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# Firms and governance factors affecting the adoption of web-based corporate reporting: Evidence from the USA

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**A B S T R A C T**

This paper examines the potential determinants associated with a firm's decision to use a corporate website. The probability of web-based corporate reporting adoption was measured by using a dichotomous variable, where one is given if the firm has a website and zero otherwise. Based on a sample of 1217 US listed firms, it was found that 950 firms have a website and 267 do not. Those firms with a website are larger, more profitable and have a larger board size with more female directors when compared with firms without websites. In addition, the results of the regression analysis revealed that firm size, profitability, leverage, board size and the percentage of female directors in the boardroom have a significant positive impact on the probability of a firm having a website. However, firm age has a significant negative impact on the probability of web-based corporate reporting adoption. A weakness in the previous literature has been the neglect of firms without an online presence, which implies a potential selection bias. Consequently, this research contributes to the international accounting literature by expanding our understanding in relation to the probability of firms adopting web-based corporate reporting and the economic consequences of them doing so through reducing asymmetric information, which acts as an incentive to encourage investment.



## 1. Introduction

The information technology revolution led to the discovery of new tools that have improved various aspects of life. As Elliott (1992, p: 61) indicated *"information technology is changing everything",* including the processes of storing, retrieving and manipulating data. The Internet has enabled the transmission of such data through different computers servers and systems. It has now become an established medium for the communication of corporate information across the world (Bananuka et al., 2019). The dissemination of this information by firms via company websites is referred to as web-based corporate reporting (Boubaker et al., 2011). By disseminating financial and non-financial information via their websites, firms garner various benefits, such as reducing the cost of distributing hardcopy annual reports, enhancing the extent and type of information disclosed, keeping information more up to date and improving access for potential investors (Xiao et al., 2002; Gowthorpe, 2004; Khadaroo, 2005). Therefore, it is often a preferred method of communication compared to the hard-copy print form due to its effectiveness in reaching a massive group of stakeholders, particularly investors and lenders, and it is widely predicted that web-based corporate reporting is likely to overtake the hard-copy print form. Several studies have documented the practice

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of web-based corporate reporting among firms in various countries. However, empirical evidence regarding the determinants behind the adoption of a corporate website have largely been neglected and remain unaddressed. Accordingly, there is a clear gap in our knowledge of web-based corporate reporting and the determinants of corporate website adoption. We aim to evaluate the potential determinants associated with US listed firms in terms of adopting a corporate website. Previous literature on web-based corporate reporting has mainly concentrated on firms who utilise the Internet on a regular basis and has therefore neglected those who do not have an online presence (Almilia, 2009; Aly et al., 2010; Boubaker et al., 2011; Bananuka, 2019), and thus there is potential for selection bias. This implies that there has been limited employment of a logistic regression analysis in prior studies. Consequently, this research will employ both Probit and Logit regression analysis to evaluate corporate website presence determinants. Furthermore, this paper will extend this research area by providing empirical evidence related to the link between the probability of web-based corporate reporting adoption and both internal firm factors (size, profitability, leverage, firm's age) and corporate governance variables (board size, female directors, non-executive directors), which has been largely unexplored previously. Thus, the study will expand our understanding regarding the probability of web-based corporate reporting and its economic consequences by reducing asymmetric information, which acts as an incentive to encourage investment. We used 1217 US firms, 950 of which have websites and 267 of which do not. The results show that firms with websites tend to be larger and more profitable and have larger board sizes with more female directors compared with firms without websites. On the other hand, the results of bivariate analysis demonstrate that the age of firms with websites is lower than firms without websites. We also employed OLS, Logit and Probit models, and we found that firm size, profitability, leverage, size of the board and the percentage of female directors in the boardroom has a significant positive impact on the probability of web-based corporate reporting. In contrast, the results of the regression analysis show that the age of a firm has a significant negative influence on the probability of web-based corporate reporting. This study's findings, for example, that the web-based corporate reporting probability level is linked with the characteristics of the board, may have some strategic or practical implications for regulators, which may influence the regulatory body when creating guidelines to encourage companies to create and use a website. Reflecting on these findings, regulatory changes might need to be enhanced in relation to the level of web-based corporate reporting by placing more emphasis on improving corporate governance practices, since the disclosure of information to raise transparency has become a huge stakeholder expectation.

