# Citizens' Acceptance and Readiness towards Adopting E-Participation Tools in Kingdom of Bahrain

Hayat Ali, Tahera Ali, Zahra Matar, Fatima Jawad
*College of Information Technology*
*Department of Information Systems*
*University of Bahrain*

## Abstract

*Technology has become an integral element in the life of communities. One of the major fields that Technology is playing a major role is the citizens' participation through what is called E-Participation. E-Participation is the use of Technology to enhance participation between different stakeholders and governments. It increases transparency, enhances the communication between the government and stakeholders including citizens, and enables them to involve in policy making process. E-Participation by its real mean is now applied in Kingdom of Bahrain. Therefore, it is useful to measure the acceptance and readiness of citizens towards E-Participation tools. This research is to investigate the factors that affect citizens' acceptance and readiness to use E-Participation tools. Towards this aim, 250 questionnaires were collected from citizens in Kingdom of Bahrain at different ages over 18 years. The findings of this research revealed that there are significant factors that influence citizens' readiness and acceptance of E-Participation tools including optimum, innovation, insecurity, and discomfort. This research provides the government of Kingdom of Bahrain insights on factors that are important to enhance the readiness and acceptance of their citizens towards using E-Participation tools*

## 1. Introduction

Nowadays, there is a tremendous trend toward engaging citizens in policy making for a better future of countries. With the ICTs development, new opportunities are provided for citizens' engagement and new concept has emerged that is called E-Participation. E-Participation is "the use of information and communication technologies to broaden and deepen political participation by enabling citizens to connect with one another and with their elected representatives" [1]. E-Participation concerns about how the government applies ICT to support the participation between different stakeholders. It can be applied in many areas including management and administration, service delivery, decision making purposes, and policy making. According to reference [2], E-democracy (which E-Participation is part of it) can improve government's decisions making process, increase the trust of citizens as they involved and informed in all government process as well as enhance the responsibility and clearness with citizens. The first adoption of E-Participation in Kingdom of Bahrain was focused on informing the citizens with the political sessions' outcomes and their feedback through the social media tools. However, now they are more focusing on involving citizens to participate in decision making. At this stage, it is imperative to recognize the acceptance and readiness of citizens and the factors that affect that which is the aim of this research.

This paper is organized as follow: first an overview about E-Participation is presented, second E-Participation in Kingdom of Bahrain is discussed, third the concept of readiness, acceptance, research model and hypotheses are presented, fourth data collection and questionnaire development details are discussed, then the results are presented and discussed and finally the paper is wrapped up with a conclusion, recommendations and future works.

## 2. An overview of E-Participation

### 2.1. E-Government, E-Governance and E-Participation Definitions

E-government is the use of ICT to enable the citizens and businesses the opportunity to interact and conduct business with government. Thus, It is about how government organizes itself in terms of its administration, rules, regulations and frameworks set out to carry out service delivery and to co-ordinate, communicate and integrate processes within itself [3]. On the other hand, E-governance is the use of ICT by the government, civil society, and political organizations to engage people through feedback and dialogue to promote their participation in the process of governance of these institutions [4].

In this sense, e-governance has more implications than e-government and E-Participation is thus closely related to e-government and e-governance participation. E-Participation or public participation is "ICT-supported participation and processes involved in government and governance.

Processes include administration, service delivery, decision making and policy making" [5].

