International Journal of Managing Public Sector Information and Communication Technologies (IJMPICT)
Vol. 3, No. 1, September 2012

E-GOVERNANCE ADOPTION IN GOVERNMENT ORGANIZATION OF INDIA

Mithun Barua

L.M Thapar School of Management, Thapar University, India

mbdels@gmail.com

ABSTRACT

India, the growing economic super-power proceeded with lightning speed towards the adoption and successful implementation of e-governance. The Government of West Bengal (federal unit of India) implemented e-governance in pension office i.e. Pension Management System (PMS), for faster and efficient delivery of public services. The success of PMS is dependent on many factors and one among them is the successful adoption by the employee which has been empirically analyzed. The study used the Technology Acceptance Model (TAM) and Trust to build a conceptual model. Data collected from 60 employees working on the system and the model is assessed with regression analyses. The findings show that the determinants of the research model are support. The study also shows that the system doesn't perform completely error free tasks which the Government of West Bengal should address. This is the first study of employee adoption of e-governance in pension office of India.

KEY WORDS

e- Governance Adoption, UTAUT, Trust, Pension Management System (PMS), DPPG

1.0. Introduction

The Directorate of Pension, Provident Fund and Group Insurance (DPPG), Government of West Bengal, India came into being in the year 1983. It is under the administrative control of the Finance Department, Government of West Bengal, India. Initially, this Directorate used to deal with municipal pension cases only. Later on, with the passage of time, the pension cases of teachers of primary and non-government educational institutions, panchayat (local government) and municipal employees, employees of Khadi Board, Higher Secondary Education Council, West Bengal Pollution Control Board, College Service Commission, Social Welfare Board etc have come under the aegis of the Directorate. The Directorate is headed by a Director and the total staff strength is 115 as on 31st March 2012.

e- Governance initiatives in the Directorate started in 1990 with computerization of its operations and automation. The Directorate first issued computer generated Pension Payment Order (PPO) in 1990. The program of 'DPPG Computerization Project' was started in 1994 and the National Informatics Centre (NIC) was entrusted for its implementation. With the advancement of technology, NIC implemented the 'Pension Management System (PMS)'. The entire process of the pension calculation, processing, generation and reports are carried out with the help of PMS. As on 31st March 2012, there are 60 employees of the Directorate working on the system and more than 0.3 million pension orders have been successfully processed and generated.

DOI : 10.5121/ijmpict.2012.3101

The e-governance initiatives in the Directorate and its field establishments have technologically matured in phases but the acceptance and adoption of these e-governance initiatives (the Pension Management System) by the facilitator (Officers/ staff) has never been considered. In the presented work, an attempt has been made to empirically study the factors impacting the acceptance and adoption of Pension Management System (PMS), which is the government-to-government (G2G) application system in the Directorate of Pension, Provident Fund and Group Insurance (DPPG) of the Government of West Bengal (federal unit of India) by the officers and subordinate staffs.

2.0 Literature Review

There is no clear definition of what is adoption in the e-governance adoption studies (Foteinou 2011). Two of the most influential authors in e-governance adoption, Carter and Belanger (2005) associate adoption with the intention to use, while Warkentin et al. (2002) consider acceptance as the initial intention of the purpose of use (Foteinou, 2011). Gilbert and Balestrini (2004), measure it as intention to engage to e-government. Literature in the field has mentioned different reasons for the adoption of e-government (AlAwadhi and Morris, 2008): political, economic, social and managerial reasons.

Korpelainen (2011) did a detailed citation analysis of 330 articles published in leading management and business journals during 1999- 2010 and found that Technology Acceptance Model (TAM) (Davis, 1989), Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), Diffusion of Innovation (DOI) (Rogers', 1983), Theory of Planned Behavior (TPB) (Ajzen, 1991), Unified Theory of Acceptance and Use of Technology (UTAUT), Model of the IT Implementation Process (Cooper and Zmud, 1990), and Information Systems Success Model (DeLone and Mclean, 1992) are the most widely used and empirically tested adoption and acceptance models, used in the information systems research. In the e-governance adoption and acceptance research, the models are mainly based on the popular technology adoption models of IS research such as Technology Acceptance Model (TAM), TAM 2, Diffusion of Innovations (DOI), Theory of Planned Behavior (TPB), Unified Theory of Acceptance and Use of Technology (UTAUT), Theory of Reasoned Action (TRA) and Trust. Rana et al, (2011) on the basis of the analysis of 70 articles found that the TAM, TAM 2, DOI, UTAUT, TPB and Trust are the most widely used models in the e-governance acceptance and adoption.

