

Corporate Disclosure via Social Media in the UK

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Received 5 February 2018; Accepted 16 April 2018

Abstract

The objective of this paper is to explore the nature and determinants of corporate disclosure via social media among the top 350 companies listed on the London Stock Exchange (FTSE 350). The paper uses the disclosure index developed by Mohamed *et al.* (2017) that fully capture the extent of online information disclosure via all facets of disclosure, namely companies' websites and social media sites. OLS regression is used to test the hypotheses. The results find that the most popular usage of social networks and media by FTSE 350 are Twitter, LinkedIn, YouTube and Facebook. Furthermore, the results of this paper indicates that Twitter is the highest among all social networks and media in disclosing non-financial & financial information and annual reports followed by LinkedIn. The results reveal the underlying relations among board composition, ownership structure and control variables as the determining factors of online corporate disclosure (OCD). The results reveal that corporate disclosure via companies' own websites are significantly influenced by board size, board independence, foreign ownership, current ratio and industry type. Meanwhile, corporate disclosure via social media is significantly associated with board size, board activism, firm size and leverage.

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Keywords: Online Corporate Disclosure, Social Media, Board Composition, Ownership Structure, UK.

1. Introduction

THE widespread use of the Internet and the increasing reliance on social media platforms as a major source of information has greatly impacted corporate disclosure pattern and practices. Social media provide companies with relatively less costly and fast platform to send and receive information from a wide range of stakeholders. Social media enable the users to generate, share, and interchange the information in the networks with more ease than traditional media [1–3].

The advantage of providing information on a timely manner is fundamental because any barriers to the flow of relevant information render financial markets weak and inefficient. Timely disclosure reduces information asymmetry and insider trading, thus enhancing equality among investors which is an important pillar of

a transparent and strong financial system. However, disclosure is affected by various factors such as the business environment, regulatory framework, accounting standards, and enforcement mechanisms [4–6].

The number of companies that disclose information online has increased massively, however there is a wide variance in the extent and nature of disclosure. While some disclose a wide range of information that meet the needs of the various stakeholders, others have limited information disclosed online. Previous studies focus primarily on disclosure practices using companies' own websites, little is known about corporate disclosure practices via social media sites. The objective of this paper is to examine the extent and nature of online corporate disclosure via companies' websites as well via social media sites in top listed companies on London Stock Exchange.

The rest of this paper is structured as follows. A review of relevant literature and hypotheses development are provided in the next section. The research methodology is presented in section

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Table 1. Definition and Measurement of Variables.

Variable Symbol	Definition	Measurement
Dependent Variables		
WDI	Website Disclosure Index	the actual scores awarded divided by the maximum possible (19)
SMDI	Social Media Disclosure Index	the actual scores awarded divided by the maximum possible (37)
TDI	Total Disclosure Index	the actual scores awarded divided by the maximum possible (76)
Independent Variables (Board Structure)		
Brdsiz	Board Size	Total number of board members
BrdIndp	Board Independence	Total number of independent directors divided by Total number of board members
BrdActvsm	Board Activism	Number of board meetings
BrdDiv	Board Diversity	No of female in the board / Total number of board members
Independent Variables (Ownership Structure)		
DirOwn	Director Ownership	Percentage of director ownership
OwnCon	Ownership Concentration	Adding up all share ratios of shareholders of the firm who have 5% or more
FrgnOwn	Foreign Ownership	Foreign ownership = 1; otherwise = 0
Control Variables		
Frmsize	Firm Size	Natural Log of total assets
ROA	The amount of return on total assets	Net Income divided by Average Total Assets
IndTyp	Industry Type	1 = Manufacturing; 2 = Services
Audtyp	Auditor Type	Big 4 = 1; Non big 4 = 0
Lvg	Leverage	Total liabilities divided by Total assets
CR	Current Ratio	Current Assets / Current Liabilities
Age	Firm Age	Natural Log of years since incorporation

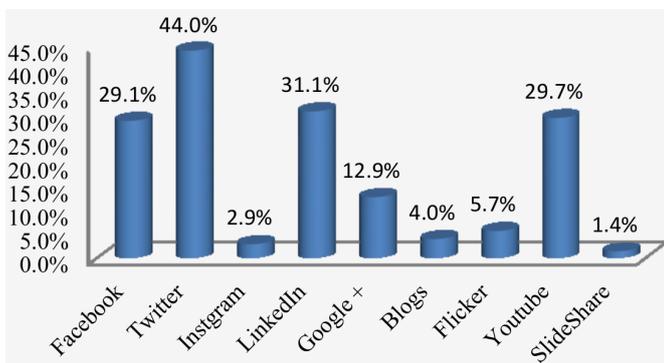


Fig. 1. Social media usage.

