The Impact of Information Technology Material Weakness on Corporate Governance Changes in Family-Owned Businesses

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Abstract

Research has demonstrated that information technology (IT) has a direct effect on corporate governance and also that IT is a driver of firms' performance. As a result, firms have been making huge investments in IT, especially in the area of internal controls in an attempt to promote good corporate governance. However, it is believed that many executives are not placing sufficient attention to the critical role played by IT, especially with respect to internal control material weaknesses. This has led to numerous incidences of financial mis-statements and collapse of organizations in both developed and developing countries. However, firms in developing countries usually have weak governance structures, especially family-owned businesses (FOBs). They are characterized as having less capacity to re-bounce from such incidences and as such, need to strengthen their governance structure in an attempt to achieve good performance. Hence, the purpose of this study is to develop a research model to assess the impact of IT material weakness on corporate governance changes in family-owned versus non-family businesses (NFBs) in a developing country context. It is hoped that the findings will encourage business executives to incorporate IT as a means of internal control in an attempt to achieve good corporate governance which can improve firms' performance.

Keywords: Corporate governance, developing country, family-owned business, non-family business, information technology material weakness

1. Introduction

Information technology (IT) is widely recognized as important to firms' survival and growth (Farhanghi, Abbaspour, & Ghassemi, 2013). Research has demonstrated that IT is a driver of firm performance, and also the IT has a direct effect on corporate governance (Farhanghi et al., 2013; Mirmasoudi, Farjami, & Pourebrahimi, 2012). Moreover, information technology provides the foundation for effective internal controls in organizations (Haislip, Masli, Richardson, & Sanchez, 2012). In general, IT-based controls are the platform on which other controls depends (Haislip et al., 2012). As a result, firms have been making huge investments in IT (Farhanghi et al., 2013), especially in the area of internal controls in an attempt to promote good corporate governance (Roos, 2010) and lower the occurrences of information technology material weakness events. Information technology material weakness (ITMW) is defined as "significant deficiency, or a combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected" (PCAOB, 2007)

However, it is believed that many senior executives are not placing sufficient attention to the critical role played by IT, especially in information technology material weaknesses (KPMG, 2011).

As a result, there has been numerous incidences of fraud, corruption, financial mis-statement and collapse of organizations in the international community (Bhasin, 2013), both developed and developing countries. It is important to note that these incidences are costly and far-reaching. Technology has caused the world to become a borderless interconnected society (Trakulmututa and Chaijareonwattana, 2013). These incidents are communicated rapidly throughout the world and not only create significant damage to firms but also to national economies (Zaidi, 2006).

Firms in developing countries usually have weak governance structures (Nicholson, 2010; Zaidi, 2006), and so the likelihood and consequences of such incidences are high. This is further deepened in small family-owned business (FOB) in developing countries where it is believed that there are strong emotional ties among family members which can impede rational decision making. In most cases, decision making in FOBs is usually in the hands of one person because there is the absence of Board of Directors (Nicholson, 2010). Nevertheless FOBs are present and active in almost every society and have proven to be important to economic development (Cowell & Saunders, 2010), supplying approximately half of the jobs in Europe and the Americas, accounting for nearly two-thirds of all companies in those regions, and involving some one million businesses in the US which represents about 35% of Fortune 500 companies (Cowell & Saunders, 2010; Kennedy, 2013). The same is true regarding the role and contribution of FOBs in developing countries, as it is posited that the ability of these economies to grow and become internationally competitive will rest on the growth and survival of FOBs (Williams, 2010).

Although it is said that FOBs out-perform other types of businesses (Ceja & Tapies, 2009; Gallo, Tapies, & Cappuyns, 2004; Miller & Le Breton-Miller, 2006), they are characterized as having less capacity to re-bounce from internal weaknesses like fraud and financial mis-statements (Miller & Le Breton-Miller, 2006) and as such, these firms need to strengthen their governance structure in an attempt to achieve superior performance (Farhanghi et al., 2013).

Both FOBs and NFBs are seeking ways to manage their resources in order to compete in today's dynamic markets and create wealth (Sirmon & Hitt, 2003). It is claimed that although FOBs have difficulty attracting talented employees, are nepotistic and slow in the implementation of new technologies (Ceja & Tapies, 2009), they outperformed NFBs because FOBs have more trustworthy reputation, efficient informal decision-making channels, more responsiveness to changes in the business environment, and lower monitoring and control costs (Habbershon & Williams, 1999). In other words, a virtuous governance circle of trust is embedded in FOBs (Ceja & Tapies, 2009) and successful FOBs tend to be those not strictly committed to profitability (Kennedy, 2013). Preference is usually given to long term horizon, which is based on the willingness to pass down the family legacy to the next generation (Ceja & Tapies, 2009). As a result, succession planning and governance are major issues for FOBs (Denison, Lief, & Ward, 2004).