2.1 Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) reviewed the user acceptance literature and made empirical analysis of eight most significant models – Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model, Theory of Planned Behavior (TPB), a model combining TAM and TPB, Model of PC Utilization, Innovation Diffusion Theory and the Social Cognitive Theory. Than proposed the Unified Theory of Acceptance and Use of Technology (UTAUT). Venkatesh et al (2003) postulated two direct determinants of usage behavior, 'intention to use' and 'facilitating conditions'. Intention to use is influenced by performance expectancy, effort expectancy and social influence. Gender, age, experience and voluntariness of use act as moderators.

Performance expectancy is defined as the degree to which an individual believes that use of the system will help improve his/her job performance (Venkatesh et al., 2003). *Effort expectancy* is the degree of ease associated with the use of the system (Venkatesh et al., 2003). This construct

parallels with the perceived ease of use of TAM (Davis, 1989; Davis et al., 1992) and ease of use in IDT (Rogers, 1995). *Social influence* is the degree to which an individual perceives that important others believe she/he would use the new system and it will enhance pride and esteem. *Facilitating conditions* refer to the degree to which an individual believe that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al., 2003).

The UTUAT model has been widely used in the study of adoption of e-governance in different countries of the world. An insight into the established studies shows that the model has been empirically tested for the study of e-governance adoption in the domains of Government-to-Citizens (G2C) and Government-to-Business (G2B) mainly. There are very few studies in the government-to-government (G2G) adoption and acceptance of e-governance. Gupta et al. (2008) applied this model in their study of e-governance adoption in a government organization under the Ministry of Environment & Forests, Government of India. The study showed that all the constructs – performance expectancy, effort expectancy, social influence and facilitating conditions have positive impact on the behavior intention of the government employees towards the use of the e-governance application system. But they don't find any effect of the moderating factors. Keramati and Chelbi (2011) conducted a study related to the adoption of e-government services by government employees of Rasht municipality in Iran, particularly those working online payment of tax of renovation. The UTUAT model was used as the conceptualized model and the results identified the factors which influence e-government adoption by employees.

2.2 Trust

Trust appeared once with the humanity and the development of social interaction. Almost every aspect of a person life is based in one or another way in trust. So, trust is a very rich concept, covering a wide range of relationships, conjoining a variety of objects. The concept of trust is intimately linked to risk and expectations: trust is used as a substitute for risk, but it also creates a risk for the truster (Bouckaert and Van de Walle, 2001).

Trust is the most common construct that is integrated into the e-government adoption models. Trust eases the transactions in uncertain situations by reducing the perceived complexity of the situation (Pavlou, P. A. 2003). According to Colesca (2009), "Trust in e-government is an abstract concept that underlies a complex array of relationships, so the method used to quantify trust in e-government should therefore account for this abstract nature."

The most cited empirical studies in the above mentioned categories of e-governance adoption models are presented in Table 1.

Table 1: Most Cited Empirical Studies

SR No.	Adoption Models	e-Governance studies based on this framework	Variables
1.	Unified Theory of Acceptance and Use of Technology (UTUAT)	Al Gahtani et al. (2007), Al-Shafi & Weerakkody (2009), Dawood Sallem Hussain (2009), Shafi Homoud Al- Shafi (2009), Chan et al. (2010), Vencatachellum & Pudaruth (2010), Abdulwahab & Dahalin (2011), Keramati & Chelbi (2011), Lessa et al. (2011), Alzahrani & Goodwin (2012)	Performance expectancy, effort expectancy, social influence, facilitating conditions.

2.	Trust literature	Carter & Belanger (2005), Belanger & Carter (2008), Reddick (2005), West (2004), Riedl (2004), Warkentin et al. (2002)	Trust of the actor providing the service, General Predisposition to trust, Social Demographics (gender, education etc.), Party Affiliation, Cultural factors, Risk perceptions.

