

**USERS' ACCEPTANCE OF E-GOVERNMENT:
A STUDY OF INDIAN CUSTOMS AND
CENTRAL EXCISE**

By

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Department of Management Studies

Submitted

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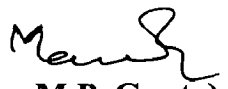


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CERTIFICATE

This is to certify that the thesis titled **“USERS’ ACCEPTANCE OF E-GOVERNMENT: A STUDY OF INDIAN CUSTOMS AND CENTRAL EXCISE”**, being submitted by Mr. GANESH P. SAHU to the Indian Institute of Technology Delhi, for the award of the degree of DOCTOR OF PHILOSOPHY (Ph.D.), is a record of bona fide research work carried out by him. He has worked under my supervision, and has fulfilled the requirements for the submission of this thesis, which is in accordance with the standards required for a Ph.D. degree of the institute. The results contained in it have not been submitted in part or full to any other university or Institute for award of any degree/diploma.


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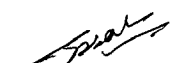
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ABSTRACT

Besides high investment in the e-government success rate of these projects is not encouraging so far in the developing countries. This necessitates a study that can identify the reasons for such scenario. Same thing is attempted in this thesis. Main objective is to study and assess the acceptance of e-government by the end users and identify the determinants of the 'intention to use e-government' for Indian Customs and Central Excise Departments. The study is carried out among the internal and external users of these Departments.

The study begins with a review of the research articles available in the area of e-government along with technology acceptance. For an understanding of e-government, its evolution and definitions as given by different authors and e-government agencies are studied. It also enumerates the progress of e-government in India so far. Analysis of the select research articles is carried out and the gaps in the previous research are identified. E-government acceptance was identified as one of the major gap and a further review of the literature is carried out in relation to the technology acceptance. Information System research has many studies on how and why individual accepts or rejects new Information Technologies. Within this broad area of enquiry, there have been several streams of research with various models and theories suggested by different researchers, viz. Theory and Reasoned Action, Technology Acceptance Model, Theory of Planned Behavior, Innovation Diffusion Theory, Unified Theory of Acceptance and use of Technology, etc. A comparative study of these models is presented. The literature review is intended to develop better understanding of the trend of research so that it stimulates further interest into how these models could be useful in predicting the e-government acceptance.

Initial review of literature reveals a clear gap in the studies undertaken in the area of e-government acceptance, particularly in India. Practitioners and researchers require a better understanding of why people refuse to use e-government. The research sought to highlight the key variables affecting usage and propose models for e-government acceptance. This specific study is undertaken for the internal and external system users of the Indian Customs and Central Excise. To begin with, a research model is proposed

that includes the identified variables from literature. Around these variables a set of questionnaire is designed, validated and pilot tested. It is further used to collect the data from the internal and external users of the e-government in the Indian Customs and Central Excise department. The area covered in the study includes Delhi region and other cities like Mumbai, Chennai, Kolkata, Jaipur, Bangalore, Cochin, Goa, Tuticorin, etc. The data collected is analyzed using Cronbach's Alpha, Confirmatory Factor Analysis, Structure Equation Modeling, and 'Ratio of Acceptance' analysis.

The results of Structural Equation Modeling indicates that the research model of e-government acceptance is acceptable with a reasonable goodness-of-fit. The main predictors of 'intention to use e-government' found in the study are 'attitude towards using e-government', 'effort expectancy', 'performance expectancy', 'facilitating condition', 'perceived strength of control', 'self efficacy', 'social influence', 'anxiety' and 'top management support'. Path co-efficient provide a relative weightage of various predictors of 'intention to use e-government'. This model is, therefore, empirically validated to the Indian condition with specific reference to the Indian Customs and Central Excise. Future scope lies in testing the influences of this model to other similar e-government projects.

A new concept of 'Ratio of Acceptance' is introduced. A synthesis of 'total effect' (path coefficient * R^2) and 'Ratio of Acceptance' analysis was helpful in gaining strategic insights into the influences of various variables over e-government acceptance for Indian Customs and Central Excise. In the case of Indian Customs – internal users, 'attitude towards using e-government', 'self efficacy', 'perceived strength of control', 'Performance expectancy' and 'Facilitating conditions' were found to be important factors for higher usage. Similarly in the case of Indian Customs – external users, 'Self efficacy', 'Facilitating conditions', 'Top Management support' and 'Social influence' are found to be the important areas where some directed action can help achieve higher e-government acceptance. In the case of Central Excise – internal users, the overall acceptance value is poor (63%). The important predictors for acceptance in this case are: 'Effort expectancy', 'Social influence' and 'perceived strength of control'. The overall acceptance in the case of Central Excise – external users is only 39%. In this case all the nine factors are found to be important.

The major recommendations include: providing integrated service on e-government, driving system awareness and undertaking user-training programme. Support facilities like availability of modern computing infrastructure is necessary to ensure higher usage. Top management supports becomes vital in mobilizing the resources and preempting all unexpected hurdles. Efforts are necessary to create awareness among the prospective users internal and external both.

