

A strategy framework for the risk assessment and mitigation for large e-Government projects

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Summary

Globally, e-Government has become an effective tool for civic transformation. In the recent years, e-Government development gained significant momentum despite the financial crisis that crippled the world economy. For most of the governments, the crisis was a wakeup call to become more transparent and efficient. In addition, there is a growing demand for governments to transform from traditional agency/department centric approach to "Citizen-Centric" approach. This transformation is expected to enhance the quality of life of citizens in terms of greater convenience in availing government services. Eventually this would result in higher levels of citizen satisfaction and improved trust in government.

However, projects of such scale and complexity, faces numerous roadblocks which eventually hamper its potential to deliver the intended benefits to the citizens. The success of these programmes calls for strategic direction, policy making and greater coordination among multiple agencies, following a uniform approach in achieving the vision. This necessitates a strategic framework comprehensive enough to visualize and enable the leaders in addressing the potential roadblocks or resistance. This report presents the outcome of a research to define a strategic framework that models the opposing and propelling forces dormant during a project time. This would help the strategic decision makers to visualize each project as a whole and take quick decisions in the areas that need additional thrust, to ensure that the initiatives achieve the envisaged goals.

Key words:

e-government, risk assessment, TRANSFORM strategy.

1. Introduction

As the countries progress in e-Government, they pass through many stages, in terms of infrastructure development, service delivery, process re-engineering, data management, security, customer management and human resource development. Each stage in this evolution poses challenges to countries embarking in this direction,

and how effectively they handle those challenges decide the pace with which they move towards maturity.

Government agencies are increasingly embracing Information and Communications Technology (ICT) to stay efficient by integrating employees, partners and citizens in seamless collaboration. On the other hand, it is increasingly becoming difficult to meet the demands of the citizens with the present fragmented e-Governance initiatives. This situation is forcing many governments to take an integrated approach to improve the effectiveness of delivering services to the citizens. To meet the growing need to integrate the citizens into the e-Government initiatives, many governments are creating technology based citizen ID cards that would ensure reliable identification and authentication of citizens availing the e-services.

This process of adopting advanced ICTs for the transformation of e-Government meets with many challenges. Due to the complexity nature of these projects and the sheer number of stakeholder's involved, effective visualization and management of these initiatives assumes much importance. Any framework that aid in the strategic decision making should be simple and effective. Also this framework should maximize the ability of the government to achieve the of e-Government transformation. However, even after years tryst with e-Government initiatives, there are no commonly established methods and frameworks for the conceptual visualization of the overall strategy.

Being a comprehensive abstraction of the strategy, a strategic framework shows how different forces act on the projects. It shows what are the thrusts and resistances that are impacting the project. This makes planning and visualizing much easier. Any deficiencies and misalignments can be spotted easily. Most of the times, complexity and details decrease the usability and value of a strategic framework. However it is important that the framework represent important aspects of the e-government strategy.

A strategic framework has a longer lifecycle and scope. Hence the framework should stay valid in spite of the changes in the environment. Each project goes through many iterations of technical and process changes. All these

changes in the ecosystem should not impede the validity of the strategy framework. It should be adaptable to changing environments and hence it should be defined in a technology neutral manner. This would also act as the bridge between the decision makers and implementers, thus reducing the mismatch between the expected and the realized outcomes.

2. Literature Review

United Nation's Organization for Economic Co-operation and Development (OECD) in its definition [1] of e-government, emphasizes on its Citizen-Centric nature by stating "e-government is a way for governments to leverage ICTs to provide citizens, businesses and other stakeholders with more convenient access to government information and services and more direct involvement in governance and democratic processes".

Another definition [5], brings the dimension of constituents of e-Government as "e-government is a socio-technical system composed of people, technologies, and social and organizational structures and processes".

According to gartner [6] e-government is "The continuous optimization of service delivery, constituency participation and governance by transforming internal and external relationships through technology, the Internet and new media". This highlights the usage of technology to transform the stakeholder relationships and thus enabling an ecosystem that self evolves through continuous optimization.

From these viewpoints it is evident the complex nature of stakeholder interactions and integrations required in large e-Government projects. These literatures explore three dimensions of e-Gov initiatives, people, processes and technology. Strategy acts as the common guideline and form the glue between these three constituents, in achieving uniform progress.

3. Research Methodology

This research is more towards qualitative in nature and used extensive case studies of federal e-Government strategies and literature survey. The analysis involved mapping of the federal e-Government strategies and the countries ranking in the overall e-Government index of UN survey [1, 2]. This helped to provide some insight into what strategies were more successful in terms of UN ranking.