## 2.2. E-Participation Levels

There are different levels of E-Participation that were presented by many authors. Participation can take place in eight levels starting from non-participation level such us (1) Manipulation, (2) Therapy, then the one direction participation in level (3) Information, (4) Consultation , and finally high level of participation which include 5) Placation, (6) Partnership, (7) delegated power and (8) citizens control that based on giving the citizens a high power to participate [6]. According Reference [7], three main types of interaction can take place between the citizens and government which are differentiated according to the purpose, type of communication and the tools that can be used which include e-Information, e-Consultation and e-Decision. In addition, Reference [8] presented six forms of E-Participation, including: 1) informational, 2) Transparency through third parties, 3) Consultation, 4) Applications complaints / petitions, 5) Cooperation, and 6) Activism / campaigns/ lobbying. Comparing to UN categorization, researcher noted that Bremen extended each level to two levels that reflects characteristics from the upper and the lower levels. Finally, Reference [9], presented three E-Participation levels including e-enabling, e-engaging and e-empowering that is identical with UN categorization. E-enabling at which the citizens know and are updated with government practices, at E-engaging level the citizens in decision making by getting the comment and feedback, and at the e-empowerment level the citizens are given the power to take the decision making and decide on their future. Considering all the above ways of categorization E-Participation, Reference [10] has mapped them to each other as exhibited in Figure 1.

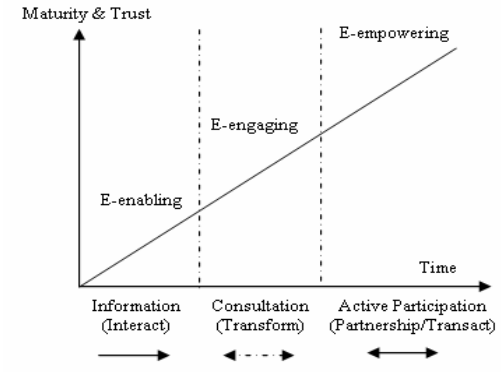


Figure 1.Integrated dimension of E-Participation [10]

### 2.3. E-Participation Technologies and Tools

Reference [11] presented a framework of E-Participation in terms of objectives and ICT supportive tools as illustrated in the Table 1.

Table 1. ICT Exploitation for E-Participation Framework

| *E-Participation objectives* | Information Exchange (Interactive avenue) | Education & support building (Formal participants selection & engagement) | Decision making Supplements (Participation processes) | Input probing (Unbiased data collection mechanisms) |
|---|---|---|---|---|
| *ICT tools that can support the participatory techniques appropriately* | Web portal with Online discussion forum, Online chat | Electronic profiling, Online chat, Discussion forum with login feature, Teleconferencing, Videoconferencing, E-mail | Group support systems with process restrictiveness feature, Online pair-wise structured survey, Visualization tools | Online survey questionnaire, Web comment form, Data analysis tools |

According to reference [12], the technology of E-Participation could include:" Weblogs, Web Portals, Search Engines, Webcasting / Podcasting, Mailing Lists / Newsgroups, Chat Rooms, Wikis, Online Survey Tools, Deliberative Survey Tools, Content Analysis Tools, Content Management Tools, Collaborative Management Tools, Computer Supported Cooperative Work (CSCW), Collaborative Environments, Consultation Platforms, Argument Visualization Tools, Natural Language Interfaces".

Another similar point of view of reference [13], lists the technology that could harness E-Participation service to citizens such as :" e-Petition systems Webcasts, e-Voting and e-Referenda Podcasts, e-Consultation systems Wikis, Virtual community systems Blogs, Online surgeries and chat rooms GIS and mapping tools, e-Panels Alert services, Online newsletters / list serves Participation discussion forums, e-Deliberative polling FAQs, Suggestion tools for planning procedures Web portals, Quick polls Groupware tools, Decision-making games Search engines, Surveys".

## 2.4. E-Participation in Kingdom of Bahrain

E-Participation is one of the trends that the Kingdom of Bahrain has involved in its 2012-2016 vision. According to the United Nations' e-Government Survey in 2014 [7], it is indicated that Bahrain had a big improvement in involving citizens in the government process. It ranked as 14th internationally in the development of E-Participation.

