

Factors Influencing Citizens' Adoption of Mobile Government Services: An Extended TAM Approach

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ABSTRACT

Mobile government (m-government) services allow citizens, businesses and public institutions to have convenient access to government services. However, users' willingness to adopt these services remains a key challenge that affects the successful implementation and sustainable usage of services. The study presented in this paper proposes an Extended Technology Acceptance Model (ETAM) tailored for mobile government services by incorporating perceived ease of adoption, trust, and adoption behavior as additional constructs. The extended model also incorporates, as external variables, age, gender, education, mobile usage duration and profile to reflect the diverse characteristics of potential users of M-government services and their impact in predicting services adoption and usage. The proposed model was validated empirically based by measuring the constructs of the model using a high-fidelity prototype designed for Mobile-based Civil Registry Services. The results showed strong positive correlations among all the studied constructs and indicating that all constructs of the proposed ETAM are significantly positively related to predict users' behavioral intention to adopt and use the mobile services. These findings further demonstrate that the most influential aspect on the future intention to adopt the services is trust and perceived ease of adoption, and that the external variables of age and experience with the mobile applications were proved not to be strong indicators of adoption and hence service usage.

KEYWORDS: Mobile Government Services, Services Adoption, Mobile Services Usage, User Acceptance, Trust, Technology Acceptance Model, TAM, ETAM.

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1. INTRODUCTION

Mobile government (M-Government) services is an emerging discipline concerning the rise of advanced mobile and wireless communication technologies that would improve the quality of services offered to citizens by governments [3]. These services offer solutions to a wide range of audiences ranging from individuals to businesses and government institutions [5] [16].

The development of mobile government systems is very challenging and time consuming, so mobile systems developers and providers need to know whether these systems will be accepted, adopted and therefore used by the intended users. According to Kaasinen [15] designing and developing products that are neither wanted nor accepted by the users will result in wasting design and implementation effort. This waste could be prevented by assessing the acceptance of new technologies beforehand. Understanding the factors that influence users' adoption behaviour or/and usage of services is very critical for governments and services providers.

The study presented in this paper proposes an extension to the Technology Acceptance Model (TAM) for mobile government services to accommodate the unique characteristics of these services which includes, mobility, trust, accessibility and ease of adoption. The proposed model also infused users' attributes such as age, gender, level of education, and mobile phone usage duration and profile as external variables in order to see the effect these attributes have on acceptance.

2. BACKGROUND

User acceptance broadly refers to an individual's psychological state with regard to his or her voluntary and intended use of a technology [18]. Users' acceptance to information systems had been studied extensively in order to determine the elements that

influence the decision to use these systems. Researchers tried to determine the behavioural factors that influence an individual's decision to accept or reject a technology. Davis [7] presented The Technology Acceptance Model (TAM) theory that models how users come to accept and use a technology. The theory states that an individual's behaviour intention to use a system is determined by his or her perceived usefulness and perceived ease of use of that system. The goal of TAM is to predict information system acceptance and diagnose design problems before users have experience with a system. The model is shown in figure (1)

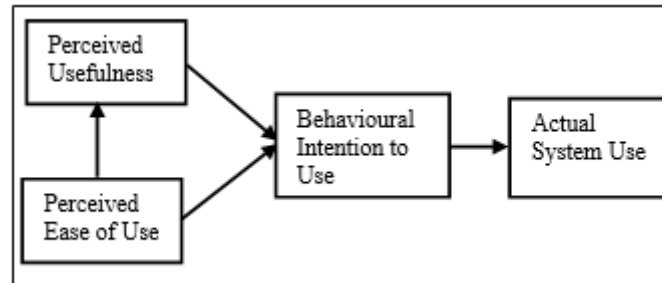


Figure 1. The original Technology Acceptance Model- Source: Davis et al. [8]

TAM presented two main factors that influence the user's decision to use information systems. These factors are:

