Decentralization and E-governance in Indian Context: A Case based Study[1]

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ABSTRACT

In India, evolution of e-governance services has been phenomenal. It has been possible with the support of sound policies, reforms in government agencies to provide such services with active participation from multiple agencies including private sectors. India is now taking an important step for national spread of such services backed by productive learning from pilot projects like CSCs, Railway Reservation, Income Tax, MCA-21 etc. In this paper, we argue that scale-up process should consider "De-centralization" as one of the inputs. We discuss two mission critical projects to describe the importance of de-centralization in scaling up e-government services.

Keywords: Decentralization, ICT, E-Governance, Scaling up of e-government projects, Electronic Service Delivery

1. Introduction

In India plethora of e-governance projects have successfully been implemented and some are in different stages of their respective life cycle (Bhatnagar, 2004). Many projects like projects like Common Service Centres (CSCs), Railway Reservation, Income Tax, MCA-21 etc have been considered for national level scale up (MIT, 2006). However, there are many projects which could not garner the required success because of poor articulation of requirements to encourage citizen participation and improper reflection of government processes through decentralization (Kumar & Mishra, 2007). In this paper we posit that decentralization should be one of the critical output for any e-government system. This is more relevant and critical because of the fact that scaled up and mission-mode projects need active participation of different stakeholders in the governance process including the citizens, the different partners of the government systems, the local self government institutions, the extra-state actors from the private sector and the civil society. Though required IT infrastructure would be available in all layers in the government systems nationally, a proper understanding and incorporation of decentralization in the e-readiness exercise can contribute effectively in this process of scale-up.

The paper is organized into the following sections. In section two, importance of decentralization in government systems is discussed. In section three, a conceptual model with methodology is presented to understand the link decentralization within e-government. In section four, our conceptual model is applied in two cases. In section five, these two cases are analyzed in the light of the findings of our conceptual

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model. In the sixth and the final section, the conclusions and pointers for further research are discussed. This paper builds up on our earlier paper presented in ICEG-2007(Kumar & Mishra, 2007).

2. E-governance and Decentralization

"Governance" of a nation is defined as the manner in which power is exercised in the management of a country (World Bank, 1994). The government of India gives a definition of 'Good governance' as having certain universally accepted features like exercise of legitimate political power, formulation and implementation of policies and programs that are equitable, transparent, non-discriminatory, socially sensitive, participatory and above all accountable to the people at large (GOI, 2002). Good governance integrates government system seamlessly (Satyanarayana, 2004) to meet these expectations.

Decentralization is a panacea for the development concerns in wider political spectrum (Bardhan, 1996 & Manor, 1999). It is increasingly felt that the ICT enabled governance systems would bring in the desired result in managing the development concerns through decentralization (Prabhu, 2004 & Bhatnagar, 2004). Governance systems largely interface the society through policies (Mishra & Hiremath, 2006). These policies are then transformed to process driven government systems (Riley, 2003) to install 'Good governance' for citizen at large (Chandhoke, 2003). It is also professed that decentralization may address the issues related information overload generated out of normal centralized administrative structure without having any ICT intervention (Kakabadse et al., 2003). A centralized approach for e-governanance is difficult to implement because it leaves very little room for innovation, self-starters and creativity making it hard for buy-in from different departments (Bhatnagar, 2004) as is evident among government organizations.

3. A Conceptual Model

In this conceptual model, decentralization is considered to be a "layered" structure in the governance system. An analogy could be drawn to ex0plain this layering structure through the prism of Management Planning & Control (Anthony, 1965) and Management Information Systems (Davis & Olson, 2000) to understand the hierarchy levels. In order to appreciate this analogy, we can define three levels of management planning and control, viz, Strategic planning, Management control & tactical planning and Operational planning and control (effective and efficient use of existing resources).

ICT-enabled organizations are often measured through various models to assess their capabilities to embrace the technology and make its effective use (Balmelli et al, 2006). Maturity models like SEI-CMM and Enterprise Maturity Model (PEMM) indicate application of such exercises to understand the capabilities in organisations (SEI CMM, 2008; IFPUG, 2008). E-governance systems being treated as organizational activities, provide scope for their assessment. The proposed model is used for such assessment with "decentralization" at its core in order provide improved processes targeted at citizens at large (Cooper & Fisher, 2008). In Table 1 we discuss the framework which essentially reflects our model based on a literature review.

