Chapter 1

LEARNING FROM IMPACT ASSESSMENT OF
e-GOVERNANCE PROJECTS IN INDIA

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ABSTRACT

This paper[1] reports the key findings from a program undertaken on assessing impact of eGovernance Projects from the perspective of the users (citizens/businesses). Nearly 36 eGovernment projects covering three services (driving license, land record computerization and property registration) delivered through ICT enablement in 12 states and three services delivered by central government agencies (filing and processing of Income Tax, registration of new companies, and issue of Passport) were assessed. Results of the assessment[2] indicate that by and large citizens have experienced some benefits in terms of number of trips, waiting time, elapsed time and bribery. All these elements contribute to the total cost incurred by a citizen in accessing Government services. However, large variations in the impact of ICT enabled service delivery projects suggest that the projects have not exploited the full potential of ICTs and have failed to replicate best practices.

This paper discusses the results from the three central government projects in some detail. Among the three projects, MCA21 appears to have had the most positive impact on the users, based on key dimensions covered in this study. The passport project has had virtually no impact. Results of the Income Tax survey indicated that whereas corporate users benefited on some aspects, individual filers of return did not benefit significantly.

INTRODUCTION

In view of the proposed roll out of the ambitious National e-Governance Plan (NeGP), the Government of India was keen to understand the nature and quantum of impact of existing e-government projects implemented by national agencies. For this purpose, the

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[1] The paper is based on a study of Impact Assessment of eGovernment projects commissioned by the Department of Information Technology (DIT), Government of India. The study was carried out in the year 2006. Indian Institute of Management, Ahmedabad (IIMA) was a knowledge partner of DIT in the study. The paper is authored by the IIMA team and the authors would like to acknowledge the contribution of Ms.Vineeta Dixit from DIT in the conduct of the study.

[2] Bhatnagar Subhash, 'Learning for Future Implementation of e-Governance', Colloquium on Impact Assessment of e-Governance Projects: A Benchmark for the Future', VIKALPA, Vol. 33, No. 4, Indian Institute of Management, Ahmedabad, October-December 2008.

Department of IT as the nodal agency for the NeGP decided to undertake an impact assessment study of the following three national projects:

1. Income Tax Department

In the past decade, the volume of income tax payers in India has more than doubled from 12.5 million in 1996-97 to 31.9 million in 2006-07. Earlier, tax collection was mainly done through manual counters provided by the department or at the special tax collection drives a week before the tax returns filing deadline. In order to respond to the growing demand for an efficient system of tax collection, the Income Tax Department launched a centralized website in 2002 with the aim to answer broad-based Income Tax queries. Presently 19 services are offered through the online system including: preparation and filing of individual Income Tax returns and TDS[3] returns by tax deductors; filing and tracking of PAN[4]/TAN[5] applications; status enquiry of taxes paid in banks; and access to taxation rules and taxpayer-specific information. E-filing and e-TDS for corporations are the only two services that have been mandated through the online mode. Besides the Income Tax portal, services are also provided through the websites and offices of NSDL[6] and UTITSL[7], and Income Tax offices across the country. Users of the services comprise of individuals and corporate bodies.

2. The Ministry of Corporate Affairs (MCA21)

The MCA21 project provides stakeholders - corporate bodies, businesses, professionals (Chartered Accountants and Company Secretaries) who are authorized signatories or employees of companies, citizens and investors across the country - with convenient and secured online access to different services provided by the Ministry of Corporate Affairs. These services include : downloading of e-forms; registration and incorporation of new companies; annual and event-based filings; payment of penalty and fees and tracking the status of payment processing; viewing; online registration, tracking and redressal of investor grievance; and viewing and obtaining certified copies of public records pertaining to companies.

Prior to 2006, the process of registration of new companies was handled manually resulting in delays in the process and leading corruption. A nation-wide roll-out of the MCA21 project was completed across all twenty Registrars of Companies (RoCs) by the year 2006. E-filing of all documents carrying digital signatures of authorized

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[3] TDS refers to Tax Deducted at Source. All corporate and government deductors are required to file TDS returns.

