
UNIT 15 ICT IMPLEMENTATION IN GOVERNANCE:ISSUES AND CHALLENGES

Structure

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15.0 LEARNING OUTCOMES

After studying this Unit, you should be able to:

- highlight the issues and challenges facing ICT implementation in governance; and
- suggest measures to address these issues and challenges.

15.1 INTRODUCTION

Technology is transforming governments, especially, in the performance of their functions. This is the sole reason for governments all over the world embracing technology and becoming electronically viable. ICT enables and facilitates good governance agenda of transparency, accountability, empowerment, decentralisation and fiscal reforms. It is this agenda that governments of today are aspiring to achieve. Governments are using ICTs in restructuring their traditional organisational set up, re-engineering the work processes, interacting with citizens and stakeholders, rendering services and information, and efficient human resources management, financial management and decision-making.

Hence, ICTs are playing a significant role in enabling governments to pursue the agenda of good governance. However, skilled manpower, ICT infrastructure, ICT architecture, resources, political leadership, committed bureaucracy, and citizen awareness are required to enable ICTs to perform this role. But lack of human resources, organisational and technological infrastructure, etc. have posed hindrances to the effective implementation of ICT in governance. This has resulted in its minimal use. Many of the ICT-based projects have, therefore, resulted in wasteful expenditure and ineffective service delivery. The challenge is to overcome these hindrances and provide for an optimal exploitation of ICT in governance.

In this Unit, we are going to discuss the issues that pose a challenge to the optimal use and implementation of ICT in governance. We will also be dealing with measures, which help in addressing these issues and challenges effectively. However, for information of our students, we have used the words 'e-governance', 'e-government' and 'ICT-based projects' interchangeably, even though they mean different and are distinct.

15.2 ICT IMPLEMENTATION IN GOVERNANCE: ISSUES, CHALLENGES AND SUGGESTIONS

Today we have a society where there are multiple interests, groups and stakeholders in the form of civil society, communities, corporate, private sector, media, academia, professionals, etc. who expect the government to excel and render various services to the mark. ICT applications can help government to excel and render services to the people consistent with their needs and demands.

But implementation of ICT based projects or programmes usually suffer in terms of certain vital factors. We will discuss these factors individually.

Work Plan

The 'Working Group on E-Government in the Developing World' considers infrastructure, economic health, education, information policies, private sector development, institutional frameworks, human resources, budgetary resources, inter-department communication flows, etc. as crucial factors for the success of e-governance projects. If these factors are well in place then they can lay down the roadmap for effective e-governance implementation. Countries like India, face problems of low connectivity, technical professionals, finances, and other resources coupled with inappropriate planning. Hence, it becomes difficult to develop specific applications and services.

Therefore, for successful implementation of e-governance projects, a work plan has to be chalked out. The work plan should include six key elements, as pointed by the Working Group:

- **Content development**-including development of applications, open standards, local language interfaces, user guides and e-learning materials. Time should be invested in building appropriate content
- **Competency building**-human resources and training programmes must be implemented at all levels
- **Connectivity**-local networks and internet connections must be applied across the relevant agencies or enterprises
- **Cyber laws**-to provide a legal framework that supports the objectives of e-government policies and projects
- **Citizen interfaces**-a proper mix of delivery channels is needed to ensure that e-government is accessible and affordable for users
- **Capital**- e-government business plans must identify revenue streams like user charges, subscriptions or budgets that will help achieve financial equilibrium.

Vision and Priorities

We suffer from the lack of clear vision and priorities when it comes to e-governance. In the words of Anathakrishnan, 'in the absence of a national mission to evolve technical standards and share resources, citizens have ended up funding costly piecemeal programmes with few tangible results. There is no consensus on interoperable standards that will enable exchange of data, no sharing of best practices and no realistic vision on how to effect change.'

Our vision is not broad and does not involve the interests of various groups in the society. Vision for e-governance should emanate from societal concerns of multi-stakeholders. These concerns will become the bases for drawing up and designing the priority areas for e-governance. E-government plan/project should be open and collaborative based on multi-stakeholders' participation. Public meetings, opinion polls, participation in committees, etc. should be the basis of drawing the vision and securing vital inputs of different sectors. The Working Group emphasises on the need to define a vision that

represents the priority objectives of government and the shared vision of all stakeholders. A shared vision of e-government means a shared stake in the outcome.

