Model for the Adoption of Smart Mobile Devices in Corporate Financial Reporting

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Abstract

This paper stresses the importance of information technology developments for the future of corporate financial reporting communication by proposing an explanatory model addressing the adoption of smart mobile devices in financial reporting. The research approach applied in this study reflects the elementary characteristics of the interactionist approach. A deductive and inductive approach was applied in this paper to develop the current model. The proposed model reflects the dynamic nature of financial reporting and of mobile communication developments, and stresses the importance of the cause-and-effect relationship between the technological developments of corporate financial reporting and the institutional and contingent internal and external factors. This paper provides useful insights into existing and future technological developments' acceptance in the context of financial reporting. It simplifies complex relationships between the different elements of the technological developments, so as to offer future researchers a methodical approach to understanding each aspect and being able to identify any possible lacks regarding the acceptance of technological developments for financial reporting. Finally, the proposed model demonstrates the logical process of accepting any future technological developments that may impact on financial reporting practices.

Keywords: financial reporting, explanatory model, smart mobile devices, institutional factors, contingency-based factors, managerial incentives, decision-making usefulness

1. Introduction

Communication has changed permanently since the introduction of the mobile phone device. Like individuals, businesses use wireless communication devices and the Internet to inform and update different users. The rapid ongoing development of mobile communication technology, reflected in continuous updates of smart mobile devices and wireless communication facilities, has had a severe impact on the levels at which society can get connected, and subsequently mobile connectivity has become a part of daily life. The increased usage of sophisticated smart communication technology, such as smart phones and tablet devices, allows users to be connected in different ways and at different levels through integrated social media applications, such as Facebook, Twitter, LinkedIn, YouTube, Skype and many others.

This steep ascent and the rapid diffusion of social media applications on a global level allow for more users than ever to be reached via smart mobile devices, which is evident in everyday life. For instance, recently Lee (2012) stated that Facebook has now over one billion active monthly users. A survey on the access of social networking by mobile users shows that in September 2011, 55 million users in five countries, France, Germany, Italy, Spain and the U.K, accessed social networking sites or blogs on their mobile device, which represents a 44% increase from last year (Ricknäs, 2011). Boulton (2011) found more than 72.2 million Americans use their mobile devices to access social networking sites, and similarly, the results of Apple fourth quarter reports, ended 29 September 2012, show that the company sold 26.9 million iPhones, 14.0 million iPads, 4.9 million Macs and 5.3 million iPods, in the quarter with 58%, 26%, 1%, and 19% unit growth respectively in comparing with the last year quarter sales (www.apple.com). In February 2010, an estimated 4.6 billion mobile phone devices were in use in the US (Associated Press, 2010, in Khang et al., 2012). Furthermore, the world's most recent developments which constitute a re-arrangement of some of the Middle East's major countries, including Egypt and Libya, would not have been possible without social media applications and smart mobile devices (Safranek, 2012). Ultimately, the Arab Spring movement, which commenced in 2010 and lasts until present and led to a new

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democratic and economic development in the Arab world, would not have been possible without this rapid and vast diffusion of social networking sites and the related accessibility through mobile technologies (Safranek, 2012).

Less visible than the social development, the business world has become increasingly "hyperconnected" according to the global information technology report (GITR) in 2012, as accessibility of the Internet and its associated services as well as the exponential growth of mobile devices and of social media, allowed people and businesses to communicate with each other instantly, all of which are drivers of this process of hyperconnectivity (GITR, 2012). The increase in information availability and mobile communication has expanded the business arena, has created new forms of business arrangements and offers new approaches to completing a business deal (GITR, 2012). One example would be the increasing number of business services and financial activities provided via technologies, such as mobile banking, wireless electronic payment systems, micro payments, mobile shopping, advertising and mobile bill payment. Corporations are also continuously increasing the levels of connectivity with their users through different communication channels, such as through their own websites, E-mails, SMSs, and most recently through social media applications like Facebook and Twitter

Based on the above the authors argue that corporate financial reporting, as a part of corporate connectivity, is affected by the vast and rapid growth of technological developments, and will adjust in the form of financial information communication and dissemination according to technological devices existent at that time. During the last decade, the association between technological developments and the dynamic nature of financial reporting in the form of corporate Internet reporting, has been considered the first revolutionary medium of financial communication of organisations with their stakeholders as it improves users' accessibility, interactivity and research ability, and increases information availability in the annual reports (Al-Htaybat, 2011b; Beattie & Pratt, 2003; Lodhia et al., 2004; Jones & Xiao, 2003; Oyelere et al., 2003; Xiao et al., 2002). The emergence of new technological innovations and the rapid growth of the Internet as a network communication tool have influenced the corporate financial reporting practices significantly, have increased the pressure on corporations and have raised the challenges to provide and maintain relevant information to meet interested users' needs (Al-Htaybat, 2011b).