Against this background, this study refined (Johnstone, Li, & Rupley, 2011) conceptual model by proposing a research model, which can be validated by assessing the following research question "What changes occur in the governance structure of family-owned versus non-family businesses after the discovery of information technology material weakness events in developing countries?

Despite the importance of IT and the notion that advances in IT enable changing organizational structures and governance, there is relatively little research in this domain (Farhanghi et al., 2013). In addition, there is an appeal in the literature for studies on FOB to be conducted in developing countries (Nicholson, 2010). Hence, this study seeks to contribute a research model in the emerging concern regarding the discovery of information technology material weakness events on corporate governance changes. In addition, the study seeks to provide useful insights on the governance structure in developing countries, as well as inform policy makers regarding sound governance principles such as executives' oversight and accountability over IT control measures.

2. Literature Review

Globalization have opened new markets, new segments and new opportunities for firms to reap stunning profits (Kuchta-Helbling & Sullivan, 2002), a situation which has exposed organizations to fierce competition (Zaidi, 2006). This intense competition has influenced some executives and some organizations to conduct unethical acts like fraud, corruption and financial mis-statement. Material weakness events is the broad classification of these acts and they are increasing in frequency and severity, as demonstrated from the Enron, WorldCom and Satyam cases (Bhasin, 2013).

These events usually occur in firms where the governance structure is weak and individuals suspect that they can rob companies and/or public resources at the detriment of shareholders, creditors and stakeholders, without being detected (Zaidi, 2006).

Material weakness events have undermined the integrity of financial reports, which questioned the role and responsibility of the audit committee, board of directors, Chief Executive Officer (CEO), Chief Financial Officer (CFO) and other senior executives. These incidences have eroded potential investors and the general public confidence about the reliability and validity of financial statements (Bhasin, 2013). This concern has created the need for firms to rely on IT and internal controls as mechanisms to deter the likelihood of such unethical behavior (Roos, 2010). As a result, many firms have developed and implemented technological solutions, coupled with the introduction of established manual checks and balances, with the hope that the two-prong attack (automated and manual controls) will act as a deterrent.

Due to the far-reaching effect of material weakness events in both developed and developing countries (Bhasin, 2013), there is an appeal for transparency and honesty in especially financial reporting. This focus has given rise to the current trend of recruiting senior executives with various IT skills, like forensic accounting and auditing skills, because these skills are important to unravel complicated accounting maneuvers that has been taking place in financial statements (Bhasin, 2013). Forensic and auditing skills are needed to identify, expose and prevent weaknesses in poor corporate governance, flawed internal controls and fraudulent financial statements (Bhasin, 2013). What is important, is for both automated mechanisms and human skills to complement each other in ways that for those employees who persist in carrying out these fraudulent acts, the control measures should be so robust and effective that early detection should occur (Bhasin, 2013).

Research has found that ITMW can have severe consequences on affected companies. As a result, these firms usually make governance changes like executive turnover (audit committee, board of directors, CEOs and CFOs), changes in the recruitment policy of executives, as well as upgrades/enhancements of the financial software systems (Haislip, Masli, Richardson, & Watson, 2013). It is believed that corporate governance can exert a monitoring function in organizations (Ho, Wu, & Xu, 2011). In this study, corporate governance is defined as the body of "rules of the game" by which companies are managed internally and supervised by boards of directors, in order to protect the interests and financial stake of shareholders who may be located thousands of miles away and far removed from the management of the firm (Zaidi, 2006, p. 8). In essence, corporate governance is a set of rules, procedures and structures of a binding nature. This binding approach to management is important for large or small companies, family or non-family businesses, because all firms are subjected to fraudulent practices, of which the impact is far-reaching for all firms irrespective of their size and type (Bhasin, 2013). These practices whether corruption or fraudulent acts drains the resources of firms, as well as erodes competitiveness which can lead to bankruptcy and closure of firms (Bhasin, 2013; Zaidi, 2006).

