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The Impact of Corporate Governance, Firm Characteristics on Voluntary Electronic Social Media Disclosure during the COVID 19 Global Crisis: An Empirical Study on listed Firms in the Egyptian Stock of Exchange

Abstract

Recently, Social Media has considered an important corporate disclosure channel to disseminate firms' information to the interested users. This study empirically investigates the impact of Corporate Governance; in terms of board of directors' characteristics and ownership structure in addition to firm's characteristics on the corporate voluntary electronic social media disclosure during the COVID-19 pandemic. Indeed, this study examines the impact of different board of directors' characteristics which are (the number of independent directors, the CEO duality, the board size, the presence of foreign director in the corporate board) on the corporate voluntary electronic social media disclosure. Besides, this study examines the impact of different ownership structures which are (institutional ownership, governmental ownership, foreign ownership, and managerial ownership) on the corporate voluntary electronic social media disclosure. Further, this study examines the impact of different firm's characteristics in terms of (firm's size, profitability, and financial leverage) on the corporate voluntary electronic social media disclosure based on a sample of 100 firms listed in the Egyptian Stock of Exchange for the year ended 2020 during the last COVID-19 pandemic.

The results of this research indicate that among the board of director's characteristics; there is significant positive relationship between both the number of independent directors in the corporate board as well as the separation between the CEO and board chairman positions on the corporate board and the firm's voluntary disclosure on social media platform. With respect to the ownership structures; the results of this research indicate that there is significant positive relationship between both the institutional ownership as well as the governmental ownership and the firm's voluntary disclosure on social media platform. Moreover among the firm's characteristics; the results of this research indicate that there is a significant positive relationship between the firm's size and the voluntary corporate disclosure on social media platform.

Keywords: Corporate Governance, board of directors, ownership structures, firm's characteristics, Social media platform, voluntary electronic disclosures, COVID 19 Pandemic.

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أثر حوكمة الشركات وخصائص الشركة على الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الإجتماعي أثناء الأزمة العالمية COVID 19: دراسة تطبيقية على الشركات المدرجة في البورصة المصرية

ملخص البحث

في الآونة الأخيرة، أصبحت وسائل التواصل الإجتماعي قناة مهمة للإفصاح تستخدم لنشر المعلومات عن الشركات للمستخدمين المهتمين. إستهدفت هذه الدراسة إختبار تأثير حوكمة الشركات؛ من حيث خصائص مجلس الإدارة وهيكل الملكية، بالإضافة أيضا إلى خصائص الشركات؛ علي الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الإجتماعي، خاصة أثناء إنتشار جائحة فيروس كورونا COVID-19. وتحديدا فقد استهدفت هذه الدراسة إختبار تأثير الخصائص المختلفة لمجلس الإدارة مثل (عدد المديرين المستقلين ، إزدواجية الرئيس التنفيذي ، وحجم المجلس ، ووجود مدير أجنبي في مجلس إدارة الشركة) على الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الاجتماعي للشركات. بالإضافة إلي إختبار تأثير هياكل الملكية المختلفة مثل (الملكية المؤسسية ، والملكية الحكومية ، والملكية الأجنبية ، والملكية الإدارية) على الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الإجتماعي للشركات. بالإضافة إلى ذلك، إستهدفت هذه الدراسة إختبار تأثير الخصائص المختلفة للشركات من حيث (حجم الشركة، والربحية، والرافعة المالية) على الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الاجتماعي للشركات وذلك إعتقادا على عينة من 100 شركة مدرجة في البورصة المصرية بإستخدام القوائم المالية السنوية عن عام 2020 خاصة أثناء إنتشار جائحة فيروس كورونا COVID-19 الأخيرة.

وخلصت الدراسة إلى أن هناك علاقة إيجابية معنوية بين كلا من عدد المديرين المستقلين في مجلس إدارة الشركة وكذلك الفصل بين منصب الرئيس التنفيذي ورئيس مجلس الإدارة وبين الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الاجتماعي للشركات. أما بالنسبة لهياكل الملكية؛ فقد أوضحت نتائج هذه الدراسة إلى وجود علاقة إيجابية معنوية بين كلا من الملكية المؤسسية والملكية الحكومية وبين الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الاجتماعي للشركات. بالإضافة إلي ذلك؛ توضح نتائج هذا البحث إلى أن من ضمن خصائص الشركات؛ توجد علاقة إيجابية معنوية بين حجم الشركة وبين الإفصاح الإختياري الإلكتروني عبر وسائل التواصل الاجتماعي للشركات.

الكلمات المفتاحية: حوكمة الشركات، مجلس الإدارة، هياكل الملكية، خصائص الشركة، منصة التواصل الاجتماعي ، الإفصاح الإلكتروني الإختياري ، جائحة كورونا.

1- Introduction

Unfortunately, the recent COVID-19 pandemic has been recognized as an adverse economic event which has caused a global economic downturn. Actually, the adverse economic event denotes to the occurrence of any event which lowers the economic growth, increases the unemployment and causes an overall economic downturn. Recently, the COVID-19 pandemic has been recognized as an adverse economic event because it has slowed down the economic activities and has caused global economic downturn (McKibbin and Fernando, 2020).

Actually, the COVID-19 pandemic is a multidimensional crisis. It has a damaging effect all over the world as it caused the closing of movements between countries in the form of strict lockdown imposed by the governments to prevent the widespread of the virus. Consequently, the performance of almost all business enterprises has been negatively affected as there is a reduction in the volume of sales and the volume of production of these business enterprises, which in turn cause an adverse effect on the performance of these business enterprises and slowed down the economic activities all over the world (Stergios et al., 2021, Shen et al., 2020). On contrary, other certain business as the online communication, online entertainment and online shopping have been flourishing (Donthu & Gustaffson, 2020).

In fact, corporate disclosures represent the main means of communication between firms and their stakeholders; and they are provided by several means such as annual reports, interim reports and firms' websites (Hassan & Marston, 2010). Corporate disclosures help the stakeholders to take essential decisions to handle any adverse economic event; as firms reveal the contemporary business scenario, the associated risks, and the overall macroeconomic scenario (Reajmin 2021, Ailwan et al., 2013). These kinds of disclosure help the stakeholders to take essential decision in handling any adverse economic event such as COVID-19 pandemic.

Given that there is a lot of uncertainty caused by the negative effects of the COVID-19 pandemic on the overall economic performance, business operation, future earnings, various estimates, previous agreements and contracts, and other

things which directly related with financial statements. In this volatile and complex circumstance, corporate disclosures are essential to minimize the information asymmetry between the firms' management and its investors, ensure transparency and stability in the financial markets and ensure sustainable growth for the enterprises (Wibisono, G., & Ang, S. Y. (2019), Botosan, 1997; Bushman & Smith, 2003; Ben-Amar & McIlkenny, 2015).

In fact, corporate disclosures constitute the main means of communication between management and investors and markets; and they are provided by several means such as annual reports, conference calls, investor relations, interim reports and company websites (Hassan & Marston, 2010). Currently, firms are motivated to provide information on the Internet due to the reduction of cost and time for the dissemination of information, communication with all its stakeholders, enhancing the traditional disclosure practices and increase of the amount and type of disclosed information (FASB 2000, Fisher et al., 2003).

Lastly, the social media platforms represent a revolution in corporate disclosure. It presents a package of **advantages** for firms by facilitating timely reporting, quick dissemination, addressing a wider audience of online stakeholders, providing a variety of choices in presentation formats such as hypertext and multimedia, allow interactive two-way communication channel between the firms' management and its stakeholders (MikołajewiczWoźniak & Scheibe, 2017, Miller and Skinner 2015, Blankespoor, Miller, and White 2014). In fact, social media platforms have changed the dynamics of corporate disclosure (Lee, Hutton, and Shu 2015; Jiang and Shen 2017; Blankespoor 2018).

In reality, Egyptian listed firms have some different characteristics from listed firms in advanced markets. Egyptian firms are more likely to be state-owned with a varied ownership structure (totally state-owned, partially state-owned and privately owned). This varied ownership structure is because of the privatization program which the Egyptian government has started in 1991. Consequently, the proportion of institutional investors has increased. Besides, the membership of Egyptian firms' board of directors consists of odd number with a minimum of three members. Those members are shareholders or other agents of the firms ex-

cept for two members who represent experts. With respect of the executives and non-executive members; they are not governed by any rules (Elsayed et. al, 2010).

