Usability study of Citizen Grievance Portal in Jammu and Kashmir Using SUS (System Usability Scale).

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Abstract

Last two decades have witnessed tremendous deployment of electronic government solutions world-wide with an objective of transparent, accessible and timely citizen services. Research studies have proved the narrative of electronic governance solutions being effective on ground across the globe. We also have a plethora of electronic governance success stories on India to augment the understanding that electric governance helps in improvement of citizen services. Though easy usability of any system is a key indicator to is success, we made an attempt to analyze the usability if citizen grievance portal of Jammu and Kashmir. Though System Usability Study tool is a considered one of the robust and simple tools for ascertain usability of given system, we administered System Usability Study tool to one hundred and twenty-three end users of the system. The results clearly indicate the overall usability of the system fairly good.

1. Introduction

Electronic Governance lead initiatives have enabled governments worldwide in making citizen services affordable and besides that have also helped in improving the accessibility by removing administrative burdens (Bhatnagar, n.d.)(Akman, Yaziki, Mishra, & Arifoglu, 2005)(Hackney, Jones, & Lösch, 2007)(Tolbert & Mossberger, 2006)(Watson & Mundy, 2001). With the advent of affordable internet and other related technologies, the past few years paved way for development of an ICT ecosystem which resulted in the improvement of global electronic governance development index from 0.47 in 2014 to 0.55 in 2018 (LIU Zhenmin, 2018). A study has suggested that almost thirty percent of the world population has accessed some form of electronic governance (Evans & Yen, 2006).

Responding to the global occurrences India in may 2006 approved a National Electronic Governance Plan with an aim to "Make all Government services accessible to the common citizen in his locality"("About NeGP," 2013). Since then a number of electronic governance initiatives have been rolled out in India particularly for the rural clusters. There are

number of studies which have proven that despite presence of poverty and illiteracy in India, electronic governance initiatives have significantly resulted in the improvement of government to citizen services(Naqshbandi & Fazili, 2018)(Thomas, 2009)(Katre & Gupta, 2011)(Gollakota, 2008). It is pertinent to mention that India has attained a big leap in terms of network readiness index and other related factors which include smartphone penetration of more than thirty five percent of the population (“Mobile penetration: India to lead as global mobile penetration set to hit 70% by 2022: Report, Technology News, ETtech,” n.d.). These factors have lead in the development of habits in the citizens in proactively engaging in interned based government to consumer and business to consumer services (Verma, Kumar, & Ilavarasan, 2017).

Although a number electronic governance initiatives have also been rolled out in the state of Jammu and Kashmir (“About Jammu And Kashmir | NISG,” n.d.) however the same has not lived to the expectations of the citizens especially when it comes to the delivery of local governance related services(“E-governance still a distant dream in Jammu & Kashmir – U4UVoice,” n.d.). It is pertinent to mention that central government lead electronic government services have shown a significant impact on the improvement of services (Naqshbandi & Fazili, 2018). This divide in terms of efficacy between central government and state government lead electronic governance services have not come under the purview of any research work carried out so far.

Few years back government of Jammu and Kashmir launched citizen grievance portal with an aim to create the alternate green channel for lodging citizen complaints regarding various governmental services under the direct supervision of top level civil administration (“Jammu and Kashmir Government Grievance Cell,” n.d.). The web portal indicates that hundreds of complaints are received every month.

2. Problem Statement and Research Objective.

This study is aimed to find the usability of Jammu and Kashmir Government grievance web-portal in terms of the citizen usability. It may be noted that by usability we are refereeing to the ease of using web portal in terms of user interface. Although the study is primarily aimed to find the usability of the above mentioned we managed to accommodate a bit about the perception of the grievance portal among the citizens who have lodged any kind of complaint in the web portal.

3. Research Framework and Demographics.

Although there are number of appropriate measuring scales available to ascertain usability of the citizen grievance portal (Kirakowski & M., 1988) (Elling, Lentz, de Jong, & van den Bergh, 2012) we administered system usability scale (SUS) due to its simplicity , robustness and wide acceptance. System Usability Scale (SUS) was developed as part of the usability engineering Programme in Integrated Office Systems development at Digital Equipment Corporation, United Kingdom (Brooke, n.d.).

System usability scale is basically a Likert scale based forced questionnaire instrument where a respondent is prompted to record a response for a particular question from 1 to 5. It may be noted that responses from 1 to 5 denote the degree of agreement or disagreement by a respondent for a particular statement. The System Usability Scale instrument consists of ten questions which actually cover the various dimensions of system usability ranging from easy user interface to complexity in the system. The statements in the System Usability Scale instrument are given in table a.

Table a.

