

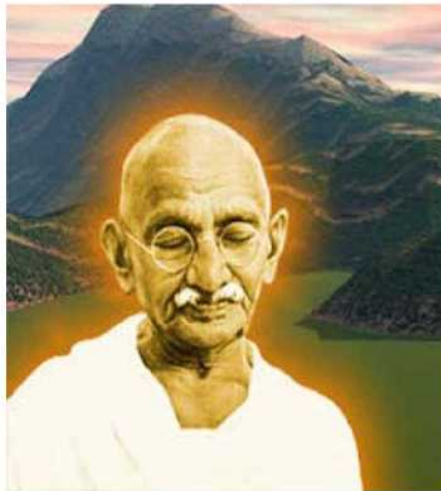
**DESIGN OF CITIZEN CENTRIC
e-GOVERNANCE APPROACH:
A STUDY OF SELECT ICT BASED RURAL INITIATIVES**

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“Whenever you are in doubt...

Recall the face of the poorest and the weakest man (woman) whom you may have seen and ask yourself, if the step you contemplate is going to be of any use to him (her). Will he (she) gain anything by it? Will it restore him (her) to a control over his (her) life and destiny?

Then you will find your doubts ... melt away.”

-- M K Gandhi

Dedicated to

- All those numerous villagers for happily sacrificing their labour wages just to be with me for sharing their needs and aspirations!
- My dear Papa & Maa who stood by me as unshakeable pillars of strength!!
- My dear children Shilpa, Ishita and Udbhav for patiently bearing with my academic stunts.

CERTIFICATE

**This is to certify that the thesis entitled “Design of Citizen Centric e-Governance
Approach : A Study of Select ICT based Rural Initiatives**

CERTIFICATE

This is to certify that the thesis entitled “**DESIGN OF CITIZEN CENTRIC e-GOVERNANCE APPROACH : A STUDY OF SELECT ICT BASED RURAL INITIATIVES**” being submitted by **Ms. CHARRU MALHOTRA**, to the Indian Institute of Technology, Delhi, for the award of the degree of **DOCTOR OF PHILOSOPHY**, is a record of bonafide research work carried out by her. She has worked under our guidance and supervision in conformity with the rules and regulations of Indian Institute of Technology, Delhi. She has fulfilled the requirements for the submission of this thesis, which to our knowledge has reached the requisite standard. The research report and the results presented in this thesis have not been submitted, in part or in full, to any other University or Institute for the award of any degree or diploma.

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Serving in the country's premier Institute of Public Administration, the role of information and communication technologies in the governance processes had always fascinated me. The idea got re-enforced in January 2001 while attending a conference on 'Emerging Institutions for Rural Development' at National Institute of Rural Development (NIRD), Hyderabad. At one of the sessions, someone from the audience remarked on my presentation titled Rural Informatics and Information Technology Policies for Rural Development in India, "What is the point of all this; how could information technology usher in development in the villages where the citizens' do not have even the basic amenities to survive?" While I mumbled an answer that silenced the query, it could not silence the rumblings in my mind that gave rise to the core-idea for this research study!

The idea got further crystallized in initial discussions with Prof Santosh Satya, erstwhile Head, Centre for Rural Development and Technology, IIT Delhi, Dr N Vijayaditya, (Controller of Certifying Authority and erstwhile Director General, National Informatics Centre), Prof V M Chariar and Prof L K Das from IIT Delhi, who supported my endeavor and helped me develop the topic for research.

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Abstract

Design of Citizen-Centric e-Governance Approach: A Study of Select ICT based Rural Initiatives

Several e-government initiatives have been implemented in India to impart information and related services to its rural citizens. However, it has been observed that e-governance/ICT initiatives implemented in the rural areas of the developing countries are often technology-centric and do not always address the needs and interests of the rural citizens. Even though the existing literature related to e-governance does deal with principles of citizen-centricity, it has been found to be lacking in explicit strategies for embedding citizen-centricity in rural e-governance initiatives (ReGI).

The primary aim of the study is to evolve an approach for for designing citizen centric e-governance initiatives for rural India by studying and analyzing select ICT/e-governance initiatives already implemented in the country. Through these studies, it was expected to uncover the gaps that exist between the literature insights on citizen-centricity and its actual implementation on grassroots.