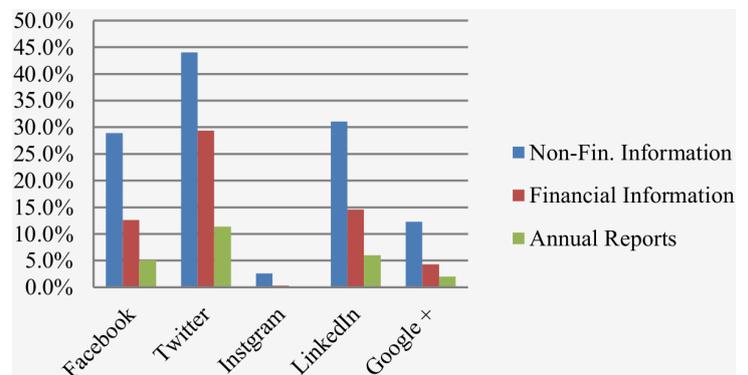


Fig. 2. Social network analysis.

three. Section four provides analyses and discussions are provided in section four. Summary and conclusions are presented in the final section.

2. Literature Review & Hypotheses Development

2.1. Background

Today's business environment is characterised by an increase in using the internet in most business processes. There is a rapid increase in the number of companies around the world that engage in the disclosure of corporate information via the intranet. It is argued that disseminating financial information results in more

considerable incremental disclosure than the traditional financial reporting [7–9].

Social media enable companies to disclose information for investors as well as allowing users to share and receive information. Social media has an important role in changing how and where users can access the information disclosed on the companies' websites. There is an increase in using social media in performance reporting as companies have been previously mainly using social media for the marketing purposes and recently they also started trying to reach the investors and shareholders. Most of the companies nowadays have the high usage on LinkedIn, Twitter,

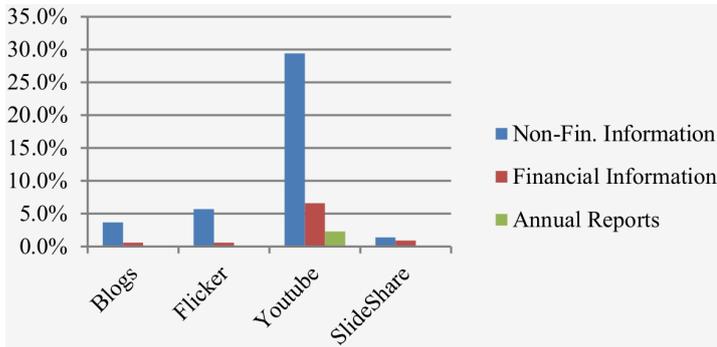


Fig. 3. Social network analysis.

Facebook, and YouTube. Moreover, the use of corporate blogs is also for the investor relations. The popularity of using social media in any company is motivated by the investors and users [10]. It is found that companies using Twitter to disclose corporate information have increased their market liquidity [11].

Using social media for financial disclosure has recently drawn great attention particularly after Netflix CEO Reed Hastings disclosed significant information on his personal Facebook page in July 2012. This resulted in the increase of the share price of Netflix from \$70.45 at the time of the Facebook post to \$81.72 at the close of the following trading day. Netflix did not report this information to investors through a press release or Form 8-K filing, and a subsequent company press release later that day did not include this information. After carefully investigating the case, the SEC did not initiate an enforcement action or allege wrongdoing by Hastings or Netflix, recognizing that there has been market uncertainty about the application of Regulation FD to social media. In April 2013, the SEC has made further ruling stating that different social media platforms are acceptable to disseminate information to general public. The SEC has approved that the usage of corporate social media can be a way to disclose information. However, SEC has also warned that the personal social media sites of individuals employed by a public company would not ordinarily be assumed to be channels through which the company would disclose material corporate information [11, 12].

2.2. Hypotheses Development

2.2.1. Board Size

It is argued that large boards can be less effective and presumed politeness and courtesy. Large boards cause poorer communication and processing information and it may cause a conflict between board's members that will lead to an effect over the critical decisions by postponing or cancelling them. Having too much members in the board lead to difficulty in scheduling board meetings and reaching one decision agreed by all members in the board [13–15]. In contrast, other empirical studies find that there is a

Table 2. OLS Regression Results.