Robert Schware and Bhatnagar mention about the involvement of users in the 'Computer-aided Administration of Registration Department (CARD) Project' in Andhra Pradesh. A group of users were selected to participate in the various tasks to redesign business processes in the Registration Department and subsequently participate in the design and development of the software. No external technical personnel were recruited, which provided a sense of system ownership and even control on technology by the users. This fostered a sense of ownership and trust in the Project. Likewise, the SmartGov initiative in Andhra Pradesh involved the stakeholders and end-users at all stages of the Project.

Re-engineering

E-government applications should be preceded with re-engineering of the administrative processes in the government departments or organisations. Most often, e-government applications are implemented in a 'quick time frame' without adequate re-engineering of the existing organisational structure and work procedures. If ICT has to enable efficiency in governmental functioning, it is necessary that the departments carry out a rearrangement and reorganisation of their administrative structure and work processes. If e-government application is implemented without re-engineering, it becomes difficult to make subsequent changes in the work processes once the e-government application is implemented. Hence e-government may not work and the resources may get wasted. Therefore, the complex work processes and procedures have to be simplified before initiating ICT projects or programmes.

Subhash Bhatnagar emphasises that the reforms should be in place before an e-government application is implemented so that the immediate impact and efficiency and transparency gains associated with e-government application can be acquired. Re-engineering administrative processes, according to him, therefore requires implementation of substantive reform in organisational structure, a change in culture and mindset, training and improvement of skills, and putting in place the appropriate supporting ICT infrastructure to enable online processes that are timely and efficient to both the user and the government department.

Citizen-Centredness

E-governance projects must be citizen-centric. Such projects should provide for improved service delivery, public participation, accessibility to comprehensive and qualitative information, and improved quality of life for large number of citizens. They should focus on how citizens use and process increasing amounts of information in their everyday life. Websites should be designed to give complete information so that an individual may not have to follow up it with a visit or call. Projects facilitating citizen services should be based on the needs of the people and how they can be best delivered electronically. This will enable projects to address to specific needs of identified communities and gain public trust and wider usability.

But as G. Anathakrishnan points out that for most citizens the only brush with e-government is a visit to rudimentary websites put up by individual departments that offer no alternative to the difficult relationship they have with government to get their entitlements. In theoretical terms, Anathakrishnan says that e-governance in the country is still largely in the information phase and faces an uphill task to reach interactivity and actual delivery of services. Merely computerising the departments and automating the traditional and old procedures will not result in responsive e-government.

According to Jaju, the bane of most of the government databases is that it is driven by individuals rather than systems and hence most of it is never updated once the individual

departs. It is therefore, essential that transactions be compulsorily routed through the database so that it is routinely and sub-consciously updated and remains relevant and dynamic at all times to the benefit of all, that is, the government as well as the people.

ICT has to be used as a tool to lead to an information and knowledge based society 'where the citizens feel empowered and enriched by accessibility to information and social, economic and political opportunities' (Working Group) and also participating and interacting in policies and decisions affecting them.

Also, use of local languages will definitely help more citizens to avail the services. Technologies such as GIST and language software can be used for transliteration from English to other languages. Subhash Bhatnagar points out to the need to built local language interfaces, especially when addressing the rural population. He finds that intermediaries, such as, volunteers/ kiosk owners/paid employees play a positive role in applications where information is disseminated to rural/illiterate populations. Hence, he recommends employing the intermediaries when it comes to ICT interface with rural population.

Further, there must be feedback mechanisms and interactive dialogues to get the opinion of multi-stakeholders on the working and benefits of the projects. As Bhatnagar puts it that advisory groups must be set up with the users, former officials, experts and civil society members for this purpose.

Communication Strategy

The benefits of e-government projects must be properly communicated to the beneficiaries through an effective communication strategy using media. This has to be taken into account most significantly, as the best use of projects can be made possible when it reaches the larger target groups or clientele. Usually, people are not aware of the same and/or are not even mobilised. E-government projects usually fail to become an additional channel to deliver services owing to a limited proportion of citizens using them. Without a critical mass using the e-government applications, the cost recovery does not seem promising. Public should be made aware of the changes and benefits that e-projects and programmes can accrue for them. Equally, the government should also explain the reasons when benchmarks are not met.

