

ELECTRONIC FISCAL DEVICE (EFD) ACCEPTANCE FOR TAX COMPLIANCE AMONG TRADING BUSINESS COMMUNITY IN TANZANIA: THE ROLE OF AWARENESS AND TRUST

Herman Mandari 

The Institute of Finance Management,
Faculty of Computing, Information Systems & Mathematics, Tanzania
mandari@ifm.ac.tz

Daniel Koloseni

The Institute of Finance Management,
Faculty of Computing, Information Systems & Mathematics, Tanzania
koloseni@ifm.ac.tz

Jerome Nguridada

The Institute of Finance Management,
Faculty of Economics & Management Science, Tanzania
jnguridada@ifm.ac.tz

Abstract

This study investigates factors, which motivates taxpayers to accept Electronic Fiscal Device (EFD) for tax collection. The study extended the Unified Theory of Acceptance and Technology Use (UTAUT) to study taxpayers' intent to use and acceptance of EFD. Purposive sampling technique was employed to collect a total of 253 valid responses from taxpayers in service sector. Structural equation modeling (SEM) results indicates that awareness is the key influencing factor on taxpayers' acceptance of accept EFD, while facilitating conditions and intention to use EFD were key determinant factors for taxpayers' EFD actual usage behavior. To increase acceptance of EFD, policy makers should provide more awareness campaign as well as providing online assistance to EFD users.

Keywords: Acceptance, Adoption, Awareness, EFD, Tax, Technology, Trust, UTAUT

INTRODUCTION

Generally, the rationale for imposing taxes in any country, Tanzania without exclusive, is derived from the government responsibilities of providing social and economic goods and services such as public goods, redistribution of income and wealth, social and economic welfare, and economic stability. The payment of taxes on the other hand is an obligation of every taxpayer in any country. Therefore, it is the responsibility of governments to employ efficient and effective mechanisms to collect tax revenue from its taxpayers without hindering economic activities.

The efficient and effective tax collection mechanism means, for tax administration, more tax revenue collection at lower costs and for taxpayer low tax compliance costs. Not only that but also a mechanism which enhances taxpayers' time and certainty. In order to achieve this, countries employ different strategies such as comprehensive compliance strategy. Comprehensive compliance strategy employ amongst other things; Electronic Fiscal Devices (EFDs) system to help tax administrations to monitor taxpayers' compliance by collecting information on sales and the Value Added Tax (VAT) payable thereof (Casey & Castro, 2015). Taxpayers' information regarding day-to-day business operations of his business is key element for computation of tax liability.

The Tanzania Finance Act 2010 firstly introduced EFD system by introducing the phrase "fiscal receipt" in the Value Added Act CAP 148 and its corresponding Value Added Tax (Electronic Fiscal Devices) regulations (URT, 2010). The introduction of EFD system was carried out in two phases: first phase, in 2010, aimed at capturing taxpayers registered for VAT most of which are large taxpayers and other taxpayers, formally, operate their businesses whose turnover exceeds TZS 100 million a year; and second phase, in 2013, aimed at capturing taxpayers who are not registered for VAT. In other words, the second phase aimed at capturing all other taxpayers who pay income tax under the Income Tax Act 2004 (TRA, 2014). The EFD system requires every taxpayer to issue fiscal receipt or fiscal invoice for every transaction made in the process of doing business on goods and/or services. The objectives of introducing this system were first, to increase the collection of value added tax revenue by capturing a wide range of transactions in the supply chain and second to obtain tax payers' information regularly – typically overnight by, for example, requiring submission of z-report. The collection of information is not only important for value added tax revenue collection but also important for income tax assessment at the end of tax year for each taxpayer.

For income tax purposes, the Income Tax Act 2004 requires every taxpayer, who has income and is liable to pay income tax, to maintain documents such as fiscal receipts and fiscal invoices, which may be used as input information to tax administrators to ascertain his/her

taxable income and tax liability thereto. The introduction of EFD in Tanzania, is a step forward to empower Tanzania Revenue Authority (TRA) to accurately obtain sales info from taxpayers, reduce cost of tax collections and improve tax compliance (Ikasu, 2014; Mboma, 2012).

The introduction of EFD system is not only advantageous to tax administrations alone but also advantageous to taxpayers. At the time the EFD system is effective, taxpayers may have the affairs of their business formally managed by firstly, comply with all legal requirements and secondly, keep and share proper and correct information with tax administrations and thus minimize compliance and tax risks to a greater extent. Despite all these advantages, evidence shows that most of the taxpayers, particularly non-VAT registered, in Tanzania are reluctant to register and use the EFDs (Ikasu, 2014). This reluctance has been demonstrated through protests against registration and use of EFDs by traders in various regions across Tanzania EFD (Ngowi, 2014). Some authors were of the views that the traders' protest against the EFD system was due to a number of factors amongst which are lack of awareness and taxpayers' education on the importance of registering and using the EFD system in their day-to-day business transactions; due to lack of trust; and social influence from other traders who do not find the EFD useful (Ikasu, 2014; Mboma, 2012; Weru, Kamaara, & Weru, 2013). However, the government is still insisting on the use of EFD for effective and efficient tax administration; and effective and efficient tax compliance.

Generally, collection of tax revenue has been a challenging activity in a number of countries both developed and developing. The challenge of collecting revenue by using the EFD system is particularly severe in developing countries where majority of taxpayers are not in formal sectors (Muhammed & Tesafa, 2015). Mohammed and Tesafa (2015) further argued that the achievement of an effective and efficiency administration of EFD system by tax administrations is often difficult when majority of taxpayers belong to hard-to-tax informal sector in the economy. One of the challenging features of taxpayers in this sector is their inability to keep proper information and documentation. As a result governments lose tax revenues partly due to lack of information and partly due to tax malpractices (Weru et al., 2013).