One of the important contributions of this research is the ‘e-government acceptance model’ developed by the study. This can be used to test the acceptance of similar e-government projects in other government departments.

Future scope for research lies in extending it to other e-government projects in Central and State Governments. Few more variables like ‘trust on system’, ‘socio-economic effect’, etc. can be considered as a predictor of ‘intention to use e-government’ to improve the fitness index of the e-government acceptance model.

Contents

Abstract	i
Contents	iv
List of Figures	x
List of Tables	xii
List of Appendices	xv
List of Abbreviations Used	xvi

Chapter 1

Introduction to the Study

1.1	Background	1
1.2	The need for Research	3
1.3	Outline of the Study	5
1.4	Organization of Report	7
1.5	Concluding Remarks	9

Chapter 2

Literature Review

2.1	Introduction	10
2.2	Understanding E-government	10
2.3	Evolution of E-government	16
2.4	E-Government in India	22

2.5	Issues of Acceptance in E-government	28
2.6	Evolution of Technology Acceptance	30
2.7	Technology Acceptance in e-government	34
2.8	Research Gaps	40
2.9	Concluding Remarks	41

Chapter 3

Research Design

3.1	Introduction	43
3.2	Research Questions	43
3.3	Research Objectives	44
3.4	Issues	44
3.5	Scope	47
3.6	The Research Model and Hypothesis	47
3.7	Research Methodology	61
3.7.1	Questionnaire Design	63
3.7.2	Questionnaire validation	65
3.7.3	Questionnaire Testing	67
3.7.4	Questionnaire Format	67
3.7.5	Administering the Questionnaire	68
3.7.6	Quantitative Analysis Tools Used	69
3.8	Universe of the study	71
3.9	Concluding Remarks	74

Chapter 4

Indian Customs: Data Analysis and Results

4.1	Introduction	75
4.2	Indian Customs and E-government therein	75
4.3	Mapping on the Four Stage Growth Model - Indian Customs	84
4.4	Data Analysis - Indian Customs Internal Users	87
4.4.1	Reliability and Validity of the Instrument	88
4.4.2	Sample Profile	89
4.4.3	Structural Model Result	93
4.4.4	Hypotheses Testing	97
4.4.5	Total effect of predictor variables on 'Intention to use e-government'	100
4.4.6	Analysis of 'Ratio of Acceptance'	102
4.5	Data Analysis - Indian Customs External Users	104
4.5.1	Reliability and validity of the instrument	105
4.5.2	Sample Profile	108
4.5.3	Structural Model Result	110
4.5.4	Hypotheses Testing	113
4.5.5	Total effect of predictor variables on 'Intention to use e-government'	116
4.5.6	Analysis of 'Ratio of Acceptance'	117
4.6	Concluding Remarks	119

Chapter 5

Central Excise: Data Analysis and Results

5.1	Introduction	120
5.2	Central Excise and E-government therein	120
5.3	Mapping on the Four Stage Growth Model – Central Excise	124
5.4	Data Analysis of Indian Central Excise - Internal Users	128
5.4.1	Reliability and Validity of the Instrument	128
5.4.2	Sample Profile	131
5.4.3	Structural Model Result	133
5.4.4	Hypotheses Testing	136
5.4.5	Total effect of predictor variables on ‘Intention to use e-government’	140
5.4.6	Analysis of ‘Ratio of Acceptance’ (Central Excise Internal Users)	141
5.5	Data Analysis of Indian Central Excise - External Users	143
5.5.1	Reliability and validity of the instrument	144
5.5.2	Sample Profile	147
5.5.3	Structural Model Result	148
5.5.4	Hypotheses Testing	151
5.5.5	Total effect of predictor variables on ‘Intention to use e-government’	154
5.5.6	Analysis of ‘Ratio of Acceptance’ (Central Excise – External Users)	155
5.6	Concluding Remarks	157

Chapter 6

Synthesis and Recommendations

6.1	Introduction	158
6.2	Synthesis of Structural Equation Modeling Results	158
6.3	Synthesis of Acceptance value	165
6.4	Synthesis of 'Ratio of Acceptance' and 'Total Effect' and Recommendations	165
6.4.1	Indian Customs – Internal users	166
6.4.2	Indian Customs – External users	169
6.4.3	Central Excise– Internal users	171
6.4.4	Central Excise– External users	173
6.5	Concluding Remarks	174

Chapter 7

Concluding Observations

7.1	Introduction	176
7.2	Summary of Research	176
7.2.1	Summary of Four Stage Growth Model	178
7.2.2	Summary of instrument reliability and validity	178
7.2.3	Summary of descriptive analysis	180
7.2.4	Summary of Structure Equation Modeling	180
7.2.5	Summary of 'ratio of acceptance'	181
7.3	Learning from Survey	181
7.4	Recommendations	182

7.5	Significant Research Contributions	186
7.6	Limitations of the study	187
7.7	Suggestions for future work	188
7.8	Concluding Remarks	189
	References	191 -204
	Appendices	A1-A39