

SMALL SIZED BUSINESSES AND E-MARKETING ADOPTION: TOWARDS A CONCEPTUAL MODEL

Charles Owuor Omoga¹, Dr.Samuel Liyala¹, Dr. George Raburu²

¹. Department of Information Systems and Technology, Jaramogi Oginga Odinga University of Science and Technology, Kenya

². Department of Computer Science and Software Engineering, Jaramogi Oginga Odinga University of Science and Technology, Kenya

Corresponding Author: Mr.Charles O. Omoga
Email: omogac71@yahoo.com

ABSTRACT

The purpose of this study was to develop a conceptual framework for studying E-marketing adoption among small businesses in Kenya. The specific objective was to review existing information systems adoption theories and models within the information systems literature both at firm level and individual level since small businesses are headed by Individual who acts as the key decision maker. The researcher compared theories at both individual and organization level in order to identify theories and models appropriate for small business adoption studies. Research publications from peer reviewed journals were the source of the secondary data used in this study. The review found that among the theories that has been widely used include Technology Organization and Environment framework and Diffusion of Innovation theory either individually in combination. The study equally found that limited studies have investigated information systems adoption within the lenses of Institutional theory either individually or combined with other theories, yet organizational decisions are driven not only by rational goals of efficiency, but also by institutional environments which include social factors and legitimacy concerns. The researcher was of the opinion that the neo-institution theory combined with selected constructs from DOI and TOE framework would serve as a relevant integrated model for studying small business since it integrates both models/theories fronting the rational goals of efficiency as well as institutional environments.

Key words: Conceptual model, DOI theory, e-marketing, Institutional theory, TOE framework.

1. INTRODUCTION

There are a number of theories and models that have been used in studying information systems adoption at firm level and individual level. Researchers have argued that due to the unique characteristics of small businesses in terms of their management structure, size, financial limitations and limited Information Systems knowledge there is need to have a specific model that can address the needs of information systems adoption by small businesses as a subgroup within SME population. Small businesses are headed by Individual who acts as the key decision maker. These individuals are thus embedded within the organizations (Jan, Lu and Chou, 2012). This calls for models that combine both individual and organizational perspectives examining determinants of information systems adoption. Among the theories that has been widely used include TOE and DOI in combination, however few studies have investigated information systems adoption in small businesses within the lenses of Institutional theory either individually or combined with other theories (Olievera and martins, 2011; Kung and Kung, 2015) yet organizational decisions are driven not only by rational goals of efficiency, but also by institutional environments which include social factors and legitimacy concerns (Kung and Kung, 2015). The researcher is of the opinion that the neo-institution theory and specifically the Institutional isomorphism component by Powell and DiMaggio (1991) combined with selected constructs from DOI and TOE framework would serve as a relevant model for studying small business since it integrates models that fronts both rational goals of efficiency as well as institutional environments.

Neo-Institutional theory (DiMaggio and Powell, 1983; Powell and DiMaggio, 1991) lays emphasis on the fact that organization structure and actions are shaped by institutional environments and these include social and cultural factor and legitimacy concerns (Scott, 2001) as opposed to the notion that organizational decisions are driven purely by rational goals of efficiency. Legitimacy is thought of as assumptions that entities actions are acceptable and desirable and appropriate within some socially construed system of norms, values, beliefs, and definitions (Suchman, 1995). The theory asserts that organizations due to isomorphic and legitimacy pressures eventually become similar (DiMaggio and Powell, 1983). This indicates that organization within the same industry tend to become similar progressively as they emulate the industry leaders actions and strategies due to competitive and customer pressures. For example firms may decide to adopt E-marketing not because of internally driven decisions but due to external isomorphic pressures from competitors, trading partners, customers, and government (Oliveira and Martins, 2011). Institutional theory examines key external pressures including mimetic, coercive and normative pressures that make organizations conform to the actions and strategies of other organizations in the industry which they belong (DiMaggio and Powell, 1983). According to DiMaggio and Powell, (1983) Mimetic Pressures refers to the bandwagon effect which means that progressively organizations become more similar to other organizations and imitate best practices adopted by other organizations. Mimetic isomorphism is the tendency of an organization to mimic or copy the actions of those organizations that are thought to have credible levels of legitimacy, and was identified as the institutional pressure most likely to contribute to continuance inertia (DiMaggio and Powell, 1983). Organizations copy the strategies of other structurally equivalent organizations since these organizations are homogeneous in relation the economic network position within the same industry hence have similar goals, engage in similar products, share similar trading partners, and have similar challenges. This is done mainly to cushion an organization against perceived risks since following a market leader and adopting a route that has already been tested and is successful (Kondra and Hinings, 1998).