2.3 Government- to- Government (G2G)

According to Realini (2004), government-to-government (G2G) e-governance is an area which is at the nascent stage of research. As per Realini (2004), there is haziness about the domain area of G2G e-governance acceptance and adoption thereby resulting in lack of commonly accepted definition. One of the widely accepted definitions of G2G e-governance can be considered as the implementation of IT solutions between and inside public administration. According to Realini (2004) E- government is the leverage from a pure bureaucratic and stovepipe organization to a pure process- oriented and seamless Government. Intra and intergovernmental E- Government have to be much more than simply wires and computers. G2G Electronic Government can be viewed as a coalition of many different aspects: from strategy to organization or from security to change in culture. G2G has the different tasks of completely redesigning the way government works and the way employees cooperate and performs.

Most of the literature and the publications on e-governance are focused on the spectacular (from the citizen's point of view) front office interactions between Government and citizens or business (i.e. G2C or G2B) (Realini, 2004). Table 2 provides a snapshot view of the studies conducted on the employee adoption of the e-governance application(s).

Table 2: G2G e-governance adoption studies

SL No.	Author & Year	Country	Respondents	Variables	Results/ Outcomes
1.	Vathanophas et al. (2006)	Thailand	Naval Officers in the Naval Finance Deaprtment	Technology Acceptance Model (Perceived Usefulness & Perceived Ease of Use)	Found that external factors affecting perception of officers
2.	Reddick et al. (2007)	Texas & Florida, USA	City Managers	Questionnaire analysis	e- Government having positive impact.
3.	Sahu & Gupta (2007)	India	Employees of Indian Central Excise Department	Technology Acceptance Model (Perceived Usefulness & Perceived Ease of Use)	Calculated the total effect of each variable on the intention to use e-government.
4.	Gupta et al .(2008)	India	Employee of an office under Ministry of Environment &	Unified Theory of Acceptance and Use of	Performance & effort expectancy, social influences and

			Forests, India	Technology (UTAUT).	facilitating conditions positively impact the use of ICT.
5.	Hung et al. (2008)	Taiwan	Employees of National Tax Administration	Theory of Planned Behavior	Results strongly support the utilization of TPB in predicting user's intention.
6.	Sang et al. (2009)	Cambodia	Public Information Officers in 12 Ministries	TAM, TAM2, DOI and Trust	Determinants of the research are supported.
7.	Previtali et al. (2009)	Italy	Employees of 49 small municipalities	Questionnaire Analysis	Successful in finding the reasons and barriers of employee adoption.
8.	Luarn at al. (2009)	Taipei	Employees of Taipei City Government	Task- to-Performance Chain Model	Three factors that affect performance: task- technology fit, computer self-efficacy and utilization.
9.	Sang (2010)	Cambodia	Information Officers in Thai Ministries	TAM and Trust	Factors influencing end-user adoption of the GAIS are significantly affected by perceived usefulness, relative advantage and trust.
10.	Padhi et al. (2010)	Odisha, India	Employees of different government departments	Technology Acceptance Model	Successful in finding the status of the adoption and the barriers.
11.	Alhussain & Drew (2010)	Saudi Arabia	Employees of Government Departments	Survey and Questionnaire Analysis	Found out significant digital and cultural gap.
12.	Al- Busaidy et al.(2011)	Oman	Employees of three public service agencies	Questionnaire Analysis	Measured the successful adoption and acceptance.
13.	Singh et al. (2011)	Uttarakhand, Indi	Public sector of Uttarakhand	Technology Acceptance Model	Highlighted certain gaps.
14.	Veit et al. (2011)	Germany	Employees of 13 German municipalities	Technology-Organization-Environment(TOE)	Found suitable gaps in e- procurement adoption.

With respect to the pension offices of the government and its automation in Indian perspective, there is a lack of empirically based studies analyzing the adoption and acceptance of e-governance initiative by the government employees.

3.0 Research Model and Hypothesis

This is the first study conducted on e-governance adoption in the pension office of a provincial government in India, specifically of the State of West Bengal. Pension Management System (PMS) is one of the important e-governance application systems of the Government of West Bengal. In this study, the Unified Theory of Acceptance and Use of Technology (UTUAT) and Trust are integrated to propose a model for employee adoption of e- governance and the conceptual model is shown in Figure 1. UTAUT is considered as it has been established in the study of Gupta et al. (2008) for adoption of e-governance application system by the government employees in India.

The constructs of UTAUT: Performance expectancy, Effort expectancy, Social influence and Facilitating conditions are incorporated into the model. There are four factors: gender, age, experience and voluntariness of use, identified as moderating variables in the original UTAUT. For this study, age, experience and voluntariness of use have been controlled and thus, being removed and not taken into consideration.

