International Review of Management and Marketing

ISSN: 2146-4405

available at http: www.econjournals.com

International Review of Management and Marketing, 2017, 7(1), 514-520.

Factors Influencing E-district Adoption: An Empirical Assessment in Indian Context

Kuldeep Baishya[1]*, Dr. Harsh Vardhan Samalia[2], Rohit Joshi[3]

[1]Fellow Student, Rajiv Gandhi Indian Institute of Management, Shillong, Meghalaya, India, [2]Assistant Professor, Rajiv Gandhi Indian Institute of Management, Shillong, Meghalaya, India, [3]Assistant Professor, Rajiv Gandhi Indian Institute of Management, Shillong, Meghalaya, India. *Email: kuldeep.fpm13@iimshillong.ac.in

ABSTRACT

The purpose of this confirmatory study is to explore the factors influencing the acceptance of e-district services by the citizens in Assam, a North-East state of India. Taking unified theory of acceptance and use of technology (UTAUT), technology acceptance model (TAM) and TAM 3 as the basis, a conceptual framework is developed. The study uses semi-structured interviews, focus groups, and a questionnaire based survey through 166 valid data points to validate the conceptual framework. Moreover, the internal consistency of the scale items is checked with Cronbach's alpha coefficient while the convergent and discriminant validities are checked with multitrait-multimethod matrix. This study confirms the positive relationship of "Perceived Usefulness" and "Facilitating Conditions" with "Behavioral Intention (BI)" while the expected positive relationship of "Effort Expectancy" and "Social Influence" with "BI" are found to be insignificant. Also, the study cannot find a significant negative relationship between "Computer Anxiety" and "BI."

Keywords: E-governance, Adoption, Technology Acceptance Model, Unified Theory of Acceptance and Use of Technology, E-district
JEL Classifications: M00, M15, M38

1. INTRODUCTION

With the advent of Information and Communication Technologies (ICTs), the way of functioning of government has witnessed a drastic change across the world. The governments of various countries have initiated e-governance to improve the efficiency and effectiveness of public services. E-governance refers to use of ICTs to provide government services and information to different stakeholders in a convenient way (Mittal and Kaur, 2013; Singh et al., 2010; Yadav and Tiwari, 2014; Saxena, 2005; Athmay, 2015). It improves accountability, transparency and efficiency of the government (Singh et al., 2010; Yadav and Tiwari, 2014; Ray and Mukherjee, 2007). E-governance is introduced to improve the delivery of services between government-to-citizen (G2C), government-to-business and government-to-government (G2G) (Mittal and Kaur, 2013; Singh et al., 2010; Mohan et al., 2016).

The National e-Governance Plan (NeGP) of Indian Government introduced in the year 2006 which was later enhanced as "Digital India" in the year 2015 seeks to lay the foundation and provide the impetus for the long-term growth of e-governance within the country[1]. The objective of this e-governance project in India is to provide easy access to the government services to common people in their locality through certain common service delivery outlets and ensure efficiency, transparency, and reliability of such services at zero or affordable costs. The "Digital India" program states that India requires a lot more thrust to ensure e-governance in the country to promote inclusive growth that covers electronic services, products, devices and job opportunities[2]. Adoption by citizens is one of the crucial factors which ensures the success of e-governance. The presented study aims to identify the factors influencing the adoption of the e-district system in Assam, India.

1.1. A Brief About E-district in Assam

Assam is the highest populated state in the North-Eastern region of India and a gateway to the entire region. It is one of the 14 states in the country where the e-district initiative was initially planned as "Pilot" project. E-district is a state mission mode project

1 Source: http://www.archive.india.gov.in/govt/national_egov_plan.php
2 Source: http://www.digitalindia.gov.in/content/about-programme

under NeGP, initiated by Department of Information Technology, Government of India. The project aims to target certain high volume services and undertake backend computerization to e-enable the delivery of these services through Common Service Centers (CSCs) in a sustainable manner. The Government of Assam had selected Goalpara and Sonitpur districts as pilot districts for Assam. Assam is one of the first states in the country to implement the pilot project of e-districts in both the pilot districts[3]. The district of Goalpara had gone live in the month of November 2009 and Sonitpur in the month of January 2010. The services that are provided through e-district include certificates, permission orders, mutation orders, licenses, registration and other government documents. For delivering the e-district services, all district administrative offices are interconnected via ASWAN (Assam State Wide Area Network) through point of presence located at different locations. Applications can be submitted either at public facilitation center or CSC or in the state portal.