In Tanzania, a number of business enterprises who are also taxpayers fall in informal sector of the economy. These enterprises may range from those selling goods such as beverages and foods to those selling services such as lodges and hotels. Taxpayers in these groups usually lack appropriate bookkeeping and account recording systems (Casey & Castro, 2015). These are among the challenges facing tax administrations in developing countries to effectively and efficiently collect tax revenue and control taxpayers' information for tax purposes. Other challenges face tax administrations of developing countries include lack of human and financial resources or under resourcing, tax evasion, high cost of administration, and high

compliance cost and errors in preparing tax information (Mboma, 2012). Therefore, to reduce the magnitude of these challenges, developing countries, Tanzania without exclusion, have introduced Electronic Fiscal Devices (EFD) system to enhance tax revenue collection and collection of information from taxpayers.

Reluctance to accept and use EFD for tax collection renders the government to lose revenues and to lose track of sales information and its corresponding profits. The use of EFD in Tanzania is becoming challenging issue due to resistance from Taxpayers. Various scholars have studied the issue of EFD acceptance in Tanzania (Ikasu, 2014; Mboma, 2012). Nonetheless, the extent in which awareness and trust influences the adoption of EFD have not been empirically investigated. Awareness is a pre-requisite condition in acceptance and use of information technology (Sathye, 1999). If the service or technology is new to users, awareness efforts are crucial to inform users on various aspects of the service or technology. Similarly, EFD is quite a new technology introduced in Tanzania by the government to taxpayers; therefore, awareness campaign is of paramount to motivate taxpayers to use EFD. Failure to provide awareness to technology users (in this case EFD) may results into low acceptance of EFD (Howcroft, Hamilton, & Hewer, 2002). Furthermore, trust is as an influential factor in technology acceptance and defined as consumer's perception on reliability and integrity of service delivery channel and service providers (Belanger, Hiller, & Smith, 2002). With regard to EFD usage in Tanzania, taxpayers do not trust the use of EFD in presenting tax information to TRA (Ikasu, 2014), hence, most of the taxpayers are reluctant to accept the use of EFD. Thus, there is a need for immediate effort to address this problem. Therefore, the current study includes awareness and trust constructs in the conceptual model to examine its effects on the acceptance of EFD among taxpayers.

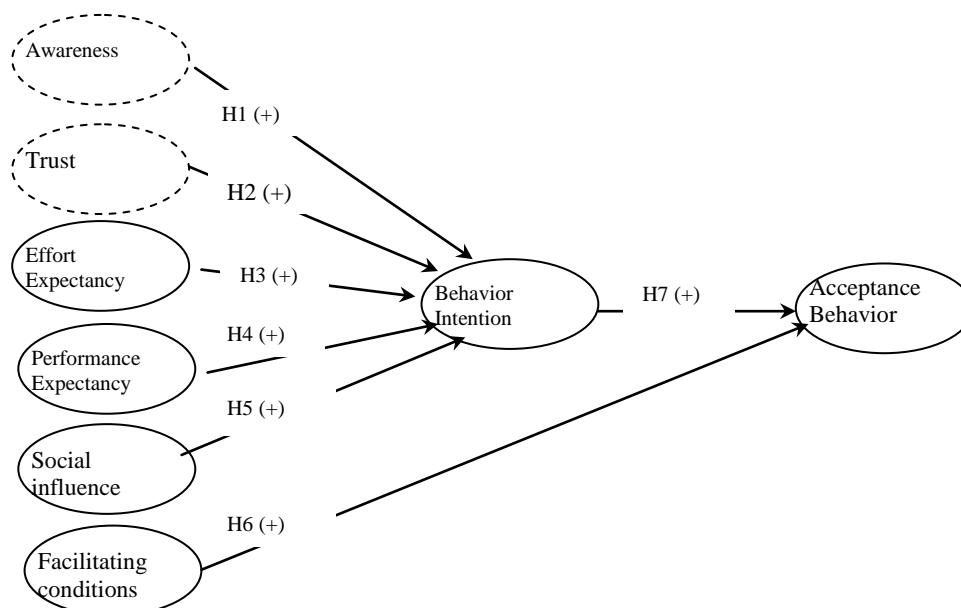
This study contributes to the body of knowledge in two ways. First, the study extends UTAUT model by including two constructs – trust and awareness – to address issues pertaining to acceptance of EFD by traders. These two constructs amongst others in determining the level of acceptance of EFD by traders. A few number of studies have integrated these two constructs with the UTAUT to determine the relationship between the predictors of, behavior intention, and actual usage to address issues of technology acceptance. This study integrates the two constructs into UTAUT in order to investigate whether they may also be key elements in determining the magnitude of influence to the acceptance of EFDs by traders – taxpayers. The outcomes of this investigation could be used firstly, to inform tax policy planners on the influence of these two constructs for efficient and effective introduction of EFD system in the entire tax system of Tanzania; and secondly, to contribute to literature of empirical studies focusing on antecedent factors influencing acceptance of EFD among taxpayers in Tanzania.