Therefore, the ongoing technological developments create the potential to provide a future revolutionary terminal that will transform the current corporate reporting dissemination practices to smart mobile reporting due to the entrepreneurial nature of these technologies of providing users different levels of accessibility, interactivity and research ability. For instance, the most smart mobile devices offer multi-functionality, various applications and operating systems, as well as light weight and easy portability, and the ability to connect to a wireless network (Lee, 2012; Poslad, 2009). Many devices are already even faster fourth-generation (4G) devices, with the ability of video streaming, ultra-broadband Internet access, and many of the basic functions of a desktop or laptop computer. Some of these smart mobiles devices are well equipped with sophisticated functions, such as a laser keyboard, and a holographic display.

This paper stresses the importance of communication technology developments for the future of corporate financial reporting as these communication technologies have affected all levels of societal connectivity. In this context, transformation theory determines technology developments as one of the environmental factors that facilitate the transformation in financial reporting from the traditional printed to gradually adopting the new communication technologies for information dissemination (Von Alberti-Alhtaybat et al. 2012). For that reason this paper suggests that in the near future corporations will adopt smart communication technology for their financial communication with interested users. Thus, it is necessary to revolutionise the entire theoretical framework of financial reporting and communication technology. Based on reviewing the prior studies, no attempt at building a theoretical foundation of how and why corporations utilise technologically oriented financial reporting as a communication tool and how they perceive the adoption of any new mobile communication technology, has been made to date. Also, none of the prior studies, as far as we are aware, has tackled and discussed the existing theoretical arguments of technology development in relation to financial reporting yet. This paper contributes to this lacuna by developing a theoretical foundation of how corporations perceive the adoption of new mobile communication technological developments in financial reporting dissemination practices, and how users perceive the adoption of such technology.

The main objective of this paper is to propose an explanatory theoretical model for the future adoption of smart mobile communications' technological developments in corporate financial reporting dissemination and communication practices. This model outlines a theoretical foundation of how corporations and users perceive the adoption of any new smart mobile technology in financial reporting dissemination practices. The remainder

of this paper is divided into several sections, the next section reviews relevant prior studies, the following section outlines the theoretical context and reviews prior key studies. Section 3 establishes the research design. Section 4 presents the analysis of the data, and finally section 5 provides a discussion of the findings and the conclusion of the study.

2. Literature Review

2.1 Technological Developments in Corporate Financial Reporting

During the last two decades the ongoing innovations in communication technology and the fast growth in the usage of global network communication around the world provide remarkable benefits to all aspects of businesses' connectivity (Al-Htaybat, 2011b; Al-Htaybat et al., 2011; Jones and Xiao, 2003; Oyelere et al., 2003; Xiao et al., 2002). Also these developments have transformed corporate dissemination practices to adopt Internet financial reporting as a new communication and disclosure tool, as the Internet provides a new arena of accessibility, interactivity and research ability, and more information availability to meet stakeholders' needs (Al-Htaybat, 2011b; Al-Htaybat et al., 2011; Beattie & Pratt, 2003; Hanafi, et al., 2009; Lodhia et al., 2004; Jones & Xiao, 2003; Oyelere et al., 2003; Xiao et al., 2002).

In this context, smart mobile devices with their multi-functionality could be seen as the coming generation that transforms the current corporate reporting dissemination practices to smart mobile reporting. Poslad (2009, p. 27) described smart devices as individualised devices designed with the ability to execute multiple functions, with easy mobility, and easy accessibility to the wireless network environment. They have also simplified the interoperability of multi-functions at run-time. A further definition of a smart mobile device is "an easy-to-use personalized device through which information can be obtained anytime and anywhere through connection to a wired or wireless network" (Lee, 2012, p. 2). Moreover, Lee (2012) added that smart devices with light portability and the ability to connect to a wireless network can provide new services with boot-up time that is shorter than that of a computer. Therefore, and based on these mentioned features of smart devices in relation to the dynamic nature of corporate financial reporting, the influence of the smart mobile devices on corporate financial information communication is illustrated in the following: increasing the level of connectivity, opening up information exchange on a global scale, offering massive opportunities and advantages to transfer information in a real-time and cost-effective way, which may reduce cost of and time to distribute information, and enhancing the current practices through increasing the direct accessibility and availability to different quantities of updated information disclosed to current and potential investors.

Therefore, smart devices combined with the above-mentioned functions of a personal digital assistant, applications, as well as operating systems, combine to one element of the driving forces behind the future global open access to business information and communications. For instance, there are smartphone applications for the financial market that can help investors to make investment decisions regarding buying and selling stocks, tracking their own stock portfolios, creating unlimited numbers of portfolios, providing constantly updated prices, gains, costs, and values of investors' stocks. Another application presents the concurrent top stories in the financial word, overview of the latest financial news, videos and some stock and currency information (see for instance the web of devices application at http://appadvice.com/appnn). Recently, the Institute of Chartered Accountants in England and Wales (ICAEW) has offered a smartphone application providing a range of features, such as financial reporting news with regular updates and a standards' changes tracker tool, thus it provides the latest information, news, and standard changes to handheld devices in an easy-to-use format (www.icaew.com).