The framework suggests that "Decentralization" is understood in terms of three critical components i.e. "De-concentration", "Delegation" and "Devolution". These components display the relationships among various stakeholders involved in the process of transferring and using the authorities.

In Figure 1 we explain the relationships through a "decentralization index". We propose through the support literature that these indices aggregate with individual and equal contributions for assessment of the overall index (GITR, 2002-2007). The equations below represent the contributions.

Table 1: Decentralization framework

De-centralization (GOI, 2002, Prabhu, 2004, Bhatnagar, 2004, Gupta, Kumar & Bhattacharya, 2004, Chandhoke, 2003, Fang, 2002, Kakabadse et al., 2003, Gupta et al., 2004)	De-concentration (Rondinelli, 1983, & Conyers, 1984)	Govt. as authority transferee (Adamolekun,1991, Conyers, 1984 & Public Administration & Development, 1990)
		Operational, Tactical Authority transfer(Conyers, 1984)
		Internal Accountability (within the government)(Rondinelli, 1983 & Conyers, 1984)
	Delegation (Rondinelli, 1983)	Extra-State Actors (like NGO, Pvt, Co-op) as authority transferee (Rondinelli, 1983)
		Operational, Tactical authority transfer (Rondinelli, 1983)
		Principal-Agent Accountability(to authority transferor) (Rondinelli, 1983)
	Devolution (Rondinelli, 1983, & Conyers, 1984)	Local Self Government as authority transferee (Adamolekun, 1991, Conyers, 1984, Rondinelli, 1983, John & Chathukulam, 2003 & Shin & Ha, 1998)
		Strategic, Tactical authority transfer (Conyers, 1984, Rondinelli, 1983 & Guess, 2005)
		Citizen Accountability (Accountability to citizens) (Conyers,1984, Rondinelli, 1983, John & Chathukulam, 2003)