We tried to balance the intensity of data collection of the case studies. Too many constructs could have led to a complex framework. Inadequate volume of data or sparse

variation on the other hand might have failed to capture the whole picture in its entirety. We were aware of these potential risks and worked to avoid them.

Components and layout of the framework have converged from accumulated evidence (qualitative data). Gradually, a generic framework began to emerge. We compared systematically the emergent framework with evidence collected from the multiple cases one at a time. We continued this iterative process until the data corroborated well the evolving framework. Finally, we consulted literature for contradiction or agreement. In many cases this helped form more perspectives.

4. Proposed Framework

From the detailed literature study conducted and looking at the UN e-Government survey reports, it is amply clear that the political leadership and e-Government leaders need simpler and effective tools for visualizing and conveying the strategies. This made us look into the common phenomenon around us which people are familiar with that resembles the issues and challenges faced by e-Government projects. Different analogies were considered and finally found that rocket propulsion is a concept that most of the people are quite familiar with. There are opposing forces acting on a rocket called resistance which a rocket needs to overcome through appropriate thrust in order to reach its goal.

4.1 Rocket Analogy to e-Government Projects

A good analogy which is well understood by the key decision makers can convey more information than lengthy description of text. However the analogy cannot replace the formal definition of the strategy, on the other hand provide valuable abstraction in a way that can be easily conveyed. Primarily the analogy selected should be able to convey maximum details about the project being considered through a graphical medium. This would save valuable time and enable better coordination as it brings a lot of clarity and reduces ambiguity.

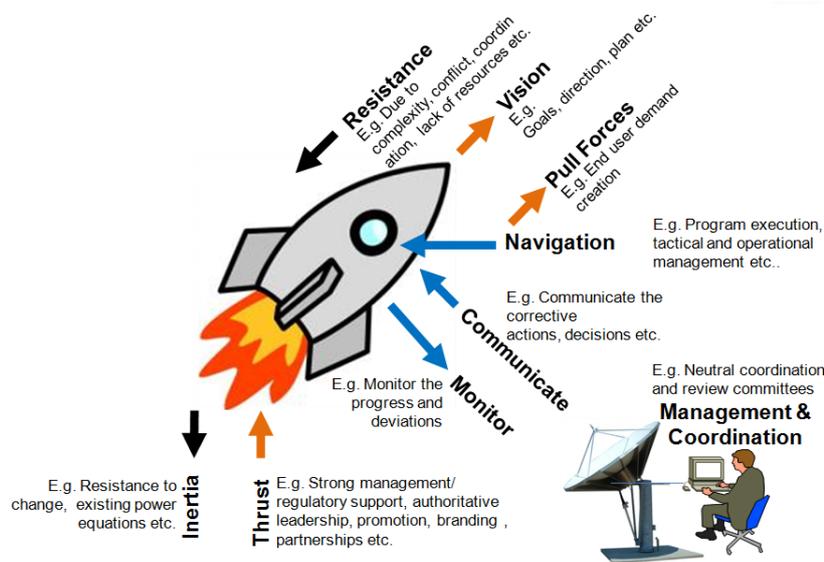


Fig. 1 Rocket Analogy to Citizen ID Driven e-Gov

Looking at the diagram in Figure 1 we can identify the forces that act on the rocket. Inertia is an opposing force that we most commonly encounter in the projects, to oppose any changes. One needs to apply heavy thrust to overcome the inertia till the rocket (project) gains significant momentum [7]. Once in motion (execution) the rocket faces continuous opposing forces which though not as strong as the inertia, but can slow down the projects or fail it completely if not handled properly. These resistances can be in the form of coordination issues, technical issues, lack of standards, etc. A rocket applies thrust to overcome the opposing forces. The thrust can come as a push which means from the management or pull

from the customer side. During the course of flight there is a need to continuously monitor the flight path to detect any deviations. These deviations once identified need to be communicated to the rocket navigation system to take controlling actions.

4.2 Strategy Framework

From the analogy described above, we can derive a model that maps the e-Government domain artifacts and problem statements. This model named as **Thrust, Resistance And Navigation Strategy Form** or in short as **TRANSFORM** is illustrated in Figure 2.