[4] PAN or Permanent Account Number is an all India, unique number of 10 characters allotted by the Income Tax Department, which is used for filing returns.

[5] TAN or Tax Deduction and Collection Account Number is a 10 digit alpha numeric number that all persons who are responsible for deducting or collecting tax are required to obtain. It is used for filing TDS returns, TDS payment challans and TDS/TCS certificates.

[6] NSDL's Tax Information Network can be accessed at http://tin.nsdl.com/.

[7] Income tax-related services provided by UTITSL or UTI Technology Services Limited can be availed at http://www.utitsl.co.in/

representatives of the companies was made mandatory with effect from September 16, 2006. Services can be availed through the MCA21 Portal via the Internet from home or office, a mode of delivery termed as the Virtual Front Office (VFO), or from facilitation centers known as Physical Front Offices (PFOs). Fifty three facilitation centers have been set up by the Ministry while professionals have been authorized to set up another 550 Certified Filing Centers (CFCs) across 85 towns and cities.

3. Online Passport Services

There was a 75 percent rise in total number of passport applications in five years, from 2.6 million in 2000 to 4.5 million in 2006. As a response to this growth, online services for issue and re-issue of passports under the regular and 'tatkal' categories were implemented in 34 Passport Offices (POs) by 2008. For online registration, an applicant needs to submit required information such as name, address, date of birth, etc. through an online form. Upon successful registration, the applicant is required to submit the original application, supporting documents and fee at the passport office on a pre-specified date. Other major services offered through the online mode include provisions to check the status of one's application, download application forms, and access information on services and procedures. Passport services offered through the online mode can also be availed through the manual mode.

RESEARCH METHODOLOGY AND SAMPLING

The impact of e-Governance projects was assessed by examining the difference between manual and computerized delivery from the point of view of the users - citizens/businesses or their designated agents such as Chartered Accountants (CAs). Table 1 presents the framework used for the study and lists the dimensions assessed in each project. The cost related dimensions were measured directly while quality and governance related indicators were measured as perceptions on a Likert scale

Table 1: Framework of the Study

Dimension of Impact	Indicator
Cost of Availing Service (Measured Directly)	Number of trips made for the service
	Average travel cost of making each trip
	Average waiting time in each trip
	Estimate of wage loss due to time spent in availing the service
	Total time elapsed in availing service
	Amount paid as bribe to functionaries
	Amount paid to agents to facilitate service
Overall Assessment	Preference for manual versus computerized system
	Composite Score measured on 5-point scale factoring in the key attributes of delivery system seen to be important by users
Quality of Service	Interaction with staff, complaint handling, privacy, accuracy measured on 5-point scale
Quality of Governance	Transparency, participation, accountability, corruption measured on a 5-point scale

The research involved administering a structured survey to a systematically selected sample of different types of users, and at times, conducting focus group discussions to gain further insights into qualitative aspects of the project.

The field level data collection for the three projects was conducted by market research (MR) agencies operating nationally: ACNielsen ORG-MARG; IMRB International; and Development & Research Services Pvt. Ltd. Each agency surveyed a sample of nearly 7,000 to 9,000 users in 15-45 cities across the country being serviced by different types of service delivery points located across the country. The survey captured users' experience with the manual and computerized modes of delivery for each service.

VALUE DELIVERED BY THE ONLINE APPLICATIONS

4. Comparison of the Three Projects across Key Dimensions

Significant reduction in the number of trips was reported only in case of MCA21 project where nearly one trip is saved for even those who use the service from a public access point (PFO or CFC). Improvement in MCA21 is primarily due to the fact that it provides an end to end computerized service whereas in the case of passport and income tax some part of the submission process is still manual, necessitating a trip to the office. Though e-filing should not require any trip as has been seen in other countries that have implemented e-filing, individuals surveyed in this study have reportedly made multiple visits (average of 1.6 trips) to the Income Tax office to file their returns. Primary reasons for this were the long queues at the deposit counters and non-acceptance of paper copies of returns on the pretext of their being incorrectly filled up. Passport agents required 1 to 2 trips to the Regional Passport Office (RPO) for completing the application submission process.