Certainly, corporate governance acts as an important, critical control and monitoring mechanism which mitigate the agency problem between the firms' management and its investor and which promote the transparent information environment (Bushman & Smith, 2001; Shleifer & Vishny, 1997). Actually, the monitoring role of the corporate governance mechanism is of vital importance to the overall corporate financial information environment, and to the firm's decision to disclose information on the social media platform.

1-1 Research problem

Although corporate disclosure helps to reduce the information gap to some extent, the information asymmetry may still exist between the firms' management and its investors because the information may not be disseminated to a wide range of investors (Blankespoor et al., 2014). Previous dissemination researches emphasize on the importance of the disclosure dissemination process as well as the disclosure decision itself (Bushee et al., 2010; Li et al., 2011; Rogers et al., 2016; Twedt, 2016). In fact, the rise of the large and interconnected social media networks has dramatically changed the corporate disclosure as it facilitates the rapid and explosive information circulation from one network to another and providing firms with fast and efficient means to disseminate information to its investors and also to other interested users (Lee et al., 2013, Blankespoor et al., 2014, Suddaby, Saxton, & Gunz, 2015).

As the corporate governance is a key determinant of firm's voluntary disclosure decision; as well as it is a critical mechanism to enhance the quality of disclosure to shareholders, this study examines whether the firms' governance; in terms of board of directors and ownership structure; in addition to the firms' characteristics; in terms of size, profitability, and leverage; affect the firms' decision to disseminate its information on the social media platform particularly during the COVID 19 pandemic using a sample of firms listed in the Egyptian Stock Market. Thus, this research seeks to answer the following questions:

RQ₁: Does the corporate governance influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₁₋₁: Does the board of directors' characteristics influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₁₋₂: Does the ownership structure influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₂: Does the firms' characteristics influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₂₋₁: Does the firms' size influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₂₋₂: Does the firms' profitability influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

RQ₂₋₃: Does the firms' leverage influence the firm's voluntary disclosure on social media in case of firms listed in the Egyptian Stock Market?

1-2 Research Objective

The purpose of this research is to empirically examine the effect of corporate governance; in terms of board of directors' characteristics and ownership structure in addition to and firms' characteristics on the voluntary electronic social media disclosure during the COVID 19 global crisis. This research focus on examining the effect of the core corporate governance attributes which are: board of directors' characteristics (board size, chief executive officer duality, independent directors, and foreigner directors) and ownership structure (institutional ownership, governmental ownership, managerial ownership, foreigner's ownership); in addition to the firm-specific characteristics (firm's size, leverage, profitability) on the voluntary disclosure of information on the social media platform in case of listed firms in the Egyptian Stock Market during the last COVID 19 pandemic.

1-3 Research importance and motivations

The **importance** of this research stems from shedding the light on a newly critical issue at the present time issue which is the corporate voluntary electronic social media disclosure. This research is shedding the light on this issue especially in case of an emerging capital market like the Egyptian capital market during the last COVID 19 pandemic. Actually, there is a rapid increase in the use of the Internet in corporate financial reporting at present time. Although, almost all firms disclose their information on their websites; however a number of firms have recently begun to use the social media as a powerful tool to connect with its stakeholders and to build a trusted and reputable brands. In fact, the importance of this research stems from the importance of the social media as a complementary corporate disclosure channel that has been increasingly used for corporate financial dissemination at the present time. Currently, the social media platforms represent a revolution in corporate disclosure as it offers a package of advantages for firms and enhances corporate information environment through dissemination via news outlets. In reality, avoiding the social media is currently no longer an option.

The importance of this research and its motives stems also from the lack of accounting studies addressing the topic of information dissemination on social media platform up till now. In fact, research on voluntary disclosure is fundamentally linked with corporate governance literature and there are many previous empirical studies have examined and documented that corporate governance is a key determinant of a firm's voluntary disclosure strategy (Bushman & Smith, 2001; Core, 2001; Beyer et al., 2010). The literature on corporate disclosure have found that corporate disclosure using the traditional means is associated with board composition, including the size of the board (Anderson et al., 2004; Laksmana, 2008), independence (Eng & Mak, 2003; Lim et al., 2007; Yekini et al., 2015), and female representation (Gul et al., 2011; Liao et al., 2015), as well as board effectiveness (Laksmana, 2008; Li, Mangena, & Pike, 2012; Xie, Davidson, & DaDalt, 2003; Zhang, Zhou, & Zhou 2007). However, with the rapid use of the Internet in financial reporting and the rise of social media are providing a newly interesting area for empirical testing to examine the association be-

tween the corporate governance, firm-specific characteristics, and Internet reporting on social media platforms.

Moreover, the motive of this research stems also from the lack of the accounting studies which examine this topic in case of emerging economics such as Egypt. Actually, this topic is a new topic and only few studies which have examined it on advanced economics rather than on developing countries. This research enriches the literature of corporate voluntary disclosure on the social media by examining a set of factors that affect the corporate voluntary disclosure on the social media platform such as the corporate governance; in terms of ownership structure and board of directors' characteristics; and the firm's characteristics; in terms of size, profitability and leverage in case of an emerging capital market such as the Egyptian capital market particularly during the last COVID 19 pandemic as researches during the crisis of the pandemic is limited.

1-4 Research Plan

According to the basic objectives mentioned above, the remainder of this research is organized as follows: Section two presents an overview of the corporate disclosure during COVID 19 pandemic, the growth of Internet-based corporate disclosure as well as the evolution of corporate disclosure via social media. Section three presents the literature review and research hypotheses development. Section four, presents the research model and the research sample. Section five presents the results of the research. Section six presents a summary of the main conclusions, implications and suggestions for future research. Finally, a detailed results of the logistic regression analysis is provided in the Appendix.

2- Corporate disclosure during COVID 19 pandemic

Corporate disclosures constitute the main means of communication between firms and their related parties, with the Internet being one of the most important. Researches on corporate disclosure have found that corporate disclosure can influence the economy of a country, and that the voluntary disclosure is able to reduce the gap that arise from information asymmetry in corporate disclosures (Botosan, 1997; Bushman & Smith, 2003; Ben-Amar & McIlkenny, 2015). Accordingly, firms voluntary disclose more information in order to reduce the in-

formation asymmetry between the management and investors, so that investors can assess investment opportunities and monitor how firms' use of their capital (Beyer, Cohen, Lys, & Walther, 2010; Healy & Palepu, 2001). Researches on corporate disclosures during the global pandemic have shown that corporate disclosures were driven by information demand and that managers were proactive to provide general information as well as information which recognize the significant impact on firm operations to investors (Wang & Xing, 2020).

Given that there is a lot of uncertainty caused by the negative effects of the COVID-19 pandemic on the overall economic performance, business operation, future earnings, various estimates, previous agreements and contracts, and other things which directly related with financial statements. Business enterprises should disclose the related impact of COVID-19 pandemic on the financial statements to prevent its financial statement from being misleading to the interested users. The extent of disclosure may be dependent on the type of the industry in which the entity is operating and the expected impact of the COVID-19 pandemic on its business. In this unstable and volatile environment; corporate disclosures are necessary. Firms are supposed to disclose the risk factors, earning forecasts, any associated material future effects, and any material uncertainty is likely to occur.

2-1 Growth of Internet-based corporate disclosure

The development of information technology has greatly affected the disclosure and dissemination of information, as well as the way it is processed by investors (Miller & Skinner, 2015). Traditionally, entities use a paper-based reporting system to share any information to their stakeholders. However during the two past decades, the internet networks become an alternative media used by entities to disseminate any information to their stakeholders. This alternative media is a paperless-based reporting system and is often called as internet financial reporting. The internet financial reporting is an example of firms' voluntary disclosure. In developing countries such as Egypt, this type of disclosure has not been formally regulated. Firms use the internet financial reporting to publish a more up-

date information, to increase efficiency and effectiveness, and to reduce the information asymmetry especially during the COVID19 pandemic.