The success of this e-governance project is largely dependent on the level of usage of the concerned systems or applications by various stakeholders involved. Further, the usage of the system to a great extent is decided by the behavioral intention (BI) to use the system. Therefore, understanding the factors influencing the users' BI to use an e-governance system is quite interesting from the research perspective. Hence, this study aims to explore the factors influencing the e-district adoption by the citizens with reference to different technology adoption models.

2. LITERATURE REVIEW

Interest in the study of electronic governance has increased in recent years and hence researchers are developing different theoretical and conceptual models to understand multiple aspects of e-governance (Lakka et al., 2013). A trust-based model of e-governance adoption identified perceived ease of use (PEOU), perceived usefulness (PU), trust, perceived behavioral control and perceived risk as antecedents of e-governance adoption (Warkentin et al., 2002). These antecedents were identified based on previous studies on adoption (Davis et al., 1989; Davis, 1989; Ajzen, 1991) and trust (Gefen, 2000; Luhmann, 1979; Lewis and Weigert, 1985; Mayer et al., 1995; Fukuyama, 1995; Williamson, 1985; Jarvenpaa et al., 1999). Gilbert and Balestrini (2004) report perceived barriers and perceived relative benefits as antecedents of willingness to use e-government services. In this model, perceived barriers include confidentiality, ease of use, enjoyability, reliability, safety and visual appeal while perceived relative benefits consist of avoidance of personal interaction, convenience, cost, control, personalization and time. Kumar et al., (2007) describe perceived risk, perceived control, PU, PEOU and Internet experience as direct determinants of e-government adoption. Carter and Belanger (2005) link adoption with "intention to use," while Balestrini et al., (2004) measure "intention to use" as the intention to engage to e-government.

Lal (2012) proposes a conceptual model for e-governance adoption in India. The model finds PU, PEOU, relative advantage, awareness, trust and ICT infrastructure availability as antecedents of "intention to use" e-government services. There are critical barriers to e-government service adoption in India (Faisal and Rahman, 2008). Bhattacharya et al., (2012) explore the antecedents of e-service quality in Indian government portals. Gupta et al., (2008) find performance expectancy (PE), effort expectancy (EE) and social influence (SI) as strong predictors of BI to use system among government employees in India. Barua (2012) explores the predictors of intention to use e-governance in G2G context. Ojha et al., (2009) explore the antecedents of BI of paperless income tax filing among the graduating engineering and management students.

The use of technology adoption models in the study of e-governance adoption is evident from its inception. Therefore, it is quite important to understand various technology adoption models and their related constructs. Korpelainen (2011) did an analysis of 330 articles published in leading management and business journals during 1999-2010 and found that diffusion of innovation (DOI) (Rogers, 1962), theory of reasoned action (TRA) (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980), technology acceptance model (TAM) (Davis, 1986), theory of planned behavior (TPB) (Ajzen, 1991) and unified theory of acceptance and use of technology (UTAUT) (Venkatesh et al., 2003) are the most widely used and empirically tested acceptance and adoption models. On the basis of their analysis; Rana et al., (2012) found that the TAM, DOI, UTAUT and TPB are the most widely used models in the e-governance acceptance and adoption domain.

The TAM has become popular for its parsimony and strong predictive powers which make it applicable to multiple contexts. This model is based on three theoretical constructs: PU, PEOU and BI and uses "TRA" as its theoretical base. TAM describes that PU and PEOU have impact on attitude toward using (ATU). The model also reflects that PEOU also impacts PU and this PU leads to higher BI. ATU leads to BI which in turns leads to actual system usage. This model itself got modified over time resulting in TAM2 (Venkatesh and Davis, 2000) and TAM3 (Venkatesh and Bala, 2008). TAM2 proposes that PU has five predictors - image, subjective norm, output quality, job relevance and result demonstrability. TAM3 combines TAM2 and the model of the determinants of "PEOU" (Venkatesh, 2000) to propose an integrated model of technology acceptance. It presents a complete nomological network of the determinants of individuals' information technology adoption and its usage. It introduces six new constructs as the predictor of "PEOU." These constructs are - computer self-efficacy, perception of external control, computer anxiety (CA), computer playfulness, perceived enjoyment and objective usability. In the study of technology adoption, UTAUT brought a breakthrough by proposing a model of technology adoption with a holistic approach. It did a comparative study of eight models namely TRA (Fishbein and Ajzen, 1975), TAM (Davis, 1986), motivational model (Davis et al., 1992), TPB (Ajzen, 1991), combined TAM and TPB (C-TAM-TPB) (Taylor and Todd, 1995), model of PC utilization (Thompson et al., 1991), innovation diffusion theory (Rogers, 1962) and social cognitive theory (Bandura, 1986) to formulate the UTAUT. Initially, seven constructs were considered to be the significant determinants of "BI" and "Use Behavior." Later, four out of these seven constructs

3 Source: http://online.assam.gov.in/web/it/e-districts

were considered to play more significant role as direct predictors of "User Acceptance" and "Usage Behavior." These constructs are - PE, EE, SI and facilitating conditions (FC).