Waiting time at the service delivery center during each trip has reduced by about one-thirds in the case of income tax and marginally in the case of passport. Most passport agents spent an hour to reach the RPO and another two hours waiting at the RPO for submission of application forms. Reduction in waiting time is once again the most significant in the case of MCA21 - nearly 50 minutes are shaved off from a wait of 75 minutes.

Data on total elapsed time was not captured and reported for MCA21. In the case of income tax there is a significant reduction for corporate users from 10 to 6 days, and about 25-30% in the case of individual e-filers. In case of passport the reduction is very marginal as only submission of application was partially computerized leaving most of the back end processes in their old inefficient form. Table 2 summarizes the estimated impact on key dimensions of economic and qualitative impact in the three projects.

Table 2: Impact on Key Dimensions

Assessed Attributes	Income Tax Portal (E-Filing)	MCA21 e-Governance Project (Authorized Signatories/ Professionals)	Online Passport Services

		Manual	Online	Manual		Online	Manual	Online
Number of trips	Individual	1.8	1.6	2.2	PFO	1.6	2.5	2.2
	Corporate	1.0	0.75		CFC	1.5		
Waiting time (Minutes)	Individual	38	27	75	PFO	29	98	88
	Corporate	26	17		CFC	25		
Total elapsed time in availing service (Days)	Individual	11	8	N.A. [8]	N.A.		43	41
	Corporate	10	4					
Proportion paying bribes (Percentage)	Individual	4.1	1.9	20.1	VFO	1.4	42.4 [9] 4.3 [10]	48.1 4.4
	Corporate	N.A. [11]	N.A. [12]		PFO	10.8		
					CFC	4.4		
Proportion using an intermediary (Percentage)	Individual	9.6	10.6	21.2	VFO	10.2	34.8	33.6
					PFO	29.0		
					CFC	52.8		
Overall service quality score (5-point scale)	Individual	3.9	4.1	3.6		4.4	3.5	3.6
	Corporate	3.1	3.9					
Overall governance score (5-point scale)	Individual	3.8	4.0	3.3		4.2	3.3	3.5
	Corporate	3.1	3.9					
Composite score [13] (5-point scale)		3.9	4.0	4.0			3.1	3.2
Preference for computerized system (Percentage) [14]		75.0		92.0			59.4	90.4

The MCA21 project seems to have had a significant positive impact on corruption with the proportion paying bribes having reduced from 20 percent to less than 5 percent in the case of the VFO and CFC users. This is because the online system accepts electronic documents directly into the system eliminating the need for any interaction with Registrars of companies (RoCs) officials or agents. For income tax, CAs filing on behalf

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[8] Data on total elapsed time was not captured and reported for MCA21.

[9] Proportion paying bribes to the police during the verification process

[10] Proportion paying bribes to the passport office employees

[11] CAs filing on behalf of corporations failed to report data on corruption.

[12] CAs filing on behalf of corporations failed to report data on corruption.

[13] Composite score in case of MCA21 represents improvement in the computerized system vis-à-vis the manual system. The improvement was measured on a scale of 1 to 5 where 1 means 'much worsened', 3 means 'no change' and 5 means 'much improved'. Composite scores of the other two projects represent overall assessment of the manual and computerized systems respectively on a scale of 1 to 5, where 1 means 'very poor', 3 means 'neither poor nor good' and 5 means 'very good'.

[14] The percentage reported in MCA21 reflects the preference of users for the computerized system over the manual system based on their experience of having used both. In case of Online Passport Services in which separate samples of manual and online users were interviewed, preference of manual users for the online application system is purely hypothetical since they have no experience of the online system. Similarly, preference of online users for the computerized system over the manual one is hypothetical since they have no experience of the manual system.

of corporations failed to report data on corruption. Individual filers reported a reduction in bribes. In passport, incidence of bribery is high for police verification and small in case of the passport office but the impact in both cases is not significant.