2-2 Evolution of Corporate disclosure via social media

Currently, social media platform is a complementary corporate disclosure channel that has been increasingly used by firms for information dissemination. It allows firms to disclose its corporate and financial related information through their official social media pages. Nowadays, there is a growing usage of social media pages by many firms as alternative channels of corporate disclosure (Prokofieva, 2015). Many firms in many countries such as USA, UK, Australia, Indonesia, etc. are currently using their official social media pages to publish their corporate disclosures (Prokofieva, 2015, Zhou et al. 2015, Wibisono and Ang, 2019). Previous literature on the usage of voluntary disclosures on social media pages has found that firms have been disclosing their financial information on social media pages since 2010 (Zhou et al., 2015). The study of Zhou et al., 2015 has found that 49% of the firms use Facebook to disclose their corporate disclosures. Other studies on the voluntary use of social media pages to disclose corporate disclosure have also found similar results (Trinkle et al., 2015; Zhang, 2015).

Actually, voluntary electronic disclosure on social media networks differs from the conventional disclosure in terms of disclosure content and in its unique dissemination process. In fact, disclosure on social media networks provides firms with **several benefits**. First, social media provides firms with interactive two-way communication information dissemination. The social media pages replace the traditional one-way passive information disclosure by providing a two-way communication channel and allowing real-time conversation between the firms' management and its investors and the community at large (MikołajewiczWoźniak & Scheibe, 2017, Cade, 2016; Lee, Oh, & Kim, 2013, Blankespoor et al., 2014, Suddaby, Saxton, & Gunz, 2015).

Second, the large and interconnected online social networks facilitate fast and rapid information circulation from one network to another (Lee et al., 2013). Third, the large and interconnected online social networks facilitate an explosive and massive dissemination of information as the information is sent to a wider

audience. The corporate disclosure information posted on their pages can be viewed by a wide variety of users as social media pages are accessible by almost anyone who has internet access whether from their personal computer or their smartphones (Prokofieva, 2015, Zhou et al. 2015). Fourth, online social media networks provide firms with an efficient mean to disseminate their corporate information in a cost effective manner (Blankespoor et al., 2014). Fifth, disclosure on social media pages has an advantage of the ease of use as investors do not have to take additional actions to access the information. Also, disclosure on social media pages enable firms to provide additional explanations by providing direct links to more detailed elaborations on their corporate official website. This accelerated information dissemination using social media platforms helps to reduce the information asymmetry and improve the information environment (Blankespoor et al., 2014; Jung et al., 2016). In addition, many firms have recently begun to use the social media as a powerful tool to connect with its stakeholders and to build a trusted and reputable brand.

Previous researchers provide empirical evidence that disclosure on social media reduces information asymmetry, improves firms' information environment, and increase market liquidity through additional disclosure and direct information dissemination (Blankespoor et al., 2014; Elliott et al., 2015; Jung et al., 2018; Lee et al., 2015). Although the majority of financial disclosures on social media are not fresh news, however researchers have found that investors react to this information as if it is new (Tetlock, 2011).

3- Literature Review and Hypotheses Development

3-1 Corporate Governance mechanism and voluntary disclosure

An agency theory states that managers as rational agents will act for their own interest rather than for the benefit of their shareholders, the reason behind this type of managerial behavior is that they have more complete information about the firm than the shareholders as the owners of firms (Jensen and Meckling, 1976). This managerial behavior leads to emphasizing the importance of corporate governance as a mechanism to control the agency problem and ensure that managers will act in the interests of their shareholders. Actually, the corporate governance mechanism plays an important role in reducing the information

asymmetry between firms' managers and their less informed outside investors who only have access to information through firm's disclosure (Yang et al. 2016, Beyer, Cohen, Lys, & Walther 2010; Healy & Palepu, 2001; Kim & Verrecchia, 1994; Verrecchia, 2001). The corporate governance mechanism ensures that managers act in line with the benefit of their shareholders' through active monitoring activities, encouraging managers to quickly and widely disseminate information by using the accelerated dissemination channel of social media. This study examines two corporate governance mechanisms which are the characteristics of the board of directors and the ownership structure as discussed below:

Actually, the firm's ownership structure has been recognized to be an important governance mechanism. The present corporate governance literature recognizes its importance; however, the impact of ownership structure on corporate voluntary disclosure practices remains unexplored in emerging stock markets. Besides, the board of directors is also one of the most critical internal control mechanisms, as it is delegated, by the shareholders, to take decisions. Therefore, it is expected to operate as a supervisor of the management's behavior on the owners' behalf. Actually, efficient board as an internal control reduces managerial self-serving behaviors; prevents expropriation of shareholder's wealth; reduces the agency cost and creates pressure for better disclosure.

3-1-1 Board of directors

The board of directors is one of the most critical corporate governance mechanisms. The present corporate governance literature recognizes the importance of the board of directors as an internal governance mechanism since the board members are delegated by the shareholders to supervise the managers' behavior and to take decisions for the owners' behalf. For corporate board of directors, the most important social media questions are whether the board of directors themselves qualified and have the necessary knowledge to deal with these new technologies or they need to make changes in the composition of the board to deal with the complexities of social media, in addition, whether the board of directors needs external support and training to do that or not. Researchers have found that corporate boards have an essential role in the internal control and monitoring of voluntary corporate disclosure on social media. However, the effectiveness

of the board as a control mechanism can be limited if the members of the board are at the same time managers of the company. This study will examine the effect of board of directors' characteristics which are the number of independent directors on the board, the CEO duality, board size, and the number of foreign directors on the board on firm's decision of voluntary communication on social media networks.

(A)- Independent Directors

The board of directors is one of the most critical internal governance mechanisms; however, the effectiveness of the board as a control mechanism can be limited if the members of the board are at the same time managers of the firm. Actually, any board is composed from inside or outside members. Inside members are often selected from the executive officers of a firm while outside directors are members whose the only relationship with the firm is their directorship. In reality, top managers are involved in the boards because they know the firm's activity in details and accordingly they can provide valuable information for taking decisions. However, the prevalence of top managers in the board of directors can cause to transfer of shareholders' wealth to managers (Fama 1980, and Fama and Jensen 1983). In other situations, the firm' board of directors include members who are managers and shareholders at the same time. In this situation, the risk of a wealth transfer from owners to managers is decreased; however there is another risk which is the risk of wealth transfer from minority who are the outsider shareholders to the insider controlling ones. With the purpose of reducing these risks, the board of directors should include a number of independent directors. The independent directors are professionals who do not have a material or financial relationship with the firm or its related parties, except their sitting fees. They should be free from any relationship which could materially influence their independence during their judgment process. The independent directors are neither managers nor owners to the firm, with high institutional expertise and a professional reputation.

In recent disclosure researches; the ratio of independent directors on the board of directors is one of the variables which is increasingly used as the inclusion of independent directors on the board strengthen corporate governance. In reality, the inclusion of independent directors on the board enhance the efficiency of the board as an internal control, reduce managerial self-serving behaviors, prevent expropriation of shareholder's wealth, reduce the agency cost and create pressure for better disclosure. If independent directors on the board actually conduct their controlling and monitoring role, good corporate governance is strengthened (Chau & Gray, 2010), boards effectiveness is enhanced (Haniffa & Cooke, 2002), greater transparency, disclosure quality is improved and more information disclosure is expected (Ajinkya et al., 2005).

Empirical evidence on the importance of independent directors on the board has been mixed. Previous studies have found a positive relationship between board independence and financial disclosure quality (Beasley, 1996; Klein, 2002, Barako et al., 2006), the frequency and timing of earnings disclosure (Ajinkya et al., 2005; Sengupta, 2004), as well as the level of voluntary disclosure (Cheng & Courtenay, 2006; Lim et al., 2007). Akhtaruddin and Rouf (2012) have found that independent directors are needed on the boards to monitor and control the actions of executive directors who may engage in opportunistic behavior and also to ensure that managers are working in the best interest of the principal. Cheng and Courtenay (2006) have found that boards with a larger proportion of independent directors are significantly and positively associated with higher levels of voluntary disclosure in Singapore. In addition, Chen and Jaggi (2000) have found a positive relationship between a board with a higher proportion of independent directors and comprehensive financial disclosure. Moreover, Aktaruddin et al. (2009) find that firms can expect more voluntary disclosure with the inclusion of a larger number of independent directors on the board. Other researchers argue that an independent board serves as an important check and balance mechanism in enhancing boards' effectiveness (Haniffa & Cooke 2002, Barako et al. 2006, Simon & Kar 2001).

