

# A Strategic Framework of e-Government: Generic and Best Practice

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**Abstract:** e-Government has become a global phenomenon. There have been some great innovations in e-government over the last decade. Some governments compete for leadership in offering online services. Others do not want to be left behind. Most governments have developed detailed strategies for realizing their e-government programmes. Although the goals behind these programmes vary across countries, there are still many commonalities among them. Such commonalities result from the application of best practices. Governments have the tendency to learn from each other. We could identify certain trends in e-government application. e-Government strategies per se are generally well developed. Yet the problems are mostly associated with implementation. This paper studies the strategies of (21) countries in addition to the European Union to put together a generic strategic framework of e-government. We found most of these strategies to be lacking a strategic framework - a framework that stems from the e-government strategy itself. The ultimate purpose of this paper is to introduce a best practice framework that is generic enough to be adopted by any given strategy. The paper argues the missing benefits of such a strategic framework. The proposed framework incorporates very important elements and principles. It has desirable characteristics and features that can add value to the e-government strategy. Unlike previous studies, the proposed framework defines strategic building blocks of e-government based on real-life e-government implementations of the countries reviewed. Our strategic framework possesses modular design. It is flexible, customisable and extensible. In putting this framework together, we took into consideration commonalities, trends, and best practices in addition to relevant work of other scholars.

**Keywords:** e-government, framework, strategy, best practice, generic, strategic

## 1. Introduction

World governments have achieved substantial progress in their e-government initiatives during the last decade. e-Government has become a world phenomenon. Each government has developed its own strategy to meet the challenges of e-government development. Nonetheless, e-government realisation in its full potential is still far from complete. Since it is still a work in progress, e-government is constantly developing. e-Government strategies are updated fairly frequently. What was valid a few years ago in terms of services delivery, efficiency, etc. may not be satisfactory today. This is mainly due inter alia to rapid debuts of newer technologies and ideas. Since an e-government strategy serves as a general guide to e-government realisation, it is crucial to keep it clear and simple.

There are, however, no commonly established guidelines to write clear and simple strategies. Only few research studies (e.g. Heeks, 2006) have provided guidelines for writing e-government strategies. Still though, no previous studies have been recorded to attempt conceptualising e-government strategies in order to build a generic and structured one that incorporates the necessary basic elements for a successful development. This article delves into an exploratory study of real-life e-government strategies. It investigates the possibility of creating a typical e-government strategy.

An e-government strategy is a 'plan for e-government systems and their supporting infrastructure which maximises the ability of management to achieve organisational objectives' (Heeks, 2006). This plan is described in a top-level document that addresses strategic directions, goals, components, principles and implementation guidelines. The strategy should be understandable without any ambiguities. Such a strategy is considered a baseline and thus will be referred to quite often. Different versions of e-government strategies of (20) countries, in addition to that of the European Union, have been the subject of this study. These countries are: Australia; Belgium; Denmark; Austria; Japan; Finland; France; Canada; Germany; Korea; Singapore; Jordan; Egypt; UK; India; New Zealand; USA; Malaysia; Brazil and The Netherlands.

Choice of the list of countries was based on the availability of relevant published documentations. The countries with best-practice records were among the list. Many of the countries reviewed topped the score of e-government maturity. To make the list even more representative, we added some of the developing countries. Geographic variation was also taken into consideration. Thus, the list includes

countries from all continents. This diversity is meant to provide a generalised perspective of these strategies during the study.

## **2. Importance of a strategic framework of e-government**

A primary aim of this article is to construct a strategic framework of e-government. This framework serves as a generic abstraction of an e-government strategy. Despite its simplicity and necessity as we shall see shortly, an e-government strategic framework is missing from many of the national e-government strategies reviewed in this study. At least not in the way this article is advocating.

The majority of the e-government strategies of sample countries is lacking a strategic framework. Some countries had included some relevant diagrams but they do not qualify as strategic e-government frameworks based on our description later on. Only Singapore has included a strategic framework of e-government. Yet this framework is far from being an adequate abstraction of the country's e-government strategy. Its components are the vision, action points and key enablers of e-government. These meagre contents are characteristic of Singapore alone, of course.