THEORETICAL FRAMEWORK

Various theories and models such as the Theory of Reasoned Action (TRA), the Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Technology Use (UTAUT) have been used to address the issues of technology acceptance including tax filing systems (Noor, Azmi, & Ramalingam, 2014; Wang, 2003; Wu & Chen, 2005). However, the UTAUT is more relevant to study the acceptance of EFD in Tanzania than the TRA, TPB, and TAM. UTAUT combines several constructs from other theories to address limitations found on each individual behavior theory and is considered to have high amount of variance in explaining behavior intention compared to other behavior theories (Morris, Hall, Davis, Davis, & Walton, 2003). Therefore, adopting UTAUT as the theoretical model in the current study may produce more realistic results to explain the acceptance of EFD among taxpayers in Tanzania as compared to other theories. UTAUT theorize that behavior intention is jointly determined by three constructs, which are performance expectancy, effort expectancy and social influence while actual usage behavior is determined by behavior intention and facilitating conditions. Furthermore, the theory shows that the relationship between the independent variable and dependent variables are moderated by personal variables, which are gender, age, experience, and voluntaries. However, usage of EFD by Tanzanian taxpayers owning a business is mandatory, thus, in this study, age, gender; prior experience and voluntariness have not been considered.

HYPOTHESES DEVELOPMENT

Figure 1: Research model



The proposed research model (Figure 1) consists of the following constructs; awareness, trust, effort expectancy, performance expectancy, social influence, facilitating conditions, behavior intention, acceptance behavior.

In the current study, awareness is considered as the taxpayer's knowledge on the importance and benefit acquired through using EFD. Various studies argued that awareness is strongly and positively influencing the adoption of electronic tax filing(Castro et al., 2015; Coolidge & Yilmaz, n.d.; Kumar, Anees, & Author, 2014). Based on the previous studies, if taxpayers are aware of the various benefits of using EFD then there is high likelihood for them to accept EFD in their businesses. Hence we predict that:

H1: Awareness has positive effect on taxpayer's intention to accept EFD.

Trust is considered as one of major factors in acceptance of electronic transaction in various contexts(Schaupp & Hobbs, 2009). Various scholars acknowledge that, users tend to accept a particular technology once they have a certain level of trust on the enabling technologies(Carter, Shaupp, Hobbs, & Campbell, 2011; Schaupp & Hobbs, 2009). Trust to the enabling technology refers to the attitudinal response of the customers on the technology to be trustworthy. Services delivery channel should be highly trusted by service users in order to be acceptable and used. Various studies have shown that trust on service delivery channel such as internet tends to influence behavior intention to accept technology (Bélanger & Carter, 2008; Carter & Belanger, 2005). Based on the previous empirical evidence, if the taxpayers have high trust on the EFD then their intention to accept EFD increases: Therefore, we predict the following:

H2: Trust has positive effect on taxpayer's intention to accept EFD.

Performance expectancy is the degree to which users perceive that usage of a particular technology will lead to increased job productivity(Sumak, Polancic, & Hericko, 2010). Literature in IS shows that performance expectancy is the strongest predictor of behavior intention in the UTAUT model (Attuquayefio & Addo, 2014; Viswanath Venkatesh & Brown, 2001). For example, Lu, Yu, and Liu(2009)and Park, Yang, and Lehto (2007) demonstrated that, performance expectancy has significant influence on intention of individuals to adopt banking technologies. Consistent with previous empirical studies, we expect that adoption of EFD by taxpayers will be influenced by performance gains associated with its adoption. Hence the hypothesis:

H3: Performance expectancy has positive effect on taxpayer's intention to accept EFD.

Effort expectancy refers to the extent in which the system is easy to use (Viswanath Venkatesh, Morris, Davis, & Davis, 2003). When the system is easy to use the likelihood of being adopted also increases and vice versa(Viswanath Venkatesh & Brown, 2001). Previous

studies have established that effort expectancy has positive influence on the intention to adopt ICT (Alawadhi & Morris, 2008; Alshehri & Drew, 2012). This positive relationship between effort expectancy and intention to adopt ICT is seen in both mandatory and voluntary ICT adoption contexts (Viswanath Venkatesh et al., 2003). Similarly, in this study we anticipate that, effort expectancy has positive influence on intention to adopt EFD. Thus, we hypothesize:

H4: Effort expectancy has positive influence on taxpayer's intention to accept EFD.

Literature in technology adoption shows that social influence plays a key role in persuading individuals to adopt ICT in their daily activities (Viswanath Venkatesh & Morris, 2000). Social influence is built on premise that acceptance of a particular technology depends on how users of the technology believe other individuals close to them will view them as a result of adopting that technology (Viswanath Venkatesh & Brown, 2001). The influence of other taxpayers, business partners, friends and society in general has effect on taxpayer's decision to accept EFD. Social influence comes in form of peer pressure, leadership, sales, marketing and persuasion. Empirical evidence of the social influence on intention to accept ICT is found in (Fu, Farn, & Chao, 2006; Hung, Chang, & Yu, 2006; Hong, & Kang, 2011) just to mention few. We therefore hypothesize:

H5: Social influence has positive effect on taxpayer's intention to accept EFD.

Facilitating conditions encompass all necessary settings required for acceptance and actual usage of ICT. Facilitating conditions include resources and support that should be given to individuals to enable smooth utilization of the technology (Brown & Venkatesh, 2005). In the context of EFD, facilitating conditions include technical support in case of hardware or software problems, internet availability, purchase advice etc. Previous empirical studies in IS confirm the influence of facilitating conditions on actual usage behavior of individuals to apply ICT in different contexts (Honore, Yaya, Marimon, & Casadesus, 2013; Mahzan & Lymer, 2014; Sambasivan, Patrick Wemyss, & Che Rose, 2010). Consistent with past studies, we hypothesize that:

H6: Facilitating conditions have positive effect on the acceptance behavior of taxpayers to accept EFD.