Most of the studies related to technology adoption were carried out in developed countries' settings (Dajani and Yaseen, 2016). The number of studies related to technology adoption in developing economies is far less as compared to developed economies. Moreover, dominant models including TAM, UTAUT were tested in organizational context. In Indian milieu, most of the empirical studies related to e-governance adoption are either found in G2G settings or even in G2C domain, the majority of the studies are analyzed on the basis of survey done among trained people. However, little exploration has been done to find out the factors influencing BI of common citizen to use government driven e-governance services. Such study in the context of developing countries is quite important as socioeconomic, cultural and infrastructural conditions of these countries are quite different from those of developed countries. As e-governance is a new technology oriented platform for India, an empirical testing for the probable factors influencing e-governance adoption in the Indian context is of prime importance. This research aims to fulfill this gap by exploring the factors influencing e-district adoption in Assam, India.

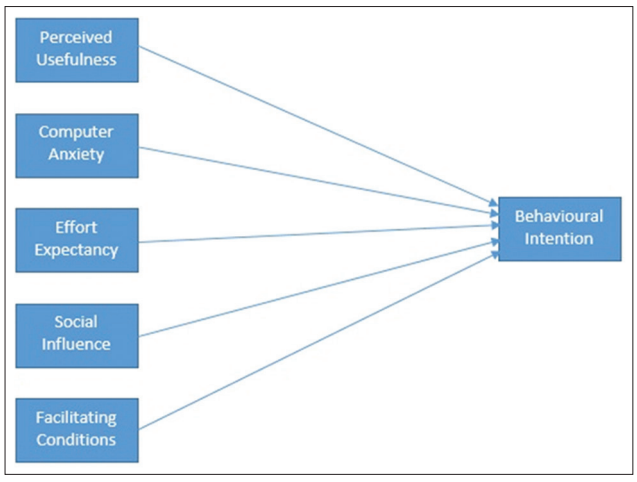
3. RESEARCH DESIGN

The conceptual framework that has been used in this research is based on previous propositions under UTAUT, TAM and TAM 3. A pictorial representation of the conceptual framework is given in Figure 1.

The framework reflects direct influence of PU, CA, EE, SI and FCs on BI. Definitions of the explained variable and the predictors are given in Table 1.

PU: The direct influence of PU on BI is evident on TAM (Davis, 1986) and subsequent studies. In the current study, respondents' intention of using e-district service is captured at an early stage of adoption. Hence, the first hypothesis can be formulated as:

Figure 1: Conceptual framework



$H_0$1: PU is positively related to BI to use e-district service.

Another predictor of TAM, "PEOU" is not considered in the presented conceptual model as it is quite similar to "EE" which has been adopted from UTAUT.

CA: The construct "CA" has been adopted from TAM 3 (Venkatesh and Bala, 2008) and is believed that it has a direct negative impact on PEOU which in turn has an impact on "Intention to Use." Alenezi et al., (2010) find that lower "CA" results in better "Bahavioral Intention." Thus the second hypothesis becomes:

$H_0$2: CA is negatively related to BI to use e-district service.

Other predictors of TAM3 including "Computer Self-efficacy," "Computer Playfulness" and "Perceived Enjoyment" are not considered in the framework as a predictor of "BI" because of two reasons. Firstly, the mentioned constructs are not direct predictor of "BI" even in previous models and secondly, e-district service has a provision of providing the service through community service center which enables even the computer illiterate people to receive the service with the help of operator. "perception of external control" is covered with "FCs."

EE, SI and FC: Three constructs of UTAUT framework namely "EE," "SI" and "FCs" are considered to be the predictors of "BI." Direct influence of EE and SI on BI is evident in the original UTAUT model. Though the original UTAUT considered FC as a direct predictor of "Use Behavior" rather than mediating through BI, this study considers it as a direct predictor of BI as it is exploring the factors for BI only. Also, the direct influence of FC on BI is proposed in several studies (e.g., Almatari et al., 2013; Kook and Korea, 2014). The construct "PE" of UTAUT is dropped as its definition is same with "PU" of TAM. Hence, the hypotheses with reference to UTAUT can be formulated as follows:

$H_0$3: EE is positively related to BI to use e-district service.

