted $R^2 = 0.55$ and F-ratio $= 6.05$. Our findings support the hypotheses *H1*, *H2*, *H5*, *H7*, *H8* and *H10*.

H1. predicts an association between firm size and timeliness of disclosed information on the Egyptian companies' web sites. We find a positive relationship. This finding is consistent with most of the previous studies that revealed that large companies tend to have web sites and disclose more information on these web

	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
(A)	0.090	0.077	0.175	−0.135	−0.002	0.149	−0.123	−0.296	−0.116
(B)		−0.272	−0.005	−0.161	0.184	0.160	0.121	0.084	−0.015
(C)			−0.146	0.206	−0.022	−0.082	−0.061	0.073	−0.027
(D)				0.040	0.169	0.072	−0.174	−0.452	0.258
(E)					0.003	0.081	−0.628	−0.106	−0.242
(F)						0.722	0.142	0.127	−0.054
(G)							0.038	0.088	−0.026
(H)								0.062	−0.119
(I)									0.034

Table III.
Correlation matrix of independent variables

Notes: A, Type; B, Owner; C, Issue; D, Size; E, B. Com; F, Lev; G, Liq; H, S Board; I, Prof; and J, Duality

	Coefficient	*T* statistic
Constant	−1.692	−3.812*
Type	−0.115	−1.730**
Issue	−0.006	−0.093
Size	0.280	4.727*
B Com	0.005	1.695**
Lev	0.004	1.163
LIQ	0.005	1.724**
B Size	0.006	2.004**
Prof	−0.025	−0.155
Duality	−0.058	−0.807
Owner	0.407	2.521***
F-ratio	6.05*	
Adjusted R^2***	54.85%	

Table IV.
OLS results of the association between corporate governance, firm characteristics and CIR timeliness

Notes: *, ** and *** indicate significant at the 1, 10 and 5 per cent, respectively

sites (Ashbaugh *et al.*, 1999; Bollen *et al.*, 2006; Brennan and Hourigan, 2000; Craven and Marston, 1999; Marston and Polei, 2004; Momany and Al-Shorman, 2006; Oyelere *et al.*, 2003; Xiao *et al.*, 2004). Regarding *H2* which predicts a significant relationship between the type of industry and CIR timeliness, the results found that service companies disclose more timely information on their web sites than industrial companies. This result is compatible with Adams *et al.* (1998) and Craven and Marston (1999). *H5* predicts an association between the liquidity of the companies and the CIR timeliness. We found a positive significant relationship. This means that companies, which are relatively cash-rich, are more likely to disclosed timely information on their web sites to benefit from the internet in reflecting the solvency of the companies to different stakeholders. This result is in line with Oyelere *et al.* (2003) who found that liquidity is an incentive to companies to engage in online disclosure.

H7. predicts a significant relationship between ownership structure and CIR timeliness. The study found a positive significant relationship. This indicates that the diffusion of the ownership structure encourages the companies to disclose more timely information on their web sites to reach their more widely disperse owners and therefore to reduce the owners' information costs in addition to support them in monitoring management behaviour. Our finding is consistent with Marston and Polei (2004), Momany and Al-Shorman (2006) and Oyelere *et al.* (2003) who found a positive relationship between the ownership diffusion and online disclosure.

H8. expects a significant relationship between board composition and CIR timeliness. The study found a positive significant relationship. This indicates that a higher proportion of independent directors encourage the companies to disclose timely information on their web sites. This is consistent with Adams *et al.* (1998), and Chen and Jaggi (2000), who found that a higher proportion of independent directors is associated with more comprehensive financial disclosure. Therefore, a large proportion of independent directors leads to better monitoring and control of the action of executive directors and safeguarding the interest of different investors, who need more timely and accurate information that will be provided by the management through timely disclosure. Finally, *H10* predicts a significant relationship between the size of the board and CIR timeliness. The results indicate that there is a positive relationship. The greater the number on the board of directors, the better the timeliness disclosure on the Egyptian companies' web sites. Consequently, a large number of members on the board of directors enhances the position of a wide range of information between the members and also of different points of view, which aid in sharing the different knowledge and experiences between the members. This can increase the possibility of disclosing more information on the companies' web sites. This result is consistent with Abdel-Fattah (2007) who establishes that the larger the size of the board the more likely the voluntary disclosure. This study found no support for a significant relationship between profitability (*H3*), leverage (*H4*), issue of shares (*H6*) and role duality (*H9*).

In order to provide more evidence, the study conducts further analysis by using a logistic regression analysis to determine the relationship between the different 11 timeliness items and other variables of the study. We run 11 logistic models; each

model consists of one dependent variable (which is coded "1" if the timeliness item is disclosed and "0" if the item is not disclosed) and the same independent variables.

We find eight models are significant at ($p < 0.01, 0.05$); the other three models are not significant and are not reported. For each model, the significance of the overall p value and the adjusted R^2 is shown in Table V.

The models which are significant are: current press releases or news (T1), current share price (T2), calendar for future financial events (T3), pages indicate the latest update (T4), the date of the last web site update (T7), option to register for future e-mail alerts (T8), link to the regulatory news service (T9) and the most recent interim financial reports (T10). A summary of the variables that affect the timeliness of the disclosed information on the companies' web sites is shown in Table VI.