Bahrain vision for 2016 is to "achieve next generation e-Government excellence by delivering high-quality services effectively, valuing efficiency, advocating proactive customer engagement, nurturing entrepreneurship, collaborating with all stakeholders and encouraging innovation". The first strategic objective is to increase public engagement and participation. In fact, it started very strongly by considering the feedback and communicates with the citizens so to be powerful in adopting E-Participation

tools at a very high level of maturity as a vision for 2016 [10].

The E-Participation now activated approximately in all ministries in Kingdom of Bahrain after it was focused in political sectors, by representative website that is called AlNuwab website (http://www.nuwab.gov.bh). The followings are the Kingdom's Practice according to some dimensions of E-Participation as shown in Table 2.

Table 2. Kingdom of Bahrain current practice of E-Participation

| Dimension | Current practice |
|---|---|
| E-Participation Focus | Consultation |
| E-Participation Sector | - Education, Science and Research<br>- Communication<br>- Local/Regional community development<br>- Politics<br>- Social Services |
| Participation area | - Information Provision<br>-Community building/ Collaborative Environments<br>- Consultation<br>- Polling<br>- Campaigning |
| Actors | - Individual citizens<br>- Elected representative<br>- Government ministries<br>- NGOs, CSO<br>- Mass communication<br>- Non-residents<br>- Tourism<br>- Business |
| Technology and tools | - E-petition<br>- e-consultation<br>- Blogs<br>- Online newsletter<br>- Polling<br>- Suggestion tools through portal<br>- Quick polls groupware tools<br>- Surveys<br>- Chat rooms |
| Accessibility channels | - Kiosk<br>- Non e-channel through call center<br>- Mobile channel<br>- Portal |
| Promotion method | - TV promotion, radio and News<br>- Newsletter and magazine<br>- Social media.<br>- Broadcasting through mobile and e-mails<br>- Traditional method ( tell friends)<br>- clickable logos advertising<br>- Journal and conferencing |

## 2.5. Technology Readiness and Acceptance

E-Readiness is 'a measure of the degree to which a country, nation or economy may be ready, willing or prepared to obtain benefits which arise from information and information technologies'[14] . Reference [15], found that conducting E-Readiness assessment within countries is useful as it facilitates concrete planning and posters positive changes for country which is a useful starting point for developing counties [14]. By looking to the literature, it is apparently that there are variety of E-Readiness tools with a range of questions, statistics, best practice benchmarking and historical analyses that were developed by many professional bodies and researchers.

On the other hand, user acceptance is defined as "the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support" [16]. One of the well known models in the literature is the model developed by reference [17] that was further developed and adopted by other researchers.

## 2.6. Research Model and Hypotheses

To measure the factors that affect the adoption of Technology, many models were developed such as Technology Acceptance model (TAM) [17] Theory of Reasoned Action (TRA) [18], and the Unified Theory of Acceptance and Use of Technology (UTAUT) [19]. One of the most applied models is Technology Acceptance Model (TAM) that was developed by Reference [17] with two main predictors which are perceived Usefulness and perceives Ease of Use.

The Technology Acceptance Model (TAM) had two main predicators: Perceived usefulness, which refers to "the degree to which a person believes that using a particular system would enhance his or her job performance"; and perceived ease of use, which refers to "the degree to which a person believes that using a particular system would be free of effort" [17].

Another model emerged to measure the influence of individual's personality on the acceptance of technology that is called Technology readiness index (TRI) presented by Reference [20] with four main dimensions: optimism, innovation, discomfort and insecurity. The technology Readiness index (TRI) defined as "people's propensity to embrace and use new technologies to accomplish goals in home life and at work". It considers being interesting because it combines the positive and negative aspects regarding the technology beliefs [20].

One new model emerged to combine both models of TAM and TRI. The model that was developed contained technology readiness as precursor of TAM model to perceived usefulness and perceived ease of use that is called (TRAM) [21]. This research followed Technology Readiness Acceptance Model (TRAM) as shown in Figure 2.