The remainder of the paper is organised as follows. The next section reviews the existing literature on web-based corporate reporting and describes the development of our research hypotheses. The following section highlights the research methodology. This is followed by a presentation of the results of bivariate analysis. The penultimate section discusses the hypotheses testing using logistic regression analysis. Finally, the conclusion of the paper is given in the last section.

## 2. Literature Review and Hypotheses Development

The literature on disclosure has expanded in recent years and now encompasses research on web-based corporate reporting, which is now frequently utilised by various users, including firms. The increasing trend to use the Internet has led to the question as to why firms are choosing to employ this manner of reporting as either a replacement for or to supplement conventional hardcopy reporting (paper-based reporting) and in what ways this is done. Hence, this current study intends to contribute to international accounting literature through empirically analysing the factors determining the adoption of a corporate website. The independent variables for this research are separated into two categories: firm-specific factors and board characteristics.

### *2.1 Hypotheses Related to Firm-Specific Factors*

**Firm Size**: Numerous empirical studies have analysed the correlation between the size of the firm and voluntary disclosure (Almilia, 2009; Shan, 2019; Akbaş and Canikli, 2019; Enache and Hussainey, 2020). It has been claimed that pressure from the stock market forces large corporations to share more information and that this has a significant impact on their ability to raise outside capital and improve financial performance. Thus, large firms are more able to access financial markets via the practice of disclosing greater amounts of information online (Bonson and Escobar, 2002). Larger firms can disclose information via the Internet at a decreased cost since they possess more of the necessary resources. Agency theory suggests that firms of a bigger size tend to have higher agency costs because of the information asymmetry among market participants (Jensen and Meckling, 1976). These agency costs can be reduced when larger firms share a huge amount of corporate information. In accordance with the political cost hypothesis, larger firms are more attractive to financial analysts, which places firms under increased pressure as they are more visible to the public. Firms of a smaller size are normally able to hide significant information due to industrial competition among firms (Marston, 2003; Almilia, 2009). Furthermore, a wider range of products is available from larger firms, and thus their distribution networks are more complicated compared with smaller ones. Hence, more information disclosure is necessary for larger firms (Marston, 2003; Aly et al., 2010). In relation to capital need theory, stock market pressure might cause large firms to boost their external capital to enhance performance. Therefore, they will disclose more information via the Internet to improve their securities' marketability and accomplish their aims. Consequently, larger firms might have better access

to financial markets once they raise the level of information disclosed on the Internet (Bonson and Escobar, 2002). Based on these arguments, we hypothesise that:

$H_1$: *There is a significant positive relation between firms' size and probability of company's decision to have a website*.

**Profitability**: It has been suggested that firm profitability is a sign of good management since managers normally disclose greater information when the return rate is higher. Therefore, profitable firms have additional financial resources to voluntarily share financial information and a greater incentive to disclose higher profits when compared to their competitors in the same domain. Agency theory justifies this belief, whereby managers of highly profitable firms share more information via the Internet to, for example, secure personal benefits, such as maintaining their position, and justify rewards and compensation (Almilia, 2009; Elzahar and Hussainey, 2012). Based on these discussions, we hypothesise that:

$H_2$: *There is a significant positive relation between firms' profitability and probability of company's decision to have a website*.

**Leverage**: In accordance with agency theory, the agency costs of loan capital depend on the nature of claims held by outsiders. It proposes that the costs are greater for firms who hold proportionally higher debt within their capital structure. Agency costs can be reduced via the use of web-based corporate reporting, which facilitates supplier debt by indicating a firm's capacity to satisfy its debts (Jensen and Meckling, 1976). Therefore, firms with higher leverage are suggested to be more likely to satisfy supplier debt due to the sharing of trusted information on their website, which makes creditors feel more assured regarding the firm's ability to pay off debts. Shareholders ask for more information to evaluate a firm's financial capacities (Ismail, 2002; Xiao et al., 2004; Yousef, 2019). Based on these discussions, we hypothesise that:

$H_3$: *There is a significant positive relation between firms' leverage and probability of company's decision to have a website.*

**Firm Age:** The age of a firm is the time it has been operating, starting with its creation. Older firms tend to demonstrate more efficiency when gathering, processing and sharing information. Moreover, older firms are more likely to be familiar with financial disclosure practices and more open to voluntarily disclosing such information (Al-Htaybat, 2011). Flanagin (2000) suggested that the age of a firm should have a negative correlation with the adoption of innovation since newer firms normally use new technology more frequently as they try to establish a niche. In contrast, older firms already have practices that are firmly established. Moreover, firms that are newer are essentially launched in a world that is overcrowded with advanced communication technology and naturally depend on these kinds of innovations while searching for a competitive advantage. Therefore, we hypothesise that:

$H_4$. *There is a significant positive relation between firms' age and probability of company's decision to have a website.*

### *2.2 Hypotheses Related to Board Characteristics*

One of the objectives of corporate governance is to accomplish improved accuracy in relation to the information shared with the public and to facilitate the relationship between managers, the board of directors and shareholders. Gul and Leung (2004) found that the inconclusive findings of prior disclosure research might be attributable to a failure to scrutinise factors linked with corporate governance despite researchers being aware of the significance of this.

**Board Size:** The size of the board might have an impact on the degree of web-based corporate reporting. The board of directors makes a strategic decision in relation to the disclosure level. As a body of top-level management, the board of directors creates strategies and policies that managers are to follow. Abad et al. (2017) suggested that a larger number of directors on the board might reduce the extent of information asymmetry. The board size is thought to influence the capacity of the board to supervise and assess management, with smaller boards encouraging faster processing of information (Zahra et al., 2000). Additionally, the directors' ability to control and advocate activities tends to be greater when there are more directors on the board. With larger boards, the collective expertise and experience of the board increases and hence the necessity for information sharing is higher. From the perspective of agency theory, a greater number of board members is advantageous in terms of monitoring and improving transparency. Moreover, larger boards are less likely to be controlled by managers. Based on these arguments, we hypothesise that:

$H_5$. *There is a significant positive relation between board size and probability of company's decision to have a website.*

**Gender Diversity:** A commonly-examined variable in prior corporate disclosure studies has been gender diversity. The motivation for such research is largely derived from the growing number of females in top management and on corporate boards. Carter et al. (2003) proposed that having women on the board is advantageous for several reasons, such as leading to a better diversity of boardroom opinions, bringing strategic vision to the board, influencing the organisation's decisions and style of leadership, providing female mentors and role models, enhancing the image of the firm with regard to stakeholder groups, improving the capabilities of women and making their promotion to director positions more viable, countering potentially inefficient male directors, and assuring 'better' behaviour in the boardroom. Agency theory anticipates a positive relationship between gender diversity and corporate disclosure, rooted in the concept that general diversity will enhance board independence, and that this improvement to board independence will lead to greater disclosure of information (Shehata, 2013; Yousef et al., 2020). Furthermore, Huse and Solberg (2006) stated that female board members are likely to have more interest in meetings and are therefore more likely to make good decisions. We therefore hypothesise that:

$H_6$. *There is a significant positive relation between the percentage of female directors in the boardroom and probability of company's decision to have a website.*

**Non-Executive Directors:** This is a significant factor linked with the supervision of corporate financial accounting processes and the reliability of financial reports. In accordance with agency theory, non-executive directors normally have more credibility than executive directors regarding their monitoring functions. This is due to the fact that external officers have less firm self-interest and therefore tend to act in line with the interests of the shareholder (Donnelly and Mulcahy, 2008). Hence, they are also capable of functioning as supervisory mediators, reducing conflicts of interest between shareholders and management. Moreover, they can assist with enhancing disclosure and transparency (Haniffa & Cooke, 2002), lessen information asymmetry through encouraging a greater degree and better standard of disclosure, and improve the board's effectiveness and integrity through the mediation of conflicts of interest that arise among board members. Lim et al. (2007) suggested that independent board directors are "professional managers with expertise in decision control", who are "expected to be more trustworthy in handling sensitive governance issues, such as director's remuneration or the appointment of new managers". Based on these discussions, we hypothesise that:

$H_7$. *There is a significant positive relation between the percentage of non-executive directors in the boardroom and probability of company's decision to have a website.*

## 3. Sample and Methodology

We began by sourcing a sample of each of the US-listed firms within the *BoardEx* and *Compustat* databases. Firms that do not appear in both databases or firms with non-negative total assets were ruled out. After that, the *BoardEx* databases were used to collect the corporate governance data, mainly concerning the number of directors in the boardroom, the number of female directors in the boardroom and the number of non-executive directors. Then the sample from the *BoardEx* databases was matched with the data from the *Compustat* databases to source the firm's financial data. This data was then matched with the Thomson Reuters database to identify firms with or without a website. We then attempted to visit each firm's website using the Google search engine to establish if any firms in our sample had a website that was under construction or inaccessible. Websites were visited between January and February 2020. The final sample of this study contains 1217 US listed firms, with 950 firms having a website and 267 not having one.

As the main aim of this study is to investigate the potential determinants of the probability of the adoption of web-based corporate reporting, we used a dummy dependent variable that equals one if the firm has a website and zero otherwise. Therefore, the logistic regression analysis that was employed as the dependent variable is a dummy binary variable. No assumptions were made in the logistic regression analysis in relation to the normality or linearity of data, and due to this, the process is an attractive one in theory. In contrast, most existing studies on this topic have mainly focused only on firms that utilise the Internet on a regular basis and have chiefly neglected those who do not have one.

Utilising a categorical measurement of the dependent variable, this study employed a Probit regression analysis. Hence, we used both Probit and Logit analysis to examine corporate website presence determinants. The model that follows was applied:

$$Pr\,(y = 1 \,|\, x) = \beta_0 + \beta_1 FS_i + \beta_2 ROA_i + \beta_3 LEV_i + \beta_4 BS_i + \beta_5 FD_i + \beta_6 ND_i + \varepsilon$$

where the dependent variable is a dummy variable that equals 1 when a firm has a website and 0 when a firm does not; $FS_i$is the firm's size, measured by the logarithm of total assets; $ROA_i$is the firm's profitability, measured by return on assets; $LEV_i$ is

debt to assets ratio; $BS_i$ is the size of the board (numbers of directors); $FD_i$ is the fraction of female directors by board size; $ND_i$ is the percentage of non-executive directors to the board size.

## 4. Bivariate Analyses for the decision to have a corporate website

The reason for firms deciding to create a website will be investigated in this section. A statistical analysis is used to establish if this kind of decision correlates with 1) a range of firm-specific factors, including size of the firm, gearing, profitability and firm age, and 2) internal corporate governance mechanisms, such as board size, gender diversity and percentage of non-executive directors on the board.

**Table 1**
Independent Sample t-test

| | Full sample (N=1217) | | With Website (N=950) | | Without Website (N=267) | | With-Without | |
|---|---|---|---|---|---|---|---|---|
| WEB2 | Mean | Std. Dev. | Mean | Std. Dev. | Mean | Std. Dev. | Mean Diff. | Sig. |
| Total Assets ($M) | 6328 | 21676 | 7330 | 24164 | 2758 | 6898 | 4571 | .002*** |
| ROA | 1.03 | 13.19 | 2.14 | 12.25 | -2.92 | 15.49 | 5.06 | .000*** |
| LEV | 0.59 | 0.37 | 0.60 | 0.34 | 0.53 | 0.45 | 0.07 | .006*** |
| AGE | 1.29 | 0.35 | 1.28 | 0.35 | 1.32 | 0.31 | -0.04 | .058* |
| Number Directors | 8.30 | 2.05 | 8.39 | 2.06 | 8.00 | 2.00 | 0.39 | .006*** |
| GR | 0.16 | 0.12 | 0.17 | 0.12 | 0.14 | 0.13 | 0.03 | .000*** |
| FEMALE | 1.42 | 1.13 | 1.49 | 1.12 | 1.18 | 1.12 | 0.32 | .000*** |
| NED | 0.84 | 0.10 | 0.84 | 0.10 | 0.84 | 0.09 | 0.00 | .894 |