Variables	Model (7) TWDI	Model (8) SNMDI	Model (9) TDI
boardsize	0.005** (2.342)	0.009*** (2.584)	0.007*** (3.220)
brddvrsty	0.015 (0.293)	0.030 (0.373)	0.023 (0.441)
brdinpd	-0.094*** (-3.016)	-0.026 (-0.529)	-0.061** (-1.985)
brdactvsm	0.000 (0.089)	0.008** (2.303)	0.004* (1.825)
owncon	0.018 (0.800)	0.007 (0.202)	0.012 (0.574)
dirown	0.012 (1.001)	-0.029 (-1.594)	-0.008 (-0.708)
frgnown	0.032** (2.411)	-0.007 (-0.349)	0.013 (0.991)
firmsize	0.004 (1.180)	0.013** (2.272)	0.008** (2.372)
ROA	0.052 (1.131)	0.073 (1.013)	0.062 (1.374)
lvg	0.034 (1.632)	0.074** (2.285)	0.053*** (2.617)
CR	-0.003*** (-2.600)	-8.208E-5 (-0.054)	-0.001 (-1.401)
audtyp	0.038 (1.302)	-0.051 (-1.117)	-0.005 (-0.182)
indTyp	-0.022** (-2.237)	-0.020 (-1.262)	-0.021** (-2.144)
age	0.003 (0.543)	0.006 (0.816)	0.004 (0.914)
Constant	0.618 (9.822)	-0.160 (-1.634)	0.239 (3.873)
Max VIF	1.481	1.481	1.481
R ²	0.252	0.156	0.256
Adj. R ²	0.218	0.118	0.223
F-statistics	7.469	4.088	7.638
p-value	0.000	0.000	0.000

positive association between board size and voluntary disclosure [16, 17].

H_1 : There is a positive significant relationship between board size and OCD.

2.2.2. Board Independence

Board independence has a great effect on the reliability of financial reports; it helps in decreasing the possibility of withholding information and enhancing the monitoring process of managerial opportunism [18]. Board independence alleviates the agency conflicts that may happen between large controlling shareholders and outsider shareholders [17, 19]. The presence of independent directors may have a great effect in enhancing the capability of the board as an internal control mechanism, reducing agency costs and enhancing a better disclosure [20].

H_2 : There is a negative significant relationship between board independence and OCD.

2.2.3. Board Activism

The more the board meets, the more active it is and this leads to directors' performance. A number of well-organized committee meetings can have a great effect on the board effectiveness. Some studies find that the rate of having board and committee meetings can be a good proxy for board diligence. The board normally meets after the stock price decreasing and after a higher number of meetings, firm performance is accordingly increased. The occurrence of board meetings is also affected by the quality of financial reporting [21].

H_3 : There is a positive significant relationship between board meeting and OCD.

2.2.4. Board Diversity

Board diversity can bring positive effects to the company through a better understanding of the marketplace, more creativity and innovation, more effective leadership [22, 23]. Empirical evidence supports the argument that female directors may have different tasks on the board [24]. Female directors have a very important effect on board performance due to the fact that they tend to join monitoring committees and that the attendance records of female directors are better than these of male directors. The agency theory suggests that diversity leads to a more balanced board with less chance of having one member dominating the decision making [25].

H_4 : There is a positive significant relationship between board diversity and OCD.

2.2.5. Ownership Concentration

The agency theory suggests that corporate disclosure is considered as a mean to controlling the agency costs arising from conflicts of interests between insiders and outside shareholders [26]. Accordingly, the information asymmetry between managers and dispersed equity shareholders might lead to a conflict between managers and shareholders. When ownership is concentrated, major shareholders are more able to obtain private information

due to the relatively weak demand for public disclosure in comparison to companies with widely dispersed ownership [27]. This may be more prevalent in civil law countries that are characterized by low legal protection environment of external investors [26].

H_5 : There is a positive significant relationship between ownership concentration and OCD.

2.2.6. Director Ownership

In firms with larger director ownership, directors may already have access to the financial information; thus less pressures is imposed by the directors on external auditors. Increasing the level of director ownership can reduce agency costs and hence permit a better alignment of interests between directors and shareholders. In the extreme cases where director ownership is 100%, equity agency costs are reduced to zero [26]. As director ownership increases, directors bear a large fraction of the costs of shirking, perquisite consumption and other value-destroying actions.