2.2 Prior Studies and Theoretical Gap

The existence of Internet reporting in the late 1990s has given rise to a significant number of prior studies that investigate different aspects of corporations' practices. Initially descriptive surveys were conducted in order to assess the existence of corporations' websites for disclosing financial information to their users (see for instance, Lymer, 1997; Lymer & Tallberg, 1997; Deller et al., 1999; Lymer et al., 1999; Financial Accounting Standards Board, 2000; Lodhia et al., 2004). This first set of studies was followed in the early 2000s by a significant number of Internet reporting studies mainly based on agency theory and signalling theory to examine the relationship between the level of corporate Internet financial reporting and corporate characteristics, measured by using a disclosure index as a research method (see for instance, Craven & Marston, 1999; Gowthorpe & Amat, 1999; Hedlin, 1999; Allam & Lymer, 2003; Bonson & Escobar, 2002; Ettredge et al., 2002; Debreceny et al., 2002; Lodhia et al., 2004; Oyelere et al., 2003; Marston & Polei, 2004; and more recently Al-Htaybat, 2011a; Aly et al., 2010; Andrikopoulos, 2007; Bozcuk et al., 2008; Desoky, 2009; Despina & Demetrios, 2009; Lai et al., 2010; Verma, 2010).

Furthermore, Internet corporate financial reporting was examined focussing on users' perceptions, in which prior studies examined the relationship between the level and the features of Internet reporting and users' characteristics (Ettredge et al., 1999), or users' information attitudes and preferences (Beattie & Pratt 2003). Ghani et al. (2009) examined the technology aspects of Internet reporting and users' preferences of the Internet reporting format and the effect of such format on decision-making (Ghani et al., 2009). Hodge and Maines (2004) investigated whether XBRL-enhanced search engines help nonprofessional financial statement users obtain and use related financial information for investment decision-making. Furthermore, Dull et al. (2003) and Kelton (2007) examined the effect of different presentation formats (hyperlinked versus non-hyperlinked) on decision-makers' judgments in terms of decisions, predictions, and the amount of information accessed. The potential development and future trends of Internet reporting as expected by expert users were explored by Jones and Xiao (2003; 2004) and Xiao et al. (2002; 2005).

Although the literature of Internet corporate reporting has increasingly been enriched with significant amounts of research, these studies offer general understanding of what the Internet financial reporting phenomenon is all about and have clarified the debate around the impact of technology on financial reporting communication (see Xiao et al., 1996), as well as have offered a corner stone of the future empirical investigation of technological developments impacting upon financial reporting. However, none of these prior studies have attempted to build a theoretical foundation explaining how the Internet and relevant technological devices are adopted for financial reporting. In this context, Xiao et al. (2004) argued that prior studies on Internet financial reporting dealt with this phenomenon as if financial reporting via the Internet was merely an electronic copy of the traditional paper-based reporting, and failed to recognise this phenomenon as a new technological innovation to be adopted and spread. Importantly, prior studies provide only a poor level of theoretical background, thus future research should be more on a theory-guided basis (Xiao et al., 2004).

To fill this gap, several conservative attempts were undertaken in the literature of Internet corporate financial reporting, all of which reflect mainly that the developments in financial reporting have been subject to contingent technological and non-technological factors, including the availability of the underlying hardware and software factors, and cost efficiency (Jones & Xiao, 2003; Xiao et al., 1996; Xiao et al., 1997; Xiao et al., 2002). Similarly, Al-Htaybat (2011b) stated that the adoption of Internet reporting is subject to both endogenous and exogenous e-readiness factors, such as the e-environment or e-infrastructure, culture, financial and human resources as well as sub-culture and legal factors. Recently, Von Alberti-Alhtaybat et al. (2012) conceptualised technology developments in what they term disclosure transformation theory, in which the Internet is considered as one of the environmental factors that facilitate the transformation in financial reporting from the traditional printed to new communication technologies for information dissemination.

Having reviewed these prior studies, no attempt at building a theoretical foundation of how and why corporations utilise technologically oriented financial reporting as a communication tool, and how they perceive the adoption of any new mobile communication technology, has been made to date. Also, none of the prior studies, as far as we are aware, has tackled and discussed the existing theoretical arguments of technology development in relation to financial reporting yet. This paper contributes to this lacuna by developing a theoretical foundation of how corporations and users perceive the adoption of new mobile communication technological developments in financial reporting dissemination practices, and why such adoption takes place. The next section will discuss the research design and the existent theoretical arguments in relation to the development of the explanatory technology financial reporting model.

3. Developing the Explanatory Model

3.1 Research Design

The research approach applied in this study reflects the elementary characteristics of interactionism. Interactionism joins the imperative theories of information technology into one dynamic theoretical approach which accepts that potentially all of the technological, organisational, social and political factors can influence information technology (Molla & Licker, 2005). This approach was adopted by Molla and Licker (2005) and Al-Htaybat (2011b) who employed interactionism as a theoretical foundation to build their e-readiness framework. The interactionist model suggests combining managerial, organisational, technological and environmental factors in one comprehensive model (Nelson and Shaw 2001, Molla and Licker 2005, Aghaunor & Fotoh 2006). Molla & Licker (2005), and subsequently Al-Htaybat (2011b), have employed interactionism as a theoretical foundation to build their e-readiness framework. This is similar to Xiao et al.'s (1996, 1997) contingency perspective, which was also adopted by Xiao et al. (2002), who developed their frameworks addressing expected trends in Internet financial reporting. The current study has employed the principles of the

interactionist approach, as environmental, organisational-provider and user-receiver elements are linked in in an explanatory theoretical framework.