Table 1 presents the results of the independent samples t-test that we employed to test the mean differences in the firms and corporate governance variables between firms with websites and firms without websites. Therefore, we separated the sample into three groups: 1) Full sample with 1217 US firms; 2) 950 firms with a website; 3) 267 firms without a website. Total Assets ($M): is the total assets in a million dollars for each group that measures the firms' size. ROA is the return on assets that measure the firms' portability. LEV is leverage measured by total debt to total assets ratio. AGE is the number of years since its incorporation. Number Directors is the number of directors in the boardroom that measures the size of the board. GR is the gender ratio measured by the proportion of female directors to the total number of directors in the boardroom. FEMALE is the total number of female directors in the boardroom. NED is the percentage of non-executive directors measured by the number of executive directors to the total number of directors in the boardroom. ***, **, * indicating level of significance at 1%, 5%, 10% respectively. The sample of firms was separated into three groups: 1) full sample with 1217 US firms; 2) 950 firms with a website; 3) 267 firms without a website. In Table 1, we used the independent sample t-test to analyse the mean differences in each variable between firms with websites and firms without websites. The results show that firms with websites are larger, with average total assets of $7,330 million, compared to smaller firms without websites and average total assets of $2,758 million, and the mean difference ($4,571 million) is significant at the 1% level. In addition, the results in table 1 show that firms with websites are more profitable, with an average ROA of 2.14%, compared to firms without websites, with an average ROA of -2.92%, and that the mean difference (5.06%) is significant at the 1% level. Furthermore, the results in table 1 show that firms with websites have higher leverage, with an average debt ratio of 60%, compared to firms without websites, with an average debt ratio of 53%, and that the mean difference (7%) is significant at the 1% level. Additionally, the results in table 1 indicate that the age of firms with websites is lower than firms without websites but that the mean difference is only significant at the 10% level. Regarding board size, the findings indicate that firms with websites have larger board sizes, with an average of 8.39 directors in the boardroom, compared to firms without websites, with an average of 8, and that the mean difference (0.39) is significant at the 1% level.

The findings of the independent sample t-test demonstrate that firms with websites have a higher percentage of female directors on the board than firms without a website; the average gender diversity ratio for firms with a website is 17%, compared with 14% for firms without websites, and the mean difference (3%) is significant at the 1% level. Moreover, the average number of female directors in the boardroom for firms with a website is 1.49 compared with 1.18 female directors for firms without websites, and the mean difference (0.32) is significant at the 1% level.

## 5. Hypothesis testing the factors of corporate website presence: Multivariate Analyses

We used multivariate analysis to examine whether the decision to have a website is attributable to 1) a range of firm-specific factors, such as firm size, gearing, profitability and firm age, and 2) corporate governance mechanisms, encompassing gender diversity, size of the board and proportion of non-executive directors on the board. We separated the sample of the study, consisting of 1217 US firms, into two groups: 1) 950 firms with a website and 2) 267 firms without a website. In table 2, we used both Logit and Probit regression analysis, whereby the dependent variable is a dummy variable that equals one if the firm has a website and zero otherwise. Furthermore, we employed several models to prevent the overlapping of firm-specific and

corporate governance factors and to help with assessing the robustness of the significance levels for the dependent variables (Logit: models 1-5; Probit: models 6-10).