Coercive pressures refer to pressures from organisations which the other organisations depend on for business and pressures from socio-cultural expectations in the society within which they are dependent (DiMaggio and Powell, 1983). Teo et al. (2003) identified coercive pressures emanating from dominant suppliers and

customers including the parent corporation. Customer dependency occurs when there is much reliance of the businesses on clients accounting for most of their trading and those that have alternative suppliers (Teo et al., 2003). Supplier dependency develops when organizations over rely on a particular supplier and hence cannot switch to other suppliers (Teo et al., 2003). Normative pressures according to DiMaggio and Powell, (1983) refers to pressures from members of social networks which include trade associations; professional associations, accreditation agencies and channel members). The strategic decisions deliberated by firms or organizations are dictated by the common values and norms among network members (DiMaggio and Powell, 1983). These normative pressures manifest themselves through professional, trade, business, and other key organizations (Powell and DiMaggio, 1991).

2. LITERATURE REVIEW

Generally, theories and models on technology acceptance are several. Among the prominent models or theories at individual level of adoption include Technology Acceptance Model (TAM), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Motivational Model, Combined TAM and TPB (C-TAM-TPB), Innovation Diffusion Theory (IDT), Model of PC Utilization, and Social Cognitive Theory (SCT) and Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) the subsections 2.1 and 2.2 review adoption theories and models applicable at both individual and firm level.

2.1 REVIEW OF INDIVIDUAL LEVEL ADOPTION MODELS/THEORIES

2.1.1 Theory of Reasoned Action (TRA)

The focus of this theory is on attitudes in relation to behavior and subjective norm (Fishbein and Ajzen 1975). The main constructs in this theory includes attitudes towards the behavior; social influence and individuals perceptions. TRA has served as a foundation for explaining and also predicating behaviours. Several researchers have used this theory in order to study Information system adoption. For example, Mishra, Akman and Mishra (2014) applied the Extended Theory of Reasoned Action (TRA) on a survey among IT professionals from major public and private sector establishments. Their study concluded that behavioral intention influences actual behavior positively. The results further indicated that external factors such as person related beliefs, sector of respondents' establishment, and level of awareness have significant

impact on attitude towards adoption of GIT (Mishra, Akman and Mishra, 2014). Similarly, Alqasa et al. (2014) also applied TRA to examine the use of banking system in Yemen by investigating the impact of attitude and subjective norms on individuals' intention to use banking services. The results of the study revealed a strong predictive power of the Theory of Reasoned Action model to explain university students' behavioral intention to use banking services. The study found that there were positive relationships between students' attitude, subjective norm as predictor variables on behavioral intention to use banking services. Another study by Hsu and Lin (2008) equally applied TRA as a basis to investigate motivations of people in participates in blog activities. Their model involved technology acceptance, knowledge sharing and social influences as constructs. The findings showed that ease of use and enjoyment, and knowledge sharing were positively related to attitude toward blogging, and accounted for 78% of the variance. Social factors and attitude in relation to blogging had a significant relationship with intention to blog. Together they explain 83% of the variance of intention to blog.

On the strengths and weaknesses of the Theory of Reasoned Action (TRA), Olushola and Abiola (2017) observe that TRA has a Strong predictive power of consumer's behavioral intention that has been demonstrated with a wide variety of consumer products and that TRA is a well-researched theory designed to explain virtually any human behavior. On the other hand Consumers do not have complete control over their behavior in some conditions and the direct effect of subjective norms on behavioral intention is difficult to isolate from the indirect effects of attitudes while at the same time, TRA Did not include personality characteristics, demographic or social roles that influence behaviours.

2.1.2 Technology Acceptance Model (TAM)-This was designed by Davis in 1989 to investigate information technology acceptance and usage. TAM used the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) as its theoretical base. Davis emphasized perceived usefulness (PU) and perceived ease of use of the technology as determinants of behavioral intention to use a technology (PEOU). This model was extended to design TAM2 by including subjective norm as an additional predictor of behavioral intention to use technology. Several researchers have used this theory in order to study information system adoption. For example, Geitz (n.d) used The Technology Acceptance Model (TAM) predicts the user acceptance of end-user

applications by specifying causal relationships among belief and attitudinal constructs that subsequently influence usage behavior. The findings indicated the effect of the external variables on usage behavior was not fully mediated by the belief constructs. Durodolu (2016) studied the effect of Perceived Usefulness and Perceived Ease of Use on Information Literacy acquisition among school teachers. The findings provided a better understanding and development of TAM as an effective model for Information Communication and Technology studies and for predicting the relationship between Information Literacy skills and technology acceptance. Alryalat et al. (2013) also used TAM to study the role of usefulness, ease of use and social influence on Jordanian citizens' intentions to adopt e-government. The findings of the study revealed that usefulness, ease of use and social significantly affected Jordanian citizens' behavioral intentions to adopt e-government. Olushola and Abiola (2017) observed that TAM is a robust, powerful, and parsimonious model for predicting user acceptance of information technologies and that it has been used in many empirical studies and proven to be of quality and statistically reliable. Numerous empirical studies have found that TAM consistently explains a substantial proportion of the variance in usage intentions and behaviours with a variety of information technologies.