$H_0$4: SI is positively related to BI to use e-district service.

$H_0$5: FCs is positively related to BI to use e-district service.

4. METHODOLOGY AND FINDINGS

Earlier research by (Venkatesh et al., 2003), (Moore and Benbasat, 1991), (Venkatesh and Bala, 2008) and (Ifinedo, 2008) had validated measures for the constructs proposed above and this study has adopted these validated items. List of validated items for each construct is provided in Table 2.

Data for this research is collected through a primary survey. Respondents for this study included people >18 years of age who have either used the e-district service or at least know about the service. Questionnaires were presented to 500 people out of which 180 people responded with a response rate of 36%. However, only 166 data points were found to be valid and the results are based on these valid data points. Sample descriptive statistics of the respondents are tabulated in Table 3.

Table 1: Definitions of constructs

S. No.	Construct name	Model	Definition
1	Behavioral intention	TRA	It is defined as the degree to which a person has formulated conscious plans to perform or not perform some specified future behavior (Warshaw and Davis, 1985)
2	Perceived usefulness	TAM	It is defined as the degree to which an individual believes that using the system will help him or her to improve job performance (Davis, 1986)
3	Computer anxiety	TAM3	It is defined as the degree of an individual's apprehension, or even fear, when she/he is faced with the possibility of using computers (Venkatesh, 2000)
5	Effort expectancy	UTAUT	It is defined as the degree of ease associated with the use of the system (Venkatesh, et al. 2003)
6	Social influence	UTAUT	It is defined as the degree to which an individual perceives that important others believe he or she should use the new system (Venkatesh et al. 2003)
7	Facilitating conditions	UTAUT	It refers to the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al. 2003)

TRA: Theory of reasoned action

Table 2: Variables/constructs and questionnaire items

Variable/construct	Scaled variable	Questionnaire items
Perceived usefulness	PU	PU1: Using e-district service would enable me to accomplish tasks more quickly
		PU2: Using the system would make it easier to do my job
Computer anxiety	CA	CA1: Computers do scare me
		CA2: Working with a computer makes me nervous
		CA3: Computers make me feel uncomfortable
		CA4: Computers make me feel uneasy
Effort expectancy	EE	EE1: My interaction with e-district service would be clear and understandable
		EE2: It would be easy for me to become skilful at using the e-district service
		EE3: I would find the e-district service easy to use
		EE4: Learning to operate the e-district service is easy for me
Social influence	SI	SI1: People who influence my behavior think that I should use the e-district service
		SI2: People who are important to me think that I should use the e-district service
Facilitating conditions	FC	FC1: I have the resources necessary to use the e-district service
		FC2: I have the knowledge necessary to use the e-district service
		FC3: The e-district service is not compatible with other services I use
Behavioral intention to use	BI	BI1: I intend to use e-district service in future
		BI2: I predict I would use e-district in future
		BI3: I plan to use e-district in future

Table 3: Sample descriptive statistics

Particulars	Variables	Frequency (%)
Gender	Male	97 (58.43)
	Female	69 (41.57)
Age	<25	40 (24.39)
	25-30	78 (47.56)
	30-35	37 (22.56)
	>35	9 (5.49)
Education	Under graduate	12 (7.27)
	Graduate	109 (66.06)
	Post graduate	42 (25.45)
	Other	2 (1.21)
Yearly income	<100,000	30 (18.07)
	100,000-200,000	32 (19.28)
	200,000-400,000	63 (37.95
	400,000-600,000	28 (16.87)
	>600,000	13 (7.83)
Computer proficiency	Beginner	30 (18.07)
	Intermediate	95 (57.23)
	Expert	41 (24.70)

A five-point Likert scale was used to collect the responses. Statistical processes are carried out in RStudio. The reliability of each construct was examined using Cronbach's alpha coefficient. All the items were found to be above the acceptance level of 0.7 (Junior et al., 2006). The result of reliability test for each construct is shown in Table 4.

The validities of the constructs are checked through multitrait-multimethod matrix. Table 5 shows the result of multitrait-multimethod analysis which indicate the high correlation among the items belonging to same construct justifying convergent validity and low correlation among items belonging to different constructs justifying discriminant validity (Campbell and Fiske, 1959).