- Perceived usefulness. This is "the degree to which a person believes that using a particular system would enhance his or her job performance" [7] [8].
- Perceived ease-of-use, which is "the degree to which a person believes that using a particular system would be free from effort".
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Venkatesh et al. [21] extended the original TAM model to explain perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes. This extended model included a social influence process such as subjective norm, and cognitive instrumental process such as job relevance, output quality and result demonstrability. Other researches also extended TAM to include other elements such as attitude towards the technology, information quality, system quality, individual impact such as user's experience, and organizational impact to be drivers of the user's acceptance [9] [17]. The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. [22] aims to explain user intentions to use an Information System and further the usage behavior. The theory introduced four key constructs as direct determinants of usage intention and behavior. These constructs are:

- Performance expectancy
- Effort expectancy
- Social influence
- Facilitating conditions.

Gender, age, experience, and voluntariness of use are posited to mediate the impact of the four key constructs on usage intention and behaviour.

Other researchers studied the role of factors like gender [13] and social network structure [18] in the adoption process.

Alavi et al. [5] developed a framework suggesting that the factors most relevant to the issue of acceptance are cognitive style, personality, demographics, and user-situational variables such as involvement, training, and experience. Wixom et al. [23] developed a theoretical research model for integrating the user satisfaction and technology acceptance of information systems. According to their model integrating these two research streams can provide a more complete understanding of the way in which system features influence Information Technology usage. The model integrates measures from the TAM [7] [8] and End User Satisfaction (EUS) theories [9] [10] that examine user satisfaction when using a computer application.

Kaasinen [15] introduced a model for user's acceptance to mobile services by extending the original TAM by Davis et al. [8]. The model states Perceived value, Trust, Perceived Ease of Use, and Perceived Ease of Adoption, Intention to Adopt and Use the system, and the actual Service usage behaviour as the factors that determine the Acceptance of mobile services. TAM is also being extended to TAM for Mobile services (TAMM) by Markova et al. [20] with Trust and Ease of Adoption as factors that believed to affect the intention of using m-commerce systems.

3. RESEARCH MODEL AND RESEARCH HYPOTHESES

3.1 The Proposed Model for assessing Users' Adoption of Mobile Services

3.1.1 The Attributes of the Model

The proposed model suggests different attributes for user's *acceptance to adopt and use the services*. With the assumption that the services would be used voluntarily. These attributes are described as follow:

- *Perceived Usefulness (PU)* and *Perceived Ease of Use (PEOU)* [7]. *PU* in the model includes the perceived usefulness of content and value of the mobile system. This measures how users perceived that the information and contents provided by the system are useful and suitable to the task and whether using the system is time and money saving. *PEOU* in the model measures the ease of use of the system and the mobile devices in performing the tasks as perceived by users.
- *Perceived Ease of Adoption (PEOA)* [15]. *PEOA* is important construct in the proposed model since mobile systems are new to citizens and they have to make sure that they can get all the needed information about available services and the necessary guidance when taking the services into use. User should easily get information about the services offered and be able to install and start to use the services easily.
- *Trust (TR)* is another important construct which was added to the model as an indicator of the BI the MCRS and therefore its acceptance. Trust is regarded an important factor that affect the implementation of mobile systems by Kaasinen [15] acceptance model for mobiles. Trust was also used to study the factors associated with mobile technology acceptance by Lu et al [103]. Trust was suggested by ISO/IEC CD 25010.3 [14] as an attribute that affect an individual's assessment of the use of the system. Trust is defined as the extent to which the user is satisfied that the product will behave as intended and with acceptable perceived consequences of use [14].
- *Behavioural Intention (BI) to adopt and use the services* is another attribute for user's acceptance [12] [3]. BI is an indication of citizens' willingness to accept using the mobile government services.
- *Adoption Behavior* is the Initial adoption and engagement with the service
- *Service Usage (SU)* is the Actual continued use of the services