However TAM has some limitations. Khan and Woosley (2011) argued that most of the studies validating it involved students in academic atmospheres not business environments, the types of applications studied were predominantly introduction of office software or development applications rather than business applications, and the problem of self-reporting. Additionally, the TAM measured the variance in self-reported use, which was not necessarily precise. Olushola and Abiola (2017) observed that TAM ignored some important theoretical constructs and that TAM does not reflect the variety of user task environments and constraints. In conclusion there is doubt by scholars about the application and theoretical precision of TAM as research on the Technology Acceptance Model (TAM) has reached a saturation stage since TAM has been overused (Chuttur, 2009)

2.1.3 Decomposed Theory of Planned Behavior (DTPB)

The DTPB is an extension of the Theory of Reasoned Action (TRA). The latent variables of DTPB are perceived usefulness, complexity, compatibility, subjective norms, self-efficacy and facilitating

conditions. This theory did explain between twenty one percent and twenty five percent variance in technology acceptance and use behavior in many studies. Studies that have used this theory include Gangwal and Bansal (2016). They examined the influence of trust, perceived usefulness, perceived ease of use and perceived enjoyment on the attitude towards adoption of m-commerce. This study tested the relationship between normative influence and subjective norms as well as the relationship between self-efficacy and perceived behavioral control was tested. The findings indicated that the trust of m-commerce vendor, perceived usefulness by the user, self efficacy in terms of technology and the normative influence of society were the key determinants of m-commerce adoption in India. The developed model did explain 60% of the observed variance. Other studies by Tao and Fan (2017) proposes a modified version of the decomposed theory of planned behavior model (DTPB) that added satisfaction and trust into the original DTPB model to investigate predictors user intention towards distance-based electronic toll collection (ETC) services. Compatibility was the key predictor, followed by perceived usefulness, facilitating conditions, self-efficacy, and perceived ease of use.

2.1.4 Theory of Planned Behavior (TPB)

The Theory of planned behavior was developed by Ajzen and Fishbein (1985) by including perceived behavioral control as constructs to TRA. The Theory of Planned Behavior (TPB) was proposed by Ajzen in 1991 and was developed from the Theory of Reasoned Action (TRA) which was proposed by Martin Fishbein and Ajzen in 1975. TPB adds the concept of Perceived Behavioral Control (PBC) to the constructs attitudes and subjective norms which make the TRA. Perceived behavioral control refers to "people's perception of the ease or difficulty of performing the behavior of interest". It differs from Rotter's (1966) concept of perceived locus of control because it is not constant and varies with different situations faced by the individual. Locus of control is considered to be a more generalized expectancy of the individual that remains fairly stable across situations. In this way, the criticism faced by TRA that it is based on relatively static construct of attitude and thus cannot be used for prediction of behavioral outcome has been addressed by TPB. TPB has been used and validated by many studies in prediction of individual intentions and behavior of technology adoption. Meta data findings indicate that that this TPB has been able to explain between twenty one percent and thirty seven percent variance in technology acceptance and use behavior (Smart, 2013; Benk & Budak, 2011). Olushola and Abiola (2017) observed that

TPB is a broader model compared to TRA and that this theory has received substantial empirical support for predicting behavior in information systems and other domains. On the other hand he argues that Constructs in the TPB appear to be difficult to define and measure in the study and that the model variable may suffer from Multicollinearity among the independent variables

2.1.5 Combined TAM and TPB (C-TAM-TPB)

Taylor and Todd (1995a) Combined TAM and TPB (C-TAM-TPB) to form an integrated model. The model integrated constructs of TPB (subjective norm and behavioral perceived control) and perceived usefulness from TAM to develop a more improved model. Several studies have used the C-TAM-TPB (Safeena, Date, Hundewale, and Kammani, (2013) examined the influence of perceived ease of use, perceived usefulness, attitude, subjective norm and perceived behavioral control of Internet banking and the findings supported the hypothesis that PU, PEU, Attitude, SN, PBC had positive influence on the use of Internet banking. Similarly, Chen (2013) explored network behaviors by using three models including Theory of planned behaviors (TPB), Technology acceptance model (TAM) and C-TAM-TPB and the findings were similar to those of TPB and TAM. Dakduk, Horst, Santalla, Molina and Malavé (2016) using the integrated the Theory of Planned Behavior, the Theory of Reasoned Action, and the Technology Acceptance to determine the major determinants of online purchase intention among internet users in Colombia. The findings confirmed that the intention to purchase online is mostly determined by the attitudes to e-commerce which, in turn, are explained by perceived usefulness, perceived ease of use, and the subjective norm related to online shopping

2.1.6 The Unified Theory of Acceptance and Use of Technology Model (UTAUT)

The Unified Theory of Acceptance and Use of Technology Model was a blend of Eight models on technology acceptance and use Venkatesh et al. (2003) aiming at validating, and testing a new model so as to improve predictive power of behavior intentions. The determinants of behavior intention and use of technology in UTAUT included performance expectancy, effort expectancy, social influence and facilitating conditions. Venkatesh et al. (2003) observed that elements related to ICT infrastructure within effort expectancy constructs were already captured by the UTAUT construct of facilitating conditions. UTAUT indicated that facilitating

conditions becomes insignificant in predicting behavior intentions.