Intention to use has been verified as an immediate predictor of actual usage behavior in the past studies (Kuo & Yen, 2009). Thus, in order to determine actual technology usage, intention to use must be transformed to actual usage (Delone & McLean, 2003). Transformation of use intention to actual usage behavior involves measuring the relationship between behavior intention and actual usage constructs (behavior). Literature in IS adoption argued that behavior intention has direct and positive relationship on actual usage (behavior) such that higher behavior intention leads to technology usage (Venkatesh & Davis, 2000). Similarly, in this study

we anticipate that taxpayer with higher intention to use EFD are more likely to accept and adopt EFD. Thus we hypothesize:

H7: Behavior intention to use EFD has positive influence on actual EFD usage.

RESEARCH METHODOLOGY

Targeted population of this study is registered business taxpayers in service sector particularly bar, guest houses, hotels and restaurants. Service sector has been selected because it is the leading sector in terms of Gross Domestic Product (GDP) contribution in Tanzania (URT, 2008, 2011). The study was conducted in three municipalities (Ilala, Kinondoni and Temeke) of Dar es Salaam region. Dar es Salaam was selected since it has a large number of registered taxpayers as compared to other regions.

A survey was conducted to collect the data required to evaluate the research model. Questionnaire contains two main parts which are demographic characteristics of the respondents and the measurement items of the constructs. All measurement items were adopted from previous studies. A five-point Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5) was used to measure the respondent's perception on each item. The questionnaire was pre-tested by IS experts and academicians who have experience in technology behavior studies to clear ambiguities and ensure that the questionnaire is easy to understand. In order to overcome language barrier which may exist among respondents, questionnaire was written in two languages which are Swahili and English. It was necessary to translate the questionnaire in Swahili, since Swahili is a predominant language used by most Tanzanians. Nevertheless, respondents were given an option to select which language to use depending on their comfortability.

Purposive sampling technique was used to select bars, guest houses, hotels and restaurants for the current study. Purposive sampling was used because it was difficult to access valid and reliable list of registered bars, guest houses, hotels and restaurants. Questionnaire was delivered physically to the selected business entities. Only one respondent among owners, business managers and company spokesperson was required to respond to the questionnaire. A total of 253 valid responses were collected from the respondents and used for this study.

Data analysis was conducted using Structural Equation Modeling (SEM). SEM is a robust and state of the art data analysis technique which uses latent variables (Awang, 2015; Raykov & Marcoulides, 2012). In addition, SEM analyzes the inter-dependence relationship among the variables in a single analysis. Furthermore, SEM takes care of measurement errors in each indicator which may distort the quality of the research output (Hair, Babin, Anderson,

Tatham, & Black, 2006). Maximum Likelihood method was used to estimate parameters in this study. The method minimizes statistical differences between sample and population covariance (Kline, 2015). Confirmatory Factory Analysis (CFA) using IBMAMOS version 22 was employed to validate the measurement model and analyze the structural model.

RESULTS AND DISCUSSION

Table 1 show that most of tax payers (34.0%) are educated up to secondary school. Furthermore, the study shows that majority of tax payers (55.3%) have high experience on using computers. On other hand, the sample survey shows that majority of tax payers (59.3) have low experience on using internet.

Table 1: Respondents demographic characteristics

	Respondents Category	Frequency	%	Cumulative %
Education	No Formal Education	11	4.3	4.3
	Primary	76	30.0	34.4
	Secondary	76	34.0	64.4
	Diploma	62	20.5	88.9
	Graduates	28	11.1	100.0
Experience using Computer	≤ 3 years	113	44.7	44.7
	>3 years	140	55.3	100.0
Experience in using Internet	≤ 3 years	150	59.3	59.3
	>3 years	103	40.7	100.0

Data normality was assessed by using skewness and kurtosis for all measurement items. The data is considered to be normal distributed if skewness ranges between -2 to +2 while kurtosis ranges between -3 to +3 (Awang, 2015). The results of this study show that all items' skewness values ranged -1.222 to 0.534 and kurtosis values ranged from -1.308 to 1.178. This result indicates that non-normality is not a problem in this study.

Table 2 shows that the initial measurement model did not demonstrate adequate fit. This is because eight measurement items produced loading values below 0.5(Awang, 2015). Therefore, initial measurement model did not attain unidimensionality (Awang, 2015). Model modification was achieved by running seven iterations in which PE1, PE3, PE4, SI3, SI4, EE1 and EE6 were removed to attain model fit (Awang, 2015). After deletion, an adjusted measurement model demonstrated required unidimensionality and all fit indices attain adequate thresholds as shown in Table 2. Furthermore, single-factor method was conducted to examine the effect of common method variance (CMV)(Podsakoff & Organ, 1986). The results of the

single-factor model demonstrated inadequate fit (RMSEA = 0.159, SMRM = 0.1554, IFI = 0.204, CFI = 0.195, TLI = 0.128, Chi-square/df = 7.37). This result suggests that CMV is not a problem in estimating parameter in the present study.

Table 2: Model fit indices thresholds and attained values

	RMSEA	SMRM	IFI	CFI	TLI	Chi-square/df
Thresholds	< 0.08	< 0.08	> 0.9	> 0.9	> 0.9	< 3
Initial Measurement Model	0.05	0.06	0.849	0.84	0.82	1.79
Adjusted Measurement Model	0.03	0.04	0.96	0.95	0.95	1.35

SEM requires satisfactory assessment of construct validity and reliability before proceeding to structural model identification. Therefore the assessment of the construct validity was conducted by computing composite reliability (CR) and average variance extracted (AVE) values. The study found that CR values of the constructs exceeded the threshold value of 0.7 and AVE values are within the acceptable values of 0.5 meaning that convergent validity of the constructs has been achieved (Fornell & Larcker, 1981; Hair et al., 2006). Further, the square root of AVE is larger than the inter-construct correlations indicating that discriminant validity has been achieved (Fornell & Larcker, 1981). Table 3 shows that the square root of AVE (in the diagonal) are large than the correlation between other constructs.