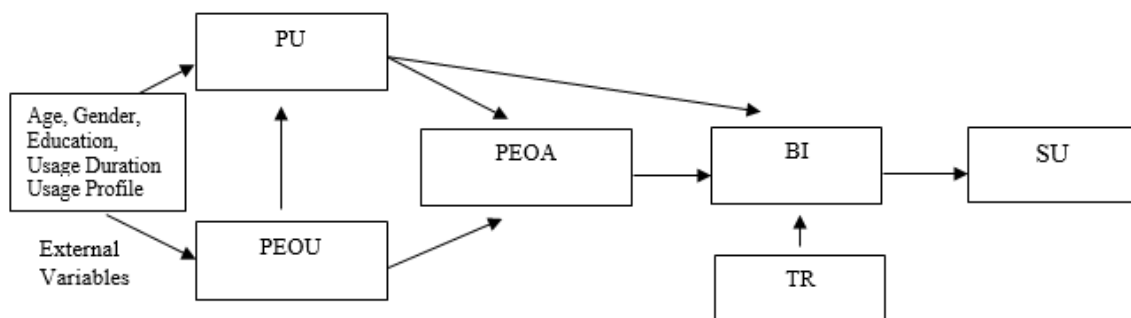


Figure 2: the Proposed ETAM for Mobile Government Services

3.1.2 The External Variables

Due to the fact that mobile government systems provide services to divert groups of users, external factors such as individual characteristics of those users and their effect on acceptance of the system will be investigated. These characteristics are

- *Gender*. The system targets male and female citizens
- *Age*. Citizens of different age groups within the whole country are targeted by the system
- *Educational level*. The system was designed so that it could be accessed even by semi-illiterates. Primary school, secondary school, university users are all targeted by the system.
- *Mobile Usage Duration*. The proposed system is targeting any citizen with access to mobile phone.
- *Mobile Usage profile*. Members of the targeted groups of users are those with differences in familiarity with the mobile phone as well as different levels or no expertise with similar systems.

Figure 2 shows the proposed Extended TAM (ETAM) for Mobile Government Systems

3.2 Research Hypothesis

- H1-1: PU positively and significantly affects PEOA of Mobile Government Services.
- H1-2: PU positively and significantly affects Behavioural Intention to Adopt and use the services
- H2-1: PEOU positively and significantly affects PU
- H2-2: PEOU positively and significantly affects PEOA
- H2-3: PEOU positively and significantly affects BI
- H3: PEOA positively and significantly affects BI
- H4: BI the system positively and significantly affects the TIU
- H5: TR positively and significantly affects BI
- H6: TR positively and significantly affects Actual SU

4. METHODOLOGY**4.1 The design of the Questionnaire**

A questionnaire was used to gather the information required for this study. The questionnaire was designed to give reliable measures and feedback from a sample of the whole user population. Some of the items in the questionnaires were designed based on the work of Lewis (1995), Davis (1989) and Lund (2001). The questionnaire elicited information about demographic data, PU, PEOU, PEOA, TR, BI, and SU.

Respondents were asked to rate their opinion using a 5-point Likert scale ranging from 1=strongly disagree, 2=disagree, 3=neither disagree nor disagree, 4=agree and 5=strongly agree.

The internal consistency measurement was assessed by means of the Cronbach's alpha coefficient [6].

Values were calculated for each of the multi-item factors included in the model. The Cronbach's alpha coefficient ranged from 0.781 to 0.921, indicating high internal consistency. The calculated results are displayed for all of the studied variables in Table (1).

Table 1: Internal Consistency and Reliability for variables- Cronbach's alpha values

Variables	Number of Items	Cronbach's Alpha	Reliable if > 0.7
Perceived Usefulness (PU)	6	0.841	Yes
Perceived Ease of Use (PEOU)	7	0.810	Yes
Perceived Ease of Adoption (PEOA)	6	0.781	Yes
Behavioral Intention (BI)	5	0.864	Yes
Trust (TR)	6	0.921	Yes
Services Usage (SU)	5	0.894	Yes

4.2 Sampling and Profile

The participants' population was chosen to be representative of the general public, and to be diverse. From the targeted population, a total of 103 users participated in the study (from now on are called participants). Each of the participants was asked to use the prototype of the mobile system and to fill-in the questionnaire. From the total number of participants 12 quitted in the middle (about 11.7% of the total). 16 of the participants had their questionnaires disqualified due to incomplete answers (15.5% of the total). Finally, the number of completed questionnaires that was used for data analysis was 75 (72.8% of the total). Percentages and frequencies of the participants are reported in Table (2).