Gopa Kumar Krishnan states that conscious efforts are required to drive citizens to the portal through advertising campaigns and education. According to the Working Group, the interest and commitment to e-government can be sustained with strong promotion effort through various media channels such as radio, posters, public meetings and newspapers that can generate public excitement and also increase political will.

E-literacy

For communication strategy to be effective there must be a literate and e-literate community to use the e-government system. The citizens, especially the rural, must be provided with training in basics of computer, internet and web. In Kerala, e-literacy programme has been taken up in full swing, which ensures one member from a family to be computer literate. This innovative experiment known as Akshaye Project has bridged the digital gap by making at least one member in each family e-literate and creating shared access through computerised kiosks-Akshaye Kendras- for citizens to get information in the local language (G. Anathakrishnan). There are going to be over 3,000 information hubs, that is 'Akshaye Kendras' across the State to provide several value-added services on a single platform to the citizens. Such projects promote e-literacy, which enables wider usability of e-government applications. Such projects must be replicated by other states as well.

Political Will and Leadership

Political will and leadership is a needed for initiation, successful implementation and sustenance of e-government programmes and projects. Political support and commitment to ICT projects can really bring in the desired change in governance. Political leaders need to have the will, resolve and leadership to take on risks, overcome resistance, secure funds and publicly subscribe, uphold and support e-government. Rather, the political leaders must be made e-literate that can help them to understand the benefits accruing of such projects, and motivate them to employ ICT in their departments and deliver effective public services to the people.

The greatest problem is of sustenance, as with change in political power e-governance projects are not carried further with the same zest and zeal by the new minister. As Bhatnagar points out that frequent changes in the ministers may create problems when the new minister is not supportive of the ideas and innovations implemented by his/her predecessor. Change in the political leadership also result in changes in administrative leadership that may create problems especially through implementation. However, if the backup support from the citizens, businesses and public sanctity through legislature is existing, e-governance projects can be carried forward with the same fervour even when there is a change in political leadership.

Transparency and Accountability

E-government projects or websites do not focus much on the objectives of ensuring transparency and accountability of the government officials or departments. As Katherine Reilly puts it that numerous websites created by government departments are ineffective because they tend to focus on the single objective of providing electronic access to information. Not enough effort is made to ensure that transparency and accountability are increased. Achieving or increasing accountability or transparency is unplanned in the design objectives, as Gopa Kumar Krishnan finds that reduction of corruption is often incidental and not part of the design objectives of e-government initiatives.

According to him, there has to be an implicit hierarchy and sequentiality of objectives on which e-government applications should focus. Increasing access to information, presenting the information in a manner that leads to transparency of rules and their application in specific decisions, and increasing accountability by building the ability to trace decisions/actions to individual civil servants are the successive stages in the hierarchy. These stages will ensure reduction in corruption and openness in administration. Departmental websites should fulfil these objectives. Departments should publish budgetary allocations and expenditure on the web. There should be systems for tracking status of applications for a variety of licenses. There must be sharing of the citizen's charter and performance data on the web. These steps by officials and departments will definitely increase accountability and transparency.

Resistance to Change

The fast and smooth implementation of e-government gets hampered by the officials' resistance to it. If the government is to excel in a corporate way, officials' readiness to bring about this corporate culture within government is essential. 'The level of resistance to change and level of involvement by officials in setting policies and practices will greatly impact how fast or smooth the implementation of e-government will be' (Working Group). Bureaucracy, that is, officials and employees at all levels, resist to e-government initiatives due to reasons, such as fear of losing jobs, losing power, unfamiliarity with technology, increased work, losing unofficial payments, having no monetary and professional gains, etc.

Bhatnagar cites the example of SmartGov initiative in Andhra Pradesh in 2002, which brought about electronic application in workplaces by integrating workflow and knowledge management, and thereby increasing efficiency of file handling processes by introducing the concept of a paper less office. But it faced implementation challenges and

resistance from employees. Many senior officials and staff did not use the ICT applications and applied the manual system in their day-to-day work. They found it time consuming to operate via the SmartGov. The officials felt that they could sign a physical file within seconds than an electronic file. Hence, even after the SmartGov move, the manual system prevailed upon it. Technical and management problems such as, deployment of hardware, getting the software loaded and employees to operate it, and too many vendors for handling different aspects of network maintenance and hardware maintenance created difficulty. In some departments, the number of PCs installed was inadequate. One PC was shared among three people that drastically reduced the efficiency of the officials and staff. As a result files were dealt and transferred physically. Thus, SmartGov did not create enthusiasm among the government departments and evoked resistance from the employees and officials.