2.2 INFORMATION SYSTEMS ADOPTION THEORIES AT FIRM LEVEL

In this section the researcher reviewed theories and models on Information System adoption at the firm level used in information systems (IS) literature and discussed prominent models. The theories reviewed were the Diffusion on innovation (DOI) (Rogers 1995) the Technology, Organization, and Environment (TOE) framework (Tornatzky and Fleischer 1990) and DTOE model by Thong (1999). Many studies on IT adoption at the firm level have been based on these models (Olievera and martins, 2011).

2.2.1 Diffusion of Innovation theory (Rodgers 1995)

Diffusion is “the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, 1983, p. 5). DOI as a theory which illustrates the spread of new technologies across cultures via specific channels and operates at the firm and individual level. This theory sees Individuals as possessing willingness to adopt technology at different levels and there is an approximate normal distribution over time, in a section of population adopting new innovation (Rogers 1995). When broken into sections the normal distribution yields the following categories: Innovators; early adopters; early majority; late majority; Laggards (Rogers 1995). There exists a challenge in innovation process in organizations because the process involves opponents and proponents of new ideas and all of them have a role to play in the decision to innovate. Independent factors e.g. leader characteristics, the internal and external characteristics of the firm relates to innovativeness according to DOI theory at firm level (Rogers 1995). Internal organizational structural characteristics and external characteristics of the organization. An individual characteristic describes the leader attitude toward change. Internal characteristics of organizational structure includes observations according to Rogers (1995) whereby: centralization indicates the degree at which power and control are concentrated in the hands of a relatively few individuals within the firm; “complexity” refers to the degree expertise and knowledge by members of the organization.” formalization refers to the degree of emphasis of rules and regulations to be followed by its members. “Interconnectedness” refers to the degree of linkages of social units by interpersonal networks; “organizational

slack” refers to the degree in which uncommitted resources are available to an organization”; “size is the number of employees of the organization”. External characteristics of organizational refer to system openness. Rogers (1995) identified five important attributes of innovation that influence the decision to adopt or reject an innovation. Relative advantage, compatibility, complexity, trialability, and observability. These attributes are valid for both individual and organizational adoption of technology. Relative advantage is the degree to which an innovation is perceived as providing a better situation than competitors. Compatibility is the degree to which an innovation is perceived as being compatible with the existing values, culture, and user needs. Complexity is the degree to which an innovation is recognized as difficult to understand and use. Trialability is the degree to which an innovation is experimented. Finally, observability is the degree to which the results of an innovation are visible. However, Rogers distinguishes diffusion from adoption by stating that adoption is “a decision to make full use of an innovation as the best course of action, whereas rejection is a decision not to adopt an available innovation” (Rogers, 1983, p. 21). In this study, adoption is therefore defined as the decision of an organization to use E-marketing to conduct business or transaction with its trading partners and customers. Since the early applications of DOI to IS research, the theory has been applied and adapted in various ways

2.2.2 The TOE Framework (Tornatzky and Fleischer, 1990)

The TOE framework as originally presented, and later adapted in IT adoption studies, provides a useful analytical framework that can be used for studying the adoption and assimilation of different types of IT innovation. The TOE framework has a solid theoretical basis, consistent empirical support and the potential of application to IS innovation domains, though specific factors identified within the three contexts may vary across different studies (Baker 2012).

The TOE framework (Tornatzky and Fleischer, 1990) is a tool for studying the Technology adoption in organizations. Technology, Environment and Organization perspective are identified as aspects that influence new technology adoption by organizations. The technology perspective shows relevant technologies to organizations towards achieving its business objectives; the organization perspective is defined in terms of the organizations size scope, management

structure and internal resources; the environment refers to the wider are from which an organization conducts their commercial activities, thus: business partners, competitors and the government. The TOE framework has demonstrated its applicability in many Information Technology adoption studies investigating the critical factors in technology adoption by SMEs (Ramdani et al., 2009). for example, the TOE framework was applied during studies by Iacovou et al.(1995), which explored the determinants of the adoption of electronic data exchange (EDI) systems in seven small firms and identified critical factors to adoption of technology to include perceived benefit, organizational readiness, and external pressure. Similar researches that have applied TOE currently include (Olievera et al 2014; Lian et al., 2014; Ruivo et al., 2014)

The studies above show the applicability of the TOE framework for studying the adoption of technology in SMEs. There are however modest empirical studies in the literature on the adoption of e-marketing within the TOE framework. E-marketing evolved from the EDI system (Guilherme and Aisbett, 2003) and was based on the needs of e-procurement of an organization (Angeles, 2000). The TOE framework which was relevant in the study of the adoption of EDI, e-procurement, Information Technology and Information Systems in modern firms are therefore applicable for the study of e-market adoption. The applicability of the TOE framework for E-marketing adoption studies is illustrated in studies by Swanson's (1994) in which Technology innovation adoption was studied. The result was that the TOE framework was able to explain the type of innovation embedded in the core of the business in the process of technology adoption's-marketing falls into this type of innovation, for the reason that E-marketing promotes competitiveness in organizations and can encourage the integration the business with suppliers and customers (Duan et al., 2010). This showed the suitability of the TOE framework in E-marketing adoption studies. Several authors have used only the TOE framework to analyze different IT adoptions.