Table 2: Percentages and frequencies of the participants

Participants	Frequency	Percentage
Number of participants quitted	12	11.7%
Number of disqualified questionnaires	16	15.5%
Complete questionnaires	75	72.8%
Total	103	100%

4.3 Demographic Characteristics of the Participants

First, the demographic background of participants was presented through descriptive statistic. The demographic characteristics of participants were analysed and presented in Table (3).

Table 3: The Frequency and percentage of demographic characteristics of the participants

Gender	Frequency	Percent
Male	47	62.7%
Female	28	37.3%
Age	Frequency	Percentage
16-25	37	49.3%
26-35	21	28%
36-45	12	16%
46-55	2	2.7%
More than 55	3	4%
Educational Level	Frequency	Percentage
Secondary or less	19	25.3%
Diploma	16	21.3%

Undergraduate		30	40%
Postgraduate		10	13.3%
Mobile Usage Duration		Frequency	Percentage
Less than 1 hour		20	26.7%
Between 1 hour to 2 hours		24	32%
More than 2 hours to 3 hours		14	18.7%
More than 3 hours		17	22.7%
Mobile profile		Frequency	Percentage
Calls	Yes	73	97.3%
	No	2	2.7%
SMS	Yes	59	78.7%
	No	16	21.3%
Internet	Yes	40	53.3%
	No	35	46.7%
Games	Yes	34	45.3%
	No	41	54.7%
Other Applications	Yes	22	29.3%
	No	53	70.7%

5. DATA ANALYSIS AND RESULTS

5.1 The Correlation between the Constructs

The Pearson Correlation between the constructs of the model is shown in table (4). The results indicate statistically significant positive correlations among constructs, suggesting strong relationships between the variables included in the model. Perceived Ease of Use (PEOU) showed a strong positive correlation with Perceived Usefulness (PU), indicating that users who perceive the mobile government service as easy to use are more likely to perceive it as useful. PEOU also demonstrated strong positive correlations with Perceived Ease of Adoption (PEOA) and Behavioral Intention (BI), suggesting that ease of use contributes significantly to users' willingness to adopt mobile government services. Perceived Usefulness (PU) was positively correlated with Behavioral Intention (BI), confirming that citizens are more likely to adopt mobile government services when they perceive them as beneficial and valuable. PU also showed strong correlations with Trust (TR) and Service Usage (SU), indicating that perceived value enhances both trust in the service and the likelihood of continued usage. Perceived Ease of Adoption (PEOA) exhibited a strong positive relationship with Behavioral Intention (BI) and Service Usage (SU). This suggests that citizens are more inclined to adopt and continue using mobile government services when the adoption process is perceived as simple and accessible. Trust (TR) demonstrated one of the strongest correlations in the model with Service Usage (SU) and Behavioral Intention (BI). These findings highlight the critical role of trust in encouraging citizens to adopt and continue using mobile government services, particularly in relation to security, reliability, and confidence in service delivery. Overall, the findings provide strong empirical support for the proposed ETAM model and indicate that perceived usefulness, perceived ease of use, perceived ease of adoption, and trust are important determinants of citizens' behavioral intention and continued usage of mobile government services.

Table 4: Correlation between the constructs of the model

	PU	PEOU	PEOA	BI	TR	SU
PU	1					
PEOU	.785**	1				
PEOA	.747**	.737**	1			
BI	.670**	.648**	.697**	1		
TR	.754**	.711**	.680**	.739**	1	
SU	.744**	.695**	.727**	.738**	.786**	1

** Correlation is significant at the 0.01 level (2-tailed).

5.2 The Effect of Individual Difference on the Constructs

5.2.1 The Effect of Gender

In order to test whether there is a difference between male and female in PU, PEOU, BI, TR and SU, an equality between male and female in the factors using Mann-Whitney test was performed. The results are reported in table (5). These results show that