However, several studies have provided opposing evidence. For instance, Eng and Mak (2003) and Gul and Leung (2004) have found a negative relationship

between board independence and voluntary disclosure, while other researchers have found no significant association between the proportion of outside directors and the voluntary disclosure (Park and Shin 2004, Gul & Leung, 2004, Ho & Wong 2001, Haniffa & Cooke, 2002; Alves et al., 2012).

As indicated above, previous researchers have found mixed results. Some have found that outside directors are more effective than inside directors in maximizing shareholders' wealth. In contrast, other researchers have found that the inside directors can contribute more to a firm than outside directors due to their firm-specific knowledge and expertise. Although the findings were mixed however the majority of findings were consistent with agency theory that a firm with more independent directors has higher level of voluntary disclosure since a higher proportion of independent directors serves as an important check and balance mechanism in enhancing boards' effectiveness and therefore enhance the voluntary financial reporting. Accordingly the research hypothesis will be as follow:

H₁: There is a significant positive relationship between the number of independent directors on the corporate board and the firm's voluntary disclosure on social media platform.

(B)- CEO duality

Another significant corporate governance characteristic which is often discussed is whether the chair of the board of directors and CEO positions held by one person that is a unitary leadership structure, or by two different persons which is a dual leadership structure. In fact, the separation between the chairmen of the board of director's position from the chief executive officer's position leads to a more efficient board and enables the board to function with more transparency and therefore leads to more disclosure (Ghazali & Weetman, 2006). On the other hand, when the positions of the CEO and chairman are held by the same person this has a negative impact on the independence of the board and its ability to exercise efficient control; because of the absence of separation between the decision management and decision control (Depoers & Jeanjean, 2012). According to agency theory, the unitary leadership structure significantly weakens the boards' most important function of monitoring, disciplining and compensating senior managers and enables the CEO to engage in opportunistic behavior be-

cause of his dominance over the board. Moreover, this person would tend not to disclose unfavorable information to outside parties of the firm (Ho & Wong, 2001).

Previous researches in this area indicate that the CEO duality is negatively associated with the extent of the disclosure (Samaha, Dahawy, Hussainey, & Stapleton, 2012). Forker (1992) empirically examined the relationship between corporate governance and disclosure quality, and presented evidence of a negative relationship between disclosure quality and dominant personality as measured by the combining the CEO and board chairman positions (Dulacha, 2007). Based on the above, the following research hypothesis will be as follow:

H₂: There is a significant positive relationship between the separation of CEO and board chairman positions and the firm's voluntary disclosure on social media platform.

(C)- Board Size

As indicated above, the board of directors has the ultimate responsibility for the functioning of the firm and is often motivated by the legal liability. Actually, Board size is important corporate governance characteristic and it has an important role in promoting corporate transparency (Samaha, Khlif, & Hussainey, 2015) and effectively monitoring corporate governance (Sandhu & Singh, 2019). In fact, are more efficient for corporate performance as they have a wide range of collective experience which helps in taking better decision. Researchers indicate that large boards allow diverse opinions and experiences and increase the supervisory role of the board (Gandia, 2008).

Previous researches regarding the relationship between board size and voluntary disclosure have provided mixed results. Some previous studies have found a positive relationship between board size and corporate voluntary disclosure which supporting the argument that larger boards enhance the advising and monitoring capacity by pooling together a variety of experiences, resources, and perspectives and then leads to greater corporate transparency (Samaha et al., 2012; Nadndi & Ghosh, 2012; Hassan, 2013, Allegrini & Greco, 2013; Sandhu & Singh, 2019, John & Senbet, 1998; Lim et al., 2007). Some researchers used

board size as a determinant of disclosure in corporate annual reports (Chen and Jaggi, 2000). On contrary, several studies have found adverse effect of oversized boards due to less decision-making efficiency and additional cost of intense monitoring (Faleye, Hoitash, & Hoitash, 2011; García Osma & Guillamón-Saorín, 2011; PradoLorenzo & Garcia-Sanchez, 2010; Yermack 1996). While others have found an insignificant relationship between the two variables (Elsayed et al., 2010; Basuoni & Mohamed, 2014). Based on the above, the following research hypothesis will be as follow:

H₃: There is a significant positive relationship between the board size and the firm's voluntary disclosure on social media platform.

(D)- Foreign members in the board of directors

Within the context of corporate governance, the composition of the board of directors is an important governance attribute. In fact, the inclusion of a foreign board member is a step forward in a firm's globalization process and reflects the fact that these firms have successfully develop their domestic corporate governance by importing a foreign corporate governance system. The existence of a foreign board members in the board of directors help directors to stress openness and frankness in performing their monitoring tasks, rather than giving priority to respect and politeness among the board members (Oxelheim & Randøy, 2003). Foreign directors will be more willing to provide the stakeholders with qualitative and correct information, therefore increasing the quality of their monitoring role. Foreign directors have a positive influence on the reduction of management fraud (Hooghiemstra et al. 2015). In addition, as these directors come from outside they will exercise independent thinking and will be less reluctant to raise controversial issues. This will benefit discussions within the boardroom and contribute to increased monitoring effectiveness (Srinidhi et al., 2011). Indeed, foreign directors may bring different viewpoints to the boardroom given their different backgrounds and experiences. Again, this may raise the effectiveness of boards when it comes to carrying out their monitoring task.

In fact, different nationality means different cultural values and different management practices. No distinction is made between one or more foreign board members since already one foreign board member achieves the required effect.

Besides, the existence of a foreign board member will promote the exchange of information by disseminating information to their international network. Accordingly, all these differences can increase the governance standards of these firms which would lead to a positive relation between foreign board membership and the corporate voluntary disclosure on the social media platform. In this research, we focus on how the internationalization of a corporate board by hiring a foreign board member can affect the corporate voluntary disclosure on the social media platform. Accordingly, the research hypothesis will be as follow:

H₄: There is a significant positive relationship between the presence of a foreign board member and the firm's voluntary disclosure on social media platform.

3-1-2 Ownership Structure

Apart from the monitoring role played by the board of directors, the ownership structure is a major governance mechanism that associates the interest of shareholders and managers. Researches also emphasize on the importance of the monitoring role played by the ownership structure. They have recognized ownership structure as significant governance mechanism that is associated with the level of corporate disclosure (Hongxia et al., 2008; Haniffa and Cooke, 2002; End and Mark, 2003; Chau and Gray; 2002).

With respect to the firm's ownership structure, this research is concerned with examining the effect of four types of ownership structures which are the institutional ownership, governmental ownership, managerial ownership as well as the foreign ownership; on voluntary corporate disclosure on social media platforms for firms listed on the Egyptian stock market.

(A)- Institutional Ownership

Institutional investors have been identified as a critical governance mechanism. In fact, institutional investors have more incentive to monitor the firms they own than do other individual investors. They are willing to overcome the free-rider problem that is caused by the diffused ownership of small shareholders. The free-rider problem arises from a lack of individual shareholder's incentive to restrain a non-value-maximizing manager because the benefit will be shared by

all other shareholders who were too passive to take an action (Dhaliwal, Salamon and Smith, 1982). The reasons behind why institutional investors have more incentive to monitor the firms more are as follows: (1) Institutional investors are professionals accordingly their cost of monitoring when compared with other small shareholders is significantly reduced; (2) Institutional investors usually own large blocks in firm's shares (Gillan and Starks, 2003; Chung and Zhang, 2011; Rouf, 2011) ; (3) Institutional investors have a greater incentive and ability to acquire more timely pre-disclosure information than small shareholders; (4) Institutional investors also have more incentive to monitor the firm they own particularly if there are high trading costs involved (Gillan and Starks, 2003; Chung and Zhang, 2011; Rouf, 2011); (5) are better able to evaluate the financial decisions of management (Chung, Firth and Kim 2002); and (6) enjoy greater voting power, making it easier to take corrective action when it is deemed necessary. As a result, firms with larger shareholders are more likely to be monitored than those with diffuse ownership (Dhaliwal, Salamon and Smith, 1982) and are more likely to be surrounded by a much richer information environment (Rajgopal, Venkatachalam and Jiambalvo, 1999). In short, institutional ownership enhances the efficiency of firms due to their ability to better analyze information, provide new technologies and capital.