The main contribution of this framework is that it encourages the researcher to take into account the broader context in which the adoption takes place (Ven & Verelst, 2011). The constructs used under each context were selected from previous studies which were found suitable with the condition of the technology that was studied. However some researchers suggested that to identify specific technological, organizational and environmental factors and to establish the causal

relationships needed for hypothesis development, the TOE framework should be combined with other theories (Awa et al., 2011; Chong & Chan, 2012).TOE does, however, not aim to offer a concrete model describing the factors that influence the adoption process as it is rather taxonomy for classifying factors in their respective context (Ven & Verelst, 2011) and the TOE doesn't take into consideration the individual characteristics of the employees or managers of organizations(Ghobakhloo and Tang,2013)

2.3 Studies using combined theoretical bases at firm level

From the literature review, the present study revealed that DOI theory is the main theory that is used together with the TOE framework (Chong & Chan, 2012; Wang et al., 2010).Thong (1999) for example joined CEO characteristics from DOI to the TOE framework. Chong et al. (2009) added technology innovation aspects (relative advantage, compatibility, and complexity) from DOI and made an additional new factor in the adoption study called information sharing culture characteristics to the TOE framework. The TOE framework was combined with constructs from DOI theory namely: relative advantage, compatibility, cost, and security concerns. (Zhu et al. 2006a).In yet another study, Wang et al. (2010) combined DOI to the TOE framework by including relative advantage, complexity, and compatibility constructs from DOI.

Decision-makers characteristic is a key adoption predictor of innovation in Thong's (1999) DTOE model. Thong (1999) separated decision-makers characteristics from organization in TOE and gave it boost to bring the model to Decision-maker, Technology-Organization-Environment (DTOE). He proposed that the four conceptual adoption predictors assume a more detailed set of factors that assist in predicting the likelihood of IT adoption among Small businesses. The findings from the DTOE model indicated that significant determinants of small businesses adoption of information systems include leader characteristics like innovativeness and level of IS knowledge, innovation characteristics including relative advantage, compatibility, and complexity of Information System, and organizational characteristics including business size and level of employees' IS knowledge. The study further found that the extent of IS adoption is mainly determined by organizational characteristics and not CEO I.T knowledge or innovativeness. Finally, completeive pressure did not influence small business adoption of Information system. Several searchers have adopted the DTOE model in their studies specifically

small businesses since the DTOE model includes the constructs unique to the small businesses which include the decision maker's characteristics as well as organization characteristics.

Iacovou et al. (1995) developed their model by analyzing characteristics of Interorganizational systems (IOSs) that determine innovation adoptions by organizations of EDI adoption. This model was based on three constructs namely perceived benefits, organizational readiness, and external pressure. Perceived benefits are a different factor from the TOE framework, whereas organizational readiness is a combination of the technology and organization context of the TOE framework. Hence, IT resources were from the technology context while financial resources were from organizational context. The external pressure in the Iacovou et al. (1995) model added the trading partners to the external task environmental context of the TOE framework as a critical role of IOSs adoptions. Studies that have used the Iacovou et al. (1995) model have done so in combination with other theories or models. Hsu et al. (2006) combined the DOI theory, the TOE framework, and the Iacovou et al. (1995) model to investigate e-business use. Their proposed model included four constructs namely: perceived benefits, organizational readiness, external pressure, and environment.

Similarly, Oliveira and Martins (2010b) combined the TOE framework, and the Iacovou et al. (1995) model in investigating adoption of e-business by organizations in the European Union (EU). Their proposed model included three dimensions (perceived benefits, technology and organizational readiness, and environmental and external pressure). The perceived benefits dimension comes from the Iacovou et al. (1995) model. The technology and organizational readiness is a combination of TOE from the Tornatzky and Fleischer (1990) framework and organizational readiness from the Iacovou et al. (1995) model. The environmental and external pressure was a combination from both earlier studies too.

3. MATERIALS AND METHODS

The researcher reviewed information system adoption theories by comparing theories at both individual and

organization level in order to identify theories and models appropriate for small business adoption studies. Research publications from peer reviewed journals were the source of the secondary data used in this study.