Information technology can promote effective corporate governance in various ways such as increased transparency of transactions, increased access to information and heighted accountability (Gill, 2009; Magno & Serafica, 2001). It is posited that IT provides heightened levels on control monitoring to enhance compliance to established procedures and standards (Roos, 2010). This view has resulted in a proliferation of many financial software applications and enterprise resource planning (ERP) solutions with built-in control mechanisms, which seek to improve conformance and ultimately promote good corporate governance (Roos, 2010). Some of the built-in control mechanisms include intelligent workflows, role-based access, business process automation, and reorganize several tasks through the automation of tasks which are intended to deter unethical acts (Farhanghi et al., 2013; Roos, 2010). Although, software applications cannot operate on their own; they are programmed, re-programmed and operated by humans who at times can alter certain rules and/or settings to support their unethical acts (Roos, 2010).

It is critical for firms of all sizes, especially resource constrained small firms in developing countries to realize that superior performance cannot be achieved without IT support (Niehm, Tyner, & Shelly, 2010). Some of the major resource constraints cited in the literature regarding developing countries are finance, labor, and infrastructure (Berisso & de Vries, 2010). There is specific reference to the inability to invest in IT due to poor finance and inadequate human capital with the requisite knowledge in IT, highly centralized structures with the CEO making most of the decisions, aversion to change, heavy reliance on imported software solutions, foreign exchange shortages and low economic growth (Avgerou, 2008; Bhatnagar, 2000; Herrera & Ramirez, 2003; Kodakanchi, Kuofie, Abuelyaman, & Qaddour, 2006; Thong, Yap, & Raman, 1996).

Against these constraints Kimaro (2006) suggests that human capacity building is urgently needed in developing countries to support sustainable good performance.

Small and micro firms in developing countries might have difficulty to sustain such good performance in the midst of so many constraints. Small firms are defined as those with 500 or fewer employees and micro businesses are those that typically employ 10 or fewer employees (Small Business Administration, 2007). Based on these definitions the majority of family-owned firms could be classified as micro and small businesses, and many are home-based operations (Niehm et al., 2010). Although FOBs account for approximately 80% of worldwide enterprises (Nicholson, 2010), which is considered a prevalent position, they remain an understudied area and little is known about their IT activities (Niehm et al., 2010) and the changes in governance structures based on internal weaknesses.

It is widely believed that firms which operate under strong and good governance usually grow and develop, which can lead to prosperity of nation (Zaidi, 2006). Family-owned businesses is one type of enterprise that has the ability to grow and develop the economy in their respective countries (Williams, 2010). They are defined by Ogbonna & Harris (2005) as "a business in which more than 50% of the shares are owned by a single family that is involved in the management of the business and where there is an intention of transferring the business from one generation of this family to another" (p. 3).

2.1 Family-Owned Business Versus Non-Family Business

The greatest part of the wealth in many countries lies with FOBs and they are seen as major contributors to the economic development of their respective countries through many generations (Nicholson, 2010). However, in general they are characterized as having weak governance structures and this is evident by the absence of a board of directors (Cowell & Saunders, 2010; Nicholson, 2010) or a board of directors in which all the directors are family members.

Although FOBs outperform NFBs, it is found that FOBs still experience some challenges. These are:

Talent management:

A critical success factor for competitive advantage and survival in today's competitive world is the capacity of a firm to attract, select and retain talented employees (Ceja & Tapies, 2009) whether family members or non-family employees. FOBs usually struggle in this area of talent management due mainly to their desire to pass down the business to the next family generation (Ceja & Tapies, 2009). Most FOBs experience a phenomenon known as socio-emotional wealth (SEW), which is the tendency of placing trusted relatives in important positions in an effort to reduce or eliminate the opinions of non-family employees in the decision process. This practice can affect the ability of FOBs to attract talented non-family employees

Prolong tenure of family members who are senior executives:

This leads to the concentration of decision-making power in the hands of a small group of family shareholders or one person over extended periods (Ceja & Tapies, 2009). This reduces the chance of new thinking and new ideas, as decision making is often centralized.

Succession planning:

The recruitment cycle in non-family businesses is ongoing, while it is often guided by the cycle of generation in FOBs. At times, when the need arise to replace a family member before the expected time due to various unethical acts, there are strong reluctance which normally prevails and the accused family member remains in the position. CEOs in FOBs usually stay in their positions fifteen to twenty more years than CEOs in NFBs (Miller & Le Breton-Miller, 2006). In general, CEOs in FOBs remain in their job positions as long as they want (Ceja & Tapies, 2009) irrespective of any procedural breaches or unethical acts. This practice is contrary to those in NFBs where studies haveshown that firms are inclined to hire senior executives with a fair knowledge of IT as it relates to internal controls after the discovery of ITMW events (Haislip et al., 2013). In other words the IT skills of senior executives become paramount.