Table 3: Constructs AVE and CR

	CR	AVE	BI	EE	PE	SI	TR	AW	FC	AC
BI	0.850	0.587	0.766							
EE	0.812	0.526	0.113	0.725						
PE	0.857	0.668	0.127	0.030	0.817					
SI	0.812	0.597	-0.215	-0.001	0.096	0.773				
TR	0.798	0.500	0.042	-0.146	-0.041	-0.088	0.707			
AW	0.829	0.550	0.202	0.116	0.132	-0.207	-0.252	0.742		
FC	0.866	0.618	0.143	0.168	-0.084	-0.188	-0.079	0.197	0.786	
AC	0.716	0.558	0.248	0.220	0.022	-0.220	0.040	0.230	0.221	0.747

Where: BI: Behavior Intention; EE: Effort Expectancy; PE: Performance Expectancy; SI: Social Influence; TR: Trust; AW: Awareness; FC: Facilitating Conditions; AC: Actual Behavior

Structural model assessment was conducted in order to test for pre-defined hypotheses. Structural model demonstrated adequate fit, all indices are according to the required thresholds (RMSEA = 0.03, SMRM = 0.05, IFI = 0.96, CFI = 0.95, TLI = 0.95 and $\chi^2/df = 1.34$). Furthermore,

four hypotheses are statistically significant (see Figure 2). H1 and H5 are statistically significant influencing tax payers' behavior intention to use EFD. Furthermore, H6 and H7 were statistically significant influencing actual usage behavior of EFD machine. However, H2, H3 and H4 were not found to be statistically significant factors for intention to adopt EFD.

Figure 2: Structural Model

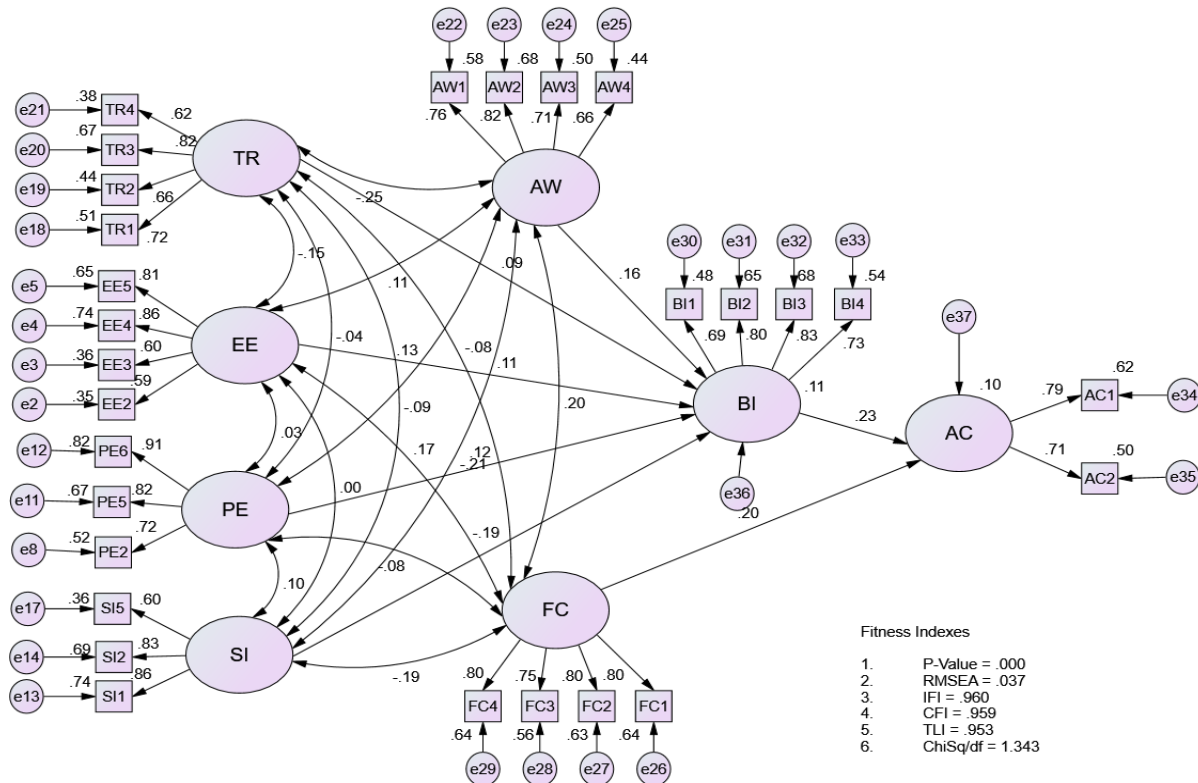


Table 4: Structural paths analyses and hypotheses testing

Hypotheses	Structural Path	Stand. Coefficient	S.E.	C.R.	P-Value
H1	BI → AW	0.163	0.066	2.029	0.043*
H2	BI → TR	0.088	0.082	1.128	0.259
H3	BI → EE	0.107	0.121	1.471	0.141
H4	BI → PE	0.123	0.062	1.718	0.086
H5	BI → SI	-0.191	0.056	-2.499	0.012*
H6	AC → FC	0.198	0.061	2.46	0.014*
H7	AC → BI	0.235	0.079	2.838	0.005*

Where: BI: Behavior Intention; EE: Effort Expectancy; PE: Performance Expectancy; SI: Social Influence; TR: Trust; AW: Awareness; FC: Facilitating Conditions; AC: Actual Behavior