Once the study has received satisfactory level of reliability and validity, stepwise regression has been applied to find whether positive (negative in case of "CA") relationship is significant between the dependent variable (behavioral intention to use or BI) and the considered independent variables: PU, CA, EE, SI and FCs. Stepwise regression is carried out to find the composite impact of independent variables on the dependent variable. This is done in several steps by adding new independent variables and regressing these with the dependent variables. The process is reversed by eliminating the independent variables one by one. A stepwise regression may exclude the impact of some of the independent variables if addition of the variable impacts little on the adjusted

variability of the dependent variable (Cooper et al., 2012). Result of Stepwise regression is summarized and tabulated in Table 6.

As the impacts of CA, EE and SI are not significant, it is worth to look into the combined impact of the interaction of each of these variables with other independent variables on BI. Hence another stepwise regression is carried out with PU, FCs, computer anxiety*perceived usefulness (CA_PU), computer anxiety*effort expectancy (CA_EE), computer anxiety*social influence (CA_SI), computer anxiety*facilitating conditions (CA_FC), effort expectancy*perceived usefulness (EE_PU), effort expectancy*social influence (EE_SI), effort expectancy*facilitating conditions (EE_FC), social influence*perceived usefulness (SI_PU) and social influence*facilitating conditions (SI_FC) as independent variables and BI as dependent variable. The result of the stepwise regression is shown in Table 7.

Table 4: Reliability test result

Construct	Cronbach's alpha	Number of items	Sample size
Perceived usefulness	0.923416	2	166
Computer anxiety	0.8799219	4	166
Effort expectancy	0.8998272	4	166
Social influence	0.9316073	2	166
Facilitating conditions	0.847807	3	166
BI	0.9489004	3	166

BI: Behavioral intention

Table 5: Multitrait-multimethod matrix for construct validity

Item	Scale I	PU	EE	SI	FC	CA	ITU
PU1	1	0.857	0.650	0.257	0.665	−0.262	0.717
PU2	1	0.857	0.582	0.209	0.593	−0.230	0.669
EE1	2	0.628	0.690	0.320	0.506	−0.2541950	0.524
EE2	2	0.517	0.850	0.204	0.604	−0.432	0.565
EE3	2	0.541	0.792	0.198	0.576	−0.473	0.573
EE4	2	0.554	0.785	0.260	0.675	−0.396	0.546
SI1	3	0.240	0.259	0.872	0.166	−0.167	0.128
SI2	3	0.227	0.283	0.872	0.179	−0.145	0.137
FC1	4	0.643	0.615	0.100	0.731	−0.2720558	0.727
FC2	4	0.545	0.577	0.188	0.725	−0.393	0.722
FC3	4	0.537	0.581	0.179	0.708	−0.350	0.602
CA1	5	−0.145	−0.342	−0.097	−0.295	0.674	−0.180
CA2	5	−0.174	−0.342	−0.085	−0.310	0.716	−0.206
CA3	5	−0.260	−0.415	−0.124	−0.336	0.810	−0.291
CA4	5	−0.291	−0.421	−0.247	−0.381	0.780	−0.287
BI1	6	0.696	0.619	0.123	0.797	−0.260	0.901
BI2	6	0.695	0.604	0.107	0.746	−0.286	0.891
BI3	6	0.663	0.575	0.161	0.766	−0.261	0.885

PU: Perceived usefulness, CA: Computer anxiety, EE: Effort expectancy, SI: Social influence, FC: Facilitating conditions

The model becomes stronger when the interaction of the independent variables are considered. The explained variance of the dependent variable is increased from 76.33% to 79.7% when the interaction terms are added in the model. However, the rest 20.3% variance of "BI" is still not captured.

5. DISCUSSION

This study explores the factors influencing the adoption of e-district services by the citizens. It has both theoretical and practical contribution to the existing knowledge. In terms of theoretical contribution, it has added value in three ways. Firstly, it looks at different individual technology adoption models and analyse the associated constructs in terms of their similarity and difference with each other. Similar constructs are captured in a single construct. Thus the current study tries to cover all the direct predictors of "BI" from earlier literature. Secondly, while analyzing the relationships of earlier literature, the study does not only look at the contemporary models, but also looks at the studies which make different propositions. For example, the direct relationship of "FCs' and "BI" is adopted from other studies (Almatari et al., 2013; Kook and Korea, 2014) despite their difference in proposition from the original UTAUT framework. Finally, the study integrates three popular frameworks of individual technology adoption to build a conceptual framework of probabe factors which have direct impact on "BI' of use and adoption of e-governance services from citizen's perspective. It explains why certain predictors of "BI" are dropped in the current conceptual framework. With the rapid growth of e-governance, the current study opens up a dimension of individual adoption for looking at the success or failure stories of e-governance projects. In terms of practical contribution, the study can help in policy formulation. The empirically established relationships have strong policy implication in adoption of e-governance. On the other hand, the reasons for relationships which are not established from the collected data can be analysed from multiple aspects.