Stable employment:

Studies have shown that FOBs are less inclined to downsize when compared to NFBs (Stavrou, Kassinis, & Filotheou, 2007).

Furthermore, even in times of economic crises, FOBs tend to maintain stable levels of employment and avoid firing employees (Lee, 2006). This style of leadership can retard the need to make changes to the organization structure after the discovery of some ITMW event.

"Know how" of key individuals:

FOBs are extremely dependent on the "know how" of key individuals, especially the founders of the business who have been involved in the daily operations of the business for many years (Westhead, Cowling, & Howorth, 2001). This condition might curtail the desire for business process changes and enhancements.

Board of Directors:

The board of directors of NFBs is free to recruit and select successors from within or outside the organization who have had proven track record of achievements and excellence. The selected individuals can immediately take up senior executive position as soon as the incumbent demits office (Ceja & Tapies, 2009). There is greater flexibility in the recruitment policy of NFBs which increases the search to locate and find the most ideal person with the requisite skills for the job.

Usage of standard software applications:

FOBs tend to use standard software applications, rather than more cutting edge applications (Ceja & Tapies, 2009). Studies have demonstrated that FOBs tend to show lower willingness to adopt new IT than their non-family peers (Ceja & Tapies, 2009). It is believed that when the founders of FOBs advance in age their risk aversion increases to a point where their eagerness to implement new technologies decreases (Ceja & Tapies, 2009). All these traits can negatively affect the drive to enhance financial reporting systems after the discovery of ITMW events.

Access to information:

Research has found that access to key information is more difficult in FOBs in comparison to NFBs, especially for those employees who are not family members (Howorth, Westhead, & Wright, 2004). This mode of operation can negatively impact business process re-engineering initiatives in areas such as process, people and technological changes and enhancements.The arguments put forth regarding the characteristics and operations of FOBs and NFBs, have assisted us with the research question which seeks to assess the impact of information technology material weakness events on the changes in executive turnover, recruitment policy and financial reporting systems. A developing country context was chosen based in the relatively little research in this domain in this region. Johnstone et al. (2011) conceptual model was adapted because it sits well with the research effort (see Figure 1). This conceptual model depicts the scenario that when a firm experiences material negative events like fraud, corruption or financial mis-statement, it destabilizes the corporate governance equilibrium, which in turn creates the need for changes in the governance structure. These governance changes are in an attempt to restore acceptable behavior and optimal performance.

3. Research Model Development

Johnstone et al. (2011) conceptual model was adapted with minor modifications to assist with the development of the proposed research model. Some of the modifications were in the form of name change and the inclusion of additional variables. The name 'Material negative event' was changed to 'Material weakness event' in an effort to be consistent with the name of the concept in the literature. Another reason is the fact that IT automated controls is implemented in organizations to strengthen the monitoring capabilities of business processes, which can minimize the occurrences of unethical acts. The three variables for the 'Material weakness event' construct – fraud, financial mis-statement and internal control material weakness – were retained. The two variables for the 'Change in governance structure' construct – turnover and characteristics of executives – were retained. This is due mainly to the recommendation made in various studies which suggest changing the members of the audit committee, board members, auditors and executives (Ettredge, Heintz, Li, & Scholz, 2011; Goh, 2009; Johnstone et al., 2011; Li, Peters, Richardson, & Watson, 2012).

Based on the notion that improvement in financial reporting quality can restore public confidence (Haislip et al., 2013), another variable called 'financial reporting systems' was added to the 'Change in governance structure' construct. Furthermore, it was discovered that better quality IT financial system can provide higher quality information to management (Li et al., 2012).

More importantly, is the finding that the implementation of IT with specific internal control capabilities can reduce the occurrences of material weakness events in organizations (Masli, Peters, Richardson, & Sanchez, 2010).

In refining the newly created financial reporting systems variable, it was taken into account that the information systems literature makes reference to process, people and technology being major determinants of information systems quality (Gorla & Lin, 2010). Hence, it is believed that any meaningful changes to the financial reporting system after a material weakness event should include changes in reporting structure (process), responsibility and authority (people) and tighter controls within the financial system artifact (technology). The result of the modified research model is shown in Figure 2.