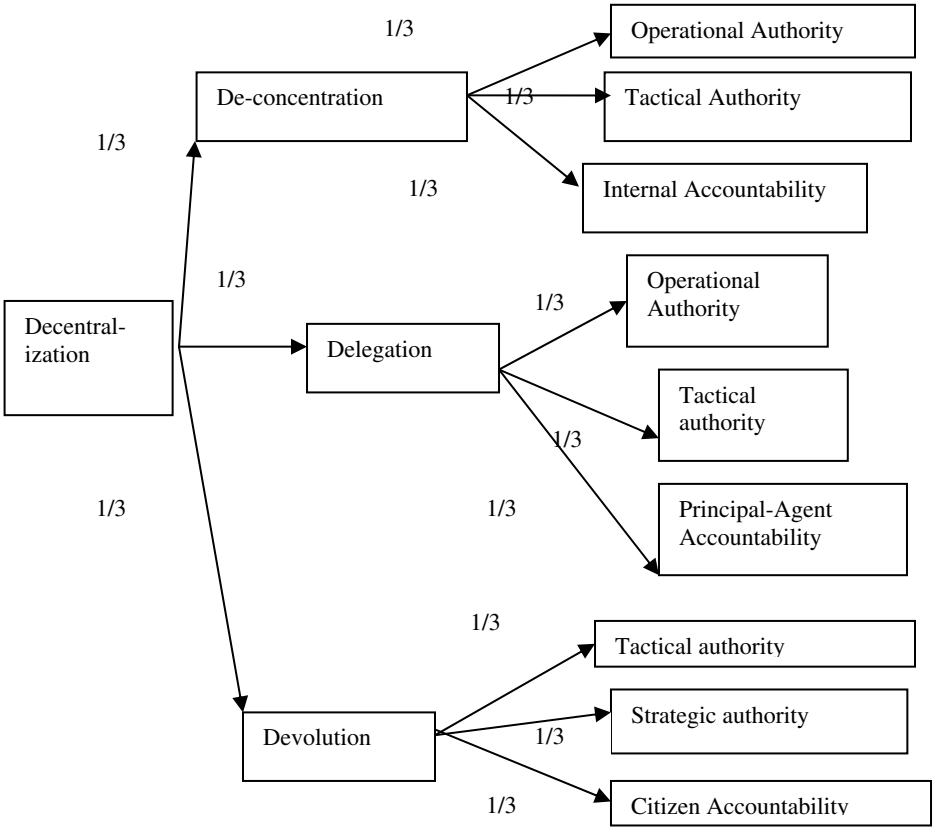

Figure 1: Decentralization Index

Decentralization = 1/3* De-concentration + 1/3*Delegation + 1/3*Devolution + ε
De-concentration = 1/3 * (Operational authority) + 1/3 * (Tactical Authority) + 1/3 * (Internal Accountability)
Delegation = 1/3 * (Operational authority) + 1/3 * (Tactical authority) + 1/3 * (Principal-Agent Accountability)
Devolution = 1/3 * (Tactical authority) + 1/3 * (Strategic authority) + 1/3 * (Citizen Accountability)

The error component ε is not taken into consideration in this paper. This would be addressed through primary survey and examination of "fitness" of the scoring model.

4. Mahiti-shakti: First Case Study (GOG, 2007)

The project was launched on 4th October, 2001 in Panchmahal district of Gujarat. 80 MSKs(kiosks) have been set up so far. Primarily, the project envisions a portal providing a single window to all relevant information & services. In respect of transactions of citizens with government as many as 200 forms have been made available along with checklist giving details of documents to be attached with the form at the time of submission. All the forms and checklists have been made available at the district level offices as a print-out at a prescribed fee. Details of the office to which each of these application forms are to be submitted are also indicated along with the time prescribed for the disposal of the application. Electronic form submission for applications such as NOAPS (National Old Age Pension Scheme), Water related grievances and the Ration card application. The applicant fills the form at the kiosk. The processing is carried out by the staff and the final reply is sent to the applicant by e-mail and post. For sustainability of this project, a trust at the district level has been set up under the chairpersonship of Collector Panchmahals. To have a sense of involvement and to ensure sustainability, it has been decided to charge an empanelment fee of Rs.8000/- from each Mahiti Shakti Kendra (kiosk).

4.1 Analysis

We have adopted a scoring system for understanding the "extent of decentralization" having range from 1 through 6 to measure authority transfers from the State to the Household level as shown in Table 2.

Table 2: Scoring for hierarchical extent of decentralization
(GITR, 2002-2007, DIT, 2006, Kochhar & Dhanjal, 2005, EAF, 2005, MIT, 2008, Rao et al., 2005)

From	To	Score
State	State	1
	District	2
	Block/Taluka	3
	Village Institutions(at Panchayat level)	4
	Kiosk level	5
	Household	6
District	District	1
	Block/Taluka	2
	Village Institutions (at Panchayat level)	3
	Kiosk	4
	Household	5
Block/Taluka	Block/Taluka	1
	Village Institutions(at Panchayat level)	2
	Kiosk level	3
	Household	4

Village Institutions	Village Institutions	1
	Kiosk level	2
	Household	3

In Table 3, we present the extent and kind of the authority transfers due to the implementation of the Mahiti-Shakti project.

Table 3: Scoring System for Mahiti-Shakti

From	To	Score on kind of decentralization									Remarks
		De-concentration			Delegation			Devolution			
		Operational Authority	Tactical Authority	Internal Accountability	Operational authority	Tactical authority	Principal-Agent Accountability	Tactical authority	Strategic authority	Citizen Accountability	
State	State	0	0	0	0	0	0	0	0	0	This is a District Level Endeavour
	District	0	0	0	0	0	0	0	0	0	
	Block/Taluk	0	0	0	0	0	0	0	0	0	
	Village Institutions	0	0	0	0	0	0	0	0	0	
	Kiosk level	0	0	0	0	0	0	0	0	0	
	Household	0	0	0	0	0	0	0	0	0	
District	District	0	0	0	0	0	0	0	1	0	The Mahiti Shakthi Board is empowered
	Block/Taluka	0	0	0	0	0	0	0	0	0	No Empowerment
	Village Institutions	0	0	0	0	0	0	0	0	0	No Empowerment
	Kiosk level	0	0	0	4	0	4	0	0	0	MSK is empowered
	Household	0	0	0	0	0	0	0	0	0	
Block / Taluka	Block/Taluka	0	0	0	0	0	0	0	0	0	No Change in Process
	Village Institutions	0	0	0	0	0	0	0	0	0	
	Kiosk level	0	0	0	0	0	0	0	0	0	
	Household	0	0	0	0	0	0	0	0	0	
Village Institutions	Kiosk level	0	0	0	0	0	0	0	0	0	No Change in Process
	Household	0	0	0	0	0	0	0	0	0	