To overcome this resistance, it is necessary to involve the officials at the early stage of e-government planning. Their suggestions and feedback to improve the e-government plan at any stage should be welcomed and acted upon. The plan should highlight the benefits accruing from the application of ICT in day-to-day work that can help in boosting their confidence and trust in the system. Equally, they must be imparted training in ICT usage in departmental work, decision-making and service delivery. Successful projects generally spend about ten percent of the budget on training. Training will reorient them with new perceptions in their jobs, develop competencies and make them knowledgeable. Benchmarks and parameters should be set to assess the performance of the employees and officials. 'Officials should find returns in the form of professional opportunities and rewards for successful adoption of new procedures, work practices and responsibilities. Innovative compensation packages and professional perks' should also be offered (Working Group).

Resources

Human and financial resources are required for the effective implementation of e-governance projects. Human capital in terms of skilled professionals with experience in procuring, evaluating and implementing ICT solutions is very much needed in government. Hence more technological institutions are required to provide technological professionals in the country.

Equally, financial resources and budget has to be earmarked to ensure initiation and sustenance of projects. In the words of Subhash Bhatnagar, costs of e-government projects depend on the initial conditions-whether the application is built from scratch replacing an existing manual system or is an extension of an existing computerised system. Major cost elements are hardware and software at the back end, data conversion, training, maintenance, and communications infrastructure to link the public access points to the back end. Costs vary quite dramatically according to scope and scale of application (e.g. AP CARD online services cost was 4.3 million, Mandals online in AP cost was 13 million, Bhoomi online in Karnataka was 4 million, and Warana village information kiosks cost was 500,000-cost is in terms of US dollars). But most often resource constraints force departments to use in-house software developers who are not up-to-date in their technical skills and tend to economise on hardware and software purchase. E-government projects, hence, need to be provided with enhanced budget and financial resources.

Back-end Computerisation

Back-end computerisation is required in all departments to enable better delivery of front-end services to the citizens. It has to be complete and in place before the front end services are delivered. All related database of different departments should be computerised, consolidated and centralised. All departments have to be linked to this shared central database and operate through it so that any transaction done is

automatically updated in the central database. This will help in providing a comprehensive range of services to the multi-benefactors.

However according to Bhatnagar, enough resources, political leadership, and interdepartmental coordination are required, which at present seems lacking. There is absence of countrywide policy on data standardisation and data sharing. Security provisions have also not been adequately handled in designing systems. Bhatnagar refers to the front-end FRIENDS Project of Kerala, which renders online services to citizens. However, the back-end processes of the Project is not computerised and therefore is manual, providing no gains in productivity. Back-end computerisation of government departments takes a lot of time due to paucity of funds and bureaucratic delays. By resorting to partial computerisation, the Kerala government could advance the launch of online payment services by a few years. At best, this model needs to be seen as a temporary solution to buy time till the back-end processes are computerised. In the long run, such hybrid processes are likely to result in errors.

Public-Private Partnership

Public-private partnership is necessary in all stages of e-governance, that is, from planning, and implementation to monitoring and evaluation. Private sector collaboration, partnership and participation can enable the government to draw resources and expertise from the private sector. Equally, private sector can help the government projects to become responsive and committed to its customers and beneficiaries. Techniques of marketing, projects' adaptability to customers' needs, and attracting and retaining customers can be well learnt from the private sector (Working Group). Design, software development, data preparation and training can easily be outsourced to them.