* Indicates significant relationships

Table 4 shows that awareness has significant influence on tax payers' intention to accept EFD ($\beta = 0.163$). This suggests that when tax payers are more aware of the benefits of using EFD in reporting tax information, their likelihood to use EFD tend to increase. This result is consistent with previous empirical studies which have shown that awareness tends to increase the likelihood of adopter to accept technology (Meftah, Gharleggi, & Samadi, 2015; Mohammadi, 2015). Similarly, Rogers (1983) explain that awareness is the key element which has to be provided to assist adopters to understand clearly various aspects of the technology innovation. Social Influence was also found to impact taxpayers' intention to accept EFD negatively ($\beta = -0.197$). The result indicates that influences from other businessman, friends and family members will tend to decrease the likelihood of tax payers to use EFD. This result is consistent with previous studies such as (Gu, Lee, & Suh, 2009). Since the use of EFD is mandatory, the result shows that taxpayers are highly affected by negative information from different groups. Facilitating conditions has been found to be an important factor in influencing the acceptance of EFD in Tanzania ($\beta = 0.198$). Once tax payers perceives that there is conducive facilitating environment such as immediate assistance in case of any problem when EFD fails and availability of help instructions from EFD vendors, they will use EFD more. This result corroborates previous IS findings (Tan, 2013). Behavioral Intention was also found to be a determinant of the actual usage behavior ($\beta = 0.235$). This means when taxpayers have intent to use EFD in preparing their tax information, they will use the EFD more frequently. This result supports previous empirical IS studies (Tan, 2013).

IMPLICATIONS AND CONCLUSIONS

The result of the above research model demonstrates that awareness and social influence have significant relationship with taxpayers' acceptance of EFD system in their businesses. Moreover, the use of EFD system and its facilitating conditions are strongly related to actual utilization of the EFD by traders – taxpayers.

What emerges from these findings is that knowledge and awareness on the benefits of using EFDs in the business is crucial for the acceptance of such devices. The government through the Tanzania Revenue Authority (TRA) should strive to increase awareness campaign to persuade more taxpayers to accept the use of EFDs. Due to the fact that individuals consider social media as a more trustworthy source of information than the traditional instruments such radio, TV, leaflets, newspapers etc. (Foux, 2006), awareness campaigns using traditional instruments could be supplemented by using social media platforms such as Facebook, WhatsApp and Twitter. In addition, social media is a powerful tool in increasing awareness and

persuading the society to purchase and adopt a particular technology (Hinz, Skiera, Barrot, & Becker, 2011; Hutter, Hautz, Dennhardt, & Füller, 2013).

Social pressure can encourage or discourage people to use ICT systems (Thatcher & Ndabeni, 2010). It should be noted that in this study, social pressure construct on the acceptance of EFD among traders – taxpayers produced negative significant results. This implies that more effort is required to reverse the situation such that instead of social pressure to discourage taxpayers it should be used to encourage taxpayers to use the EFD. Appropriate strategies should be devised to allow the influence of social pressure to persuade more taxpayers to use EFD in their businesses. For example, the government should encourage taxpayers to start their own discussion forums in which taxpayers will be in position to exchange views with regard to the use of EFDs and change of technology that may affect their business environment. Alternatively, the government could initiate its own forum discussing similar issues and encourage the taxpayers to join. Another approach could be using a few selected taxpayers as EFDs-user ambassadors to motivate more taxpayers to use EFDs (Hutter et al., 2013). These approaches have widely been used in health care and national security just to mention few (Ngo, Alden, Hang, & Dinh, 2009; Tharp, 2012). Proper conditions such as provision of technical support in case of hardware or software problems, internet availability and EFD purchase advice are key determinants for taxpayers to adopt EFD in their businesses. Guarantee of adequate support for taxpayers who are currently using and those who are intending to use EFD in the future are important for actual adoption of the EFD. The current approach which EFD users are used to receive support from the TRA licensed vendors faces a lot of challenges. For example, majority of the vendors are situated in Dar es Salaam making it difficult to serve EFD users in other regions. Vendor's failure to sufficiently handle customer complaints and inefficiency regarding the device repair and maintenance (Foux, 2006; Richins, 1983) may distract potential customers to adopt a new technology and discourage the existing customers to continue using it. Besides, there is lack of technical personnel to resolve EFD related problems (Siraji, 2015). Online assistance may be effectively used to ease the burden of EFD system compliance and maintenance of EFDs by traders – taxpayers.

Significant influence of intention to adopt EFD and facilitation condition on the actual adoption of EFD by taxpayers serves as an indication for policy and decision makers on areas which may lead taxpayers to use EFD. These two constructs provide a direct prediction on the actual usage of EFD among the taxpayers, thus policy and decision makers need to cultivate user's intention and enhance conditions which will facilitate adoption of EFD to lure more taxpayers to adopt EFD. To cultivate intention more education, training (Ikasu, 2014; Siraji, 2015), awareness campaigns, dialogues (online or face to face) should be conducted. Even

though the law requires each taxpayer with annual turnover of 14 million to use EFD, sensitization mechanisms and facilitation conditions need to be in place to allow smooth and successful adoption of the EFD among the taxpayers.

LIMITATION AND RECOMMENDATION FOR FUTURE STUDIES

Despite the meaningful implications provided by this study, this study is without limitations. The study adopted self-reported questionnaire in data collection. Self-reported may produce biased results particularly when respondents tend to respond in a certain way regardless of the reality of the issue under investigation. In order to accommodate the limitations of self-reported instrument, mixed approach in data collection could be used in future studies. Furthermore, the study used cross-section approach, which may limit usefulness of the results due to changes in respondent's behaviour over time. This study recommends future studies to use longitudinal approach which considers changes of respondent's behavior due change in time and experience factors. In additional the study employed non-probability sampling technique in data collection. Results generated using this technique could limit its generalization in large population with diverse characteristics. A study which uses probability sampling technique could be considered in future in order to provide results which can be generalized.