Technology Readiness Acceptance Model is the model represented in 2005 by reference [21] in which combine the TRM and TRI models. The combination consider the users and how the new technology influenced by the combination dimensions. This model is to measure the readiness through measuring the Actual used. "TRAM represents the latest contribution to merge general personality dimensions of TRI with system specific dimensions of TAM". Four factors derived from the TRI model optimisms, insecurity, innovation, discomfort. The other two factors are derived from TAM which are: perceived usefulness and preserved ease of use [21]. Those are used to investigate the readiness of E-Participation tools.

TRAM model was used to measure the readiness of Bahraini citizens to use E-Participation citizen. In which this model will allow the e-government to measure the willingness of Bahraini citizens to use E-Participation tools in adoption phase.

Reference [22] presented the following four constructs as precursors to perceived usefulness and perceived ease of use as shown in Figure 2:

**Optimism**: a positive view of technology and a belief that it [technology] offers people increased control, flexibility, and efficiency in their lives"

**Innovativeness**: It is to be creative, efficient and introduce new ideas. It is defined as "a tendency to be a technology pioneer and thought leader"

**Discomfort**: It is feeling of worry caused by shame or embarrassment. It is also defined as "a perceived lack of control over technology and a feeling of being overwhelmed by it."

**Insecurity**: It is defined as a "distrust of technology and skepticism about its ability to work properly".

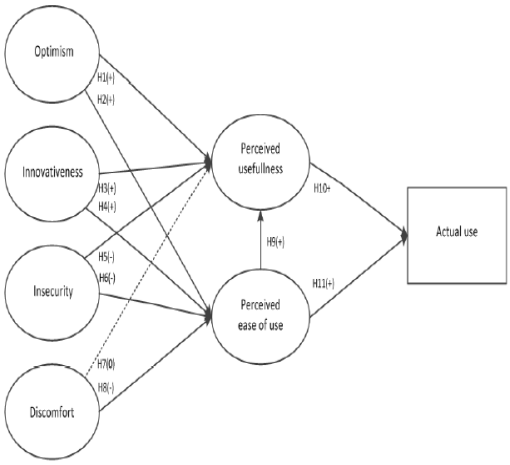


Figure 2. TRAM Model Dimensions [21]

Using TRAM, the following hypotheses were postulated by Reference [21] based on the literature

H1. Optimism is positively related to perceived usefulness.

H2. Optimism is positively related to perceived ease of use.

H3. Innovativeness is positively related to perceived usefulness.

H4. Innovativeness is positively related to perceived ease of use.

H5. Insecurity is negatively related to perceived usefulness.

H6. Insecurity is negatively related to perceived ease of use.

H7. Discomfort is negatively related to perceived usefulness.

H8. Discomfort is negatively related to perceived ease of use.

H9. Perceived ease of use is positively related to perceived usefulness

H10. Perceived usefulness is positively related to actual use.

H11. Perceived ease of use is positively related to actual use.

## 2.7. Data Collection

In order to investigate the citizens' readiness and acceptance of E-Participation tools, a questionnaire has been distributed. In terms of reaching the citizens' of Kingdom of Bahrain, the questionnaire was built via Google Docs and distributed through emails, SMS messaging and social media.

## 2.8. Questionnaire Development

The items were formulated as Likert-type statements anchored by a five -point scale, ranging from 1 (‘‘strongly disagree”) to 5 (‘‘strongly agree”). The values of Component Extracted are all above 0.5 which are at acceptable level [23] for questions’ validity. Table 1 presents the results of alpha coefficients for each factor with reliability analysis. Conbach’s alpha values of each construct are from 0.829 to 0.888 which indicate a level above 0.70; the threshold recommended by Reference [24]

Table 3. Conbach’s alpha values of each construct within the model

| Variable | Alpha |
|---|---|
| Optimum | 0.888 |
| Innovativeness | 0.817 |
| Discomfort | 0.836 |
| Insecurity | 0.899 |
| Usefulness | 0.852 |
| Ease to use | 0.868 |
| Actual use | 0.829 |

## 2.9. Hypothesis Testing

As the research model involves more than one independent variables, the multiple regression analysis is used to test the hypotheses. In addition to this, the linear regression cannot test all the relationships in a single statistical test; therefore, three separate regressions were applied to test the model fully [25].