4. RESULTS

From the findings of the literature review a conceptual framework is proposed. A conceptual framework of a research study is the system of concepts, assumptions, expectations, beliefs, and theories that support and informs one's research (Robson, 2011). The researcher was of the opinion that institutional theory supplemented with DOI and TOE would serve as a guiding framework for information systems adoption studies by small firms. The conceptual framework was thus developed from variables from the institutional theory, TOE framework and DOI theory, The neo institutional theory (DiMaggio and Powell, 1983) explains how external forces can influence adoption of innovations by organizations. The three key determinants under neo-institutional theory include mimetic, coercive and normative pressures (Powell and DiMaggio 1991). basing on this theory this study proposed an extension to it by including elements from Rodgers (1995) diffusion of innovation theory(individual characteristics) and the Technology Organization and Environmental framework to develop the Extended Institutional Model (EIM) which includes leader characteristics from DOI Rodgers (1995) which is operationalised as the leaders I.T knowledge, cyber security concerns and cost of implementing innovations from technology perspective of the TOE(Tornatzky and Fleischer, 1990) framework. These constructs forms the extensions to the neo-institutional model. The justification for this extension is that leader's I.T knowledge, Cyber security concerns and Cost of implementing innovation play a significant role in adoption of innovation. This view is supported by several studies on information systems adoption by organizations (Said & Azizan 2013).below is the conceptual framework developed for this study.

Decision maker's characteristics

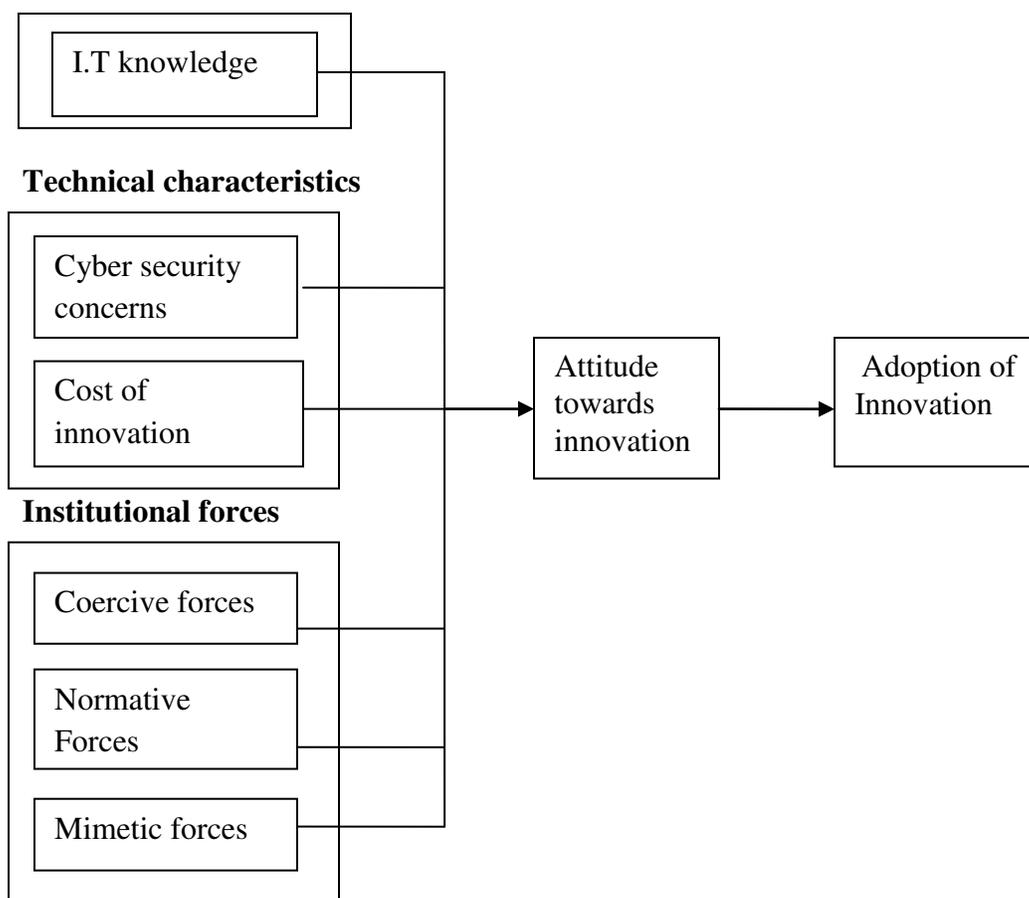


Fig.2.1: Conceptual framework. Source: Self conceptualization (2017)

5. DISCUSSION

This study has developed a conceptual model that can be used to study Information Systems adoption by small businesses. The conceptual model is based on literature from Neo-Institutional theory (DiMaggio and Powell, 1983); Rodgers (1995) Diffusion of Innovation (DOI) and Technology Organization and Environment framework (TOE) by Tornatzky and Fleischer, (1990) in developing an Extended Institution Model (EIM) that explains and validates the relationship between Decision makers characteristics, Technological characteristics, Institutional forces and E-marketing Adoption. Moreover this model explains the mediating effect of Attitude on the relationship between Decision maker's characteristics, Technological characteristics, Institutional forces and E-marketing Adoption. The justification for this extension is that leaders I.T knowledge, cyber security concerns and Cost of

implementing innovation and attitude play a significant role in adoption of innovation. This view is supported by several studies on Information Systems adoption (Dhankhar & Sing, 2014)