Furthermore, a deductive and inductive approach was applied in this paper to develop the current model. The deductive approach was employed in the literature review of prior studies and when reviewing the existing theoretical foundations concerned with financial reporting developments and technology innovations adoption to identify apparent gaps in the literature (Nielsen, 2010). The inductive approach then prescribes theory building in three stages: phenomenon observation, categorisation and relationship building (Carlile & Christensen 2005). This approach serves to develop a theoretical model by integrating relevant theories addressing acceptance and adoption of technological developments in financial reporting. Furthermore, Carlile and Christensen (2005) suggest that input for the same concept can be grasped from different disciplines, which was adopted for this study. Thus, for the purpose of building the current model, eighteen academics from different disciplines, and backgrounds, in the area of accounting, information technology and management information systems, reviewed and evaluated the developed explanatory model (Al-Htaybat, 2011; Molla & Licker, 2005). They were presented with the developed model and were asked to assess it and, if relevant, to suggest changes. Their points of view and perceptions regarding the future potential of mobile technology for financial reporting, and potential users' perceptions, were sought with regard to this particular model, as a means of triangulation and as a preliminary measure of relevance (Denzin, 2006). These exploratory interviews and informal discussions were conducted with our academics addressing the issues to be considered in the current model. Due to their feedback, institutionalised factors, such as the perceived mimetic force to acquire smart mobile devices and utilise available applications, cost-benefits analysis, useful investment decision-making model, managerial incentive theories were included as explanatory ground why both individuals and organisations adopt smart mobile devices for corporate financial reporting.

3.2 Theoretical Foundation

The ongoing technological developments do not exempt Internet financial reporting. The current adoption of Internet financial reporting has brought to light the needs of developing a theoretical foundation for technological developments of financial reporting. In order to build a theoretical model several sophisticated analytical theoretical foundations concerned with financial reporting developments and technological innovation adoption have been used in this paper. The nature of financial reporting is such that corporations use it to disseminate useful information, usually financial and non-financial, about their activities, financial resources, claims to those resources and other information, to interested users for decision making purposes. Financial reporting can be considered a communication tool involving two main parties, namely, corporations as providers and users as receivers, so any technological developments address both equally. Therefore, this section will discuss the theoretical foundations concerning the adoption of technological financial reporting developments focusing on providers' and users' perceptions.

In reference to technological financial reporting developments as a new innovation, the diffusion of innovation theory is adopted as this theory seeks to explain the process of how new innovations are accepted gradually and perceived as a useful adoption over time at both the micro and macro levels (Rogers, 2003). According to Rogers (2003), there are five stages of the adoption process: firstly an individual has initial knowledge of the innovation, in stage two the individual has a persuasion about it and becomes more interested to collect information, in stage three the individual takes a decision based on the analysis to adopt or reject the new innovation, stage four is the implementation and evaluation stage to assess the usefulness of such adoption, and finally in the confirmation stage the individual should take the final decision whether to proceed with the adoption. Rogers (2003) suggests innovation, communication channels, time, and social system as the four main elements in the diffusion of innovation processes at the micro and macro levels. Also, Rogers suggests the following five criteria for innovations to be perceived as useful for adoption: relative advantage, compatibility, complexity, triability, observability (Rogers, 2003), which means that once an innovation is observed easily with relative a higher advantage, consistent with existing values, or past experiences, and simple to understand with less uncertainty, it will be adopted faster and easier. Finally, Rogers (2003) determined as critical mass, i.e. the existence of a sufficient amount of adopters of an innovation, the point after which further diffusion becomes self-sustaining as a crucial factor in innovation adoption.

The issue of critical mass raises the following question: how will adopters or users perceive the adoption of any new technology innovation in financial reporting? The review of the technology innovation literature and users' behaviour towards the adoption of a new technology identifies that the theory of reasoned action, developed by Fishbein and Ajzen (1975), was used to develop the acceptance model technology (Davis, 1989), as illustrated in Figure 1, which is the most heavily used model to explain the users' behaviour towards the adoption of new

technology (Lee et al., 2003; Park et al. 2007; Wei et al. 2009). Davis (1989) illustrates in this model that users' adoption of any new technology is subject to two main elements, namely perceived usefulness and perceived ease of use of new information technology applications. Davis (1989) also states that an individual's attitude towards the adoption of any application is subject to how the individual perceives the level of benefits caused by the adoption of information application, and how users perceive the ease of use of its applications. In this context, Pinsker (2007) argued that both aspects will drive the behavioural intention of use and eventually actual use of technological developments.