First regression analysis model tests the hypothesis H1, H3, H5 and H7. The independent variables are: OPT (Optimism), INN (Innovation), DIS (Discomfort) and INS (Insecurity) as shown in Table 3 and the dependent variable is USE (Usefulness). The value of the regression of model is (0.430) which means 43% of the variance of usefulness (USE) is determined by OPT, INN. This means that the independent variables have good impact on the dependent variable in this model.

Table 4. Coefficient of the relationship between TRI technology readiness index and usefulness

| Model | Non-standardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|
| | B | | Std. Error | Beta | |
| 1 | (Constant) | .892 | .314 | 2.845 | .005 |
| OPT | .221 | .088 | .189 | 2.530 | .012 |
| INN | .386 | .066 | .417 | 5.816 | .000 |
| DIS | .148 | .087 | .130 | 1.699 | .091 |
| INS | .054 | .083 | .051 | .654 | .514 |

Based on the first regression analysis, the following hypotheses are supported:

H1. Optimism (OPT) is positively related to perceived usefulness (USE). (Beta=0.189, P < 0.05)

H3. Innovativeness (INN) is positively related to perceived usefulness (USE). (Beta=0.417, P < 0.05)

However, the following hypotheses are rejected:

H5. Insecurity (INS) is negatively related to perceived usefulness (USE). (Beta=0.130, P > 0.05)

H7. Discomfort (DIS) is negatively related to perceived usefulness (USE). (Beta=0. 051, P > 0.05)

Second regression analysis model tests hypothesis H2, H4, H6, H8. The independent variables are OPT,INN,DIS,INS and the dependent variable is Ease of Use.

The value of the regression model is (0.944) which means that (94%) of Ease of Use variance is determined by OPT (optimum), INN (innovation), DIS (discomforts) and INS (insecurity) . The percentage indicates that the impact of independent variables is high on the dependent variable.

Table 5 illustrates that the OPT, INN and DIS are all significant and accordingly the following hypotheses are supported:

H2. Optimism (OPT) positively related to perceived Ease of Use (EOU) (Beta = .062, P<o.o5).

H4. Innovativeness (INN) is negatively related to perceived ease of use (EOU) (Beta =0.926, P< o.o5).

H8. Discomfort (DIS) is negatively related to perceived Ease of Use (EOU) Beta =0.048, P< 0.05).

However, INS is not significant and accordingly the following hypothesis is rejected:

H6. Insecurity (INS) is negatively related to perceived Ease of Use (EOU) (Beta =-0.032, P> 0.05).

Table 5. Coefficient of the relationship between TRI technology readiness index and Ease of Use

| Model | Non-standardized Coefficients | Standardized Coefficients | | T | Sig. |
|---|---|---|---|---|---|
| B | | Std. Error | | Beta | |
| 1 | (Constant) | -.102 | .106 | -.964 | .336 |
| OPT | .078 | .030 | .062 | 2.637 | .009 |
| INN | .926 | .022 | .926 | 41.351 | .000 |
| DIS | .058 | .029 | .048 | 1.987 | .048 |
| INS | -.036 | .028 | -.032 | -1.294 | .197 |

In the third regression model, the hypothesis H9 was tested. The independent variable is EOU and the dependent variable is Usefulness.

The value of the regression model is (0.424) which means (42%) of variance of Usefulness is determined by EOU.