Support for the first hypothesis i.e., "PU is positively related to BI to use e-district service" is consistent with the theoretical framework of TAM (Davis, 1986). This result implicates that awareness about the usefulness and benefits of e-district service should be created among the prospective users.

Rejection of the second hypothesis can be justified from the arguments projected in previous studies. Venkatesh and Bala (2008) argued that the effect of "CA" on "PEOU" (which in turn impacts the BI) will decline with increasing experience as individual will have more accurate perceptions of the effort needed to use a

Table 6: Stepwise regression final result

Hypothesis	AIC (start: AIC=−472.01)	Result
$H_0$1: Perceived usefulness is positively related to BI to use e-district service	−445.63	Significant
$H_0$2: Computer anxiety is negatively related to BI to use e-district service	−474.20	Not significant
$H_0$3: Effort expectancy is positively related to BI to use e-district service	−473.77	Not significant
$H_0$4: SI is positively related to BI to use e-district service	−474.42	Not significant
FCs is positively related to BI to use e-district service	−357.09	Significant

Adjusted R^2: 0.7633. Stepwise regression equation: BI=0.30+0.24*PU+0.72*FC. BI: Behavioral intention

Table 7: Stepwise regression result with interaction among independent variables

Predictors	AIC (start: AIC=−489.44)	Result
PU	−480.78	Significant
FC	−476.89	Significant
CA_PU	−494.72	Not significant
CA_EE	−493.22	Not significant
CA_SI	−493.43	Not significant
CA_FC	−493.21	Not significant
EE_PU	−485.73	Significant
EE_SI	−489.38	Significant
EE_FC	−493.13	Not significant
SI_PU	−482.94	Significant
SI_FC	−494.55	Not significant
Adjusted R^2: 0.797		

Stepwise regression equation: BI=1.45-1.16*PU+1.46*FC+0.22*EE_PU-0.09*EE_SI+0.14*SI_PU

system. As 81.92% of the respondents posses computer literacy of intermediate or higher level, the expected negative impact of CA on "BI" may not be found significant. The current result is consistent with few previous empirical results (e.g. Fagan et al., 2003).

As 81.92% of the respondents have computer proficiency of Intermediate or expert level, most of them may find it easy to use a relatively simpler system like e-district service irrespective of the fact whether they want to use the system or not. Hence, the third hypothesis ie "EE is positively related to BI to use e-district service" may be found non significant. "EE" in UTAUT is familiar with other constructs used in earlier literature including "PEOU" (Davis, 1986), "Complexity" and "Ease of Use" (Moore and Benbasat, 1991). Agarwal (1997) reports that Ease of use, which has been observed to be a significant predictor of acceptance in a wider variety of research, did not appear as a significant determinant. On the other hand, the interaction of EE with PU (EE_PU) and interaction of EE with SI (EE_SI) are found to have significant impact on BI.

The fourth hypothesis ie., "SI is positively related to BI to use e-district service" is not found to be significant. "SI" of UTAUT is same as "Subjective Norm" of TPB (Ajzen, 1991). This result supports the existing literature which nullifies the influence of "Subjective Norms" on "intention to use" for voluntary context (Venkatesh and Davis, 2000). The fact that more than 90% of the respondents have education level of graduation or higher may reduce the direct impact of "SI" on "BI." On the other hand, the interaction of SI with PU (SI_PU) and interaction of SI with EE (EE_SI) are found to have significant impact on BI.

Support for the fifth hypothesis i.e., "FCs is positively related to BI to use e-district service" is similar to the results of UTAUT which finds FCs to be an important determinant of system use and adoption (Venkatesh et al., 2003). This result gives an implication that proper infrastructure and training should be provided to the citizens to use e-district service.

6. CONCLUSIONS AND FUTURE SCOPE

Result of this study gives implication for policy makers to create awareness among the prospective citizens about the benefits of e-district service. The government should concentrate on providing basic training and infrastructure to the citizens for successful adoption of e-district services. The study builds a theoretical base in the field of e-governance adoption. The study explores the antecedents of BI in e-governance adoption and hence, future empirical research on e-governance can use the result.