H_6 : There is positive significant relationship between director ownership and online corporate disclosure.

2.2.7. Foreign Ownership

It is argued that firms having significant portion of their ownership held by foreign investors may have incentives to provide more timely information to those investors [28]. This can be explained by the fact that investors are more likely to invest in firms with timely information to overcome the problem of information asymmetry between foreign and local investors with managers [29, 30]. Asymmetric dissemination of financial information and uncertainty associated with investment decisions can be mitigated by timely information [4, 31].

H_7 : There is positive significant relationship between foreign ownership and OCD.

2.2.8. Firm Size

Agency theory suggests that the higher agency costs are exhibited by larger firms lead to information asymmetry between the participants in the market. In order to decrease these costs, firms with larger size disclose more corporate information. Based on the political cost hypothesis, large firms are more publicly visible, which attracts more financial analysts putting firms under higher pressure. Similarly, some associate the firm size and disclosure using legitimacy theory [7, 32].

H_8 : There is a positive significant relationship between firm size and OCD.

2.2.9. Profitability

Agency theory can be used to justify why managers of highly profitable companies disseminate the information online to accomplish the personal advantages as marinating their positions

and justifying compensations [33–35]. Similarly, firms may disclose less information if the firms face losses or the rate of return is low as a result, these losses or declining profits will be covered [13]. Based on the signaling theory, it is suggested that companies with high profitability have the encouragement to disclose more information in order to signal the firms' profitability to shareholders and to be able to increase its capital at lowest price [36–38].

H_9 : There is a positive significant relationship between profitability and OCD.

2.2.10. Leverage

According to agency theory, firms having high leverage have the potential to increase the level of corporate disclosure to stockholders through the traditional financial statements and other media [26, 27, 36]. It is argued that companies making an excess use of debt are facing many problems between stockholders and creditors; hence this can be solved by increasing the level of disclosure [13]. Therefore, high dependency on debt prompts companies require to enhance/increase their social activities and disclose more information about the environment to meet the expectations of the creditors. Moreover, the higher the debt to equity ratio, the more the social and environmental disclosure.

H_{10} : There is positive a significant relationship leverage and OCD.

2.2.11. Industry Type

According to the signaling theory, the firms from the same industry type are willing to implement/adopt the same level of disclosure. However, with hiding the bad news, the firms tend not to follow the same level of disclosure practices [36, 37, 39]. Due to the occurrence of different proprietary costs of disclosure and the variance in technology adoption, there are differences in the level of disclosure between different industries [33]. According to political cost theory, it is argued that the membership of the industry may have an influence over the political vulnerability of the companies. Firms who are exposed to political issues tend to decrease their political costs such as regulation, breakup of the entity, and this happens by using voluntary disclosure [36].

H_{11} : There is a negative significant relationship between industry type and OCD.

2.2.12. Audit Type

According to the signaling theory, the large audits demand the high quality disclosure, because firms employ "Big Four" firms' signal to the market that they are working on providing high degree of disclosure with high quality [27]. Moreover, it is expected that the managements with greater potential gains from external monitoring tend to hire the larger auditors; this is also consistent with the signaling theory. Due to the fact that managers demand the higher disclosure quality, they have to consider the incentives

of larger auditors [20]. In large firms, there is a potential interest conflicts between investors and managers. Therefore, agency theory holds that auditing helps in mitigating this conflict. Since they may lose their reputation, the larger audit firms having the great encouragement remain independent and enforce stricter and more extensive standards for disclosure [20, 27]. In previous research, a positive association between audit type and disclosure has been found in [20, 27].

H_{12} : There is a positive significant relationship between audit type and OCD.

2.2.13. Liquidity

Liquidity, a type of information disclosed by firms in their annual reports, is significant to several parties, such as investors, lenders, and other stakeholders who assess the firm's financial position. According to the signaling theory, highly liquid firms are highly motivated to provide the higher level of information on their websites to inform investors about their current status and performance [16, 36, 39, 40]. On the other hand, according to agency theory and other studies, the firms with low liquidity are engaged to provide the high level of disclosure including the firms operation to the public on internet, avoiding the information asymmetric problem [37].

H_{13} : There is a negative significant relationship between liquidity and OCD.