Decentralization = 1/3* De-concentration + 1/3*Delegation + 1/3*Devolution + ε
De-concentration = 1/3 * (Operational authority) + 1/3 * (Tactical Authority) + 1/3 * (Internal Accountability) = 0
Delegation = 1/3 * (Operational authority) + 1/3 * (Tactical authority) + 1/3 * (Principal-Agent Accountability)

= 1/3 * 4 + 1/3 * 0 + 1/3 * 4 = 8/3 = 2.66

Devolution = 1/3 * (Tactical authority) + 1/3 * (Strategic authority) + 1/3 * (Citizen Accountability)

= 1/3 * 0 + 1/3 * 1 + 1/3 * 0 = 1/3 = 0.33

Decentralization = 1/3* De-concentration + 1/3*Delegation + 1/3*Devolution + ε

= (1/3 * 0) + (1/3 * 2.66) + (1/3 * 0.33) + ε = 1 + ε

This scoring pattern indicates that there is scope to further improve upon the processes to deliver desired services efficiently.

5. Indian Railways: Passenger Reservation System (PRS) Second Case Study (Indian Railways 2008)

Indian Railways (IR) is among the largest railway systems in the world. The seats/berths reservation system on trains becomes a fairly complex activity, not only because of volume involving more than 600,000 seats/berths reservations per day, but also because of a number of business logics governing the booking of tickets. Because of this complexity and sheer volume involved, Indian Railways undertook the management of Reservation work through computers and the resultant computerised system was named as Passenger Reservation System (PRS). Earlier, the passenger had to manually go to the ticket counter, enquire about the availability of the ticket (here, the booking clerk may not give the correct availability of the ticket), go to separate counters for each train, fill the form, pay the money and got the ticket. The reservation was possible only at the train originating station and from other stations, the request was sent through telegram. Now, after the PRS, the passenger has to do a free registration, login to the railway website, give the required information, give the payment option and tickets will be delivered to him in the I-Ticketing option and in the E-Ticketing option, the user can print his ticket.

5.1 Analysis of Indian Railways

In Table 4 we present the status of the authority transfers due to the implementation of the Indian Railways passenger reservation system project. Here, Devolution per se does not happen because the railway is a monolithic government public system which does not devolve any authority to any other legally incorporated body. For the hierarchical levels of the Indian Railways, viz, the Railway Board at the national level to the Zone, Division, Big Railway Station, Computerized Reservation Office to the passenger home with internet connection, a scoring system as defined previously can be devised as shown in Table 4, viz,

Table 4: Scoring for hierarchical extent of decentralization (GITR, 2002-2007, Kochhar & Dhanjal, 2005, EAF, 2005 & MIT, 2008)

From	To	Score
Railway Board	Railway Board	1
	Zone	2
	Division	3
	Big Railway Station	4
	Computerized Reservation Office	5
	End-user home (with internet connection)	6
Zone	Zone	1
	Division	2
	Big Railway Station	3
	Computerized Reservation Office	4

	End-user home (with internet connection)	5
Division	Division	1
	Big Railway Station	2
	Computerized Reservation Office	3
	End-user home (with internet connection)	4
Big Railway Station	Big Railway Station	1
	Computerized Reservation Office	2
	End-user home (with internet connection)	3

In Table 5, we present the extent and kind of the authority transfers due to the implementation of the PRS project.