The moderating variable *experience* was controlled. Almost all employees of the organization, nearly 90%, were similar in their experience with the e-governance application system i.e. PMS. Since most employees in the Directorate started using the technology around the same time, any significant variability in experience is usually not found. Therefore, it's being believed that experience would not have a significant moderating effect.

PMS is not voluntary and it is mandatory for the employees to use the application system in order to discharge their official work. So, *voluntariness of use* has not been taken into consideration. The Theory of Planned Behavior and UTAUT found that age is a significant moderator, whereas other acceptance models such as TAM, TRA and others did not examine the role of age as a moderator. But this finding is limited to western contexts, such as adoption in the USA (Gupta et al. 2008). The basic premise that information systems are adopted and accepted more easily by younger individuals since they have been exposed to computers and the computing environment at an early age, may be true in the developed world but not so in developing countries such as India. In India, a significant portion of the population does not have access to computers. In the government organizations considered for this study it is not generally found that younger employees had a better understanding and exposure to information systems than their older counterparts (Gupta et al. 2008). Therefore, moderating effect of *age* has not been considered.

Gupta, et al. (2008) found in their empirical study that gender has no effect as moderating factor in the e-governance adoption in the government organization of India. Therefore, *gender* is also controlled and has not taken into consideration. The addition is the trust constructs which has been incorporated to examine the effect of trust factors with regard to the user acceptance of e-governance.

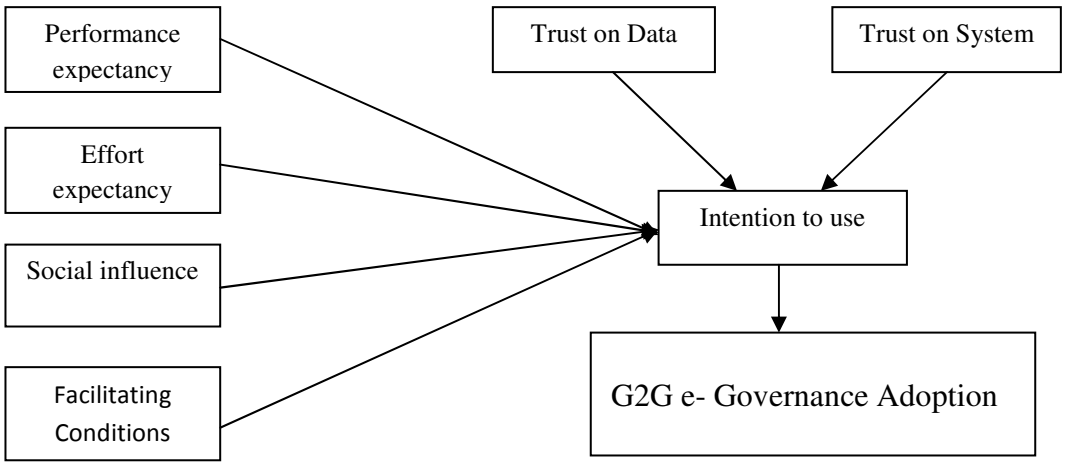

Fig 1: G2G e- Governance Adoption and Acceptance model based on UTAUT and Trust

3.1 e- Governance and UTAUT

The UTUAT model has been widely used in the e-governance adoption and acceptance which is shown in Table 1. The employees will find the e-governance system (in this case PMS) useful if it helps them to perform the functions of the Directorate efficiently and effectively. Performance expectancy, effort expectancy and social influence will directly affect the intention to use of the PMS by the officers and staff. Thus, a high level of intention to use is likely to increase employee adoption of PMS. The facilitating conditions such as infrastructure (LAN, Server, SWAN etc) would also positively impact the user acceptance of the e-governance application system, i.e. PMS.

H1. Performance expectancy is positively related to intention to use e-governance application.

H2. Effort expectancy is positively related to intention to use e-governance application.

H3. Social influence is positively related to the intention to use e-governance application.

H4. Facilitating conditions is positively related to the intention to use e-governance application.