3. Methodology

The objective of this paper is to investigate and explore the nature and determinants of online corporate voluntary disclosure associated with using the social media among companies listed in London Stock Exchange (FTSE350). This is undertaken by reviewing the information disclosed by the companies on their web sites. In order to collect the required data related to online corporate voluntary disclosure, we select FTSE350 as a sample of this study, which is incorporating the largest 350 companies listed on the London Stock Exchange.

The data are obtained from both company websites and Thomson Reuter's database. Internet data are collected during the period from May to August 2015. This study measures voluntary disclosure by using the disclosure index developed by Mohamed *et al.* [41]. The Total Disclosure Index (TDI) is divided into two sub-indices: Total Website Disclosure Index (TWDI) and Social Media Disclosure Index (SMDI). TWDI consists of 39 items covering disclosure via companies own websites, such as 14 presentation format items, 13 general content items, and 12 financial content items. Conversely, SMDI consists of 37 items covering disclosure via social media websites, including Facebook, Twitter, Instagram, LinkedIn, and Google+, Blogs, Flickr, YouTube, Slideshare, and Mobile Application. This index utilizes a dichotomous scoring approach to capture the level of disclosure. An item

is scored 1 if it is disclosed and 0 if otherwise. The disclosure index for each company was calculated by dividing the actual scores awarded by the maximum possible scores appropriate for the company. This was applied to the total disclosure index (TDI) and all other indices. Data for the determinants of online corporate disclosure (eight corporate governance variables and six control variables) are collected. This approach results in the collection of 100 observations for each company, a total of about 35,000 observations for the whole sample of the study.

Table 1 summarizes the definition and measurement of variables included in this study. The first group consists of 3 indices of corporate disclosure (dependent variables), the second group consists of the determinants of online corporate disclosure (independent variables), and the last group includes the control variables as described below.

4. Findings and Analysis

4.1. Descriptive Analysis

From Fig. 1, out of the 350 companies, 29% have Facebook accounts, 44% have Twitter accounts, 3% have Instagram accounts, 31% have LinkedIn accounts, 13% have Google+ accounts, 4% have Blogs accounts, 6% have Flickr accounts, 30% have YouTube accounts, and 1% have SlideShare accounts.

Fig. 2 shows the percentage of companies posting non-financial information, financial information, and the disclosure of annual reports on companies' social media sites. As seen in Fig. 2, there are 29% Facebook accounts posting non-financial information, about 13% financial information, and 5% regarding annual reports. The 44% of Twitter accounts are posting tweets as non-financial information, 29% financial information, and 11% annual reports. LinkedIn is one of the most used social networks in FTSE350, about 31% companies post non-financial information, 15% of financial information and 6% concerning the annual reports. Last but not least, for the Google+ accounts, there are 12% posting non-financial information, 4.3% disclosing financial information and 2% for annual reports.

Fig. 3 shows that the percentage of companies using Blogs as a way of disclosing information is the same as the percentage of disclosing non-financial information which is 3.7%. While there are 0.6% posting financial information without disclosed annual reports. As for Flickr, the same percentage of usage is the same as the non-financial information posted, which are only 20 companies and 0.6% posting financial information. YouTube have a higher percentage of usage by FTSE 350, 29.4% are using YouTube for posting non-financial information, 6.6% posting financial information and 2.3% annual reports. From the companies data, using the slide share in disclosing non-financial information is 1.4%, financial information with 0.9% and no usage in SlideShare for disclosing the annual reports.

4.2. Hypotheses Testing

This section provides the results of hypotheses testing by investigating the determinants of online corporate voluntary disclosure by using OLS analysis. Table 2 provides the results for the multivariate regression models. The first model in Eq. (1) is related to measure the corporate voluntary disclosure via website, the second model in Eq. (2) is to measure the corporate voluntary disclosure via social media, and the last model in Eq. (3) is for the total disclosure for the whole company.