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there was significant difference between male and female regarding PU, PEOU. For PU ($Z = -0.573$, $P = 0.567 > 0.05$). For PEOU ($Z = -0.258$, $P = 0.796 > 0.05$). However, male and female had different mean rank

the Table 5: The results of the equality test between male and female for the other constructs using Mann-Whitney test

Factors	Mean Rank		Equality Test		
	Male	Female	Statistic Z	P Value	significance
PU	36.89	39.86	-0.573	0.567	Not significant
PEOU	37.50	38.84	-0.258	0.796	Not significant

5.2.3 The Effect of Age

Table 6: the results of the equality test between different age groups in the constructs

Factors	Mean Rank						
	16-25	26-35	36-45	More than 45	Statistic χ^2	P Value	Significance
PU	34.74	37.76	51.17	31.50	5.721	0.126	Not significant
PEOU	38.28	32.29	47.75	36.50	3.900	0.272	Not significant
BI	33.61	37.21	52.25	39.60	6.779	0.079	Not significant
Trust	34.91	38.12	46.58	39.80	2.687	0.442	Not significant

The results reported in Table (6) above shows that age has no significant difference on the PU, PEOU, ITU and Trust.

5.2.4 The Effect of Educational Level

To test the effect of participants' educational level on the construct Kruskal-Wallis test was performed. The results showed that there no association between educational level and Perceived Usefulness ($P = 0.093$), between educational level and Perceived Ease of Use ($P = 0.144$).

Table 7: the results of equality between education groups in the factors using Kruskal-Wallis test

Factors	Mean Rank				Test of Equality		
	Secondary or less	Diploma	Undergraduate	Postgraduate	Statistic χ^2	P Value	significance
PU	32.16	30.41	42.97	46.35	6.410	0.093	Not significant
PEOU	31.66	32.28	44.40	40.00	5.417	0.144	Not significant
BI	29.92	28.41	45.02	47.65	10.930	0.012	Significant
Trust	25.26	28.19	48.15	47.45	18.427	0.000	Significant

There is a significant association between educational level and Intention to Use the mobile system, Taking into Use, Trust, User experience, and system Acceptance, ($P = 0.006 < 0.005$), ($P = 0.001 < 0.005$), ($P = 0.000 < 0.005$), ($P = 0.000 < 0.005$), ($P = 0.011 < 0.005$) respectively. The results also showed that there is no significant relation between educational level and Perceived Usefulness, Perceived Ease of Use, and Perceived Ease of Adoption

5.2.5 The Effect Mobile Usage Duration

To test the effect of mobile usage duration on the constructs Kruskal-Wallis test was performed on the data

Table 8: Test of equality between duration of using mobile groups in the factors using Kruskal-Wallis test

Factors	Mean Rank				Testing the equality	
	Less than 1 hour	Between 1 hour to 2 hours	More than 2 hours to 3 hours	More than 3 hours	P Value	Significance
PU	36.03	39.48	34.89	40.79	0.838	Not significant
PEOU	39.93	36.21	32.11	43.12	0.514	Not significant
BI	32.78	41.13	36.82	40.71	0.578	Not significant
Trust	32.58	39.17	36.46	44.00	0.438	Not significant

To test the effect of mobile usage profile on the constructs a test of equality using Mann-Whitney test was performed on the data.

Table 9: the results of the equality test of usage profile in the factors using Mann-Whitney test

Calls			
Factors	Z statistics	P Value	significance
PU	-0.966	0.3342	Not significant