**Table 2**
Logit and Probit Regression Analysis

| Standard errors based on | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Hessian | OLS | OLS | OLS | Logit | Logit | Logit | Probit | Probit | Probit |
| R-squared | 0.057 | 0.025 | 0.065 | 0.057 | 0.026 | 0.066 | 0.058 | 0.027 | 0.067 |
| Adjusted R-squared | 0.054 | 0.023 | 0.059 | 0.048 | 0.019 | 0.052 | 0.049 | 0.020 | 0.053 |
| const | 0.203 | 0.665 | 0.355 | -2.495 | 0.715 | -1.361 | -1.449 | 0.456 | -0.813 |
| | 0.141 | 0.000 | 0.021 | 0.012 | 0.352 | 0.235 | 0.011 | 0.295 | 0.210 |
| FS | 0.067 | | 0.058 | 0.453 | | 0.401 | 0.265 | | 0.234 |
| | 0.000 | | 0.000 | 0.000 | | 0.001 | 0.000 | | 0.000 |
| ROA | 0.004 | | 0.003 | 0.022 | | 0.020 | 0.013 | | 0.012 |
| | 0.000 | | 0.000 | 0.000 | | 0.000 | 0.000 | | 0.000 |
| LEV | 0.118 | | 0.110 | 0.758 | | 0.700 | 0.431 | | 0.405 |
| | 0.000 | | 0.000 | 0.000 | | 0.001 | 0.000 | | 0.001 |
| AGE | -0.052 | | -0.056 | -0.390 | | -0.404 | -0.218 | | -0.226 |
| | 0.095 | | 0.078 | 0.091 | | 0.083 | 0.090 | | 0.083 |
| BS | | 0.356 | 0.118 | | 2.204 | 0.672 | | 1.315 | 0.444 |
| | | 0.001 | 0.300 | | 0.002 | 0.400 | | 0.001 | 0.323 |
| GR | | 0.342 | 0.233 | | 2.482 | 1.781 | | 1.370 | 0.996 |
| | | 0.000 | 0.010 | | 0.000 | 0.012 | | 0.000 | 0.010 |
| NED | | -0.271 | -0.244 | | -1.873 | -1.771 | | -1.124 | -1.047 |
| | | 0.034 | 0.052 | | 0.038 | 0.058 | | 0.029 | 0.046 |

Table 2 presents the results of the Logit (models 1-5) and Probit Regression (models 6-10) Analysis. FS is the firms' size measured by the logarithm of total assets. ROA is the return on assets that measures the firms' portability. LEV is leverage, measured by total debt to total assets ratio. AGE is the logarithm of the number of years since its incorporation. BS is the board size, measured by the logarithm of the number of directors in the boardroom. GR is the gender ratio, measured by the personage of female directors to the total number of directors in the boardroom. NED is the percentage of non-executive directors, measured by the number of non-executive directors to the total number of directors in the boardroom. ***, **, * indicating level of significance at 1%, 5%, 10% respectively. The results of the OLS, Logit and Probit models show that firm size has a significant positive influence on the decision to have a website, indicating that the probability of a larger firm having a website is higher compared with smaller ones. A range of issues relating to innovation and size exist, for instance, large firms are more likely to focus more resources and capital on the costs related to adopting innovations. In addition, larger firms tend to have access to better financial resources, allowing them to absorb better the risks linked with corporate website development. Moreover, large firms have the capacity to lower the related costs of adopting a website, as well as maintaining one, due to economies of scale, i.e. a bigger volume of sales mitigating the fixed costs connected with the development of a website. Furthermore, larger firms are commonly in a more advantageous position in terms of employing specialists compared to smaller ones. This enables a firm to access a more expansive knowledge base, fresh ideas and practices as well as technical skills, which can consequently lead to positive results with regard to the likelihood of them adopting a website to begin with.

The results of the OLS, Logit and Probit models show that a firm's profitability has a significant positive influence on the decision to have a website, indicating that the probability to have a website for more profitable firms is higher. Analytical literature anticipates that management would prefer to release information that will boost the firm's current value. Moreover, in line with the signalling theory hypothesis, firms that are profitable are incentivised to set themselves apart from firms that are less profitable to generate more capital from potential investors and buyers. Corporate disclosure intends to increase the value of a firm and reduce the risk of the market undervaluing it. Furthermore, a well-performing firm is motivated to share more information to appear attractive to investors. Highly-profitable firms use corporate disclosure to demonstrate their successful performance to outsiders, which results in an increase in the probability of them having a website.