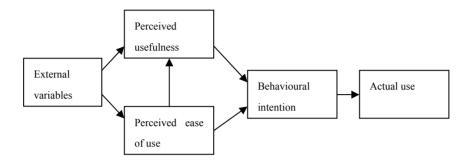


Figure 1. Technology acceptance model (Davis, 1989, p. 985)

In the financial reporting literature, information technology's effect on financial reporting was explored by the pioneer contingency framework by Xiao et al. (1996), in which they stated that the information technology developments in financial reporting have been subject to contingent environmental, organisational, and managerial characteristics. The contingency-based approach is used to explain how technological and non-technological factors explain the availability of the underlying hardware and software factors, and one of the factors that impact on the adoption of the Internet as a new innovation in financial reporting is cost efficiency (Jones & Xiao, 2003, Xiao et al., 1997; Xiao et al., 2002). In this context, Xiao et al. (2002) argue that the adoption of Internet financial reporting is contingent upon cultural, economic, political, organisational and behavioural factors.

In a bid to contribute to this lacuna, a comprehensive E-readiness framework was proposed by Al-Htaybat (2011b), who states that the corporate adoption of Internet reporting is subject to both endogenous and exogenous e-readiness factors, see Figure 2. As one of the exogenous factors, e-*infrastructure* includes: network infrastructure, access, affordability, reliability and speed and functionality, which are considered by this framework as driving forces to adopt the Internet as a new innovation in financial reporting. At the macro level this framework considers market forces, such as level of international trade, investments, level of local technology industry and regulations as well as culture, factors that impact on such adoption (Al-Htaybat, 2011b). At the micro level, internal e-readiness elements, such as awareness, commitment, qualified human resources, financial resources, technological resources, corporate governance, sub-culture and legal factors are an important main domain for Internet financial reporting adoption. Al-Htaybat, (2011b) argued that these factors restrain the corporate adoption of the Internet as a new dissemination tool for financial reporting purposes.

Figure 2 illustrates the e-readiness of the Internet financial reporting framework by Al-Htaybat (2011b), based on the original model of e-readiness of electronic commerce by Molla (2004), and Molla and Licker (2002, and 2005). Molla and Licker (2005) followed interactionism (Orlikowski & Robey, 1991) as the theoretical foundation to build their model of the twofold major elements namely: the first element contains perceived organisational e-readiness to refer to the managers' perception and evaluation of the degree to which they believe that their company has the awareness, resources, commitment, and governance to be ready to adopt e-commerce. The second element contains perceived external e-readiness to refer to the managers' perception and evaluation of the degree to which they believe that market forces, government, and other supporting industries are ready to participate in supporting their companies to enter e-commerce.

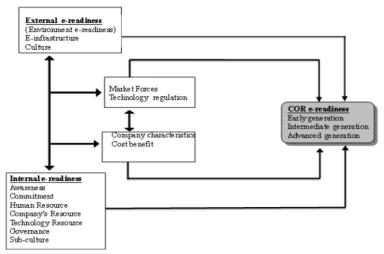


Figure 2. E-readiness framework of corporate online reporting (Al-Htaybat, 2011b, p.78)

However, contingency-based explanations have limitations, as they do not explain any personal incentives of corporations' managers, nor do they address the cultural and social element of adopting a particular practice. Thus, for explanatory purposes, the current framework assumes a three-fold underlying theoretical construct, which explains why corporations and users adopt new technology in financial reporting. The additional theories are managerial-incentive theories (Watts & Zimmermann, 1978) and institutional theory (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). Managerial-incentive theories suggest that managers would like to reduce information asymmetry by disclosing more information via financial reporting, which includes providing information voluntarily.

In the current framework, and based on our academics' suggestions, managerial incentive theories were used to explain why corporations' managers are willing to adopt novel methods of financial information communication. These theories include agency theory, capital need theory, signalling theory and legitimacy theory, which adopt different points of view regarding as to why corporations provide additional information and adopt new means of information provision. Agency theory suggests corporations seek to reduce the agency cost and information asymmetry (Watts & Zimmermann, 1978). Capital needs theory concerns itself with seeking to raise capital as cheaply as possible (Core, 2001), signalling theory determines that corporations seek to distinguish themselves in the market (Haniffa & Cook, 2002), and legitimacy theory suggests that corporations seeks to be considered legitimate by other parties they interact with (Hybels, 1995). Legitimacy is also a subject matter that concerns institutional theorists.

Institutional theory was employed, based on our academics' suggestions, to reflect the social and cultural element of why corporations and users adopt a particular practice (DiMaggio & Powell, 1991), in the case of this framework why they use smart mobile devices and the related technology for corporate financial reporting and for accessing financial information. Institutional theory suggests that cultural and social norms drive agents to engage in a particular practice, either on the basis of regulatory force, referred to as coercive force, on the basis of copying others in order to remain competitive and be accepted, referred to as mimetic force, and finally on the basis of best practice recommendations, usually issued by professional bodies, referred to as normative force (DiMaggio & Powell, 1991). From a recipients' perspective, adoption of new communication devices to receive financial information would take place in order to support useful investment decision-making (Chambers, 1966; Henderson & Scherer, 1986), which is the primary reason for capital providers to engage in new techniques.

Reviewing these prior theoretical foundations in the area of technological developments and adoption for corporate financial reporting showed that prior theoretical arguments have focused on factors that will drive a corporation to develop their own form and content of financial reporting. Although the discussed issues of technology adoption and users behaviour are well established theoretical foundation in the technology literature, the concept of users' behaviour towards the adoption of new technology in financial reporting has been neglected. Based on the above review, the gap in the literature was recognized deductively.