PEOU	-0.564	0.5730	Not significant
PEOA	-1.414	0.1574	Not significant
BI	-0.778	0.4367	Not significant
SU	-0.801	0.4233	Not significant
SMS Messaging			
Factors	Z statistics	P Value	significance
PU	0.183	0.8551	Not significant
PEOU	-0.061	0.9516	Not significant
PEOA	-0.609	0.5425	Not significant
BI	0.846	0.3974	Not significant
SU	-0.189	0.8498	Not significant
E-mail and Internet			
Factors	Z statistics	P Value	significance
PU	-0.388	0.6982	Not significant
PEOU	-0.244	0.8069	Not significant
PEOA	-0.371	0.7107	Not significant
BI	-0.097	0.9227	Not significant
SU	-0.331	0.7409	Not significant
Games			
Factors	Z statistics	P Value	significance
PU	-0.443	0.6580	Not significant
PEOU	0.158	0.8741	Not significant
PEOA	-0.426	0.6701	Not significant
BI	0.511	0.6092	Not significant
SU	-0.267	0.7897	Not significant
Other Applications			
Factors	Z statistics	P Value	significance
PU	-2.116	0.0344	Significant
PEOU	-1.503	0.1329	Not significant
PEOA	-3.404	0.0007	Significant
BI	-1.964	0.0495	Significant
SU	-1.999	0.0456	Significant

The results of the test showed the following:

- There is no significant difference between participants who were using mobile phones for calls, SMS, and e-mails in any of the constructs.
- With Participants who were using mobile phone for accessing other application there were a significant relation between the usage profile and the perceived usefulness, Perceived Ease of Adoption, Behavioural Intention to use mobile services.

The results also showed that participants who are using other mobile applications are more likely to accept using mobile services. They perceived the system as more useful, easier to adopt and their intension to use it is more than those who do not use other mobile applications

6. DISCUSSIONS

The results showed a strong correlation among all variables of the acceptance model. Perceived usefulness (PU) correlate strongly with Perceived Ease of Adoption (PEOA) and Behavioural Intention (BI) to Use mobile services (Pearson's $r = .747$) and (Pearson's $r = .670$) respectively at level 0.01. This indicates that users' intention to use the mobile services increases if they perceived the service as useful. Perceived Ease of Use (PEOU) significantly affects Perceived usefulness (PU) (Pearson's $r = .785$). PEOU also affects Behavioural Intention to use the services (Pearson's $r = .648$), Ease of Adoption (Pearson's $r = .737$) all at the 0.01 level.

Perceived Ease of Adoption (PEOA) positively and significantly affects Behavioural Intention (BI) to use the services (Pearson's $r = .697$). This result indicates that the process of taking the mobile system into use is strongly affected by the intention to use that system. Trust had a strong significant correlation with BI to use the services (Pearson's $r = .739$). This result indicates that if users trust the mobile services their intention use it will increase Finally Service Usage (SU) affected positively and significantly by all constructs but Trust (TR) has the strongest positive corelation (Pearson's $r = .786$).

The above reported results show the strong correlations among all the studied constructs and therefore that all the constructs of the proposed Extended TAM are significantly positively related to predicting a user's acceptance of the mobile system.

The results of examining the influence of individual difference of the participants on some of the constructs of the model showed that the gender and age of the participants did not influence the decision to use the system.

The educational level of the participants increased the Behavioral Intention (BI) to use the mobile services, but did not influence the trust (TR). The duration of daily usage of the mobile phone by the participants significantly and positively influenced the Behavioral Intention (BI) to use the services by the participants. However, no significant relation was found between the duration of mobile usage and the trust. The mobile usage profile was significantly related to the perceived usefulness of the service, Perceived Ease of Adoption, and behavioral intention to use the services were significant with participants who use other mobile applications. They are the ones who are more likely to accept adopting and using the mobile services. This result indicates that the task nature and complexity may have an influence on the relation between the studied constructs.

7. CONCLUSIONS

The research presented in this paper provided an extended model of the factors that influence the decision to adopt and use mobile services. It introduced PU, PEOU, PEOA, BI, and Trust are the factors that affect the decision to accept using mobile services. The model was tested and verified empirically based on the data collected adopt mobile services and hence to accept using them. The analysis of these factors had resulted in many important findings. It confirmed the factors that influenced the decision to accept using the mobile government system. These factors were PU, PEOU, PEOA, Trust, ITU and TIU. The results also showed that the external variables of age and experience with using mobile applications were not strong indicators of service adoption and use.