Previous researches have supported the positive role of institutional investors in enhancing the voluntary corporate disclosure (Uyar et al., 2013). Over the past years, institutional investors have owned large percent of equity in many firms, which makes them key players in corporate governance. Many previous studies have provided evidence of a positive relation between institutional ownership and firm voluntary disclosure (e.g., Abramova et al., 2017; Ajinkya et al., 2005; Bushee & Noe, 2000; Healy et al., 1999; Karamanou & Vafeas, 2005). Bos and Donker (2004) provided evidence that institutional investors had an incentive to detect self-serving behavior by management. Furthermore, institutional investors possess financial know-how and are well able to interpret the information disclosed in the annual reports. Diamond and Verrecchia (1991) find that institutional investors encourage more disclosure and thus reduce information

asymmetry. Ajinkya et al. (2005) find that institutional ownership is positively associated with the properties of managerial earning forecasts.

Besides, other researchers have also recognized the degree of institutional ownership as an important corporate governance mechanism that helps facilitate the monitoring of executive activities along with making sure governance matches with best practices (Bassen, 2005; Roberts and Yuan, 2010; Rashid, 2011). In addition, other researchers have provided evidence that institutional ownership benefits firms by improving their information environments and thus their access to capital (Healy, Hutton, and Palepu 1999; Bushee and Noe 2000; Jambalvo, Rajgopal, and Venkatachalam 2002; Bushman, Piotroski, and Smith 2004; Ajinkya, Bhojraj, and Sengupta 2005). In fact, all of these results are attributed to the monitoring role of institutional investors as institutional investors demand more public disclosure to facilitate managerial monitoring as the private information acquisition is costly. Based on the above discussion, the research hypothesis will be as follow:

H₅: There is a significant positive relationship between the percentage of shares held by institutional investors and the firm's voluntary disclosure on social media platform.

(B)- Governmental Ownership

With respect to the governmental ownership, governments have a greater influence on firms in emerging economies. Unfortunately, previous researches have documented that government owned firms usually underperformed compared with the other forms of ownership. The main reason for the inefficient performance of the government owned firms is the lack of incentives for government employees to maximize efficiency with regard to both cost reduction and quality innovation (Shleifer, 1998).

Previous researches have argued that agency costs are higher in governmental owned firms because of the conflicting objectives between the pure profit goals of any commercial enterprise, and the goals related to the interests of the nation as a whole (Eng and Mak, 2003). Based on this argument; there is a need to in-

crease voluntary disclosure and to better communicate with shareholders in governmental owned firms.

Some researchers have found negative association between the governmental ownership and corporate voluntary disclosure; for example Ghazali and Weetman (2006) have found that the governmental ownership in Malaysia did not promote greater disclosure or better transparency. They argued that in a developing country as Malaysia; governmental owned firms are strongly politically associated, and therefore these firms tend to disclose less information to protect their political linkages or even their beneficial owners. On contrary; other researchers have expected and found positive relationship between governmental ownership and voluntary disclosures (Huafang and Jianguo, 2007, Eng and Mak (2003). In this study it is expected that government requests more transparency from governmental owned firms to protect small investors, accordingly, information disclosures will increase. Thus, the research hypothesis will be as follows:

H₆: There is a positive relationship between the percentage of shares owned by government and the voluntary corporate disclosure on social media platform.

(C)-Foreign Ownership

Actually, many policy-makers in developing countries seek to improve the liquidity of their capital stock market through foreign ownership. In fact, the involvement of foreigners in the firm's ownership structure becomes a motive for firms to improve its corporate disclosure strategy. In fact, foreign ownership structure encourages accountable behavior, enhances internal practices, and increases transparency as well as trust through voluntary corporate disclosure. Opposing to domestic investors; who have many ways to protect their rights such as better connections to other shareholders and to courts (Shleifer et al. 1997); foreign shareholders, on contrary, may suffer from high level of information asymmetry caused by different language and lack of information availability. Based on the agency theory, one possible solution to solve the information asymmetry problem is to increase levels of firm's voluntary disclosure.

In fact, the presence of foreign investors in the firm's ownership structure has a positive impact on the establishment of transparent firm governance and better corporate disclosure. The involvement of foreigners in the firm's ownership structure can be a signal to guarantee the accountability and trust of the firm towards its stakeholders. In truth, investing in foreign firm in another country particularly in developing countries can be very risky. Accordingly, investors seek to reduce the uncertainty in several ways; one of them is to invest in firms with better corporate disclosure strategy. Foreign investors tend to choose firms that voluntarily disclose more information, including financial and non-financial information. Consequently many firms from emerging markets which seek to get a foreign invested capital have to increase its voluntary information disclosure especially earnings forecast, risk and forward-looking disclosure to reduce the information asymmetry and to ensure accountability and trust for foreign shareholders.

Many previous researchers have found that firms with a foreign ownership are probably disclosing more voluntary information (Ferguson et al. 2002, El-Gazzar, 1998). This result has been also supported by the study of Xiao, et al., (2004) who found a positive relationship between foreign ownership and earnings forecasts in the Chinese firms. In addition, Mangena and Tauringana (2007) and Bokpin and Isshaq (2009) have empirically found a relation between foreign investors and disclosure in developing countries. Accordingly, the research hypothesis will be as follow:

H7: There is a positive a relationship between the foreign ownership and the voluntary corporate disclosure on social media platform.

(D)-Managerial Ownership

Managerial ownership is a major governance mechanism that helps to control the agency problems. The agency conflict is the result of the separation between the ownership and controlling right. Ideally, managers as the firm executives are agents of the owners to manage the firm in accordance to the owner's interest. However, managers and owners have different interests which result to a conflict of interest, this conflict occurs between them is what is known as the agency

conflict. As the result of the separation, the manager as an agent manages the firm in accordance to his own interest which is contrary to the owners who are the principal's interest because the manager has the freedom to take the firm's decision. Unfortunately, this freedom leads to the emergence of a moral hazard through the opportunistic actions taken by the managers for their own benefit on the expense of shareholders interest (Jensen and Meckling 1976).

Managerial ownership is an important governance mechanism that helps to control the agency problems. According to agency theory, if managers have a certain proportion of their wealth materialized in terms of shares of the firm, they will be more responsible for the firm's performance (Mehran 1995; de Andrés-Alonso, Cruz, and Romero-Merino, 2006). As managerial ownership is measured by the percentage of ordinary shares held by the CEO and executive directors; thus the more equity owned by the manager this will lead to a better alignment of monetary incentives between the manager and the owners (Jensen and Meckling, 1976). On the other side, large managerial ownership may decrease the performance because managers can be so powerful that they do not consider other stakeholders interests. More equity ownership leads to entrenchment of managers, which can be specifically costly to the firm (Morck, Shleifer, and Vishny, 1988).

Previous researchers argue that voluntary disclosure is a substitute for the outside monitoring and thus is negatively related to managerial ownership. Eng and Mak (2003) provided evidence consistent with this prediction. Also, Ruland et al. (1990) provided evidence that as managerial ownership increases, firms are less likely to disclose more information such as management earnings forecasts. Other researchers argue that additional monitoring is required by outside shareholders as managerial ownership decreases. This monitoring puts pressure on managers to disclose more information than is demanded by law (Jensen and Meckling, 1976). In light of the above, the research hypothesis will be as follow:

H₈: There is a negative relationship between the managerial ownership and the voluntary corporate disclosure on social media platform.

3-2 Firm-Specific Characteristics

3-2-1 Firm Size

With respect to the firm's size, larger firms are expected to disclose more information compared to small firms because: (1) they are subjected to public inspection (Alsaeed, 2006), (2) they attract political attention and may adopt strategies to reduce political cost (Watts & Zimmerman, 1978), and (3) the cost of complying with disclosure requirements is lower for large companies (Owusu-Ansah, 1998). (4) Large firms need more external capital; accordingly large firms are more likely to provide more information in an attempt to reduce their agency costs (Jensen and Meckling, 1976). (5) In terms of litigation risks, large firms are more exposed to litigation than small firms and thus may disclose more information to avoid litigation (Kasznik and Lev, 1995; Rogers and Stocken, 2005). (6) Larger firms often have more experienced and knowledgeable staff because larger firms appoint managers with high qualifications (Hilary and Hsu, 2011) and this will help firms to disclose more and high-quality disclosures (Feng et al., 2009). (7) Larger firms have stronger incentives to build reputations by disclosing high quality disclosure. Accordingly, large firms are more likely to disclose more information to realize the possible benefits of better disclosure; on the other hand small firms are unwilling to disclose their activities because this could result in a competitive disadvantage (Raffournier, 1995).