Table 4 illustrates that the EOU is all significant as p value <0.05 and accordingly the following hypothesis is supported:

H9: Perceived Ease Of Use (EOU) has a significant effect on perceived Usefulness (Beta =.651, P< 0.05)

Table 6. The coefficient of relationship between Ease of Use and usefulness

| Model | Non-standardized Coefficients | Standardized Coefficients | | T | Sig. |
|---|---|---|---|---|---|
| B | | Std. Error | | Beta | |
| 1 | (Constant) | 1.770 | .211 | 8.389 | .000 |
| EOU | .603 | .050 | .651 | 12.042 | .000 |

Fourth regression analysis model tests H10, and H11. The independent variables are Usefulness (USE) and Ease of Use (EOU) and the dependent variable is Actual Use (AU).

The value of the regression model is (0.44) which means 44% of the variance of Actual Use (AU) is determined Usefulness (USE) and Ease of Use (EOU). This percentage indicates that the independent variables have good impact on the dependent variable in this model.

Table 7. Coefficient of the relationship between Usefulness, Ease of Use and the dependent and Actual Use

| Model | Non-standardized Coefficients | Standardized Coefficients | | T | Sig. |
|---|---|---|---|---|---|
| B | | Std. Error | | Beta | |
| 1 | (Constant) | 1.147 | .272 | 220 | .000 |
| USE | .261 | .079 | .233 | 3.316 | .001 |
| EOU | .505 | .073 | .487 | 6.922 | .000 |

The hypotheses are supported by the regression model as follows:

H10. Perceived usefulness (USE) has a significant effect on actual use (AU). (Beta=0. 233, P <0.05)

H11. Perceived ease of use (EOU) has a significant effect on actual use (AU). (Beta=0. 487, P <0.05)

According to the results of testing, Table 8 shows the accepted and the rejected hypothesis for this research model.

Table 8. Summary of Accepted and Rejected Hypotheses

| Hypothesis | Accepted/Rejected |
|---|---|
| H1. Optimism (OPT) is positively related to perceived usefulness (USE). | Accepted |
| H2. Optimism (OPT) is positively related to perceived ease of use (EOU). | Accepted |
| H3. Innovativeness (INN) is positively related to perceived usefulness (USE). | Accepted |
| H4. Innovativeness (INN) is positively related to perceived ease of use (EOU) | Accepted |
| H5. Insecurity (INS) is | Rejected |

| | |
|---|---|
| negatively related to perceived usefulness (USE). | |
| H6. Insecurity (INS) is negatively related to perceived ease of use (EOU) | Rejected |
| H7. Discomfort (DIS) is negatively related to perceived usefulness (USE). | Rejected |
| H8. Discomfort (DIS) is negatively related to perceived ease of use.(EOU) | Accepted |
| H9: Perceived ease of use (EOU) is positively related to perceived usefulness | Accepted |
| H10. Perceived usefulness (UES) is positively related to actual use (AU). | Accepted |
| H11. Perceived ease of use (EOU) is positively related to actual use (AU) | Accepted |

## 3. Discussion

The results from the first regression model show the relationship between Optimism (OPP), Innovativeness (INN), Discomfort (DIS) and Insecurity (INS) and Usefulness (USE). The two first factors had influence on citizens' readiness to use E-Participation tools. Thus, the citizens will perceive that E-Participation tools is useful as they have a positive view of tools and a belief that it offers them increased control, flexibility, and efficiency in their lives. Furthermore, the ability of the tool to enable the citizens to be creative and leader will affect citizens' perception of the tools usefulness.

The results from the second regression model show the relationship between Optimism (OPP), Innovativeness (INN), Discomfort (DIS) and Insecurity (INS) and Ease of Use (EOU). The three factors OPP, INN and DIS had influence on citizens' perception of E-Participation tools Ease of Use. The same here applied for Ease of Use as applied for Usefulness for both of Optimism and Innovativeness. In addition to that, the citizen perception of E-Participation tools Ease of Use is affected by discomfort ability. Thus, as they lack control over tool and feel that they are overwhelmed by it as less Ease of Use they will perceive.