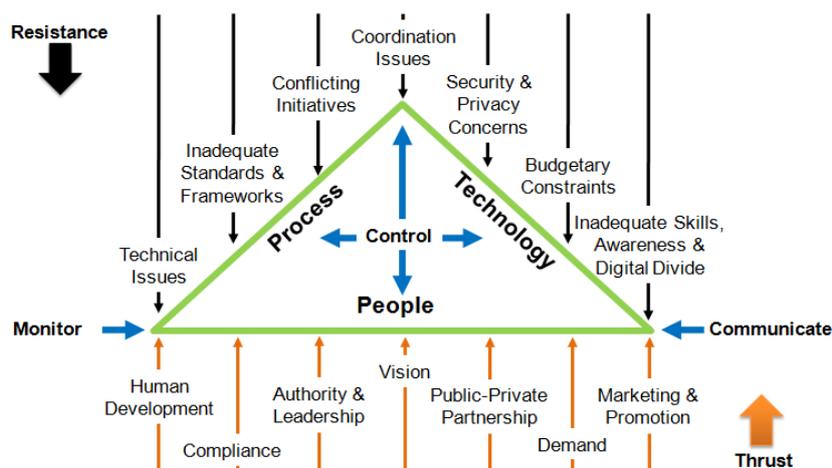


Fig. 2 TRANSFORM Strategy Framework

This graphical visualization of the strategy would be beneficial to the decision makers. It is more convenient for politicians who are normally non-technical. It is always easier for them to handle graphical representations than huge tables, lengthy texts...etc. Furthermore, a strategic framework gives a simplified yet a comprehensive conceptualization of what the e-government strategy is all about. This is particularly important during discussions about e-government initiatives among stakeholders. Whenever the need arises to consult the strategy it might just be satisfactory to consult the framework first. In case further details are required then the complete strategy is always available. This can, in many cases, save the time and effort of delving into the full text of the strategy.

4.3 Resistance

Some of the major resistances [5] or challenges faced by e-Government projects are described below:

4.3.1 Coordination Issues

Emerging forms of e-Government service delivery and ways of working often cross traditional government jurisdictions and administrative and departmental boundaries, as well as having the potential to overcome geographic distance. Variations in legal, regulatory and administrative regimes on different sides of these boundaries can inhibit and block the flow of information and services through new networked governance channels national, regional and local levels. Effective coordination across the regions and departments is particularly important because responsibility for directing public administration activity is frequently fragmented and shared across multiple levels. The distance between the government and other stakeholders could also block effective nation-wide e-Government.

4.3.2 Budgetary Constraints

The costs of developing, implementing and maintaining e-Government (such as, the costs of software, hardware and training for government officials) can all be resistances to e-Government. Related to this issue are the difficulties of measuring the cost/benefits of e-Government initiatives. Although some benefits can be seen in clear measurable terms (e.g. staff numbers and reductions in cost overheads), many cannot be defined with confidence in a similar way as they are too qualitative, intangible or unpredictably set in the future (e.g. improved quality of service, new services, responsiveness to citizen needs or avoidance of costs that would have been incurred using non-digital channels).

Difficulties in calculating substantive tangible benefits to offset clear, often apparently high, costs can lead to the

financial tap to e-Government being tightened or turned off. This can severely hamper the speed and scope of e-Government progress.

4.3.3 Digital Divide

Social and economic divides – demarcated by wealth, age, gender, disability, language, culture, geographical location, size of business and other factors – can mean e-Government resources are used in very different ways (or not used at all) by different individuals, groups and organizations. These divisions range from users at the ends of electronic ‘pipelines’ who may not know that there is a ‘tap’, where to find it or how to turn it on – to those with much expertise who are capable of interacting in sophisticated ways as providers as well as consumers of digital content.

It is important to address accessibility gaps both in terms of access to technology and in the levels of ICT skill; and ensure such networked services meet the greatly varying range of perceptions, knowledge and capacities among actual and potential users. Without a more nuanced understanding of user needs and choices, uptake of e-Government will remain limited and the potential benefits will not be realized.

4.3.4 Security and Privacy Concerns

Issues of trust, and the lack of it, have always been a strong ingredient in shaping the structures and practices of governance. It is therefore not surprising that a concern about trust in e-Government is a crucial element in the take-up and effectiveness of e-Government services. At the heart of these concerns is the security of the data collected on individuals and identity theft kind of issues. To help overcome trust concerns, mechanisms in which there is wide confidence need to be developed to protect citizens from the unauthorized electronic disclosure of personal information, including the transfer of such data between public bodies or between public and private organizations.

4.3.5 Technical Issues & Inadequate Standards

E-Government systems and services frequently fail or perform poorly because of inadequate design and poor technical interoperability. Difficulties caused by inappropriate user interfaces to e-Government systems can seriously hamper relations between public agencies and citizens and businesses. Such usability can sabotage even potentially successful services and discourage those experiencing them from trying other e-Government opportunities. As noted above, interoperability issues, including technical interoperability are of key importance to the integrated e-Government. Incompatibilities in

hardware, software or networking infrastructures within and between public agencies can cause significant problems, particularly in terms of providing integrated services.