In literature, Firm size has been a common variable used in disclosure studies. In previous studies, total sales and total assets were used as the measures of firm size. Most of the previous researches related to the internet financial reporting concluded that the level of disclosure on the Internet was positively associated with firm size (Ashbaugh et al., 1999; Brennan and Hourigan, 2000; Ettredge et al., 2002; Garg and Gakhar, 2010, Debreceny, Gray, & Rahman, 2002; Marston & Polei, 2004; Xiao, Yang, & Chow, 2004; Elsayed et al., 2010; Hossain, Momin, & Leo, 2012; Andrikopoulos, Merika, Triantafyllou, & Merikas, 2013; Bekiaris, Psimada, & Tasios, 2014; Ahmed, Burton, & Dunne, 2017; Al-Sartawi & Reyad, 2018; Sandhu & Singh, 2019; Xiang & Birt, 2020). Based on the above, the following hypothesis is tested regarding size of the firm:

H₉: There is a positive relationship between the firm's size and the voluntary corporate disclosure on social media platform.

3-2-2 Profitability

Actually, there is a general proposition that a firm's willingness to disclose information is positively related to its profitability. The motive behind this is derived from agency theory. It is suggested that profitable firms have incentives to distinguish themselves from less profitable firms; thus managers of profitable companies disclose extensive information in order to illustrate and explain to shareholders that they are acting in their best interests and justify their compensation packages and to signal institutional confidence. Although managers in more profitable firms may have incentives to provide better internet reporting, however they may face higher costs when potential competitors come into the same industry because of the high profitability. That is the internet reporting may contain useful information to the firm's competitors and may attract more competitors into its industry thus lead to loss of competitive advantages of a firm (Baginski et al., 2002; Baginski and Rakow, 2012; Clarkson et al., 1994; Verrecchia, 1983; Wang, 2007). Therefore, in theory, managers in a firm with good financial performance have both incentives and disincentives to disclose information.

Previous studies have found mixed results on the relationship between firms' performance and internet reporting. The majority of previous studies have found that firms with better past performance tend to disclose more information than under-performed firms (Haniffa and Cooke 2002), while other studies have found negative association between Internet disclosures and profitability (Bekiaris et al., 2014; Xiang & Birt, 2021, Mendes-da-Silva and Christensen, 2004), the reason behind this is that less profitable firms may provide additional disclosures to explain its poor performance and assure markets about future performance (Leventis & Weetman, 2004), as well as certain types of negative information may be disclosed voluntarily in order to minimize the possibility of legal liability (Lang and Lundholm, 1993). Whereas, several studies have found insignificant relationship between Internet disclosures and profitability (Marston and Polei, 2004; Xiao et al., 2004; Oyelere, Laswad, & Fisher, 2003; Marston & Polei, 2004; Al-Sartawi & Reyad, 2018; Sandhu & Singh, 2019), others a significant

positive relationship (Elsayed et al., 2010; Andrikopoulos et al., 2013; Kamall-uarifin, 2016; Waweru et al., 2019). Accordingly, the research hypothesis will be as follows:

H₁₀: There is a significant positive relationship between firm's profitability and the firm's voluntary disclosure on social media platform.

3-2-3 Leverage

In fact, financial leverage influences the level of firm's voluntary disclosure. Higher leveraged firms have an incentive to disclose more information. If the financial leverage is a high ratio; this encourages managers to improve their disclosure policy and disclose more information to help bondholders to make better predictions about the firm's growth, risk and return prospects; thus lowering the firm's borrowing costs and avoid any creditors' claims. Accordingly, financial disclosure can contribute to the solution of the monitoring problems between shareholders and creditors, which are more likely to occur in high leveraged firms (Raffournier, 1995). On contrary, a low financial leverage ratio encourages managers to adjust their disclosure procedure toward shareholders more than creditors. Therefore, firms with higher leverage ratio tend to disclose more information than the lower ones.

Previous researches have produced mixed results regarding the relationship between the firm's disclosure and leverage. A number of researchers have found a positive relationship between leverage and the extent of voluntary disclosure (Kolsi, 2012; Hajji & Ghazali, 2013). On the other hand, other researches have found negative relationship between leverage and the disclosure level (Allegrini and Greco 2011, Nandi and Ghosh 2012, Bhayani 2012). While other researchers did not find any relationship between leverage and the disclosure level (Aksu & Kosedag, 2006, Oyelere et al., 2003; Puspitaningrum & Atmini, 2012; Ahmed et al., 2017; Al-Sartawi & Reyad, 2018; Waweru et al., 2019; Xiang & Birt, 2021). Based on the above discussion, the following research hypothesis will be formed:

H₁₁: There is a positive relationship between firm's leverage and the firm's voluntary disclosure on social media platform.

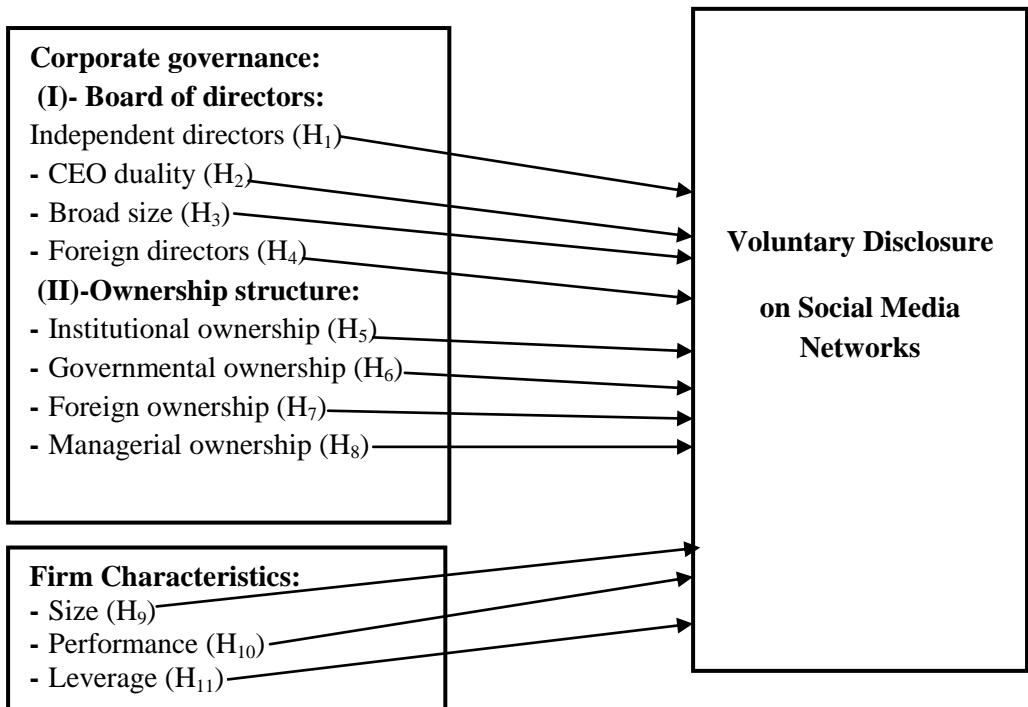
4- The Design of the Empirical Study

4-1 Research population and sample

The population of this research consists of all firms listed in the Egyptian Capital Market in the year 2020 which are 192 firms. The research sample consists of 102 firms listed in the Egyptian Capital Market after excluding commercial banks and firms which prepare its financial statements in a foreign currency. Table (I) in the Appendix indicates the firms included in the research sample as divided into sectors. **With respect to the data collection method;** the researcher has gathered the information from the web site of the Egyptian Stock of Exchange as well as from the annual financial reports of the listed firms for the year 2020.

4-2 Research model

This research has used **the Binary logistic regression model** to test the research hypotheses. In statistics, the Binary logistic regression is a regression model where the dependent variable is categorical binary dependent variable that takes only two values. Accordingly, this research used the binary logistic regression to test whether the specified independent variables contribute significantly to the prediction of the dependent variable.