The result from third regression model shows the relationship between Ease of Use (EOU) and Usefulness (USE). The factor had positive influence in citizens' readiness to use E-Participation tools. Thus, as E-Participation tool is easy to use, the citizens will perceive that this technology is useful. Therefore, E-Participation tools should be friendly to be used by citizens as it this will enforce the usefulness.

The result from forth regression model shows the relationship between EOU, USE and the Actual use. Reference [16] pointed to the important effect of Usefulness and Ease of Use on the use of developing technology that will offers the stakeholders a view and cost by knowing the actual use of the technology. The two factors had positive influence on citizens' readiness to use E-Participation tools. Thus, as the technology become friendlier and deliver the desired outcomes within specific time and cost as it will increase the possibility of actual use.

## 4. Conclusion, Recommendations and Future works

This research was conducted to measure factors that affect the acceptance and readiness of citizens towards using E-Participation tools in Kingdom of Bahrain. The findings showed that there are many factors that have significant effect on citizens' acceptance and readiness which are: Optimism, Innovation, and Discomfort. According to the finding, both Optimism and Innovation affect both Usefulness and Ease of Use factors. However, the Insecurity and Discomfort factors did not affect Usefulness factor and Insecurity does not affect Ease of Use factor.

Based on the results, the following recommendations are suggested:

- E-government authority should provide a fully rich instructions, documents and information of tools provided, way to access, sequences of process, and the result of E-Participation tools. This will enhance the innovation and will decrease the discomfort of citizens' as they understand the logic of E-Participation tools.
- E-government authority should provide an agreement to citizens' according to secure paths of E-Participation connections and secretly use of citizens' information as the citizens follow the rule of engagements defined in that agreements. This will enhance the readiness of citizens against the insecurity of use E-Participation tools.
- Provide a navigator to policy making project to guide and inform the citizen in different stages of E-Participation implementation and configuration. This will enhance the transparency and optimism of citizens as their voices are recognized by the governments.
- Add a Copyright to citizens' idea. This will reduce the proportion of discomfort

regarding stealing the idea and assign it to other.

As a future work, the researchers will evaluate the E-Participation tools after the implementation of the whole E-Participation project, where the impact of E-Participation tools will be studied. This research also will be extended by raising the sample size as well as involving other stakeholders.

Finally, the researchers will measure the effectiveness of model used in this research TRAM before implementation and compare it with after implementation, by studying the factors that affect the readiness and how those factors effectively influence on the citizens' use.

## 5. References


[1] A. Macintosh, (2004) 'Characterizing E-Participation in Policy-Making', In the Proceedings of the Thirty-Seventh Annual Hawaii International Conference on System Sciences (HICSS-37), January 5 – 8, 2004, Big Island, Hawaii, 2004.

[2] S. Clift, (2003) 'E-Governance to E-Democracy Progress in Australia and New Zealand toward Information- Age Democracy': http://www.publicus.net/articles/edempublicnetwork.html, 2003.

[3] T.Almarabeh, and A. AbuAli, (2010), 'A General Framework for E-Government: Definition Maturity Challenges, Opportunities, and Success', European Journal of Scientific Research 39 (1), pp.29-42.

[4] S. Bhatnagar. (2004). E-government vision to implementation, Sage Publication, New Delhi.

[5] G. Sharma, X. Bao, and L. Peng, (2014),' Public Participation and Ethical Issues on E-governance: A Study Perspective in NepalElectronic, Journal of e-Government 12 (1) 2014, pp.82-96.

[6] R. Arnstein, (1969), 'A Ladder of Citizen Participation', Journal of the American Planning Association 35 (4), 216–224.