Having reviewed these prior studies, no attempt at building a theoretical foundation of how and why corporations utilise technologically oriented financial reporting as a communication tool and how they perceive

the adoption of any new mobile communication technology, has been made, as far as we are aware. Neither has any prior theoretical framework included the user element in their theoretical argumentation. This paper provides a theoretical foundation of how corporations perceive the adoption of any new mobile communication technological developments in financial reporting dissemination practices, and how users perceive the adoption of such technology.

The next section illustrates the developed explanatory theoretical model by combining the existing theories inductively in one model which is based on how corporations perceive the adoption of any new technology in financial reporting dissemination practices, and how users perceive such adoption.

3.3 Theoretical Building of the Current Model

This section outlines the proposed explanatory model which encompasses prior theories, in order to predict and explain the adoption of smart mobile devices for financial reporting communication, from both a corporations' and a users' perspective. Hypotheses can be derived from each element of the theoretical framework, which are presented throughout this section and provide a starting point for future empirical research. In addition to combining prior theories, the evaluation and feedback of eighteen academics with varied backgrounds was used to enhance the model. The current model commences with the external and internal factors that impact on both preparers and receivers.

The external and internal environmental factors impact on any technological or non-technological developments in financial reporting in any place and at any time (von Alberti-Alhtaybat et al., 2012; Xiao et al., 1996, 1997). Xiao et al. (1996; 1997) based their theoretical advance on the contingency argument in which they stated that the developments in different financial reporting aspect are contingent upon several factors, such as cultural, economic, political, organisational and behavioural factors. Moreover, von Alberti-Alhtaybat et al. (2012) tried to identify the technological and non-technological factors behind the adoption of technical innovation in reporting devices, such as the availability of the underlying hardware, software, cultural attitudes to information, as well as managers' motivation to transfer disclosure from a printed to an online version, which stems from benefits associated with the Internet. Such benefits include cost efficiency, accessibility, availability and more room for disclosure, which drive corporations to gradually move towards Internet reporting, supporting Jones and Xiao's (2003) findings. The authors conceptualised technology development in what they term disclosure transformation theory, as they consider it as one of the environmental factors that facilitate the transformation in financial reporting from the traditional printed to the gradual adoption of the new communication technologies for information dissemination (von Alberti-Alhtaybat et al., 2012).

Applying the principles of interactionism, the current model combines Xiao et al. (1996; 1997) framework, Jones and Xiao's (2003) findings, Molla and Licker's (2005) e-readiness framework, and Von Alberti-Alhtaybat et al. (2012) disclosure transformation theory, as illustrated in Figure 3. The starting point is the argument that any smart mobile communication technological development in corporate financial reporting is contingent upon external or internal environmental factors at both micro and macro levels. These external and internal factors can be based on managerial-incentives, can pose contingent factors and can reflect institutionalised norms, depending on the respective context. These smart mobile communication technological developments, illustrated in this model, are perceived in a two-fold perspective as the nature of financial reporting involves two parts, the corporation as providers and the users as receivers of financial reporting.

From the providers' perspective, corporations perceive the adoption of smart mobile communication technological developments in form of mobile financial reporting based on, as categorised in the literature of financial reporting and technology innovation, corporation evaluation, which allows them to assess that to which extent their internal and external e-readiness levels support the adoption of such technological innovation (Al-Htaybat, 2011b; Molla, 2004; Molla & Licker, 2002, 2005). Molla and Licker (2002 & 2005) have used the phrase internal e-readiness or organisational e-readiness to refer to the managers' perception and evaluation of the degree to which they believe that their organisation has the awareness, resources, commitment, and governance to be ready to adopt e-commerce (Molla & Licker, 2002, 2005). External e-readiness denotes the managers' perceptions and evaluations of the degree to which they believe that market forces, government, and other supporting industries are able to support their companies to be e-commerce (Molla & Licker, 2002, 2005). Similarly, Al-Htaybat, (2011b) argued that the internal and external e-readiness constructs represent the two-dimensional concept of e-readiness for Internet financial reporting. The author indicates that the e-readiness for Internet corporate reporting is contingent upon both macro and micro levels. E-readiness at the macro level is subject to a country's environmental setting, e-infrastructure, and cultural influence, and is evaluated in accordance with the national benchmark (Al-Htaybat, 2011b). E-readiness at the micro level is subject to

corporate internal issues such as: awareness, technological resources, business financial resources, qualified human resources, and governance (Al-Htaybat, 2011b).

Based on that, the current model supposes that corporations as providers evaluate e-infrastructure at micro and macro levels. This includes at macro levels several factors: network infrastructure, access, affordability, reliability and speed, and functionality. At the micro level factors, such as awareness, commitment, qualified human resources, financial resources, technological resources, corporate governance, sub-culture and legal factors are included, in order to adopt new technology in their financial reporting dissemination practices. This leads to the following suggested hypotheses:

Hypothesis (1): Corporations' external e-readiness levels have a direct effect on corporations' internal e-readiness to adopt any new smart mobile communication technology for financial reporting dissemination.