The following Binary logistic regression model is used to test the firm's corporate governance and firm's characteristics impact on corporate voluntary electronic disclosure on social media network as follows:

4-3 Measurement of Research Variables

$$SMD_{it} = \beta_0 + \beta_1 INDB_{it} + \beta_2 CEO_{it} + \beta_3 BDS_{it} + \beta_4 FDIR_{it} + \beta_5 INSTOWN_{it} + \beta_6 GOVOWN_{it} + \beta_7 FGOWN_{it} + \beta_8 MGOWN_{it} + \beta_9 FSIZE_{it} + \beta_{10} ROA_{it} + \beta_{11} LEVG_{it} + \varepsilon_{it}$$

4-3-1 Dependent variable

With respect to the dependent variable, the dependent variable is the voluntary disclosure on the social media platform (SMD); which is measured by a dummy variable that takes the value of 1 if the firm provides electronic voluntary disclosure on social media network and 0 otherwise (Yang et al., 2016).

4-3-2 Independent variables

With respect to the independent variables, the independent variables are a set of corporate governance and firms' characteristics which are described as follows:

- Board independence (INDB): is measured by the total number of independent directors in the corporate board. (Xiang and Birt, 2021, Rossi et al., 2021, Yang et al., 2016).
- Chief executive officer duality (CEO): is measured by a dummy variable that takes the value of 1 if the positions of the CEO and the president are held by two different persons and 0 otherwise (Rossi et al., 2021).
- Board size (BDS): is measured by the total number of directors in the corporate board (Yang et al., 2016, Rossi et al., 2021).
- Foreign board member (FDIR): is measured by the total number of foreigner directors in the corporate board (Lau et al., 2016, Thuc et al., 2019, Shubita and Fawzi Shubita, 2019).
- Institutional ownership (INSTOWN): is measured by the percentage of shares held by the institutional investors (Chung and Zhang, 2009).
- Government ownership (GOVOWN): is measured by the percentage of shares held by the government (Lau et al., 2016).

- Foreign ownership (FGOWN): is measured by the percentage of shares held by the foreign investors (Shubita and Fawzi Shubita2019).
- Managerial ownership (MGOWN): is measured by a dummy variable that takes the value of 1 if there are shares held by the management (executive directors) and 0 otherwise (Wahba, 2014).
- Size (FSIZE): is measured by the natural logarithm of firm's total assets= log (total assets) (Xiang and Birt, 2021, Rossi et al., 2021, Shen et al., 2020, Thuc et al.,2019, Yang et al., 2016).
- Return on assets (ROA): is measured by dividing the firm's annual net income by its total assets= Net income/ total assets (Yang et al, 2016, Wahba, 2014, Shubita and Fawzi Shubita2019).
- The financial leverage (LEVG): is measured by dividing total debts (both short-term and long-term debts) by total equity= Total debt/ Total equity (Thuc et al., 2019).
- The error term (ϵ_{it}).

5- Research Results

5-1 Descriptive statistics

First, the descriptive statistics were conducted for the explanatory variables.

Table 1: Descriptive Statistics of the Explanatory variables

	N	Minimum	Maximum	Mean	Std. Deviation
Board size	95	3.00	16.00	7.9158	2.35500
Independent directors	95	.00	5.00	1.2737	1.13402
Foreign Director	95	.00	4.00	.2842	.63015
Institution ownership	95	.00	.97	.4664	.29386
Gov ownership	95	.00	.92	.1788	.29965
Foreign ownership	95	.00	.95	.1593	.25105
Managerial ownership	95	.00	1.00	.6842	.46730
Size	93	6.08	10.74	9.1055	.75486
ROA	93	-7.86	.32	-.0727	.84018
Leverage	93	-17.25	6.49	.7722	3.03636
Valid N (listwise)	93				

Table (1) above provides the descriptive analysis which includes the mean and the standard deviation for the explanatory variables.

Second, the frequencies of the dummy variables are presented. Table (2) presents the frequency of voluntary disclosure on Social Media networks; the results indicate that 60 firms which represent about 63.2% of the firms in the research sample do not provide disclosure on the Social Media networks, and that only 35 firms which represent about 36.8% of the firms in the research sample provide voluntary on Social Media disclosure.

Table 2: Frequency of voluntary disclosure on Social Media networks

Social Media Disclosure (SMD)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No-disclosure .00	60	60.0	63.2	63.2
	Disclosure 1.00	35	35.0	36.8	100.0
	Total	95	95.0	100.0	
Missing	System	5	5.0		
Total		100	100.0		

Table (3) presents the frequency of CEO duality in the firms of the research sample. The results indicate that there is CEO duality in 27 firms which represent about 28.4% of the firms in the research sample; while there is separation between the two positions of the chairman and the chief executive officers in 68 firms which represent about 71,6% of firms.

Table 3: Frequency of CEO duality

CEO duality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	27	27.0	28.4	28.4
	1.00	68	68.0	71.6	100.0
	Total	95	95.0	100.0	
Missing	System	5	5.0		
Total		100	100.0		

5-2 Logistic Regression Analysis

The results of running the Binary logistic regressions of firm's corporate governance and firm's characteristics impact on corporate voluntary electronic disclosure on social media network using the SPSS are presented in Tables (II) in the Appendix. A Summary of Binary logistic regression results are given below:

Table 4: A Summary of the Binary logistic regression of firm's corporate governance and firm's characteristics impact on corporate voluntary disclosure on social media network

Variable	Expected sign	Coeff. B	Sig.	Exp(B)	Model Summary	
					-2 Log likelihood	Nagelkerke R Square
Independent directors	+	.523	.069	1.687	84.606	.462
CEO separation	+	1.255	.095	3.508		
Board size	+	.010	.932	1.010		
Foreign director	+	.179	.672	1.196		
Institutional ownership	+	2.508	.098	12.286		
Governmental ownership	+	2.267	.079	9.650		
Foreign ownership	+	-2.161	.171	.115		
Managerial ownership	-	.576	.434	1.779		
Size	+	1.512	.010	4.538		
Profitability	+	1.918	.424	6.804		
Leverage	+	.120	.487	1.127		

The above table shows that the general model is accepted and the Nagelkerke R Square was .462. With respect to the first hypothesis, that there is a significant positive relationship between the number of independent directors on the corporate board and the firm's voluntary disclosure on social media platform as the independent directors variable is significant at (B=.523, sig=.069). Accordingly, the first hypothesis is **accepted**; there is a significant positive relationship between the number of independent directors on the corporate board and the firm's voluntary disclosure on social media platform.

With respect to the CEO duality variable; there is a significant positive relationship between the separation of CEO and board chairman positions and the firm's voluntary disclosure on social media platform at ($B=1.255$, $sig=.095$). Accordingly, the second hypothesis is **accepted**; there is a significant positive relationship between the separation of CEO and board chairman positions and the firm's voluntary disclosure on social media platform. Whereas with respect to the board size; the relationship is insignificant at ($B=.010$, $sig=.932$). Accordingly, the third hypothesis is **rejected**. There is no significant relationship between the board size and the firm's voluntary disclosure on social media platform.

With respect to the fourth hypothesis; the relationship is insignificant at ($B=.179$, $sig=.672$). Accordingly, the fourth hypothesis is **rejected**. There is no significant relationship between the presence of a foreign board member and the firm's voluntary disclosure on social media platform.

With respect to the fifth hypothesis; the relationship is significant at ($B=2.508$, $sig=.098$). Accordingly, the fifth hypothesis is **accepted**. There is a significant positive relationship between the institutional ownership and the firm's voluntary disclosure on social media platform.

With respect to the sixth hypothesis; the relationship is significant at ($B=2.267$, $sig=.079$). Accordingly, the sixth hypothesis is **accepted**. There is a significant positive relationship between the governmental ownership and the firm's voluntary disclosure on social media platform.

With respect to the seventh hypothesis; the relationship is insignificant at ($B=-2.161$, $sig=.171$). Accordingly, the seventh hypothesis is **rejected**. There is insignificant relationship between the foreign ownership and the voluntary corporate disclosure on social media platform.

With respect to the eighth hypothesis; the relationship is insignificant at ($B=.576$, $sig=.434$). Accordingly, the eighth hypothesis is **rejected**. There is insignificant relationship between the managerial ownership and the voluntary corporate disclosure on social media platform.

With respect to the ninth hypothesis; the relationship is significant at ($B=1.512$, $\text{sig}=.010$). Accordingly, the ninth hypothesis is **accepted**. There is a significant positive relationship between the firm's size and the voluntary corporate disclosure on social media platform.