REFERENCES

- Altman, I. Edward, Gabriele Sabato, and Nicholas Wilson. *The value of qualitative information in SME risk management*. Leed University Business School, UK, 2009.
- Andersen, K, and A Terp. "Perspectives on Strategic Risk Management." *Business School Press*, 2006: 44-45.
- Bierens, Herman J. "The logit model: Estimation, Testing and Interpretation." 2008.
- Alawadhi, S., & Morris, A. (2008). The use of the UTAUT model in the adoption of e-government services in Kuwait. *Proceedings of the Annual Hawaii International Conference on System Sciences*, 1–11.
- Alshehri, M., & Drew, S. (2012). The Effects of Website Quality on Adoption of E-Government Service : An Empirical Study Applying UTAUT Model Using SEM. *23rd Australian Conference On Information System*, (2011), 1–13.
- Attuquayefio, S., & Addo, H. (2014). Using the UTAUT model to analyze students ' ICT adoption. *International Journal of Education and Development Using Information and Communication Technology*, 10(3), 75–86.
- Awang, Z. (2015). *SEM Made Simple: A Gentle Approach to Learning Structural Equation Modeling*. Selangor, Kuala Lumpur: MPWS Rich Publication.
- Bélanger, F., & Carter, L. (2008). Trust and risk in e-Government Adoption. *The Journal of Strategic Information Systems*, 17(2), 165–176.
- Belanger, F., Hiller, J. S., & Smith, W. J. (2002). Trustworthiness in electronic commerce: the role of privacy, security, and site attributes. *The Journal of Strategic Information Systems*, 11(3), 245–270.

- Brown, S. A., & Venkatesh, V. (2005). A Model of Adoption of Technology in the Household: A Baseline Model Test and Extension Incorporating Household Life Cycle. *Management Information Systems Quarterly*, 29(3), 4.
- Carter, L., & Belanger, F. (2005). The utilization of e-government services: Citizen trust, innovation and acceptance factors. *Information Systems Journal*, 15(1), 5–25.
- Carter, L., Shaupp, L., Hobbs, J., & Campbell, R. (2011). The role of security and trust in the adoption of online tax filing. *Transforming Government: People, Process and Policy*, 5(4), 303–318.
- Casey, P., & Castro, P. (2015). Electronic Fiscal Devices (EFDs) An Empirical Study of their Impact on Taxpayer Compliance and Administrative Efficiency.
- Castro, J. A. C. De, Cordero, M. J. D., Chavez, J. R. De, Gabia, M. F. P., Mortel, S. A. A., Yortas, J. C., ... Pateña, A. D. (2015). Awareness on BIR E-Filing and Payment System : Basis for Efficient Revenue Transactions. *Asia Pacific Journal of Academic Research in Business Administration*, 1(1), 32–40.
- Coolidge, J., & Yilmaz, F. (n.d.). Does E-Filing Reduce Tax Compliance Costs in Developing Countries?. 2014.
- Delone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of Management Information Systems*, 19(4), 9–30.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Foux, G. (2006). Consumer-generated media: Get your customers involved. *Brand Strategy*, 8, 38–39.
- Fu, J.-R., Farn, C.-K., & Chao, W.-P. (2006). Acceptance of electronic tax filing: A study of taxpayer intentions. *Information & Management*, 43(1), 109–126.
- Gu, J.-C., Lee, S.-C., & Suh, Y.-H. (2009). Determinants of behavioral intention to mobile banking. *Expert Systems with Applications*, 36(9), 11605–11616.
- Hair, J. ., Babin, B. J., Anderson, R. E., Tatham, R. L., & Black, W. C. (2006). *Multivariate data analysis* (Vol. 6). Pearson Prentice Hall Upper Saddle River, NJ.
- Hinz, O., Skiera, B., Barrot, C., & Becker, J. U. (2011). Seeding strategies for viral marketing: An empirical comparison. *Journal of Marketing*, 75(6), 55–71. JOUR.
- Honore, L., Yaya, P., Marimon, F., & Casadesus, M. (2013). *Industrial Management & Data Systems*
Article information :
- Howcroft, B., Hamilton, R., & Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *The International Journal of Bank Marketing*, 20(3), 111–121.
- Hung, S.-Y., Chang, C.-M., & Yu, T.-J. (2006). Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system. *Government Information Quarterly*, 23(1), 97–122.
- Hutter, K., Hautz, J., Dennhardt, S., & Füller, J. (2013). The impact of user interactions in social media on brand awareness and purchase intention: the case of MINI on Facebook. *Journal of Product & Brand Management*, 22(5/6), 342–351.
- Ikasu, E. J. (2014). Assessment of Challenges Facing the Implementation of Electronic Fiscal Devices (EFDs) in Revenue Collection in Tanzania, 5(3), 1–8.
- Im, I., Hong, S., & Kang, M. S. (2011). An international comparison of technology adoption: Testing the UTAUT model. *Information & Management*, 48(1), 1–8.
- Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling* (4th ed.). New York: Guilford Press.
- Kumar, M., Anees, M., & Author, C. (2014). E-Filing : Creating New Revolution in Taxation of India. *Global Journal of Finance and Management*, 6(4), 379–384.