3.2 e- Governance and Trust Literature

Carter and Belanger (2005), Belanger and Carter (2008), Reddick (2005), West (2004), Riedl (2004), Warkentin et al. (2002) are the main proponents of Trust and empirically established different factors of trust in the citizen adoption of e-government services. There is a wide gap in literature regarding studies that empirically establishes trust as a factor in G2G e-governance adoption and acceptance. As trust is one of the important factors that psychologically shapes the mind of the government employees, therefore it becomes imperative to consider it for this study. The proposed typology of Papadopoulou, et al, (2010) establishing seven variables of trust has been analyzed for this purpose and after due consideration only two variables of trust i.e. **Trust on Data** and **Trust on System** out of the seven have been incorporated. Table 3 provides the

reasons for both incorporating two variables out of the seven (as given by Papadopoulou et al, 2010) and also rationale behind leaving the other five variables.

Table 3**:** Variables of Trust

Trust Type	Definition	Relevancy in G2G (in respect of Government in India)
Trust in Stored Data	Trust in the specific e-government stored data management (data in storage/ data access usage).	This variable is relevant for Government employees. The financial data of Government is very important and its importance is being fully understood by all the employees.
Trust in Service	Trust in specific e-government service.	Government employees are service providers to citizens and not service receivers. So, this variable is not applicable here.
Trust in Information	Trust in the information provided by the e-government.	Government employees provide information and not receive information. Government employees only receive instructions and orders decided by the higher authorities. Thus, this variable also doesn't holds well.
Trust in System	Trust in the system/ infrastructure of the Govt. organization	This is relevant in the G2G context in Indian government. Trust on application system and the supporting infrastructure such as computers, LAN, SWAN etc. has a positive effect on the employee adoption.
Trust in Transactions	Trust in e-government transactions	This is more relevant for the citizens. Question of trust on transactions arises when citizen uses any online web-based system.
Trust in Government Organization	Trust in specific government agency	This is also applicable for G2C. Government and government agency consists of its employees. Employees are not required to develop trust on their own organization or office.
Trust in Government Organization	Trust in specific government agency	This is also applicable for G2C. Government and government agency consists of its employees. Employees are not required to develop trust on their own organization or office.
Institution based Trust	Trust in the institutional system supporting e-government	This trust is concerned with trust on the legal & regulatory framework, standards of the government. This has no relevance for government employees. This is relevant for citizens only.

In the light of the above discussions, it can be considered that Trust on Data and Trust on System would positively influence the employee adoption of the e-governance application.

H5. Trust in stored data is positively related to intention to use e-governance application.

H6. Trust in system is positively related to intention to use e-governance application.

4.0 Research Methods and Results

4.1 Sample and Instrument Development

The data for the study is collected via a survey questionnaire that was divided into two sections. The first section represents the demographic information about each participant. The subject's perception of each variable in the model is captured in the second section. As the study focuses

on the e-governance in the Directorate of Pension, Provident Fund and Group Insurance of West Bengal (federal unit of India), so, the target population are the Officers (Director, Joint Directors, Deputy Directors etc.) and the sub-ordinate staffs of the Directorate. The questionnaire is administered to 60 officials and responses are incorporated in the analysis.

As the instrument development is concerned, all the items used in the survey were adapted from previous studies (Venkatesh et al., 2003; Gupta et al, 2008) with some minor changes to the context of the e-governance in West Bengal, India. The measurement of trust on data and trust on system was adapted from the study of Papadpoulou, et al. (2010) and Sang, et al. (2009). Five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) have been incorporated.

In order to enhance the validity of the questionnaire, the readability test was conducted. The Fog Index, Flesch Reading Ease, Flesch- Kincaid Readability Formula and Gunning- Fox Index are the formulas used to determine readability. Flesch- Kincaid Readability Formula test has been applied in this study to determine readability because it is the most widely used. This test rates text on a US school grade level. For example, a score of 8.0 means that an eighth grader can understand the document. The ideal score is considered approximately 7.0 to 8.0. The Table 4 shows the readability score before the test and those having scores more than the grade level of 7.0- 8.0, are brought within the considered level by some modifications . Table 5 represents the final questionnaire.