Several studies have similarly integrated or extended theories and models in information systems adoption studies. At firm level of adoption, DOI theory is the main theory that is used together with the TOE framework (Chong & Chan, 2012; Wang et al., 2010). Thong (1999) for example joined CEO characteristics from DOI to the TOE framework. Chong et al. (2009) added technology innovation aspects (relative advantage, compatibility, and complexity) from DOI and made an additional new factor in the adoption study called information sharing culture characteristics to the TOE framework. The TOE framework was

combined with constructs from DOI theory namely: relative advantage, compatibility, cost, and security concerns. (Zhu et al. 2006a). In yet another study, Wang et al. (2010) combined DOI to the TOE framework by including relative advantage, complexity, and compatibility constructs from DOI.

At individual level of adoption, several studies have combined or extended theories /models in order to enrich the understanding of information systems adoption. They include; The Theory of Planned Behavior (TPB) proposed by Ajzen in 1991 which was developed from the Theory of Reasoned Action (TRA); Taylor and Todd (1995a) who combined TAM and TPB (C-TAM-TPB) to form an integrated model. The model integrated constructs of TPB (subjective norm and behavioral perceived control) and perceived usefulness from TAM to develop a more improved model and The Unified Theory of Acceptance and Use of Technology Model (UTAUT) which was a blend of Eight models on technology acceptance and use Venkatesh et al. (2003) aiming at validating, and testing a new model so to improve predictive power of behavior intentions. The determinants of behavior intention and use of technology

in UTAUT included performance expectance, effort expectance, social influence and facilitating conditions.

6. CONCLUSIONS

In conclusion this study has responded to calls for studying small businesses separately from Medium and large businesses in terms of information systems adoption. (Alford and Page, 2016, p.656). This study has focused on small businesses specifically in studying information systems adoption and therefore has contributed to Information systems adoption literature by studying information systems adoption by small businesses within the lenses of combined Institutional theory and selected variables from TOE and DOI. This is because organizational decisions are driven not only by rational goals of efficiency, but also by institutional environments which include social factors and legitimacy concerns (Scott, 2001; Kung and Kung, 2015). Researchers have acknowledged the fact that a lot of insight may be gained using institutional view (Ketchen and Hult, 2011; Chaney and Slimane, 2014). This study has addressed that concern. The study has thus developed an Extended Institution (EIM) model for examining the determinants of Information Systems adoption specifically by small businesses.

REFERENCES

- [1] Jan, P., Lu, H.P, Chou, C.T (2012). The adoption of e-learning: an institutional theory perspective *The Turkish Online Journal of Educational Technology* 11 (3)
- [2] Oliveira, T. & Martins, M.F. (2011) Literature Review of Information Technology Adoption Models at Firm Level Electronic *Journal Information Systems Evaluation* 14 (1), 111-119
- [3] Kung, L., Cegielski, G., & Kung, H. (2015). An integrated environmental perspective on software as a service adoption in manufacturing and retail firms: *Journal of Information Technology*. <http://doi.org/10.1057/jit.2015.14>
- [4] DiMaggio, P.J. & Powell, W.W. (1983) The iron cage revisited - institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, 48(2), 147-160.
- [5] DiMaggio, P., J & Powell, W (1991). *The New Institutionalism in organizational Analysis: The University of Chicago Press, Chicago*
- [6] Scott, W.R. (2001) *Institutions and organizations*, 2nd ed. Thousand Oaks, CA, Sage Publications
- [7] Teo, H.H., Wei, K.K. & Benbasat, I. (2003) Predicting intention to adopt Interorganizational linkages: An institutional perspective, *"MIS Quarterly"*, (27) 1, 19-49.
- [8] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003) User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-278
- [9] Fishbein, M. & Ajzen, I. (1975) *Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research*. Addison-Wesley, Reading
- [10] Mishra, D. & Mishra I., A.A (2014) Theory of Reasoned Action application for Green Information Technology acceptance *Journal Computers in Human Behavior* 36, 29-40
- [11] Alqasa, K.M., Filza F.M., Othman, S.N, Hussein, A. & Zolait, S. (2014). The impact of students' attitude and subjective norm on the behavioral intention to use services of banking system. *Business Information Systems*, 15, (1)
- [12] Hsu, C., & Lin, J (2008) Acceptance of blog usage: The roles of technology acceptance, social

influence and knowledge sharing motivation. *Information & Management*, 45, 65–74

[13] Olushola & Abiola, J.O (2017) *Journal of Research in Business and Management* (4) 11 (2017) 70-83

[14]Durodolu, O. (2016) Technology Acceptance Model as a predictor of using information system to acquire information literacy skills *Library Philosophy and Practice*