$$\begin{aligned}
 WDI = & \alpha + \beta_1 \cdot BrdSize + \beta_2 \cdot BrdDvrsty \\
 & + \beta_3 \cdot BrdIndp + \beta_4 \cdot BrdActvsm \\
 & + \beta_5 \cdot OwnCon + \beta_6 \cdot DirOwn \\
 & + \beta_7 \cdot FrgnOwn + \beta_8 \cdot FrmSize \\
 & + \beta_9 \cdot ROA + \beta_{10} \cdot Lvg \\
 & + \beta_{11} \cdot CR + \beta_{12} \cdot Audtyp \\
 & + \beta_{13} \cdot Indtyp + \beta_{14} \cdot Age + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 SMDI = & \alpha + \beta_1 \cdot BrdSize + \beta_2 \cdot BrdDvrsty \\
 & + \beta_3 \cdot BrdIndp + \beta_4 \cdot BrdActvsm \\
 & + \beta_5 \cdot OwnCon + \beta_6 \cdot DirOwn \\
 & + \beta_7 \cdot FrgnOwn + \beta_8 \cdot FrmSize \\
 & + \beta_9 \cdot ROA + \beta_{10} \cdot Lvg \\
 & + \beta_{11} \cdot CR + \beta_{12} \cdot Audtyp \\
 & + \beta_{13} \cdot Indtyp + \beta_{14} \cdot Age + \varepsilon
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 TDI = & \alpha + \beta_1 \cdot BrdSize + \beta_2 \cdot BrdDvrsty \\
 & + \beta_3 \cdot BrdIndp + \beta_4 \cdot BrdActvsm \\
 & + \beta_5 \cdot OwnCon + \beta_6 \cdot DirOwn \\
 & + \beta_7 \cdot FrgnOwn + \beta_8 \cdot FrmSize \\
 & + \beta_9 \cdot ROA + \beta_{10} \cdot Lvg \\
 & + \beta_{11} \cdot CR + \beta_{12} \cdot Audtyp \\
 & + \beta_{13} \cdot Indtyp + \beta_{14} \cdot Age + \varepsilon
 \end{aligned} \tag{3}$$

For model 1, the coefficient of board size and foreign ownership are positive and statistically significant. Furthermore, board independence, liquidity, and industry type are negative and statistically significant. For model 2, the coefficient of board size, board activism, firm size and leverage are positive and statistically significant. For model 3, the coefficient of board size, board activism, firm size and leverage are positive and statistically significant; while board independence and industry type are negative and statistically significant.

The results of this study are consistent with previous studies where the timely disclosure of financial information assists the foreign ownership to preserve their investment by monitoring the management's performance and making efficient the decision [5, 42]. The negative effect of board independence on corporate

disclosure is consistent with those of previous literature that find the negative association between strong board leaders; and the voluntary disclosure is mitigated by the presence of outside director [43]. Hence, it was found that the increased presence of outside directors is associated with limitation of disclosure [44].

The result of firm size in this study is consistent with empirical results from prior studies that show a significant relationship between the firm size and the disclosure level [8, 13, 27, 45]. Moreover, the result of industry type is consistent with previous studies that showed up the significant relationship between voluntary disclosure and industry type [33, 36]. Therefore, it can be said that board size is the only variable that is the same in model 1 and model 2. This can be explained by the fact that the availability of large number of directors will help in decreasing the occurrence of information asymmetry. This means that some empirical findings suggest a positive association between board size and voluntary disclosure [17].

5. Conclusion

In this paper, the results demonstrate that the top-4 most popular usage of social networks and media by 350 companies in FTSE 350 index are Twitter (44%), LinkedIn (31%), YouTube (30%), and Facebook (29%). It also indicates that Twitter is the highest among all social networks and media in disclosing the non-financial & financial information and annual reports followed by LinkedIn. Though with the rapid advancement in information technology, the initial setup costs and long-term costs of operating/maintaining OCD via companies' own sites as well as social media sites are relatively minimal. These costs are far outweighed by the benefits to be derived from OCD in the modern era of globalisation and prevalent market interlinkages.

The results reveal that corporate disclosure via companies' own websites are significantly influenced by board size, board independence, foreign ownership, liquidity, and industry type. Meanwhile, corporate disclosure via social networks and media sites is significantly associated with board size, board activism, firm size, and leverage.

The board size is the only one factor that influences the corporate disclosure in both website and social networks/media. This is justified by the fact that large boards facilitate better monitoring, which lead to better disclosure.

It is anticipated that level of OCD uptake, particularly via social media, by companies in UK is bound to increase over the next couple of years. Therefore, regulators and other governmental agencies need to be prepared for this imminent development; a lesson should be learned from examples elsewhere in the world; and rules regulating this type of disclosure need to be drafted. Such rules and regulations may also aim to streamline the online corporate disclosure practices to avoid the problem of excessive variety of non-standardised practices.

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