Table 4: Flesch- Kincaid Readability Grade level score

SL No.	**Readability score of the initial questionnaire**	**Readability score after modifications**
PE 1	12	8
PE 2	8	8
PE 3	9	8
PE 4	15	8
EE 5	10	8
EE 6	8	8
EE 7	8	8
EE 8	8	8
SI 9	11	8
SI 10	15	8
SI 11	13	8
SI 12	11	8
FC 13	11	8
FC 14	14	8
FC 15	12	8
FC 16	12	8
TD 17	11	8
TD 18	11	8
TD 19	12	8
TS 20	13	8

TS 21	9	8
TS 22	12	8
ITU 23	11	8
ITU 24	11	8

Table 5: Constructs/ variable and questionnaire items

Construct/ variable	**Scaled variable**	**Questionnaire items**	
Performance expectancy	PE	PE 1	I am able to do my official work very easily with PMS.
		PE 2	PMS enables me to accomplish my work more quickly.
		PE 3	PMS increases my productivity in the job. It helps me to discharge more work in lesser time and without any error or mistake.
		PE 4	I could get promotion in my job if I can efficiently use the PMS.
Effort expectancy	EE	EE 5	By using PMS, all the work of the office is done quickly. It also helps me to keep a look on the other functions of the office done by the officials.
		EE 6	PMS takes less time to do tasks than the manual system of entries and recording. Earlier the manual system would take lot of time which has been reduced in PMS.
		EE 7	I find the PMS easy to use. I don't see any complicated process or difficulty in using the system.
		EE 8	It is easy to learn how to use the PMS and after proper learning it makes the work easier.
Social influence	SI	SI 9	PMS increases my respect among the service colleagues.
		SI 10	I feel very proud to work with PMS as it is considered the most efficient intra-governmental system.
		SI 11	We get all the required help from the Finance Department for the proper working and maintenance of the PMS.
		SI 12	The employees provide their support in proper running of the PMS. They put equal efforts in discharging the office functions as efficiently and quickly as possible.
Facilitating conditions	FS	FS 13	Proper training is provided to use the system. The process of using the PMS is clearly demonstrated in the training sessions.
		FS 14	When any problem arises in the PMS software the help of the support staff are quickly available.
		FS 15	The physical infrastructure (LAN, Server, Computers etc.) works properly. There is good external back-up for power which is the main requirement for running

			the PMS.
		FS 16	The support of the hardware engineers is also quickly available in case of crisis situations.
Trust on data	TD	TD 17	There is good data back-up system in the PMS. As the Directorate deals with high volume of financial data, the back-up system in the PMS is quite satisfactory. There is also provision of external back-up system besides the internal system.
		TD 18	I easily retrieve (able to get) the historical data (previous data) when required. I don't need to waste much time getting the previous data as the system is having smart feature of quick retrieval of data.
		TD 19	As the Directorate deal with high value financial data of the government, so there is need of proper protection of the data. Data remains secured and protected in the PMS and there is no fear of losing the data or unofficial use of the data.
Trust on system	TS	TS 20	I feel the infrastructure of the Directorate (LAN, SWAN, Connectivity, Servers etc.) are reliable (trustable) and works properly.
		TS 21	PMS is fault free as much as my work is concerned. It means that the application system is perfect and has no short-comings. It covers all the functions performed in the Directorate and the application system does completely error free task.
		TS 22	The system is fully protected against intrusion threats. There is no fear of hacking or other external threats. As many government websites and other applications are often hacked or manipulated by external powers, but in case of PMS, I have firm believe that such threats and fear do not exists.
Intention to Use	ITU	ITU 23	I would surely use PMS whenever I will be given the access of the system.
		ITU 24	I have access to PMS and I would surely do my official work with its help.

The reliability of each item in the questionnaire was examined using Cronbach's alpha (Cronbach, 1970). All the items are above the acceptance level of 0.7 (Hair et al., 2006) and shown in Table 7. Factor analysis of the items of the questionnaire is conducted to check for construct validity. Its being found that all the items of the questionnaire are proper measures of the questionnaire and the factor loadings are proper, shown in Table 8.

4.2. Demographic Analysis

The profile of the demography captured shown in Table 6 shows that there are predominantly male (87 percent as compared to females 13 percent). The employees within the age group of 46 to 55 years are dominant (60 percent) and all with more than 10 years of service experience (100

percent). As the education and level of computer knowledge is concerned, bachelor's degree are dominant (67 percent) and 87 percent are having basic knowledge of computers. The basic knowledge of computers, here, signifies 6 months diploma course.