An effective and transparent corporate governance structure is needed for economic development to occur (Tsamenyi & Uddin, 2008). Good corporate governance increases the ability of firms and countries to achieve supreme performance. And therefore it was felt that this might be an appropriate study at this time to compare the changes that occur in corporate governance in FOBs and NFBs in developing countries after the discovery of ITMW events.

The suggested propositions in this study are:

P1: The discovery of ITMW events will have a positive impact on the turnover of audit committee members
P2: The discovery of ITMW events will have a positive impact on the turnover of board members
P3: The discovery of ITMW events will have a positive impact on the turnover of CEOs
P4: The discovery of ITMW events will have a positive impact on the turnover of CFOs
P5: The discovery of ITMW events will have a positive impact on the recruitment of executives with IT skills
P6: The discovery of ITMW events will have a positive impact on the recruitment of executives with accounting skills
P7: The discovery of ITMW events will have a positive impact on business process changes of the financial reporting system
P8: The discovery of ITMW events will have a positive impact on human resource changes of the financial reporting system
P9: The discovery of ITMW events will have a positive impact on technological changes of the financial reporting system

4. Methodology

An on-line survey approach is suggested with senior executives (CEOs, CFOs, CIOs, board members and audit committee members) being the targeted respondents. The survey items for each variable could be guided by (Johnstone et al., 2011) elements concerning internal controls material weakness within the COSO framework. For example, in using the COSO framework to develop the survey items for the three indicator variables for the 'financial reporting systems' construct, the following elements could be considered:

- Process enhancement
  - Proper evaluation, documentation and detection of certain transactions involved sufficient risk control
  - Assess if sufficient mechanisms are in place to protect whistleblowers
- People enhancement
  - Ascertain if individuals with the responsibility over financial reporting possess the required competences
  - Ascertain if individuals with the responsibility over financial reporting have sufficient oversight responsibility
- Technology enhancement
  - Ascertain if individual with the responsibility over financial reporting have adequate resources to perform the task

It is advised that these newly developed survey items be pre-tested with a small sample of executives (CEOs, CFOs and board members) for face validity, before the real survey is administered.