In addition, the results of the regression analysis show that a firm's leverage has a significant positive impact on the probability of it having a website. This finding is in line with the asymmetric information and agency theories, which propose that large firms with less information asymmetry have better prospects in terms of accessing the market and are also able to obtain funds at lower rates of interest compared to firms with greater information asymmetry levels. Greater debt levels were present for firms possessing a website since web-based corporate reporting tends to lower information asymmetry levels among external shareholders/investors and internal management. On the other hand, the results of the regression analysis show that the age of a firm has a significant negative influence on its decision to have a website, demonstrating that newer firms are more likely to have a website to share more information and enhance their image and reputation in the eyes of the market. Based on capital need theory, firms that are recently listed might seek to increase their future capital at a lower cost compared with older listed

firms. Adopting a corporate website helps these younger firms to achieve this goal. In relation to signalling theory, younger firms need to distinguish themselves from other firms when introducing themselves to the market by sharing more information, which also increases the probability of them having a website on which more information can be disclosed in this manner. The findings in Table 2 show that the size of a firm's board has a significant positive influence on its decision to have a website, indicating that the probability of having a website for firms with more directors in the boardroom is higher. Increasing the size of the board might enhance the process of disclosure, both quantitatively and qualitatively. Furthermore, increasing the size of the board might improve the diversity of shared knowledge among board members, meaning that firms can also enhance the disclosed information's quality (Shehadeh et al., 2021). A larger board may experience more monitoring, provide firms with the diversity that endows them with critical resources and reduce uncertainties and risks, which will increase the probability of having a website. However, the current COVID-19 pandemic situation has increased uncertainty with regard to the future of economic and financial markets (Yousef and Shehadeh, 2020; Yousef, 2020). Having a website plays a significant role in reducing such uncertainty as the information disclosed on it can provide some reassurance. Lastly, the findings in Table 2 show that the percentage of female directors in a firm's boardroom has a significant positive impact on the decision to have a website, indicating that the probability of having a website for firms with more female directors in the boardroom is higher. Board gender diversity enhances disclosure quality due to better management control, which also increases transparency and encourages active board communication with investors. In addition, more diversity in boardroom opinions can lead to better strategic input to the board, impact on decision making and affect the style of leadership. Gender diversity also offers female mentors and role models, enhances the firm's image with stakeholder groups, boosts women's capacities and potential to move into director positions, helps reduce inefficient male directors and ensures 'better' behaviour in the boardroom.

## 6. Conclusion

The information technology revolution has paved the way for the utilisation of new tools, which have had a widespread impact on various aspects of life, including data storage and management. The Internet has increased the possibility of firms sharing such information with a worldwide audience. The most important consideration is that information on the Internet can be accessed from anywhere and at any time for no or a low cost. In line with the Internet acting as a cheap but powerful method of communication, web-based corporate reporting has been widely adopted and is an increasingly popular research area. In comparison to conventional financial reporting, web-based corporate reporting is completely voluntary and enables greater discretion by management than traditional reporting. Although regulators only concern themselves with traditional financial reporting, which is now available electronically, they also strongly advocate that firms maintain a corporate website. This study aims to analyse the potential determinants of the probability of firms having a website, leading to the adoption of voluntary reporting via their website. The sample comprised of 1217 US firms, of which 950 have websites and 267 do not. The results show that firms with websites are larger, more profitable and have larger board sizes with more female directors compared to firms without websites. On the other hand, the results of bivariate analysis demonstrate that the age of firms with websites is lower than firms without websites. We also employed OLS, Logit and Probit models to analyse the probability of corporate website presence. The results of the regression analysis show a firm's size, profitability, leverage, size of the board and percentage of female directors in the boardroom have a significant positive impact on the probability of it having a website. On the other hand, the results of the regression analysis also show that the age of a firm has a significant negative influence on the decision to have a website, indicating that newer firms are more likely to have a website to disclose more information in order to improve their image and reputation within the market. Our findings provide a practical implication for policy makers, from which a guideline should be developed in order to motivate companies to have a website, which should be used to disseminate both financial and non-financial information and thus significantly increase transparency. The main limitation of this study is that the adoption of a website is a dynamic issue and thus the numbers of firms that have an active website is changing over time. This study presented an empirical explanation regarding the determinants affecting a firm's decision to have a website based on both firm characteristics and corporate governance factors. Thus, future research could employ interviews to investigate other factors, such as organisational change, culture and other demographic characteristics, which might affect the level of web-based corporate reporting.

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