Table 5: Scoring System for Indian Railways passenger reservation system project

From	To	Score on kind of decentralization									Remarks
		De-concentration			Delegation			Devolution			
		Operational Authority	Tactical Authority	Internal Accountability	Operational authority	Tactical authority	Principal-Agent Accountability	Tactical authority	Strategic authority	Citizen Accountability	
Board	Board	0	0	0	0	0	0	0	0	0	No authority transfer at this level
	Zone	0	0	0	0	0	0	0	0	0	
	Division	0	0	0	0	0	0	0	0	0	
	Railway Station	0	0	0	0	0	0	0	0	0	
	Reservation Office	0	0	0	0	0	0	0	0	0	
	End-user home	0	0	0	0	0	0	0	0	0	
Zone	Zone	0	0	0	0	0	0	0	0	0	No authority transfer at this level
	Division	0	0	0	0	0	0	0	0	0	
	Railway Station	0	0	0	0	0	0	0	0	0	
	Reservation Office	4	0	0	0	0	0	0	0	0	
	End-user home	0	0	0	0	0	0	0	0	0	
Division	Division	0	0	0	0	0	0	0	0	0	
	Railway Station	0	0	0	0	0	0	0	0	0	
	Reservation Office	0	0	0	0	0	0	0	0	0	
	End-user home	0	0	0	0	0	0	0	0	0	
Big Railway Station	Big Railway Station	0	0	0	0	0	0	0	0	0	There is a transfer of operational authority.
	Reservation Office	0	0	0	2	0	0	0	0	0	
	End-user home	0	0	0	3	0	0	0	0	0	

Decentralization = 1/3* De-concentration + 1/3*Delegation + 1/3*Devolution + $\mathcal{E}$
De-concentration = 1/3 * (Operational authority) + 1/3 * (Tactical Authority) + 1/3 * (Internal Accountability) = (1/3* 4) + (1/3*0) + (1/3* 0) = 4/3 = 1.33
Delegation = 1/3 * (Operational) + 1/3 * (Tactical authority) + 1/3 * (Principal-Agent Accountability) = 1/3 * (2+3) + (1/3 * 0) + (1/3 * 0) = 1.66
Devolution = 1/3 * (Operational authority) + 1/3 * (Strategic Authority) + 1/3 * (Citizen Accountability) = 1/3*0 + 1/3* 0 + 1/3* 0 = 0
Net Decentralization = 1/3* De-concentration + 1/3*Delegation + 1/3*Devolution + $\mathcal{E}$ = (1/3 * 4/3) + (1/3 * 5/3) + (1/3 * 0) = 1 + $\mathcal{E}$

6. Analysis of the Two Cases

In Table 6, we bring in a comparative assessment of the results of both the cases discussed in the foregoing sections. This assessment is based on the contributions of each of the components of the decentralization index explained in the model. It may be seen here that "Deconcentration" through Mahiti Shakthi project is non-existent whereas in Indian Railways, the index is quite high which indicates that Indian Railways has been able to effect necessary changes successfully. On the contrary, "Delegation" through Mahiti shakthi project has shown a good result(2.66) in comparison to Indian Railways(1.66). Lastly, a similar situation is prevalent in the case of "Devolution" for Mahiti Shakthi showing an index of 0.33 in comparison to Indian Railways(0).

Table 6: Comparison between Mahiti Shakthi and Indian Railways

Decentralization Type	Mahiti Shakthi	Indian Railways	Remarks
De-Concentration	0	1.33	There is no change in the government processes involved in Mahiti Shakthi but in Railways there are some changes.
Delegation	2.66	1.66	There is empowerment of extra-state actors in both the cases.
Devolution	0.33	0	In Railways, there is no empowerment of any Local Self Government or any other Independent entities with corporate status.
Net Decentralization	1+ $\mathcal{E}$	1+ $\mathcal{E}$	The net decentralization in both the cases is more or less equal.

However, the net decentralization index is "1" in both the cases. It amply indicates that one needs to critically examine the decentralization process for its successful reflection in e-governance models. The error components need to be assessed for supporting the decentralization process as well.

7. Concluding Remarks

From the analysis of these cases, we realize that, in these projects, one needs to provide the right structure and ambience to incorporate decentralization concerns in all its multiple dimensions. We are in the initial stage of our research and had taken these two cases as a pilot study. We plan to test our conceptualized model for its fitness and applicability across other e-government endeavors. This study will provide the required insight to the planners, implementers and bureaucracy to appreciate e-government efforts made in the country and select projects for scale-up.

Acknowledgement: We gratefully acknowledge the support of Sir Ratan Tata Trust for funding the project of the Fellow Program of Institute of Rural Management, Anand (IRMA). We are thankful to the reviewers who contributed effectively through the blind review process for the improvement of the paper. We also extend our heartfelt gratitude for the unconditional support that we received from the officials of Panchmahals Dairy Union, Mahiti Shakthi Kendra(MSK) operators and District Administration of Panchmahals District.

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