# CITIZENS' ACCEPTANCE OF GOVERNMENT'S ONLINE SERVICES: A STUDY OF TWO INDIAN CONTEXTS


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# CERTIFICATE

This is to certify that the thesis entitled **"CITIZENS' ACCEPTANCE OF GOVERNMENT'S ONLINE SERVICES: A STUDY OF TWO INDIAN CONTEXTS"**, being submitted by Mr. AMITABH OJHA 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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## ABSTRACT

Today, governments across the globe are according high priority to improving the delivery of information and services to citizens, businesses, and other stakeholders. In this regard, Information and Communication Technology (ICT) has emerged as a cost effective tool. Indeed, automation is now a key component in an increasing number of administrative reform programs. But in developing or transitional countries, the high failure rate of e-government projects means that the task of administrative reform through ICT is by no means simple. In this regard, citizens' large-scale acceptance of government-to-citizen (G2C) online services is essential to the success of ICT led reforms targeted at servicing the citizens in a better manner. A key constraining factor for such reform initiatives is the digital divide, which inevitably keeps a large number of citizens away from government's online services. But then there are also the citizens who have the internet skill as well as access to requisite resources, and yet they don't use G2C online services. So, in addition to efforts at mitigating the digital divide problem, it is also important to take steps as would cause the citizens having internet skills and access to requisite resources, to voluntarily take to G2C online services. This research addresses the latter challenge.

The dissertation starts with introductory material i.e. background, the concept of e-government and e-governance, India's e-government program, motivation for research, outline of the study, and organization of the dissertation itself. To develop the detailed agenda for this research, literature has been reviewed in the following areas: theoretical bases of technology acceptance and associated empirical studies; perceived value; role of perceived value in technology acceptance; evolution, classification, and general critiques on e-government writings; and e-government acceptance. The review of literature has helped to identify the following five limitations of G2C e-government acceptance studies: developing country context remains largely ignored; studies are skewed in favor of two theories i.e. Technology Acceptance Model and Theory of Planned Behavior; trust has been treated as unidimensional and its measures (items) use complex terms e.g. 'trust', and 'trustworthiness', terms that are difficult to interpret in an unequivocal manner;  adopter bias (survey of individuals who already use an e-government service); and the impact of user charges and/or other monetary costs on

citizens' intention to use G2C online services, has not been empirically investigated. In addition, a knowledge gap arising from the preceding limitations is the lack of empirical evidence on the ability of perceived characteristics of innovating and trustworthiness constructs to explain citizens' intention to accept e-government services in India and possibly other developing countries. Keeping in view the limitations of previous research, empirical studies were carried out in two Indian contexts i.e. paperless income tax e-filing, and rail e-ticketing. Surveys for these studies were administered at two technical universities in North India i.e. Indian Institute of Technology Delhi and National Institute of Technology, Allahabad.

In the first study, a sub-set of perceived characteristics of innovating and relevant trustworthiness constructs are posited as antecedents of young (salaried) professionals' intention to use income tax e-filing. This e-government service does not attract user charges. Ordinary least squares (OLS) regression results show that the following explanatory variables (in descending order of t-statistic) exercise a significant effect on citizens' usage intention: compatibility, personal innovativeness in Information Technology, perceived ease of use, relative advantage, and performance of e-filing service (technology). The effect of variables image and helpline competency was non-significant. The model explains 46.9% of the variance in citizens' intention to use the paperless income tax filing service.

The second study addresses citizens' acceptance of pay-to-use G2C online services. The study is situated in Indian Railways' e-ticketing context; this online service attracts user charges. To model citizens' intention to utilize pay-to-use G2C online service (in preference to traditional service delivery which does not attract user charges), this study has drawn on the perceived value – behavioral intention framework from marketing literature. OLS regression estimates show that the following explanatory variables (in descending order of t-statistic) have a significant effect on citizens' intention to use electronic service delivery: value perceived in traditional service delivery channel; functional value (price/value for money) perceived in electronic channel; and social value perceived in electronic channel. The effect of functional value (performance/quality) perceived in electronic channel has very narrowly missed the statistical significance threshold. The model explains 38.7% of the variance in citizens' intention to use the rail e-ticketing service.

At the level of theory, the first study shows that: perceived characteristics of innovating can reasonably explain citizens' e-government acceptance behavior in Indian settings; and that the continuing problem of discriminant validity between *compatibility* and *relative advantage* can be solved if the measures of *compatibility* are guided by the current research with regard to the conceptualization and operationalization of the latter construct. Further, results of the second study show that the perceived value – behavioral intention framework can be gainfully used to explain citizens' acceptance of pay-to-use G2C online services. The studies' managerial implications can guide managers in promoting the use of income tax e-filing and rail e-ticketing services. Policy implications of the study address broader issues related to citizens' acceptance of G2C online services and user charges. Research implications of the studies should help to improve the specification and design of subsequent G2C e-government acceptance studies and steer future research effort in more useful directions.

Towards the end, the research questions have been re-visited and the key learnings, as they emerge from a synthesis of the two empirical studies, are presented. As in any other study, this research too has some limitations and the same have been acknowledged. Possible avenues of future work have been delineated.

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