S.no	Statement
1)	I think I would like to use the system frequently
2)	I found the system unnecessarily complex.
3)	I thought the system was easy to use.
4)	I think that I would need the support of a technical person to be able to use this system.
5)	I found the various functions in this system were well integrated.
6)	I thought there was too much inconsistency in this system.
7)	I would imagine that most people would learn to use this system very quickly.
8)	I found the system very cumbersome to use.
9)	I felt very confident using the system.
10)	I needed to learn a lot of things before I could get going with this System.
The responses to the above statements are measured from 1 to 5 with the following denotation: 1 as strongly disagree, 2 as disagree , 3 as neutral, 4 as agree and 5 as strongly agree.	

System Usability Scale enforces the concept of yielding single number representing a composite measure of overall usability rather than relying on the individual scores. This overall composite score is termed as SUS score.

SUS score is calculated by summing up of score contributions for each statement. Score contributions for each statement vary from 0 to 4 and are calculated on the basis of following. Score contribution for statements 1,3,5,7, and 9 the score contribution is the respondent recorded score for the statement minus 1 while as for statements 2,4,6,8 and 10 the score

contributions is calculated as the respondent recorded score for the statement minus 5. SUS score can vary from 0 to 100.

Respondents for the study were chosen on the basis of simple random sampling across the state of Jammu and Kashmir. It may be noted that we only took those responses who were recorded by the respondents who have lodged any complaint in the grievance portal and have verified the status of the same through the same portal. We also posed an additional one question to the respondents asking whether they found the system helpful in solving their problem. Following table b. represents the demographic data about the respondents.

Table b.

Characteristics		**Number**	**Percentage**
Gender			
	Male	64	52.03
	Female	59	47.97
Occupation			
	Employee.	34	27.64
	Self-Salaried.	18	14.63
	House Maker	17	13.83
	Student.	54	43.90
Literacy level			
	Up-to 12th	36	29.27
	Bachelor's Degree	87	70.73

Out of the total one hundred and twenty-three responses fifty-four respondents were the students. When we tried to understand the reason of high student participation in the usage of the grievance portal, it basically undraped the phenomena where a good number among these respondent students were approached by the citizens who were not tech savvy to lodge an online complaint in the grievance portal themselves.

4.Research Findings

The citizen grievance portal generated the mean System Usability Score of 58.06 which is fairly satisfactory in terms of usability score. Table C. represents the SUS score calculated for one hundred and twenty-three responses.

Table C.

A1=53	A16=54	A30=55	A45=43	A60=56	A75=66	A90=64	A106=71	A121=34
A2=31	A17=65	A31=54	A46=45	A61=62	A76=59	A91=45	A107=68	A122=66
A3=43	A18=56	A32=63	A47=56	A62=63	A77=65	A92=63	A108=55	A123=59
A4=65	A19=65	A33=62	A48=5	A63=56	A78=73	A93=45	A109=64	
A5=65	A20=49	A34=61	A49=7	A64=64	A79=45	A94=64	A110=67	
A6=54	A21=56	A35=81	A50=76	A65=65	A80=65	A95=67	A111=54	
A7=56	A22=54	A36=55	A51=66	A66=56	A81=54	A96=55	A112=56	
A8=64	A23=54	A37=71	A52=65	A67=66	A82=63	A97=62	A113=56	
A9=75	A24=65	A38=74	A53=60	A68=57	A83=58	A98=49	A114=54	
A10=63	A25=54	A39=55	A54=59	A69=58	A84=64	A99=66	A115=56	
A11=63	A26=39	A40=63	A55=58	A70=59	A85=65	A100=66	A116=56	
A12=62	A27=66	A41=62	A56=57	A71=56	A86=43	A101=67	A117=54	
A13=49	A27=64	A42=64	A57=54	A72=58	A87=60	A102=61	A118=65	
A14=51	A28=61	A43=54	A58=68	A73=45	A88=59	A103=76	A119=54	
A15=54	A29=58	A44=43	A59=69	A74=56	A89=48	A104=65	A120=65	

It must be noted the A1to A123 represent the one hundred and twenty-three respondents while the System Usability Score generated for the each of the respondents is mentioned corresponding to each respondent. Table D represents the statistical overview of the System Usability Scores for all the responses.

Table D.

Function	Value
Average or Mean value	58.06
Standard deviation.	10.70
MODE	54
Median.	59

As indicated earlier we also asked our respondents that was the system helpful in solving their problem. Only thirty-six out of total one hundred twenty-three agreed that lodging the complaint in the grievance portal helped in getting their complaint addressed.

The average System Usability Score generated for the grievance portal clearly indicates that satisfaction of the users in terms of the usability of the system. However, usability and effectiveness are two different dimensions of any system and cannot be correlated with each other.

5.Conclusion and Suggestions.

Citizen centric grievance web portals have proved to green channels for expedited grievance redressal process. However, there are many factors which are imperative to any system for being effective. One among them remains the usability of a system in terms of the end user. Our study clearly indicates the usability of the citizen grievance portal in Jammu and Kashmir as fairly above average, however the effectiveness of the system is a crucial aspect to be taken into account.

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