Under the canopy of a common conceptual framework, this was done using case-study method in a multi-phased manner wherein these phases aimed at exploring, discovering and validating the findings of each phase. Several initiatives were understood in each phase employing different data collection techniques. The first phase (Phase-I) was designed as an open-ended exploratory learning phase to develop a basic familiarity with the circumstances, concerns and expectations of rural citizens from their own perspective. Three initiatives were undertaken in Phase-I *viz.* field visit to explore rural reality in Chattarpur District of Madhya Pradesh, secondary data analysis of Rural Access to Services through Internet (RASI) implementation in Melur District of Tamil Nadu and field visit to understand Common Service Centres (CSC) implementation in Jhajjar and Gurgaon districts of Haryana. This phase revealed that ICT initiatives should take into consideration the fact that different community groups such as farmers, artisans, tribals, women and

youth have different needs and different expectations from governance. It also highlighted that the prevailing context exemplified by socio-cultural factors, infrastructure factors, regional factors, and environmental factors, need to be understood fully for successful implementation of governance strategies. The study indicated that the enabling social dynamics in the rural areas created by the presence of active self-help groups, local entrepreneurs, community leaders and local government institutions accelerates the successful implementation of rural e-governance initiatives (ReGI). The initiatives studied in Phase-I were characterised by absence of a substantial basket of services that could meaningfully address the real needs of rural citizens. Contextual customisation of the ReGI was also lacking and the necessary social dynamics – a pre-requisite for success of the scheme - had not been generated.

The next phase of the study (Phase-II) was the descriptive phase in which the learning achieved from the previous phase was used to further discover and evaluate in detail three acclaimed rural e-governance initiatives implemented in three different states of country. These initiatives studied using qualitative research approach included study of *TARAkendras* in Tikkamgarh district of Madhya Pradesh, *Nemmadi* Centres in Raichur district of Karnataka and *Akshaya* Centres in Mallapuram and Ernakulum districts of Kerala, by. This phase revealed that while the three chosen rural e-governance initiatives had successfully addressed certain needs of rural populace, the attempt was limited in scope and was not popular with the populace. It also projected that successful rural e-governance implementation calls for collaborative approaches and convergence between various stakeholders involved in the process - namely system designers, implementers, state and local governments – which would lead to a better acceptability of ReGIs. In conjugation, Phases I and II of the study highlighted a ubiquitous demand that governance needs of citizens are local in character and ReGIs need to be customized to cater to each of the diverse rural community groups.

In Phase-III of the study, covering empirical analysis of e-Mitra implementation in Jaipur district of Rajasthan and conduct of Citizen Consultation

Round (CCR), an attempt was made to validate the afore-mentioned observations and issues by using a quantitative approach from the community perspective - which also helped to take the present approach to a satisfactory validated level.

The net outcome of Phases I to III was that for any ReGI to be responsive to the real needs and expectations of rural citizens, the ground reality, regional concerns and social dynamics must be understood and incorporated in the design of the ReGI in a more collaborative and systematic manner. This can be possible only if citizen participation is ensured in all processes related to ReGI.

Learnings from Phases I to III of this study reveal that a clear gap between the stated position that “citizen centricity is required” and the desired position of “how can citizen centricity has been implemented”. To bridge this gap, the present study puts forth a “Citizen-Centric, Local and Indigenous Knowledge Systems (LINKS) based Government-to-Citizen-to-Government (G2C2G) Rural e-Governance Approach” for designing ReGI. This approach has been validated using Delphi methodology by 48 international and national experts in three web-based Delphi rounds conducted over a period of four months. These experts represented a cross-section of various stakeholders including academics, citizens, industry-representatives, senior and middle level officials, system designers, system consultants, media, non-governmental organisations and researchers. The outcome has been a validated citizen-centric approach for addressing needs and expectations of rural citizens from a rural e-governance initiative. The proposed approach addresses the complex social context in a multicultural society that India represents using the a novel approach incorporating newly proposed characteristics representing Regional and Eco-System/Environmental diversities. It is proposed that this is an effective means for developing a successful e-governance initiative responsive to its local context. The approach also focuses on people as citizens and not merely as the end-users of the technology.

Moreover, the present study has also added to the existing research on qualitative research validation of prevailing technology acceptance models such as TTF and TAM in the context of rural e-governance. The application of innovative

instruments (CRMI, VFI) and techniques (Workshop, Delphi) in the context of their usage for rural e-governance in a diverse and developing country as India are also other interesting research contributions of this study. Several policy recommendations have also emerged from the present study. A 'multi-stakeholder synergy model' (public-private-*panchayat*-peoples' partnership model) to create conducive social dynamics at the grassroots has been proposed. A detailed conceptual representation of use of mobile technologies in rural e-governance scenario to augment the outreach of such initiatives to all its stakeholders' at the grassroots is yet another contribution.

In conclusion, it could be stated that the study has shown that any attempt towards empowerment of the citizens without giving due credit to the knowledge, skills and values of the rural citizens themselves, stops short of being true empowerment. In this context, akin to the concept of "Appropriate Technologies applied in Rural Development", the concept of "Local and Indigenous Knowledge Systems (LINKS)" was used as a platform to build ReGI to ensure that citizens' needs, expectations, knowledge, values and beliefs all play an important role. Such an approach extends the concept of citizen centrality beyond the mere needs and expectations of the citizens by taking into consideration the contextual factors, social dynamics and local wisdom that are indispensable to the complexities that exist in rural India.

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