In the Bhoomi and CARD Projects, software development, training, data entry of manual archives and maintenance has been outsourced to the private sector (Bhatnagar). Karnataka was the first State to present an IT policy in 1997 to attract private investment. This has brought a shift from the past centralised public sector led investments towards decentralisation in which the private sector and state government play major roles. Again, the role of public-private partnership was exemplified in the successful diffusion of the ICT application in 600 milk societies through the efforts of a few private companies. Even the implementation of the SmartGov Project exemplifies how partnerships can be successful. The WARANA and APSWAN Projects' provided significant roles for the private sector(Bhatnagar and Schware)

However everything cannot be outsourced, as the government must retain its prerogative in policy-making and decisions pertaining to accessibility and pricing. In the words of Bhatnagar, systems analysis, which provides the necessary cues for re-engineering, should be conducted internally. Moreover it is better for governments to implement pilots on their own so that cost structure and implementation issues can be well understood. This understanding can be useful in defining contracts when scaled-up versions are being implemented on a wider scale.

Bhatnagar emphasises that for successful execution of public-private partnership strategies, it is important to recognise that contracting arrangement should deliver gains to all partners. Often the fact that private sector needs to make profits is forgotten by the government contracting agencies.

Information Policy

An information policy is imperative. Officials are hesitant to share information with the citizens and other stakeholders. They do not disseminate information across governments or departments. This puts ICT in the reverse gear. ICT is basically information processing and sharing with different sectors and citizens. With the help of ICT, the

citizens can download information pertaining to various services online without visiting the government departments physically. However, officials often resist sharing and dissemination of information to the people, which hampers the smooth and rapid flow of information and prevents a more functional approach to service delivery. Hence, an ICT policy is necessary, which makes it mandatory on part of officials to provide information to the public.

We have recently enacted the Right to Information Act 2005, which enables and empowers every citizen to seek information from government, inspect any government document and seek certified copies thereof. Some laws on Right to Information also empower citizens to inspect any government work or to take sample of material. The government departments are required to host and disseminate information pertaining to development programmes and other services online for the public, businesses and others.

Many of the state governments have not yet implemented the Act, even though the date set for the implementation got over by October 2005. There must be a follow up action and stringent measures against such a callous attitude of the state governments in the full implementation of the Act.

Legal Recognition

Legal recognition is required for easy and smooth ICT transactions. An Act has to be provided to confer legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, which involve the use of alternatives to paper-based methods of communication and storage of information, and electronic filing of documents with government agencies. Such an Act renders legal sanctity to ICT based initiatives and facilitates smooth government and business transactions.

Governments all over the world have taken different approaches in implementing a legal framework for e-government and e-commerce. Some have opted for the creation of an umbrella law that encompasses all e-transactions. A large umbrella law saves the need for amending a multitude of laws that address procurement, tax, archives, etc. The 'UNCITRAL Model Law on Electronic Commerce' is a generic law adopted by many countries like Australia, Hong Kong, Korea (Republic), Singapore and the Philippines. The Model Law provides generally that electronic communications should be given equivalent legal effect to paper-based communication; and specifically addresses how certain types of electronic communications could substitute existing paper-based means of satisfying requirements of writing, signatures, and contract formation (Samtani and Harry).

We have promulgated the Information Technology Act 2000, (see Annexe) which provides for authentication of digital signature, legal recognition of electronic records, use of electronic record and digital signatures in government and its agencies; attribution, acknowledgement and despatch of electronic records; secure electronic record and digital signatures, regulation of certifying authorities of digital signatures, duties of subscribers, penalties and adjudication, Cyber Regulations Appellate Tribunal, offences, and amendments to the Indian Penal Code, the Indian Evidence Act 1872, the Banker's Book Evidence Act 1891, and the Reserve Bank of India Act 1934 (IIPA, July-August 2000).

Legal framework and information security are very important criterion for promoting a positive e-environment for business and commercial transactions. Security, protections, legal reforms, privacy and recognition of digital interactions and signatures are, therefore, the critical prerequisites. This also poses faith and trust of businesses and citizens in e-government applications and enhances usability and sustainability.

New Projects

New and future e-government projects should be initiated after taking cognisance of the already existing or undertaken projects. Proper study and diagnosis of the expenditure, results, and issues/obstacles in the existing programmes should be undertaken. Today, we see a great amount of duplication existing in e-government efforts, which has led to adverse costs, time and energy. Ideas and suggestions from successful ICT projects are not usually obtained or acquired that can be later adapted according to one's own particular context. A handbook with key project findings should be prepared that can be used as a resource guide for developing new projects.