With respect to the tenth hypothesis; the relationship is insignificant at ($B=1.918$, $\text{sig}=.424$). Accordingly, the tenth hypothesis is **rejected**. There is insignificant relationship between the firm's profitability and the voluntary corporate disclosure on social media platform.

With respect to the eleventh hypothesis; the relationship is insignificant at ($B=.120$, $\text{sig}=.487$). Accordingly, the eleventh hypothesis is **rejected**. There is insignificant relationship between the firm's leverage and the voluntary corporate disclosure on social media platform.

A summary of the results of the research hypotheses is given in the following table:

Table 5: A Summary of the Results of the Research Hypotheses

	Hypotheses	Result
1- The Corporate Governance Hypotheses:		
(1-1)-The Board of Directors Hypotheses:		
H ₁	There is a significant positive relationship between the number of independent directors on the corporate board and the firm's voluntary disclosure on social media platform.	Accepted
H ₂	There is a significant positive relationship between the separation of CEO and board chairman positions and the firm's voluntary disclosure on social media platform.	Accepted
H ₃	There is a significant positive relationship between the board size and the firm's voluntary disclosure on social media platform.	Rejected
H ₄	There is a significant positive relationship between the presence of a foreign board member and the firm's voluntary disclosure on social media platform.	Rejected
(1-2)- The Ownership Structure Hypothesis:		
H ₅	There is a significant positive relationship between the percentage of shares held by institutional investors and the firm's voluntary disclosure on social media platform.	Accepted
H ₆	There is a positive relationship between the percentage of shares owned by government and the voluntary corporate disclosure on social media platform.	Accepted

H ₇	There is a positive a relationship between the foreign ownership and the voluntary corporate disclosure on social media platform.	Rejected
H ₈	There is a negative relationship between the managerial ownership and the voluntary corporate disclosure on social media platform.	Rejected
2- Firm Characteristics Hypothesis:		
H ₉	There is a positive relationship between the firm's size and the voluntary corporate disclosure on social media platform.	Accepted
H ₁₀	There is a significant positive relationship between firm's profitability and the firm's voluntary disclosure on social media platform.	Rejected
H ₁₁	There is a positive relationship between firm's leverage and the firm's voluntary disclosure on social media platform.	Rejected

6- Research summary, conclusions, recommendations, and suggested future researches

With respect to the Research summary; the empirical results of this research indicate that among the board of director's characteristics; there is a statistically significant positive relationship between both the number of independent directors in the corporate board and the firm's voluntary disclosure on social media platform. As well as; the empirical results also indicate that there is a significantly positive relationship between the separation of the CEO position from the board chairman position on the corporate board and the firm's voluntary disclosure on social media platform. With respect to the ownership structures; the empirical results of this research indicate that there is significant positive relationship between both the institutional ownership as well as the governmental ownership and the firm's voluntary disclosure on social media platform. Moreover among the firm's characteristics; the empirical results of this research indicate that there is a statistically significant positive relationship between the firm's size and the voluntary corporate disclosure on social media platform.

With respect to the Research conclusion; from the aspect of information technology, there are still few numbers of firms listed in the Egyptian stock Market which use the social media platform to present its information to the interested users. In addition, there are still few firms were found providing analysis fea-

tures that can be used by the users to easier perform calculations regarding their investment plans in the future.

With respect to research limitations; the sample used in the study only one year of observation (2020) and is limited only to non-financial sector. To obtain more accurate results, further research can use the span of more than one year's observations. Besides; the research is also limited by the corporate governance attributes and firm's characteristics examined in the empirical study.

Research recommendations

- This research recommends that firms should improve the quality of disclosure of financial information through the internet and social media networks.
- The research also recommends that firms listed in the Egyptian Capital Market should improve their corporate disclosures; and improve firm's information environment through information dissemination via news outlets. The research recommends that firms listed in the Egyptian Capital Market should disclose financial and non-financial information with a more complete content includes annual reports, quarterly reports, and more timely disclosure in their personal website and social media platforms to reduce the information asymmetry and help investors and other stakeholders in decision making process.
- The research also recommends that the governors and regulator of capital markets in Egypt should develop regulations, policies and set standards regarding the corporate disclosure over the Internet and more specific via social media platform. The reason for this is to boost the firm's corporate disclosure practices quickly and on time in order to improve transparency, protecting the rights of individual investors, as well as improve the efficiency of capital markets in Egypt.

Suggested for Future Research

A subsequent call for research has emerged to examine the effect of other ownership structures such as family ownership, block holder ownership on firm's voluntary electronic social media disclosure. Moreover, future researches can examine the impact of other corporate governance attributes such as the audit

committee, the audit firm, and the presence of females in the board of directors. Furthermore, future researches can examine the impact of voluntary disclosure via social media on firm's value as well as the impact of voluntary disclosure via social media on firm's cost of capital.

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Appendix

Table I: The firms included in the research sample as divided into sectors

Serial	Sector	Number of firms in the sample	The percent of each sector in the sample
1.	Basic Resources	11	11%
2.	Healthcare and Pharmaceuticals	13	13%
3.	Industrial goods, services, and Automobiles	3	3%
4.	Real Estate	21	21%
5.	IT , Media & Communication Services	4	4%
6.	Food and Beverage	15	15%
7.	Shipping & Transportation Services	2	2%
8.	Building Materials	7	7%
9.	Education Services	1	1%
10.	Construction and Building Materials	3	3%
11.	Trade and Distributors	3	3%
12.	Energy & Support Services	1	1%
13.	Travel & Leisure	6	6%
14.	Non-bank financial services	2	2%
15.	Housing and Personal products (Textile & Durables)	5	5%
16.	Paper & Packaging	3	3%
17.	Total	100	100%

Table II: the Binary logistic regression of firm’s corporate governance and firm’s characteristics impact on corporate voluntary electronic disclosure on Social Media Network

Case Processing Summary

Unweighted Cases ^a		N	Percent
Selected Cases	Included in Analysis	93	93.0
	Missing Cases	7	7.0
	Total	100	100.0
Unselected Cases		0	.0
Total		100	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
dimension0 .00	0
1.00	1

Block 0: Beginning Block

Classification Table^{a,b}

Observed			Predicted		
			discloseornot		Percentage Correct
			.00	1.00	
Step 0	Discloseornot	.00	58	0	100.0
		1.00	35	0	.0
Overall Percentage					62.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.505	.214	5.569	1	.018	.603

Variables not in the Equation

			Score	Df	Sig.
Step 0	Variables	independentno	3.533	1	.060
		CEOduality	.140	1	.708
		Boardsize	4.730	1	.030
		Foreigners	.081	1	.776
		Institcon	4.173	1	.041
		Govownersh	6.683	1	.010
		Foreignowner	.987	1	.320
		Mgtowndumm	.349	1	.555
		Size	17.003	1	.000
		ROA	1.235	1	.266
		Debttoequity	2.172	1	.141
		Overall Statistics			29.633

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	38.572	11	.000
	Block	38.572	11	.000
	Model	38.572	11	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	84.606 ^a	.339	.462

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Classification Table^a

Observed			Predicted		Percentage Correct
			discloseornot		
			.00	1.00	
Step 1	Discloseornot	.00	49	9	84.5
		1.00	13	22	62.9
Overall Percentage					76.3

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1 ^a independentno	.523	.287	3.315	1	.069	1.687
CEOduality	1.255	.752	2.785	1	.095	3.508
Boardsize	.010	.120	.007	1	.932	1.010
Foreigners	.179	.424	.179	1	.672	1.196
Institcon	2.508	1.517	2.735	1	.098	12.286
Govownersh	2.267	1.290	3.088	1	.079	9.650
Foreignowner	-2.161	1.580	1.870	1	.171	.115
Mgtowndumm	.576	.736	.612	1	.434	1.779
Size	1.512	.590	6.572	1	.010	4.538
ROA	1.918	2.396	.641	1	.424	6.804
debttoequity	.120	.172	.484	1	.487	1.127
Constant	-18.131	5.514	10.811	1	.001	.000

a. Variable(s) entered on step 1: independentno, CEOduality, boardsize, foreigners, institcon, govownersh, foreignowner, mgtowndumm, size, ROA, debttoequity.