- Kuo, Y.-F., & Yen, S.-N. (2009). Towards an understanding of the behavioral intention to use 3G mobile value-added services. *Computers in Human Behavior*, 25(1), 103–110.
- Lu, J., Yu, C.-S., & Liu, C. (2009). Mobile data service demographics in urban China. *The Journal of Computer Information Systems*, 50(2), 117.
- Mahzan, N., & Lymer, A. (2014). Examining the adoption of computer-assisted audit tools and techniques. *Managerial Auditing Journal*, 29(4), 327–349.
- Mboma, D. (2012). *Challenges to Electronic Fiscal Devices adoption in Tanzania*. Saarbrücken: Lambert Academic Publishing.
- Meftah, M., Gharleghi, B., & Samadi, B. (2015). Adoption of E-Government among Bahraini Citizens. *Asian Social Science*, 11(4), 141–149.
- Mohammadi, H. (2015). A study of mobile banking loyalty in Iran. *Computers in Human Behavior*, 44(1), 35–47.
- Morris, M. G., Hall, M., Davis, G. B., Davis, F. D., & Walton, S. M. (2003). User acceptance of information technology: Toward a unified view, 27(3), 425–478.
- Muhammed, A., & Tesafa, Z. (2015). The Impact of Electronic Tax Register Machines on VAT Compliance in Ethiopia , the Case of Bahir Dar City. *Research Journal of Finance and Accounting*, 6(13), 17–21.
- Ngo, A. D., Alden, D. L., Hang, N., & Dinh, N. (2009). Developing and launching the government social franchise model of reproductive health care service delivery in Vietnam. *Social Marketing Quarterly*, 15(1), 71–89.
- Ngowi, H. (2014). *Economics Made Simple: Electronic fiscal device saga in Tanzania: Understanding issues*. Retrieved October 3, 2015, from <http://www.thecitizen.co.tz/magazine/Electronic-fiscal-device-saga-in-Tanzania--Understanding-issues/-/1840564/2207636/-/6x504w/-/index.html>
- Noor, N. F. M., Azmi, A. A. C., & Ramalingam, L. (2014). The Unified Theory of Acceptance and Use of Technology (UTAUT) and the Goods and Service Tax (GST) Application System. *Research Journal of Applied Sciences, Engineering and Technology*, 8(17), 1911–1916.
- Park, J., Yang, S., & Lehto, X. (2007). Adoption of Mobile Technologies for Chinese Consumers. *Journal of Electronic Commerce Research*, 8(3), 196–206.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, 12(4), 531–544.
- Raykov, T., & Marcoulides, G. A. (2012). *A First Course in Structural Equation Modeling*. Routledge.
- Richins, M. L. (1983). Negative word-of-mouth by dissatisfied consumers: A pilot study. *The Journal of Marketing*, 68–78.
- Sambasivan, M., Patrick Wemyss, G., & Che Rose, R. (2010). User acceptance of a G2B system: a case of electronic procurement system in Malaysia. *Internet Research*, 20(2), 169–187.
- Sathye, M. (1999). Adoption of Internet banking by Australian consumers: an empirical investigation. *International Journal of Bank Marketing*, 17(7), 324–333.
- Schaupp, L. C., & Hobbs, J. (2009). E-File Adoption : A Study of U . S . Taxpayers ' Intentions. In *Proceedings of the 42nd Hawaii International Conference on System Science* (pp. 1–10).
- Siraji, Y. (2015). *Challenges Faced by Taxpayers in Using Electronic Fiscal Devices in Tanzania, A Case Study Of Selected Taxpayers In Nyamagana District, Mwanza City*. Mzumbe University.
- Sumak, B., Polancic, G., & Hericko, M. (2010). An Empirical Study of Virtual Learning Environment Adoption Using UTAUT. In *2010 Second International Conference on Mobile, Hybrid, and On-Line Learning* (pp. 17–22).
- Tan, P. J. B. (2013). Applying the UTAUT to understand factors affecting the use of English e-learning websites in Taiwan. *Sage Open*, 3(4), 1–12.

- Tharp, A. T. (2012). Dating matters™: The next generation of teen dating violence prevention. *Prevention Science*, 1–4.
- Thatcher, A., & Ndabeni, M. (2010). A psychological model to understand e-adoption in the context of the digital divide. In J. Steyn & G. Jahanson (Eds.), *ICTs and Sustainable Solutions for the Digital Divide: Theory and Perspectives: Theory and Perspectives* (pp. 127–150). Harshey, New York: IGI Global.
- TRA. (2014). what is Electronic Fiscal Device? Retrieved January 2, 2017, from <http://www.tra.go.tz/index.php/e-fiscal-devices-efd>
- URT. (2008). Analysis of the Services Sector with a view to making Commitments in the Context of Trade Liberalizations at Bilateral, Regional and Multilateral Trade Negotiations.
- URT. Finance Act 2010 (2010). Tanzania: Government Notice No. 192.
- URT. (2011). National Accounts of Tanzania Mainland (2000- 2010). Dar es Salaam, Tanzania.
- Venkatesh, V., & Brown, S. A. (2001). A Longitudinal Investigation of Personal Computers in Homes: Adoption Determinants and Emerging Challenges, *25*(1), 71–102.
- Venkatesh, V., & Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, *46*(2), 186–204.
- Venkatesh, V., & Morris, M. G. (2000). Why Don't Men ever stop to ask for Directions? Gender, Social Influence, and Their Role in Technology Acceptance and Usage Behaviour. *MIS Quarterly*, *24*(1), 115–139.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425–478.
- Wang, Y.-S. (2003). The adoption of electronic tax filing systems: an empirical study. *Government Information Quarterly*, *20*(4), 333–352.
- Weru, J. ., Kamaara, M. ., & Weru, A. . (2013). Impact of Strategic Change: Introduction of Electronic Tax Register for enhancement of Tax Collection at Kenya Revenue Authority. *International Journal of Economics and Finance*, *1*(5), 1–13.
- Wu, I.-L., & Chen, J.-L. (2005). An extension of Trust and TAM model with TPB in the initial adoption of on-line tax: An empirical study. *International Journal of Human-Computer Studies*, *62*(6), 784–808.