[15] Gangwal, N. & Bansal, V. (2016).Application of Decomposed Theory of Planned Behavior for M-commerce Adoption in India: Conference Paper

[16] Ajzen, I. (1991).The theory of planned behavior. *Organizational Behavior & Human Decision Processes*, 50(2), 179-211

[17] Smart, M (2013) Applying the Theory of Planned Behaviour and Structural Equation Modeling to tax compliance behavior: a New Zealand study.retrievd from: <http://docs.business.auckland.ac.nz/doc/58-martha-smart-atta-conference-2013-final-31jan2013.pdf>

[18] Benk, S. & Budak, T.(2011). An Investigation of Tax Compliance Intention: A Theory of Planned Behavior Approach. *European Journal of Economics, Finance and Administrative Sciences*, 180-188.

[19] Safeena, R., Date, H., Hundewale, N.,& Kammani.(2013) Combination of TAM and TPB in Internet Banking Adoption *IJCTE* 5(1),66

[20] Chen, C-C (2013). The exploration on network behaviors by using the models of Theory of planned behaviors (TPB), Technology acceptance model (TAM) and C-TAM-TPB *African Journal of Business Management*

[21] Dakduk, S., Horst, T.E., Santalla, Z., Molina, G & Malavé.(2017).Customer Behavior in Electronic Commerce: A Bayesian Approach. *Journal of theoretical and applied electronic commerce research* 12 (2), 1-20

[22] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003) User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-278

[23] Tornatzky, L. & Fleischer, M.(1990). *The process of technology innovation*; Lexington, MA, Lexington Books

[24] Thong, J.Y.L. (1999). An integrated model of information systems adoption in small businesses; *Journal of Management Information Systems*, 15 (4), 187-214

[25] Rogers, E. M. (1983). *Diffusion of innovations* (3rd ed.). New York: Free Press.

[26] Rogers, E. M. (1995). *Diffusion of innovations* (4th ed). NY: Free Press Publishers

[28] Ramdani, B., Kawalek, P. & Lorenzo, O. (2009), Predicting SMEs' adoption of enterprise systems, *Journal of Enterprise Information Management*, 22 (1/2), 10-24

[29]Oliveira T., Manoj T., & Espadanal, M. (2014).Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors, *Information & Management* 51,497–510

[30] Lian, J., Yen, D.C., & Wang, Y. (2014).An exploratory study to understand the critical factors affecting the decision to adopt cloud computing in Taiwan hospital. *International Journal of Information Management*, 34(1), 28-36.

[31] Ruivo, Tiago, Oliveira, Miguel & Neto (2014) Examining ERP post-implementation stages of use and value: Empirical evidence Portuguese SMEs. *International Journal of Accounting Information System*, 1-19

[32] Ramdani., Chevers, D.,& Williams,D(2013) SMEs' adoption of enterprise applications A Technology-Organization-Environment model *Journal of Small Business and Enterprise Development* ,20(4)735-753

[34]Duan, X., Deng, H. & Corbitt, B. (2010), A critical analysis of e-market adoption in Australian small and medium sized enterprises, *Proceeding of Pacific Asia Conference on Information Systems*, Taipei, 169

[35] Angeles, R. (2000). Revisiting the Role of Internet-EDI in the Current Electronic Commerce Scene, *Logistics Information Management*, 13(1), 45-50

[36] Ven, K. & Verelst, J. (2011).An empirical investigation into the assimilation of open source server software. *Communications of the Association for Information Systems*, 28(9), 117-140

[37] Awa, H. O., Nwibere, B. M. & Inyang, B. J. (2010) .The uptake of electronic commerce by SMEs: a Meta theoretical framework expanding the determining constructs of TAM and TOE frameworks. *Journal of Global and Business Technology*, 6(1), 1-27.

[38] Chong, A., Chan, F., & Ooi, K.(2012).Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 53(1), 34–43. doi:10.1016/j.dss.2011.12.001

[39] Wang, Y.M., Wang, Y.S. & Yang, Y.F. (2010) Understanding the determinants of RFID adoption in

the manufacturing industry, *Technological Forecasting and Social Change*, 77, 803-815

[40] Chong, A.Y.L., Ooi, K.B., Lin, B.S. & Raman, M.(2009). Factors affecting the adoption level of c-commerce: An empirical study, *Journal of Computer Information Systems*, 50 (2), 13-22

[41] Zhu, K., Kraemer, K.L. & Xu, S. (2006). The process of innovation assimilation by firms in different

countries: A technology diffusion perspective on e-business, *Management Science*, 52, (10), 1557-15

[42] Iacovou, C.L., Benbasat, I. & Dexter, A.S. (1995), Electronic data interchange and small organizations: adoption and impact of technology, *MIS Quarterly*, 19 (4), 465-85

[43] Alford, P. & Page, S.J. (2015) Marketing technology for adoption by small business, *The Service Industries Journal*, 35(11-12), 655-669