Table 6: Demographic profile of the respondents

Particulars	**Variables**	**Frequency**	**Percentage (%)**
Gender	Male	52	87
	Female	08	13
Age	18 to 25	00	00
	26 to 35	07	12
	36 to 45	17	28
	46 to 55	36	60
Education	High School	12	20
	Graduate	40	67
	Post Graduate	08	13
Years of Service	Less than 1	00	00
	1 to 5	00	00
	6 to 10	00	00
	More than 10	60	100
Computer Knowledge	Basic	52	87
	Level O	08	13
	Level B	00	00
	Level A	00	00
Respondents (total 60)	Officers	14	23
	Subordinate Staffs (non-officers)	46	77

Table 7: Reliability analysis

Construct	**No. of items**	**Cronbach's Alpha**
Performance expectancy	PE 1	.880
	PE 2	.879
	PE 3	.884
	PE 4	.881
Effort expectancy	EE 1	.878
	EE 2	.885
	EE 3	.882
	EE 4	.880
Social influence	SI 1	.877
	SI 2	.879
	SI 3	.877

	SI 4	.881
Facilitating conditions	FC 1	.883
	FC 2	.888
	FC 3	.888
	FC 4	.887
Trust on data	TD 1	.881
	TD 2	.881
	TD 3	.883
Trust on system	TS 1	.882
	TS 2	.888
	TS 3	.890
Intention to use	ITU 1	.876
	ITU 2	.880

Table 8: Results of Factor Analysis

Construct	**No. of items**	**Factor Loading**
Performance expectancy	PE 1	.927
	PE 2	.750
	PE 3	.803
	PE 4	.753
Effort expectancy	EE 1	.884
	EE 2	.809
	EE 3	.633
	EE 4	.738
Social influence	SI 1	.748
	SI 2	.845
	SI 3	.811
	SI 4	.730
Facilitating conditions	FC 1	.792
	FC 2	.784
	FC 3	.692
	FC 4	.759
Trust on data	TD 1	.723
	TD 2	.888
	TD 3	.717
Trust on system	TS 1	.880
	TS 2	.658
	TS 3	.796

Intention to use	ITU 1	.850
	ITU 2	.786

4.3. Regression Results

The original UTAUT model used partial least squares (PLS) as the data analysis technique. Gupta et al. (2008) used the regression analysis and ran separate regressions to test the independent effect of performance expectancy, effort expectancy, social influence and facilitating conditions. As the study of Gupta et al. (2008) is based on the employee adoption of e-governance in government organization in India, therefore, in this paper, separate regressions test are ran to analyze all the variables including trust on data and trust on system. Table 9 represents the regression variables and Table 10 shows the regression results.

Table 9: Regression variables

Dependent Variable	Independent Variable	No. of Items	Mean	SD
ITU	PP	4	3.98	.331
	EE	4	4.54	.335
	SI	4	4.43	.351
	FC	4	3.94	.174
	TD	3	4.22	.335
	TS	3	3.34	.157

Table 10: Regression results

Hypotheses	R^2	F value	Coefficient	t- value	Significant	Supported
H1	.238	18.109	.488	2.662	.010	Yes
H2	.085	5.413	.292	2.327	.024	Yes
H3	.381	35.730	.617	5.977	.000	Yes
H4	.174	12.189	.417	3.491	.001	Yes
H5	.151	10.353	.389	3.218	.002	Yes
H6	.075	4.731	.275	2.175	.034	Yes

5.0. Discussion of Results

H1 is supported and it shows that performance expectancy is positively related to the intention to use of the e-governance application. Performance expectancy is the degree to which an individual believes that using a system will help him/ her to attain gains in job performance or to get good performance appraisal. The results show that an increase in performance expectancy influences behavior intention to use the PMS, and it supports the UTAUT model (Venkatesh et al. 2003). Performance expectancy is theoretically derived from constructs such as user's intention to use a technology, thus it can be substantiated that the present findings support the existing literature. PMS is successful in replacing the cumbersome manual system. The employees believe that it helps them to accomplish their tasks more easily and in a faster way which ultimately results in their official performances. It also supports critical aspects of their official work and enhances their efficiency on the job.

Effort expectancy is the degree associated with the ease associated with the use of the system (Venkatesh et al. 2003). In this study, it is found that effort expectancy influences the employees

intention to use the e-governance application system and the second hypotheses H2 is supported. The responses of the respondents shows that overall, they find the application system easy to use. This supports the existing literature on the topic that use of a system is dependent on how easy it is to use it.