Hypothesis (2): Corporations' internal e-readiness levels have a direct effect on their attitude towards the adoption of any new smart mobile communication technology for financial reporting dissemination.

Hypothesis (3): Corporations' external e-readiness levels have a direct effect on their attitude towards the adoption of any new smart mobile communication technology for financial reporting dissemination.

The second and third hypotheses can be divided into several hypotheses each of which suppose a relationship between the various elements of the internal or external of e-readiness, such as affordability, reliability and speed and functionality and the corporation adoption of mobile communication technology developments. The eighteen academics from different disciplines agreed to and accepted the above-mentioned factors, and argued that the providers' decisions to adopt the new technology as a financial reporting communication means will be subject to another main element, managers' perceptions regarding the benefit in relation to the cost of such adoption. Managers are expected to compare between the costs of technology adoption and benefits that might arise from such adoption as it may be costly to set up the internal e-infrastructure for such technology, to train human resources to be able to utilise the new technology and raise their awareness, and finally to acquire and install the technology itself. Thus, managers' decisions to adopt any new technology as a means of corporate financial reporting dissemination are based on a cost-benefit analysis, which leads to the fourth suggested hypothesis:

Hypothesis (4): Corporations' perceptions of the cost-benefit trade-off of technology adoption will have direct effect on their attitude towards the adoption of any new smart mobile communication technology for financial reporting dissemination.

Consequently, corporation that have a positive attitude towards the adoption of any new smart mobile communication technology for financial reporting dissemination will adopt and actually use such technology.

From the receivers' perspective, based on the diffusion of innovation theory, the current model argues that receivers or users will gradually accept and perceive the adoption of mobile communication technological developments at both the micro and macro levels as useful (see Rogers, 2003). Such adoption takes place because capital providers seek to support useful investment decision-making (Chamber, 1966). As discussed previously, Rogers (2003) outlined five stages of adopting new innovations: initial knowledge, persuasion, decision-making, implementation and finally confirmation. The diffusion process of new innovations is based on four elements at both the macro and the micro level, which are innovation, communication channels, time and social system (Rogers, 2003), and five criteria are applied to assess whether a new innovation is useful and should be adopted, which are relative advantage, compatibility, complexity, triability and observability (Rogers, 2003).

Furthermore, Rogers (2003) considered critical mass, the existence of a sufficient amount of adopters of innovation, the point after which further diffusion becomes self-sustaining as a crucial factor in innovation adoption. The issue of critical mass raises the following question: how will the adopters, i.e. users, perceive the adoption of any new mobile communication technological innovation in financial reporting? Literature on innovation and users' behaviour towards the adoption of new technology highlights the theory of reasoned action (Davis, 1989), based on Fishbein and Ajzen, (1975), to develop the Acceptance Model Technology, as illustrated in Figure 1. Davis (1989) stated that users' adoption of any new technology is subject to two main elements, which are perceived usefulness and perceived ease of use of these new information technology applications. Furthermore, Davis, (1989) declared that the individuals' attitude towards the adoption of any application, and how users perceive the ease of use of these applications. Also, Pinsker, (2007) asserted that both aspects drive the behavioural intention of use and eventually actual use of technological development.

Therefore, the current model states that users of financial reporting perceive the adoption of any new mobile communication technological developments as corporations disseminating financial reporting information on the basis of a two-fold perspective: perception of usefulness and perception of usability or ease of use, as adapted from Davis (1989). Thus, the current model assumes that the users' views and their attitudes regarding the adoption of mobile communication technological advancements are based on their evaluation to which extent such adoption will be easy to use and useful. Their evaluation of usability and usefulness of any technology will determine the users' acceptance which explains the users' attitude toward the intention and the actual adoption of such technology. This leads to the second set of suggested hypotheses:

Hypothesis (5): Users' perception regarding the usability of new mobile technology will have a direct effect on users' perception regarding the usefulness of any new technology for financial reporting dissemination.

Hypothesis (6): Users' perception regarding the usefulness of new mobile technology will have a direct effect on users' perception regarding the usability of any new technology for financial reporting dissemination.

Hypothesis (7): Users' perception regarding the usability of new mobile technology has a direct effect on their attitude towards the adoption of any new technology for financial reporting dissemination.

Hypothesis (8): Users' perception regarding the usefulness of new mobile technology has a direct effect on their attitude towards the adoption of any new technology for financial reporting dissemination.

The seventh and eighth hypotheses can be divided into several hypotheses each of which supposes a relationship between each element of usability or usefulness, such as affordability, reliability, speed, functionality, and users' intention of adoption or the actual adoption of new technology in financial reporting. Furthermore, the users' attitude towards the adoption of new technology as well as perceived usability and usefulness, or even their individual elements, can be used to form the following questions:

- Users' attitudes towards the adoption of any new technology have a direct effect on their adoption of new financial reporting technology.
- How will the usability of new technology be perceived by relevant user groups?
- How will the usefulness of new technology be perceived by relevant user groups?