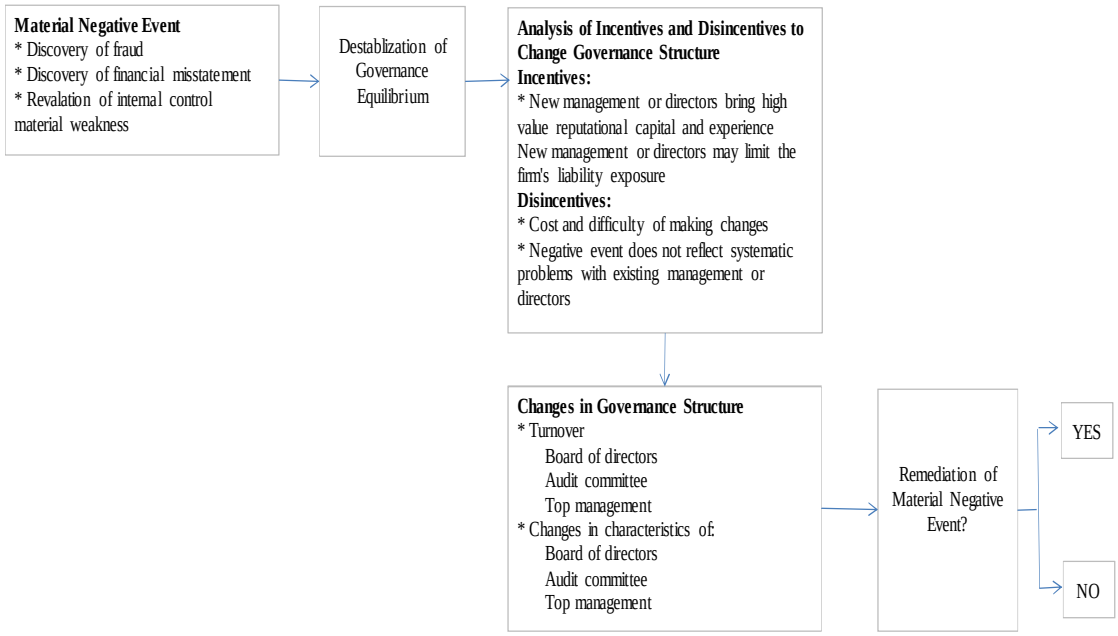

Figure 1: Johnstone et al. (2011) Conceptual Model

Statistical package for the social sciences (SPSS) and partial least squares (PLS) are recommended to do the data analysis. SPSS should be used for the descriptive analysis and PLS-Graph for path analysis and significance testing. A seven point likert-type scale is suggested ranging from 1 being strongly disagreed to 7 being strongly agreed. The sample sized should be a minimum of forty enterprises (40 FOBs and 40 NFBs). The sample size is based on the general rule-of-thumb in which the construct with the largest indicator variable, that number of variable is multiplied by ten (Chin, 2010). In this study, the 'Turnover of Executives' construct has the largest number of indicator variables – that being four. Hence, four is multiplied by 10, giving a sample size of forty.

The unit of analysis is firm. As a control measure, since most FOBs are micro to small firms, then the study should compare micro to small FOBs with micro to small NFBs. However, one limitation of the study is that the selected firms to participate in the survey must be those who have experienced some reported cases of ITMW events. Such reports can be obtained from the Auditor General Report in respective countries, as well as the news media – both written and electronic. The comparative analysis between FOBs and NFBs firms will be done with respect to ITMW events and its impact on corporate governance, in terms of changes in executive turnover, recruitment policy and financial reporting systems.

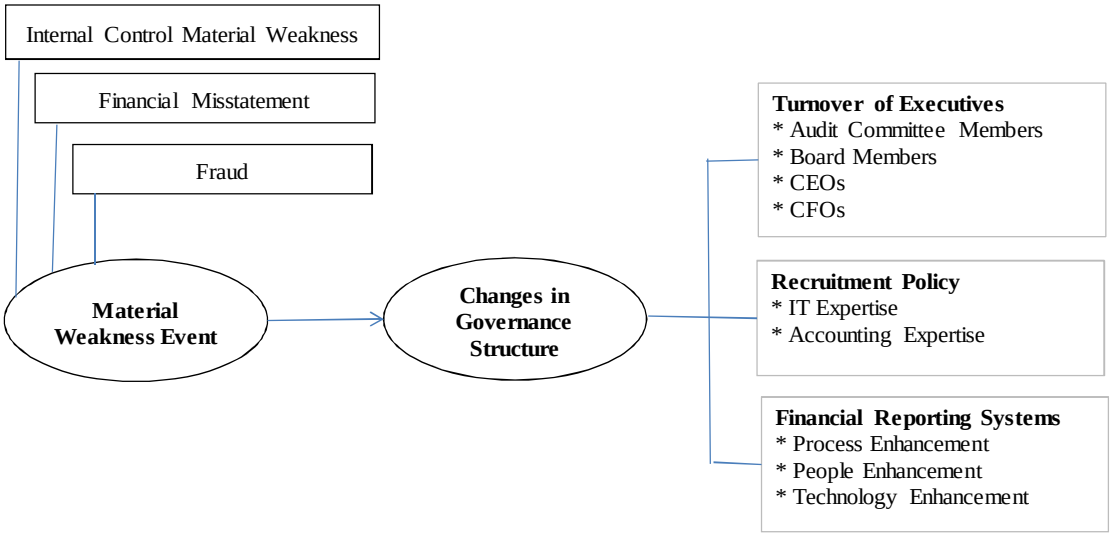

Figure 2: Research Model

5. Conclusion

The evidence in the literature suggests that most firms recognize the importance of IT in internal controls, effective financial reporting and the enhancement of good corporate governance, and also that good governance can lead to superior performance. In an effort to regain public confidence, growth and development, most firms strengthened their governance structure after the discovery of ITMW events. This is achieved through process, people and technology changes. Based on the role played by FOBs in their respective countries, it is expected that FOBs will respond with greater speed and intensity than NFBs after the discovery of unethical acts like fraud, corruption and financial mis-statement.

This proposed study is intended to make two contributions. The first is a proposed research model to evaluate the impact of ITMW events on corporate governance changes in FOBs versus NFBs. Secondly, the findings should encourage executives and policy makers to be more concern about the importance of IT and good governance.

It is hoped that other researchers could refine the proposed research model in an effort to gain richer insights in this domain. Equally important, is the need to encourage practitioners (CEOs, CFOs and directors) to integrate IT as an essential control mechanism to deter unethical acts. This, by extension, can improve the performance of firms, which can lead to improved economies; a state that developing countries who suffer severe constraints would embrace.

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