From the above table, it can be noticed that the further logistic analysis, using the log of the odds ratio for different dependent variables, reveals some significant relationships. These dependent variables are: issue of shares, board composition,

Model	Adjusted R^2
T1	0.453*
T2	0.999**
T3	0.658**
T4	0.591**
T5	0.298
T6	0.262
T7	0.684**
T8	0.358***
T9	0.532**
T10	0.607**
T11	0.316

Table V.
Logistic results of the association between corporate governance, firm characteristics and CIR timeliness items

Notes: *, **and *** indicate significant at the 5, 1 and 10 per cent, respectively. T1, current press releases or news; T2, current share price; T3, calendar for future financial events; T4, pages indicate the latest update; T5, monthly or weekly sales or operating data; T6, market share of key products; T7, the date of the last web site update; T8, option to register for future e-mail alerts; T9, link to the regulatory news service; T10, and the most recent interim financial reports; T11, current dividends announcements

Model	A	B	C	D	E	F	G	H	I	J
T1	−2.30*									
T2	−30.0**	50.90**	−9.40**	21.70**		0.69**				
T3	−6.90**	36.80**	−22.6**	18.50**	−0.93**	0.44**	−3.60*	1.00**	28.10*	
T4				7.88**		0.20*		0.25***		−2.90*
T7	−7.90***	51.70***		4.80*	−1.40**	0.63**	−0.19*	1.57**	12.80*	−18.6**
T8		8.04**								
T9	−2.70*									−15.2**
T10	−3.10*	11.90***		4.99**			−0.21*			

Table VI.
A summary of the significant models

Notes: *, ** and *** indicate significant at the 10, 1 and 5 per cent respectively. A, Type; B, Owner; C, Issue; D, Size; E, B. Com; F, Lev; G, Liq; H, S Board; I, Prof and J, Duality. T1-T10: see Table V

leverage, profitability and role duality. According to the issue of shares, it was found that it had a negative significant relationship with two models: T) and T3. This was an unexpected result but it was consistent with Xiao *et al.* (2004), who found that issuing shares may lead companies to reduce the amount of the disclosed information on the web site and consequently the timeliness of this disclosure.

Board composition has a significant negative relationship with both T3 and T7. This result is also unexpected but it is in line with Eng and Mak (2003), who found that independent directors decrease the level of the companies' disclosure. The results show that the increased number of independent directors will delay the updating of the companies' web sites, and hinder disclosing future financial events. Leverage has a positive significant association with T2, T3, T4 and T7. This result is consistent with Ismail (2002), Momany and Al-Shorman (2006), and Xiao *et al.* (2004). Therefore, the companies with higher leverage tend to disclose their current share price to their stakeholders to reflect their ability to pay their debts. Also, these companies provide a calendar for future financial events, update their pages on the internet and show the date of the last update to keep their stakeholders updated with the suitable information that supports them in making their decisions.

Profitability has a positive significant relationship with T3 and T). This result is similar to Debreceny and Rahman (2005), and Ismail (2002). Companies with high profitability will encourage providing a calendar for the future financial events to reflect their good situation to different stakeholders. This will lead them to be more sensitive to update their web site. Finally, role duality has a negative significant relationship with T4, T7 and T9. This is in line with Abdelsalam and Street (2007), Gul and Leung (2004) and Haniffa and Cooke (2002), who found that duality is associated with lower voluntary disclosure.

The logistic analysis model also confirms the same results about the other five variables which we obtain from the multiple-regression models.

5. Conclusion, limitation and future research

Over the last years, there has been growing research on using the internet as a means of disseminating financial information. Most of these studies are descriptive and are mainly concerned with the state of art of online disclosure. This study takes a different side. It investigates the key factors that affect the CIR timeliness as one of the items of the online disclosure. These factors include: the firm characteristic variables that are previously studied in the voluntary disclosure studies, and the corporate governance variables as they represent a new trend in the Egyptian environment. To the best of the authors' knowledge, there are no previous studies in the Egyptian environment investigate the relationship between corporate governance and online disclosure namely CIR timeliness. Consequently, the contributions of this paper are twofold. First, it investigates the CIR timeliness items that become important items to the different stakeholders to make a rationale decision. Second, it examines the relationship between corporate governance and CIR timeliness to discover the potential effect of the application of corporate governance in the Egyptian environment on CIR timeliness. Few studies have been conducted in the last few years to examine the relationship between corporate governance and online disclosure in many different countries. This study takes the same direction for the Egyptian stock market that represents an emerging capital market.

The study performs two regression models: multiple regression and logistic regression. First, according to the multiple-regression model, the study found that

company size, liquidity, ownership structure, service activity type, board composition and board size are positively significant and associated with CIR timeliness. Second, according to logistic regression, the study found that the entire variables are significantly associated with different timeliness items. According to current press releases or news (T1), only type of business is negatively associated with it. Current share price (T2) is associated negatively with type of business and issue of share, while it is associated positively with the size of company and its leverage.