In all the three projects, significant number of users avail the service using an intermediary and there is no difference between manual and computerized service delivery for income tax and passport. Seeking the services of professionals for filing documents is however more prevalent in the computerized mode (through the MCA21 portal) with 53 percent of CFC users and 29 percent of PFO users preferring to take their help, up from 21 percent in the manual mode. This may reflect a level of discomfort with using the electronic system.

MCA21 users reported a significant improvement in both the quality of service and the quality of governance. The scores improved by nearly one point on a five point scale. This is supported by the fact that the rate of errors in documents has nearly been halved from 26 percent to 12 percent in case of VFO and 9 percent in case of CFC. E-filing has apparently made it convenient for users to fill forms and made submission of forms less error-prone due to checks built into them. In the income tax project, the perceived improvement for individual filers is very small. However, corporate users have experienced a significant improvement from 3.1 to 3.9 in both the quality of service and the quality of governance. Most individuals and CAs (hired by corporations to file returns on their behalf) are highly satisfied with the e-filing facility, though not as comfortable with the e-forms as they are with the manual Income Tax Return (ITR) forms that had clearer instructions and were easier to follow. Very little or no improvement in service quality or quality of governance was perceived by respondents in the case of the passport project.

Public users, whose interaction with MCA21 is largely limited to procuring certified copies of company documents, also reported significant improvement in the online system on all dimensions of impact. Travel costs have been more than halved for users of PFOs and CFCs due to the availability of a larger number of service delivery centers increasing the proximity to the users. Waiting time reduced from an hour to less than 30 minutes. The total cost of availing services reduced by more than 30-50 percent depending on the mode (VFO, PFO) used for accessing services.

5. Overall Assessment

An overall assessment based on a composite score and the indicated preference for computerized system over the manual system suggests that MCA21 has been significantly more successful in terms of the value delivered to the users. A rating of 4.0 by MCA21 users on improvement in composite score indicates a significant improvement over the earlier manual system. Even though composite scores show hardly any improvement in income tax and passport, the users still prefer the computerized system.

The degree of impact of each of the three national e-government projects covered in this study varies greatly because of differences in the extent of computerization and the reengineering done in each of the projects. MCA21 which provides end-to-end online delivery of all its services has done better than the passport project where the online services are limited to partial e-enabling of the application procedure. Other steps in the

entire process are similar for applications submitted through both the online and offline modes. In case of Passport services the use of online services is mainly limited to downloading of application forms and seeking of information on application processes. Only 17 percent of the respondents had used the online services for registration of applications, fixing appointments with the RPO/PO officials, submission of application forms or checking the status of their applications. Officials from the police department and passport offices continue to enjoy immense discretionary powers since procedures such as police verification and submission of physical documents at the passport office have remained unchanged. Most respondents also felt that the behaviour and working of the counter staff can do with improvement.

In the case of the Income Tax, response by CAs has on the whole been lukewarm with regard to the online services. The reason for this could be that they understand that the online system is meant to make users self sufficient for their filing needs, and that this could eventually make them redundant. However, it was observed that the online experience of CAs in Class I/II cities is distinctly better than that of their counterparts in the metros.

Analysis of Desirable Attributes

In all three surveys, respondents were asked to state the three aspects of service delivery that they considered most important from a list of twenty attributes covering cost of access, convenience, quality of service delivery and quality of governance. The next generation of these applications could specifically target improvements in the desired attributes.