This study is limited in its geographical coverage and also in G2C context as well. The similar study can be carried out in G2G context or with a wider geographical coverage to enhance the applicabiltiy of the presented study.

REFERENCES

Agarwal, R.A. (1997), The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies. Decision Sciences, 28(3), 557-582.

Ajzen, I. (1991), The theory of planned behavior. Organizational Behavior and Human Decision Process, 50(2), 179-211.

Ajzen, I., Fishbein, M. (1980), Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Alenezi, A.R., Karim, A.M., Veloo, A. (2010), An empirical investigation into the role of enjoyment, computer anxiety, computer self-efficacy and Interner experience in influencing the students intention to use E-learning: A case study from Saudi Arabian governmental universities. The Turkish Online Journal of Educational Technology, 9(4), 22-34.

Almatari, A.Y., Iahad, N.A., Balaid, A.S. (2013), Factors influencing students intention to use M-learning. Journal of Information Systems Research and Innovation, 5(Special), 1-8.

Athmay, A.A. (2015), Demographic factors as determinants of e-Governance adoption. Transforming Government: People, Process and Policy, 9(2), 159-180.

Balestrini, P., Gilbert, D., Littleboy, D. (2004), Barriers and benefits in the adoption of e-government. International Journal of Public Sector Management, 17(4), 286-301.

Bandura, A. (1986), Social Foundations of Thought and Action: A Social Cognitive Theory. Englewood Cliffs, NJ: Prentice Hall.

Barua, M. (2012), e-Governance adoption in government organization of India. International Journal of Managing Public Sector Information and Communication Technologies (IJMPICT), 3(1), 1-20.

Bhattacharya, D., Gulla, U., Gupta, M. (2012), E-service quality model for Indian government. Journal of Enterprise Information Management, 25(3), 246-271.

Campbell, D.T., Fiske, D.W. (1959), Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56(2), 81-105.

Carter, L., Belanger, F. (2005), The utilization of e-government services: Citizen, trust, innovation. Information Systems Journal, 15(1), 5-25.

Cooper, D.R., Schindler, P.S., Sharma, J.K. (2012), Business Research Methods. New Delhi: McGraw Hill Education (India) Private Limited.

Dajani, D., Yaseen, S.G. (2016), The applicability of technology acceptance models in the Arab business setting. Journal of Business and Retail Management Research, 10(3), 46-56.

Davis, F.D. (1986), A Technology Acceptance Model for Empirically Testing New End User Information Systems: Theory and Results, (Doctoral Dissertation). Cambridge, MA: Massachusetts Institute of Technology Sloan School of Management.

Davis, F.D. (1989), Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.

Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1989), User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982-1003.

Davis, F.D., Bagozzi, R.P., Warshaw, P.R. (1992), Extrinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology, 22(14), 1111-1132.

Fagan, M.H., Neill, S., Wooldridge, B.R. (2003), An empirical investigation into the relationship between computer self-efficacy, anxiety, experience, support and usage. Journal of Computer Information Systems, 44(2), 95-104.

Faisal, M.N., Rahman, Z. (2008), E-government in India: Modelling the barriers to its adoption and diffusion. Electronic Government an International Journal, 5(2), 181-202.

Fishbein, M., Ajzen, I. (1975), Belief, Attitudes, Intention and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Fukuyama, F. (1995), Trust: The Social Virtues and the Creation of Prosperity. New York: The Free Press.

Gefen, D. (2000), E-commerce: The role of familiarity and trust. Omega: The International Journal of Management Science, 28(6), 725-737.

Gilbert, D., Balestrini, P. (2004), Barriers and benefits in the adoption of e-government. International Journal of Public Sector Management, 17(4), 286-301.

Gupta, B., Dasgupta, S., Gupta, A. (2008), Adoption of ICT in a government organization in a developing country: An empirical study. The Journal of Strategic Information Systems, 17(2), 140-154.

Ifinedo, P. (2008), The technology acceptance model (TAM) and the continuance intention of using WebCT: A case of college students in Estonia. In: Tomei, L., editor. Informatiion Communication Technologies for Enhanced Education and Learning: Advanced Applications and Developments. Ch. 3. New York: Information Science Reference. p29-44.

Jarvenpaa, S.L., Tractinsky, N., Saarinen, L. (1999), Consumer trust in an internet store: A cross-cultural validation. Journal of Computer Mediated Communication, 5(2), 1-35.

Junior, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2006), Multivariate Data Analysis. New Jersey: Prentice Hall.

Kook, J., Korea, R.O. (2014), Students behavioral intention toward adoption of mobile learning in higher education. International Journal of Instructional Technology and Distance Learning, 11(10), 45-54.