As to the calendar for future financial events (T3), type of business, liquidity, issue of shares and board composition are negatively related to this item. Meanwhile, size of the company, profitability, leverage, ownership structure and board size are positively related to this item. That the pages indicate the latest update (T4) is negatively associated with role duality and positively associated with the size of the company, leverage and board size. The date of the last web site update (T7) is associated negatively with the type of business, liquidity, board composition and role duality, while associated positively with the size of the company, profitability, leverage, ownership structure and board size. The option to register for future e-mail alerts item (T8) is associated positively with only one variable: ownership structure. The link to the regulatory news service (T9) is associated negatively with two variables: type of business and role duality. Finally, the most recent interim financial reports item (T10) is associated negatively with type of business and liquidity, while associated positively with size of the company and ownership structure.

The importance of the study is derived from the need to benefit from the unique characteristics of the internet in disseminating timely information of the corporation on their web sites. This is expected to add value to both researchers and practitioners in Egypt. For researchers, this study extends the previous studies in the disclosure area by examining the using of the internet in disseminating timely information on the Egyptian companies' web sites which addresses a crucial need in the Egyptian environment at the current time. For practitioners, the results of this study are concerned with one of the most critical investment activities in Egypt, namely, the Egyptian Stock Exchange which becomes one of the most important emerging markets in the Middle East that begins to attract more foreign investments. So, the result of this study is expected to add value to those who invest in the Egyptian Stock Exchange by obtaining timely and accurate information about the listed companies from their web sites which may help them in making rational decisions.

In evaluating the results, some limitations should be considered. The sample of the study is slightly small as the study depends on the most 50 active companies in the Egyptian Stock Market. Future researches may extend this sample. Also, the index of the CIR timeliness is measured depending on the un-weighted checklist that examined the web site of the Egyptian listed companies at a single point in time (December 2006). Future research may take two points of time to make a comparison between them and evaluate the timeliness of information disclosure on the companies' web site. Finally, the study concentrates on only one side of online disclosure (timeliness) that has other two sides: content and presentation. Future research may examine these other sides to give a whole picture for online disclosure.

Note

1. The study employs un-weighted disclosure items' checklist to avoid a subjective view.

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Appendix. The most active listed companies used in the study and their web sites

Company	Web site	Market Cap (LE 000)
Alexandria Mineral Oils Company	www.amocalex.com	6,853,560
Alexandria Spinning & Weaving (SPINALEX)	www.spinalex.com/spinalex/home.htm	766,460
Bisco Misr	www.biscomisr.com	319,585
Commercial International Bank (Egypt)	www.cibeg.com	17,193,150
Credit Agricole Egypt	www.eab-online.com	7,760,480
Delta Sugar	www.deltasugar.com	3,233,764
Eastern Tobacco	www.easternegypt.com	10,558,250
Egyptian Company For Mobile Services (MobiNil)	www.mobinil.com.eg	20,200,000
Egyptian Financial & Industrial	www.sfie.com.eg	1,930,657
Egyptian Financial Group-Hermes Holding Company	www.efg-hermes.com	23,248,568
Egyptian For Tourism Resorts	www.sahlhasheesh.com	7,056,000
Egyptian International Pharmaceuticals (EIPICO)	www.eipico.com.eg	2,221,419
Egyptian Media Production City	www.empc.com.eg	2,205,126
Egyptian Saudi Finance Bank	www.esf-bank.com	1,413,571
El Ahli Investment And Development	www.adi-alahly.com	348,400
El Ezz Steel Rebars	www.ezzindustries.com	10,704,363
El Nasr Clothes & Textiles (Kabo)	www.kabo.com.eg	663,681
El Shams Housing And Urbanization	www.elshams.com	503,200
El Watany Bank Of Egypt	www.alwatany.net	4,928,250
EL Swedy Cables	www.elsewedycables.com	13,996,800
Export Development Bank	www.edbebank.com	2,796,800
Heliopolis Housing	www.heliopoliscompany.com	8,155,590
Housing & Development Bank	www.hdb-egy.com	2,361,700
Madinet Nasr Housing	www.mnhd.net	5,279,200
Misr Cement (Qena)	www.qenacement.com	2,326,800
Misr Chemical Industries	www.mci-egypt.com	506,560
National Development Bank	www.nbdegypt.com	536,495
National Societe General Bank (NSGB)	www.nsgb.com.eg	12,098,362

Table AI. (*continued*)

Company	Web site	Market Cap (LE 000)
Olympic Group Financial Investments	www.olympicgroup.com	4,290,012
Orascom Construction Industries (OCI)	www.orascomci.com	105,064,096
Orascom Hotels And Development	www.orascomhd.com	16,729,410
Orascom Telecom Holding (OT)	www.orascomtelecom.com	96,323,296
Oriental Weavers	www.orientalsgroup.com	2,964,603
Raya Holding For Technology And Communication	www.rayacorp.com	752,199
Sidi Kerir Petrochemicals	www.sidpec.com	10,521,000
Six of October Development & Investment (SODIC)	www.sodic.com.eg	6,383,236
Telecom Egypt	www.telecomegypt.com	34,875,472

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