REFERENCES

- 1) Ajzen, I. (1988). *Attitudes. Personality and Behavior*. Milton-Keynes, England: Open University Press.
- 2) Alavi, M., Joachimsthaler, E. (1992). Revisiting DSS implementation research: A meta-analysis of the literature and suggestions for researchers. *MIS Quarterly*, Vol. 16 pp.95 - 116.
- 3) Antovski, L., Gusev, M. (2005). M-Government Framework. In *Proceedings of the First European Conference on Mobile Government*, July 2005, University Sussex, Brighton UK.
- 4) Antovski L., Gusev M. (2006). M-GOV: The Evolution Method. *Proceedings of the EURO mGOV 2006*. Available at: http://www.mgovernment.org/resources/euromgvo2006/papers_list1206.htm.
- 5) Borucki, C., Arat, S., Kushchu, I. (2005). Mobile Government and Organizational Effectiveness. In *Proceedings of the 1st. Euro Conference on Mobile Government*.
- 6) Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- 7) Davis, F. (1986). A Technology Acceptance Model for empirically testing new end-user information systems: Theory and results. (Doctoral dissertation, Sloan School of Management, Massachusetts Institute of Technology. USA.
- 8) Davis, F. (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 1989. 319-339.
- 9) Dillon, A., Morris, M. (1996) User acceptance of new information technology: theories and models. In M. Williams (ed.) *Annual Review of Information Science and Technology*, Vol. 31, Medford NJ: Information Today, 3-32.
- 10) Doll, W., Torkzadeh, G. (1988). The Measurement of End-User Computing Satisfaction. *MIS Quarterly* (12:2), pp. 259-274.
- 11) Fishbein, M. (1967). Attitude and the prediction of behavior. In Fishbein, M. (Ed.), *Readings in attitude theory and measurement* (pp. 477-492). New York: Wiley.
- 12) Fishbein, M. (1967). Attitude and the prediction of behavior. In Fishbein, M. (Ed.), *Readings in attitude theory and measurement* (pp. 477-492). New York: Wiley.
- 13) Ilie, C., Slyke V., Green G., Lou, H. (2005). Gender differences in perceptions and use of communication technologies: A diffusion of innovation approach. *Information Resource Management Journal*. v18 i3. 16-31.
- 14) ISO/IEC CD 25010.3 (2009): Systems and software engineering – Software product Quality Requirements and Evaluation (SQuaRE) – Software product quality and system quality in use models. ISO.
- 15) Kaasinen, E. (2005). User acceptance of mobile services – Value, Ease of use, Trust and Ease of Adoption, VTT-Publications 566 Espoo, Finland.
- 16) Kushchu, I., Kuscu, H. (2003). From E-government to M-government: Facing the inevitable. In the *Proceedings of the European Conference on E-Government (ECEG 2003)*, Trinity College, Dublin..
- 17) Lederer, A., Maupin D., Sena M., Zhuang Y. (2000). The technology acceptance model and the World Wide Web, *Decision Support Systems*, 29, 2000, 269-282.
- 18) Lin C., Hu P., Chen H. (2004). Technology Implementation Management in Law Enforcement: COPLINK System Usability and User Acceptance Evaluations. *Social Science Computer Review* 2004; 22; 24.
- 19) Lu J., Liu C., Yu C., Yao J. (2003) Exploring factors associated with wireless internet via mobile technology acceptance in mainland China, *Communications of the International Information Management Association*, Vol. 3, No. 1, pp. 101 – 120.

- 20) Markova, M., Aula, A., Vainio, T., Wigelius, H., Kulju, M. (2007). MoBiS-Q- A tool for evaluating the success of mobile business services. Mobile ICT07 Singapore. Proceedings of the 9th international conference on Human computer interaction with mobile devices and services. Singapore. Pp. 238-245.
- 21) Venkatesh, V. Davis, F. (2000). A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies. *Management Science*, 46(2), 2000, 186-204.
- 22) Venkatesh, V., Morris, M., Davis, G., Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- 23) Wixom, B., Todd, P. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research*. Vol. 16, No. 1, Pg. 85-102.