4.3.6 Resistance to Change

Resistance to innovation by public administration management and staff can slow down, impair or prevent the necessary redesign of organizations and their processes required to deliver effective e-Government. Such inflexibility can set up barriers to the creation and delivery of efficient and effective e-Government services that could meet changing citizen and business needs. Factors that contribute to this inertia include inadequate staff skills; a lack of training and investment for staff both in terms of ICTs and change management competencies required for innovation in e-Government; fear of change; risk aversion by government staff, which may be exacerbated by the frequent poor track record of e-Government initiatives, including high-profile failed projects that cause significant problems for citizens and companies; fears of increased liability risks if sharing networked resources across different public services; and a limited sharing and learning of experiences and lessons from good practice.

4.3.7 Conflicting Initiatives

Often we can find multiple e-Government initiatives that seem to achieve similar outcomes. Eventually these initiatives tend to compete with each other to gain prominence. This kind of unhealthy competition and largely overlapping initiatives would result in wastage of resources and redundant initiatives. This normally arises from the lack of overall vision and roadmap for the nation and hence each agency is allowed to define e-Government strategies that are not aligned with common national goals.

4.4 Thrust

The major thrust areas of e-Government are described below.

4.4.1 Vision

Clear definition of e-Government vision would help the departments to align their strategies in line with the shared vision. This should include strategic outcomes of the projects in quantifiable terms. Periodic review of the initiatives can assess the progress made towards achieving the defined goals.

4.4.2 Authority & Leadership

Often lack of authority and leadership was attributed to many failed projects. As the e-Government initiatives span

across various administrative boundaries, there should be an empowered steering committee or leadership who can take necessary decisions that can be enforced.

4.4.3 Demand

As we have seen in the resistances, lack or perceived benefits can result in adequate motivation for the citizens to come forward and avail e-Government services. Hence it is important to initially focus on initiatives that greatly enhance the convenience and deliver benefits to the people. Such initiatives should be selected based on the large coverage and the impact. Such applications can generate a pull factor, generated by the demand from the people.

4.4.4 Public Private Partnership

The sheer complexity and the quantum of resources required for implementing and operating the e-Government projects calls for greater participation of private organizations participate in e-Government initiatives. One key factor in enabling this is the definition of policy towards enabling the partnership. The expertise and the resources available with private organizations can greatly push the speedy implementation and sustainable operation.

4.4.4 Human Development

Inadequate skilled resources can become a major bottleneck in e-Government projects which leverages advanced ICTs. E-Government strategies should address the need for adequate manpower and the training needs.

4.4.5 Marketing and Promotion

Marketing and branding are important aspects to gain wide respect and recognition for the e-Government initiatives. Generally e-Gov initiatives do not consider this as important. However we can see that corporate and business enterprises successfully use the branding and marketing strategies to reach the products and services to people. Hence there is a great need for the e-Government projects to be branded and promoted, to gain wide visibility, recognition and demand.

4.4.6 Compliance

As we have discussed many of the resistances, stem from the lack of common standards, agreed procedures and methodologies. This includes legal and regulatory policies and guidelines in addition to technical and operational standards. Enforcement of these policies would ensure proper alignment of independent initiatives and enable interoperability between departments.

4.5 Navigation

Finally let's define the navigation strategy for our framework. As illustrated in the diagram, an e-Government project is an ecosystem of people, processes and technologies. These three components work in close coordination in the implementation of any projects. To ensure the alignment with common goals and meeting defined performance criteria, it's a common practice to have an independent review committee which periodically monitor and review the progress of each projects. The observations are communicated to the project leadership to enact specific controls to bring corrections and re-alignment.

5. Conclusion

The TRANSFORM strategy framework presented in this paper, is a visual tool that represent the e-Gov projects in a technology neutral and abstract manner, using an analogy that widely familiar and simple. This enables strategic decision makers in seeing through the challenges faced by the initiatives and enable them to provide necessary thrust to overcome the challenges. This can also greatly bridge the gap between policy makers and implementers, as a common representation of the projects resulting in higher clarity and reduced misalignment.

Although the framework was created based on practice (using federal e-government strategies), yet interviews with practitioners for feedback on the findings might prove insightful. This mostly qualitative research has revealed the important constructs to building a framework. Quantitative research in the form of surveys targeting practitioners responsible for the development of federal e-government would reveal their impressions on the developed strategic framework. This however, can be challenging because of the difficulty in making contacts and arranging for such a study with a large number of countries in order to prove statistically feasible.

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