New e-government projects should be started on a pilot basis. Pilot projects expose the potentials and challenges in implementation. This can help in reviewing and revising the projects for better results in future. Such pilot studies enable to judge the aptness of the project, skills and knowledge of employees, adequacy of financial resources, and thereby strengthen the project and its implementation. Problems and challenges can be immediately met that will ensure smooth and effective execution and realisation of the project in future.

E-government projects should be based on realistic targets that can be achieved in quick succession in a definitive way with very little risk involved. For this reason, the projects should be small rather than large and ambitious. According to Bhatnagar, it is necessary to take small steps with activities that are manageable within a relatively short time frame. This allows greater flexibility for tailoring the system and formulating a long-term strategy based on the actual experiences of the organisation and feedback from the client. Many local governments and state governments have seen impressive results because they are well placed to implement small, focused projects that involve low risk. He identifies the Bhoomi Project, which became successful because of using a phased approach in defining its scope. Anathakrishnan points out to the phased effort of the State of Kerala in modernising its local self-government institutions, which began with ten institutions and now is applied to more than 1250 panchayat institutions. The Project has used the local bodies as the base to deliver services, fostering involvement of the rural population and increasing accountability at the grassroots. Rather, what started off with 600 kendras in Malappuram district has expanded to cover 6000 points Statewide.

Bridging the Digital Divide

E-government applications should be widespread so as to cover disadvantageous, rural and remote areas of the country. The disadvantaged population should be able to access internet and web for various services and information that holds value for them. Provision of technological infrastructure must be a necessary element of an e-government effort in these areas. If the targeted clientele are not able to access services owing to the need of technology, e-government plan must ensure the same to enable access. This will help in bridging the digital divide or gap between the rural and urban areas.

Further, grassroots organisations and NGOs have to play an important role in 'interpreting the information-related needs of rural communities and in making information and knowledge usable by such communities' (Bhatnagar).

Monitoring and Evaluation

Independent monitoring and evaluation of e-government projects and programmes is necessary to judge their effectiveness. A legal authority/cell must be constituted in each ministry/department for effective coordination, time management, cost management and monitoring and evaluation of respective projects. Success must be judged or measured on the basis of well-laid down performance criteria, including:

- volume of transactions handled electronically
- response time to inquiries
- length of trouble-free operation

- number and percentage of public services rendered electronically
- number of new services delivered electronically
- percentage of territorial area covered
- number and percentage of constituents/beneficiaries accessing information or services electronically
- increased convenience or efficiency in delivering information or services
- length of time for procuring goods, services and information; and
- reduction in the cost for citizens and government (Working Group)

Bhatnagar states that currently, there are no frameworks or methodologies to accurately measure the success or failure of an e-government project. Success is often judged on the basis of media reports, recognition by international agencies and assessment provided by the project implementers. In all of these cases, clients that are supposed to benefit from these projects supply no feedback. If feedback is recorded, it is usually anecdotal and not based on a systematic survey. It is, therefore, important that e-government projects have an in-built component of periodic assessment by an independent agency. This is, in addition, to a continuing feedback mechanism from the clients.

Detailed audit report can highlight various reasons of project failure such as, poor management, delays in implementation, inadequate documentation of procedures, improper security aspects, inadequate training efforts, lack of connectivity, lack of data collation, non-implementation of citizen charter, and inadequate monitoring and involvement of officials, as in the case of Indian Customs Online Project (Bhatnagar). Hence, a continuous and detailed audit is a must to determine the aptness of e-government projects.

15.3 CONCLUSION

for successful application of ICTs in governance, there is need to give importance to certain crucial factors. These factors pertain to proper planning, well laid down vision and priorities, ICT architecture and infrastructure, professionals and skilled manpower, commitment and leadership of ministers, acceptance by officials, transparency and accountability, citizen-centredness, adequate finances, public-private partnership, legal recognition, well laid down information policy, documentation; and monitoring and evaluation.

These factors can lay down the roadmap for e-governance in countries, especially, of the developing world. Before setting on board an e-governance project, all the above-mentioned aspects need to be addressed to enable the project to make its visible impact. Countries like India must definitely take cognisance of these factors and plan and implement its e-governance strategy effectively.

15.4 ACTIVITY

Narrate some of the issues and challenges faced in implementation of an e-government project. You can explain with the help of some examples. Please let us know how you suggest improving upon them

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