The evaluating academics agreed to the above-mentioned factors and argued that usability and usefulness of smart mobile devices can be evaluated by assessing the potential risks of using smart devices based on those devices' features. Features that can lead to risk of loss, theft or viruses are the high level of connectivity to any network or to other devices, the device's small size and its portability, as it easily can be attacked via network, targeted by viruses, or left anywhere which would lead to a loss of the stored data, especially if they contain sensitive or proprietary organisational data, which will expose the company's information, and its reputation and well-being could be in serious jeopardy (Walters, 2012). Finally, users' positive attitude towards the adoption of any new smart mobile communication technology for financial reporting dissemination will lead to actual use of such technology.

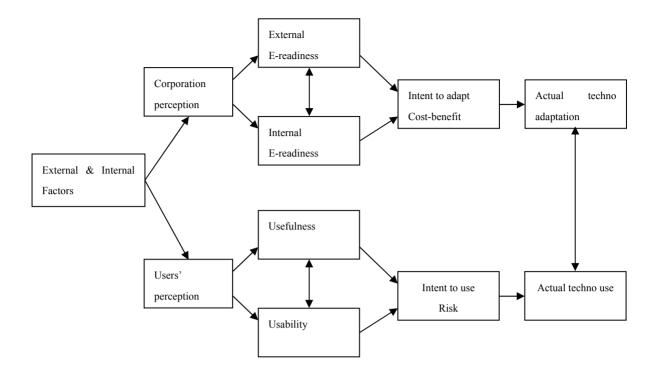


Figure 3. An explanatory model for the adoption of smart mobile devices in corporate financial reporting

As illustrated Figure 3, the current model creates a link between the actual corporations' adoption and the users' actual use of the new technology in financial reporting. This link assumes that actual corporations' adoption means the actual availability of corporate financial reporting by using new technology, which instigates users' actual use. This means that the users' level of perceived usability and usefulness is affected by the corporation's actual adoption of new technology through providing them with actual applications of that new technology, and with any required actual updates of that application. This link also assumes that actual users' adoption of a new technology prompts corporations to actually use it. This leads to the ninth and tenth suggested hypotheses:

Hypothesis (9): The corporation's actual adoption of any new mobile communication technology for financial reporting has a direct effect on users' adoption of such technology.

Hypothesis (10): The users' actual adoption of new mobile communication technology has a direct effect on corporations' adoption of such technology in financial reporting dissemination.

4. Conclusion and Future Research Suggestions

This paper proposed a theoretical explanatory model for the adoption of smart mobile devices as technological developments in corporate financial reporting practices. This model illustrates the importance of relationships between the dynamic nature of technological developments and corporate financial reporting developments on the basis of contingent and institutional factors, managerial incentives and user decision-making usefulness. Furthermore, the adoption of any technological developments for financial reporting practices is reflected in a two-fold manner: corporations' perception and users' perception. Corporations will adopt any technological developments in financial reporting based on the internal and external e-readiness environments and their assessment of cost benefit elements. Users will adopt technological developments based on their analysis regarding the usefulness, usability and any risks associated with the adoption of such technology. Thus, this model suggests an outline of coherent explanations of the current and future utilisation and adoption of corporate financial reporting technological developments. In particular, it provides useful insights into existing and future technological developments' acceptance in the context of financial reporting. It simplifies complex relationships between the different elements of the technological developments, so as to offer future researchers a methodical approach to understanding each aspect and being able to identify any possible lacks regarding the acceptance of technological developments for financial reporting. Finally, the proposed model demonstrates the logical process of accepting any future technological developments that may impact on financial reporting practices. Researchers are recommended to utilise this model in the future of technological age and digital

generation of prepares and users of financial reporting, the generation who was born in the digital age and do not remember life before such mobile technology, those who have the most sophisticated technological devices, i.e. smart phones, introduced early on in their life, those who currently connect with each other all the time in different ways and at different levels using social media, such as YouTube, Skype, Facebook and Twitter, through their smart mobile devices.

Therefore, smart mobile devices could be seen as the future revolutionary terminal of financial reporting as the nature of mobile technology provides different levels of users' accessibility, interactivity and research ability, which could create a real-time communication. However, using smart mobile devices has potential risks attached as a result of their own features. In this context Walters (2012) argued that the high level of connectivity to networks or to other devices, the small size and their portability pose threats, as the device can easily be attacked via network, targeted by viruses, or left anywhere which would result in loss of the data stored on the devices. This is particularly problematic if the devices contain sensitive or proprietary organisational data, which would expose the company's information and reputation, and its well-being could be in serious jeopardy (Walters, 2012).

An apparent limitation of the current study is the lack of empirical testing of the model in general and the proposed hypotheses in particular. An important future research undertaking would be testing the model in context of the new technological developments, such as smart devices and social media, for financial reporting information dissemination. Furthermore, testing the suggested hypothesis is recommended for future research in order to empirically support the model. Neither has any study included users' perceptions of adopting such technology for corporate financial reporting. Also nothing is known about the corporation and users' perceptions regarding the role of any future technology adoption, for instance smart mobile devices, as a new dissemination terminal for corporate financial reporting. Investigating these aspects is suggested for future research.

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