[7] UN, (2014), 'E-Government for the future we want'; :http://unpan3.un.org/egovkb/Portals/egovkb/Documents/un/2014-Survey/E-Gov_Complete_Survey-2014.pdf , 2014

Bremen.(2008), 'eParticipation Electronic Participation of Citizens and the Business Community in eGovernment'; http://www.ifib.de/

publikationsdateien/study_E-Participation_engl.pdf

[8] S. Islam, (2008). 'Towards a sustainable E-Participation implementation model'; http://unpan1.un.org/intradoc/groups/public/documents/un-dpadm/unpan038387.pdf.

[9] eGA, (2012). 'Summary National eGovernment Strategy 2016'; http://www.ega.gov.bh/wps/wcm/connect/1f75f0004af9c3b2b84cb978e38c6a11/eGov%2BStrategy_Brochure_Eng.pdf?MOD=AJPERES.

[10] C. W. Phang & A. Kankanhalli, (2007). A Framework of ICT Exploitation for E-Participation Initiatives. Department of Information Systems, School of Computing, National University of Singapore, Accepted for publication in Communications of the ACM , Retrieved on march 30, 2013 www.comp.nus.edu.sg/~atreyi/papers/ICT-epart.pdf

[11] E. Tambouris, N. Liotas, D. Kaliviotis, and Tarabanis K. Tarabanis, (2007) Framework for scoping eParticipation. In the Proceedings of the 8th Annual International Digital Government Research Conference. Philadelphia, USA Transforming Government: People, Process & Policy. 2(1).

[12] Demo-net, (2008).' Deliverable 5.1: Report on current ICTs to enable participation'; http://www.academia.edu/2737661/DEMO_net_Deliverable_5.1_Report_on_current_ICTs_to_enable_Participation.

[13] D. Dada, (2006) 'E-Readiness for Developing Countries: Moving the focus from the environment to the users', EJISDC 27 (6), pp. 1-14.

[14] Bridges.org, (2005). 'Comparison of e-readiness assessment models and tools. Cape Town: Bridges.org'; http://www.bridges.org/files/active/0/ereadiness_tools_bridges_10Mar05.pdf

[15] A. Dillon, and M.G. Morris, (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, pp. 3-32.

[16] F. D. Davis, (1989), 'Perceived usefulness, perceived ease of use, and user acceptance of information technology', MIS Quarterly, 13(3), pp. 319–340.

[17] I. Ajzen, and M. Fishbein, (1980). Understanding attitudes and predicting social behavior, Prentice-Hall, Englewood Cliffs, NJ.

[18] V. Venkatesh, et al., (2003). 'User Acceptance of Information Technology: Toward a Unified View', MIS Quarterly 27(3), pp. 425-478.

[19] A. Parasuraman, (2000) 'Technology readiness index (TRI): A multiple-item scale to measure readiness to embrace new technologies, Journal of Service Research 2(4), pp. 307-320.

[20] C.-H., Lin, H.-Y., Shih & P. J., Sher. (2007) 'Integrating technology readiness into technology acceptance: The TRAM model', Psychology & Marketing 24(7), pp. 641-657.

[21] A. Parasuraman, and C. Colby, (2001) Techno-ready marketing: How and why your customers adopt technology?, Free Press, New York.

[22] N Van Saane, JK, Sluiter, JHVerbeek and MH, Frings-Dresen, (2003) Reliability and Validity of Instruments Measuring job Satisfaction—a Systematic Review', Occupational Medicine,vol. 53 (3), pp. 191-200.

[23] J, Nunnally J., I., Bernstein and J., Berge J., (1967) Psychometric Theory, McGraw-Hill, New York.

[24] D. Gefen, D. Straub, and MC Boudreau, (2000) 'Structural Equation Modeling and Regression: Guidelines for Research Practice', Communication, of Association, Information System, 7(7), pp.1-78.

[25] P. Godoe, and T. Johansen, (2012) 'Understanding adoption of new technologies: Technology readiness and technology acceptance as an integrated concept', Journal of European Psychology Students 3(2012), pp.38-52.