Korpelainen, E. (2011), Theories of ICT System Implementation and Adoption – A Critical Review. Working Papers, Department of Industrial Engineering and Management School of Science, Aalto. Available from: http://www.lib.tkk.fi/Diss/2011/isbn9789526043869/article1.pdf.

Kumar, V., Mukerji, B., Butt, I., Persaud, A. (2007), Factors for successful e-Government adoption: A conceptual framework. Electronic Journal of e-Government, 5(1), 63-76.

Lakka, S., Stamati, T., Michalakelis, C., Martakos, D. (2013), What drives e-Government growth? An econometric analysis on the impacting factors. International Journal of Electronic Governance, 6(1), 20-36.

Lal, P. (2012), E-Government service adoption in India: A conceptual model. IMS Manthan. The Journal of Management Computer Science and Journalism, 7(1), 181-184.

Lewis, J.D., Weigert, A. (1985), Trust as a social reality. Social Forces, 63(4), 967-985.

Luhmann, N. (1979), Trust and Power. London: John Wiley and Sons.

Mayer, R.C., Davis, J.H., Schoorman, F.D. (1995), An integrative model of organizational trust. Academy of Management Review, 20(3), 709-734.

Mittal, D.P., Kaur, A. (2013), e-Governance - A challenge for India. International Journal of Advanced Research in Computer Engineering and Technology, 2(3), 1196-1199.

Mohan, M., Pangarkar, D., Rajak, M., Prasad, B., Meena, B.S., Lanjewar, V.N. (2016), e-Governance as A Tool for Improvement of Public Service Delivery in Customs. Faridabad: National Academy of Customs, Excise and Narcotics. Available from: http://www.nacen.gov.in/inspire/uploads/downloads/569768be75c10.pdf.

Moore, G.C., Benbasat, I. (1991), Development of an instrument to measure the perceptions of adopting an information technology innovation. Information Systems Research, 2(3), 192-222.

Ojha, A., Sahu, G.P., Gupta, M.P. (2009), Antecedents of paperless income tax filing by young professionals in India: An exploratory study. Transforming Government: People, Process and Policy, 3(1), 65-90.

Rana, N.P., Dwivedi, Y.K., Williams, M.D. (2012), E-government adoption research: Analysing challenges and critical success factors. European, Mediterranean and Middle Eastern Conference on Information Systems. Munich: EMCIS. p103-117.

Ray, S., Mukherjee, A. (2007), Development of a framework towards successful implementation of e-Governance initiatives in health sector in India. International Journal of Health Care Quality Assurance, 20(6), 464-483.

Rogers, E.M. (1962), Diffusion of Innovations. New York: Free Press.

Saxena, K.B. (2005), Towards excellence in e-Governance. The International Journal of Public Sector Management, 18(6), 498-513.

Singh, G., Pathak, R.D., Naz, R., Belwal, R. (2010), e-Governance for improved public sector service delivery in India, Ethiopia and Fiji. International Journal of Public Sector Management, 23(3), 254-275.

Taylor, S., Todd, P. (1995), Assessing it usage: The role of prior experience. MIS Quarterly, 19(4), 561-570.

Thompson, R.L., Higgins, C.A., Howell, J.M. (1991), Personal computing: Toward a conceptual model of utilization. MIS Quarterly, 15(1), 125-143.

Venkatesh V., Davis F.D. (2000), A Theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Science, 46(2), 186-204.

Venkatesh, V. (2000), Determinants of perceived ease of use: Integrating perceived behavioral control, computer anxiety and enjoyment into the technology acceptance model. Information Systems Research, 11(4), 342-365.

Venkatesh, V., Bala, H. (2008), Technology acceptance model 3 and a research Agenda on interventions. Decision Sciences, 39(2), 273-315.

Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D. (2003), User acceptance of information technology: Towards a unified view. MIS Quarterly, 27(3), 425-478.

Warkentin, M., Gefen, D., Pavlou, P.A., Rose, G.M. (2002), Encouraging citizen adoption of e-Government by building trust. Electronic Markets, 12(3), 157-162.

Warshaw, P., Davis, F. (1985), Disentangling behavioral intention and behavioral expectation. Journal of Experimental Social Psychology, 21(3), 213-228.

Williamson, O.E. (1985), The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting. New York: Free Press.

Yadav, K., Tiwari, S. (2014), e-Governance in India: Opportunities and challenges. Advance in Electronic and Electric Engineering, 4(6), 675-680.