Social influence is the degree to which an individual perceives that important others believe he/she should use the new system. Social influence in UTAUT is represented as subjective norm in other models such as TRA, TPB and image in IDT (Venkatesh et al. 2003). Social influence has been found positively influencing the employee's intention to use and thus, H3 is supported. Thus, the findings support the existing literature that social influence has significant effect on behavioral intention to use a system. The employees believe that PMS increases their respect among the other service colleagues working in different departments and organizations of the Government of West Bengal.

H4 is also supported. Facilitating conditions also positively influences and having significant impact on the intention to use the PMS. Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure is proper and support the system. It is derived from perceived behavioral control from TAM and TPB, and compatibility from IDT and is considered to be an important determinant of use of a system. The present findings support the UTAUT results that facilitating conditions to be an important determinant of system use and adoption. The employees find the LAN, WBSWAN, Servers, computers, power back-up all are properly working and if any technical problem arises than the support of the technical staffs are quickly available. Minimum training of maintenance of the hardware is given to the officials also.

H5 is also supported and trust on data has significant impact on the user intention. The employees find that the system has good data back-up facility, they can easily retrieve the historical data and more importantly they have full confidence that the data, which are of high financial value and importance, are fully secured and are not misused or used unofficially.

Trust on system has significant influence on the behavior of the user towards the use of PMS which is established and H6 is also supported. The officers believe that there is no fear of hacking or external threats like other government websites and applications. They also satisfied with the infrastructure of the treasury to support the application system.

In summary, our findings shows that performance expectancy, effort expectancy, social influence, facilitating conditions, trust on data and trust on system has a significant positive impact on the intention to use the PMS of the Directorate of Pension, Provident Fund and Group Insurance (DPPG), Government of West Bengal. The officials believe that PMS makes their work easier, enhances their performances on the job, time saving and easy to use, highly secured and protected. They also have trust on the application system.

6.0. Conclusions

The purpose of the study is to analyze the adoption of e-governance by the government employees who are acting as facilitator of the services to the people and main players in the inter-governmental operations. Our results validate the conceptual model (Figure 1) and show the successful e-governance adoption and acceptance in the Directorate of Pension, Provident Fund & Group Insurance (DPPG), Government of West Bengal, India.

This study has important practical implications for the government decision makers. The e-governance initiatives in this Directorate started in 1990 and till date no analysis in the form of any impact assessment, information technology audit or any other has been conducted either at the official level or by academic research.

This study shows that the application system of the Directorate is free from the deficiencies of faulty design, inadequate security controls, improper connectivity & infrastructure, non-integration of modules etc. This application system of West Bengal can be adopted and replicated by the Directorates of other States of India (other federal units).

The study has its limitations. The efficacy and success of the e-governance initiatives in the pension office of Government of West Bengal (i.e. Directorate of Pension, Provident Fund & Group Insurance) can only be established if it is being compared with the similar e-governance initiatives in the pension offices of other States of India. . Despite this limitation, the study makes a significant contribution. The e-governance in the pension office started in the State of West Bengal in 1990 and it is the most robust application system handling the pension cases of more than 65000 peoples in a year. There is no previous study which made an attempt to analyze the acceptance of the e-governance initiative by the employees of this Directorate.

There is ample scope of future research in this area. It order to apprehend the success of e-governance initiatives in the Directorate of Pension, Provident Fund & Group Insurance (DPPG), Government of West Bengal, the empirical study of the e-governance initiatives for the pensioners and other beneficiary citizens, taken by the Directorate on and after 2008 need to be analyzed. Such as the Directorate launched 'Pension File Status Query System' and hosted it under the portal of the Finance Department. Similar empirical studies may be conducted in other States of India which would facilitate the State governments to know the acceptance of the system by its officers and subordinate staffs. Higher degree of acceptance would increase the efficiency of the system and would show the success of the e-governance initiatives of the government. There is also scope of comparative analysis of the systems of different States of India.

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Author:

Mithun Barua is officer of the Government of West Bengal, India working in the domain of e-governance, general administration and financial administration. Headed a project on e-governance for 3 years. Also PhD scholar at L.M Thapar School of Management, Thapar University, Patiala, India from 2010. Done research work on employee adoption of e-governance in the different organizations of Government of West Bengal, e-participation in the Urban Local Bodies (ULBs), Right to Public Serv ices Act and on the network connectivity for the e-governance projects. Has been selected for the Estonian Government Short-term Research Grant on the domain of 'e- services and mobile governance' and Doctoral Support Program (DSP) at the Department of Public Policy, Central European University, Budapest, Hungary.