Table 3: Important Service Delivery Attributes for the Three Applications

Project	Attributes (Percentage Respondents Selecting the Attribute as Important)		
Income Tax Portal	Level of corruption (12%)	Accuracy of transaction (10%)	Cost of availing service (10%)
MCA21 e-Governance Project	Accessibility to data (20%)	Speed and efficiency of query handling (11%)	Clarity and simplicity of processes and procedures (8%)
Online Passport Services	Queuing system (27%)	Cost of availing service (24%)	Time and effort required to avail service (22%)

Corporate filers of income tax returns perceived the corruption level, accuracy of transactions and cost of availing service as the three most important attributes of service delivery (see Table 3 above). A significant difference was seen in the case of individual filers who regarded clarity and simplicity of processes and procedures as also being very important. With regard to MCA21, users felt that accessibility to data, speed and efficiency of query handling, and clarity and simplicity of processes and procedures are the most important attributes. Users of passport services ranked the queuing system as the most important attribute, followed by cost of availing the service, and the total time and effort required for availing the service. Respondents who had applied manually were relatively more affected by the queuing system. The reason could be that they have to wait in the queue for longer durations unlike online applicants who come to the passport office with prior appointments and wait in a separate queue meant exclusively for them.

LEARNINGS FROM THE STUDIES

Results from the assessment of 36 eGovernment projects in twelve states covering three services (driving license, land record computerization and property registration), indicated that by and large citizens have experienced some benefits in terms of number of trips, waiting time, elapsed time and bribery. All these elements make up the total cost incurred by a citizen in accessing Government services. Table 4 below presents the estimates of these elements for manual delivery, computerized delivery and the improvements resulting from ICT enablement averaged over all the states. However, large variations in the impact of ICT enabled service delivery projects were observed which indicated that projects have not exploited the full potential of ICTs and have failed to replicate best practices[15].

Table 4: Impact on Key Dimensions Averaged over all States

	Land Record			Property			Transport		
	Manual	Computerized	Change[16]	Manual	Computerized	Change	Manual	Computerized	Change
Number of trips	2.77	1.84	1.00	3.96	2.37	1.61	3.44	2.43	1.00
Waiting time (Minutes)	142.28	98.54	39.95	147.66	87.49	62.01	130.62	98.17	36.40
Total elapsed time in availing service (Days)	21.29	15.43[17]	5.35	32.66	12.87	20.32	23.47	15.61	7.99
Proportion paying bribes (Percentage)	38.80	22.99	15.84	23.18	17.06	6.13	16.93	12.79	4.18

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[15] Bhatnagar Subhash, 'Learning for Future Implementation of e-Governance', Colloquium on Impact Assessment of e-Governance Projects: A Benchmark for the Future', VIKALPA, Vol. 33, No. 4, Indian Institute of Management, Ahmedabad, October-December 2008.

[16] Average values for manual and computerized systems are computed for all respondents who had used the two systems respectively. However, change is computed as the difference between computerized system and the manual system (Computerized – Manual) averaged over all respondents who had used both the systems. Therefore change is not simply the difference between the means of the computerized and manual systems reported in the table above. Numbers in parentheses indicate that the change was negative.

[17] The elapsed time appears to be large when averaged over 10 states because elapsed time figures for three states are outliers.

The detailed results for the 3 central government agencies discussed earlier also indicate improvement in waiting time and bribery. Reduction in number of trips is not as pronounced. There is a significant variation even amongst the three projects.

Users indicate a higher positive impact for services that can be completely delivered online. For instance, though the time required for preparing Income Tax returns is significantly less in the online system as compared to the manual system, the requirement for depositing paper copies of the acknowledgement forms with the Income Tax department negates the time gained through e-filing. On the other hand, users of MCA21 avoided visits to the RoC office, which is a great benefit for them, particularly for those located in cities that did not have RoCs.

In order for a system to deliver significant value to all its stakeholders, it is important to involve them in the design of the application. In the case of MCA21, design and implementation was done through a consultative approach with internal and external stakeholders participating at every stage. Every change that was proposed was vetted by the various stakeholders, especially practicing professionals. On the whole, MCA21 appears to have a greater client-focus while the income tax project appears to be more agency-focused.

Agencies responsible for service delivery through systems with large number of users must put in much greater effort for creating awareness about them. However, awareness can only help to bring users to that service delivery channel. It cannot guarantee sustained use of the system unless the system is also designed in such a way as to deliver satisfactory outcome. Procedures need to be simplified and clear guidelines provided on online procedures to encourage their use by the actual end users and reduce users' dependence on middlemen/intermediaries.

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