Bundling of an e-government strategic framework could have certainly added value to the strategies of these countries. Today, there is a lot of replication of efforts on the part of governments who look forward to incept e-government programmes. A comprehensive, well-designed framework and implementation methodology would save governments a lot of time, research, money and disappointments.

Sometimes a picture can convey more information than many pages of text. An e-government strategic framework is not meant to replace the detailed text of the e-government strategy but rather to enhance it. It can also serve as a quick alternative. This graphical representation gives a lot of information at a glance, especially when drawn well to stress the main messages of the strategy.

This makes it a perfectly useful tool in the hands of 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 conceptualisation of what the e-government strategy is all about. It immediately shows the trends in e-government realisation. 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.

Being a comprehensive abstraction of the strategy, a strategic framework shows how different basic components fit together. It shows each component in relation to others. This makes planning and foreseeing of discrepancies a lot easier. Contradictions, misalignments, and out of orchestration with the general policies can be spotted easily.

For transparency reasons, people should know about their government's initiatives and intentions. It is also important for a government to publish its accomplishments. The framework is easier to disseminate in brochures and handouts than the complete strategy. This also saves publishing costs.

The e-government strategic framework should convey the main message of the strategy (i.e. the strategic intent). The framework is very convenient for this purpose. This is because it is top-level representation of the strategic orientation in graphical format. Being a graphical visualisation, the strategic framework of e-government should be neither cluttered nor too complicated. Simplicity and easy interpretation is the power behind such a framework. Moving towards complexity decreases its usability and value. It is important, though, that the framework highlights the most important aspects of the e-government strategy. For example, it must include the government's focus and basic components of the e-government programme.

An e-government strategic framework has a relatively long-term scope and validity. In order to stay valid, it must respond to changes in the environment. Technology is ever changing at an accelerating pace. It is also frequent that simplification of procedure results in process re-engineering. Organisational structures within the government can also take place. These and many other changes

in the environment must not invalidate the framework. It should be flexible enough to cope with them. One way to make a strategy more responsive is to make it as technology neutral as possible.

The proposed framework is “customisable”. It is generic in nature and not constrained in some country-specific characteristics. Any country can utilise the proposed framework by populating it with its own visions, objective, initiatives and priorities. Layout and the relationships within and among its different components can also be customised. In this way, individual governments can still reflect their own focus and strategic agenda through local customisation of the framework.

A strategic framework should serve as the bridge between regional and local strategies. In addition, it should also be extensible through detailed sub-strategies. For example, there could be a dedicated strategy for client centricity (e.g. Citizen Centric Government: Electronic Service Delivery Strategy for the Western Australian Public Sector...etc.) Obviously all these requirements are challenging. Extra care can be taken to structure the framework. Before going any further, let us check any previous research that might have tackled the issue.

### 3. Literature review

We have noticed a relative neglect of this strategic part of e-government despite its extreme importance. Soundness of an e-government strategy can be the difference between success and failure of the whole endeavour. Even in practice, many public authorities do not have any e-government strategy at all (Heeks, 2006).

There have been a number of studies related to e-government strategies (e.g. Aichholzer, 2004; Bhatnagar, 2004; Chen et al, 2006; Heeks, 2006; Shahkooh and Abdollahi, 2007). Most of these studies, however, shed some light on what e-government strategies should be like or how to plan them. Some other contributions sought to produce frameworks aimed at better understanding of e-government as a concept. Each attempt tackled the complexity of e-government from a certain perspective.

Methodologies and basis for these studies also varied. Grant and Chau (2006) and Wimmer (2002), for example, introduced frameworks to help understand e-government in its entirety. The framework of Sharma and Gupta (2003) was based on the work done by Heeks (2001), observation of few practical implementations by some countries (exclusively: USA, Canada, Singapore and India), and their own experience. The basic components of e-government Sharma and Gupta (2003) stated were actually based on maturity levels of e-government implementation. Others (e.g. Miranda, 2000) thought of building blocks to be purely technical components (e.g. ERP, CRM...etc).

Wimmer (2002) on the other hand, perceived her framework as hodgepodge of different views of e-government, abstraction layers, and progress of public service. She argued that these perspectives provide better understanding and visualisation of e-government. Grant and Chau (2006) developed their e-government framework to help assess, categorise and classify e-government efforts. They started from few workable definitions of e-government to figure out the building blocks.

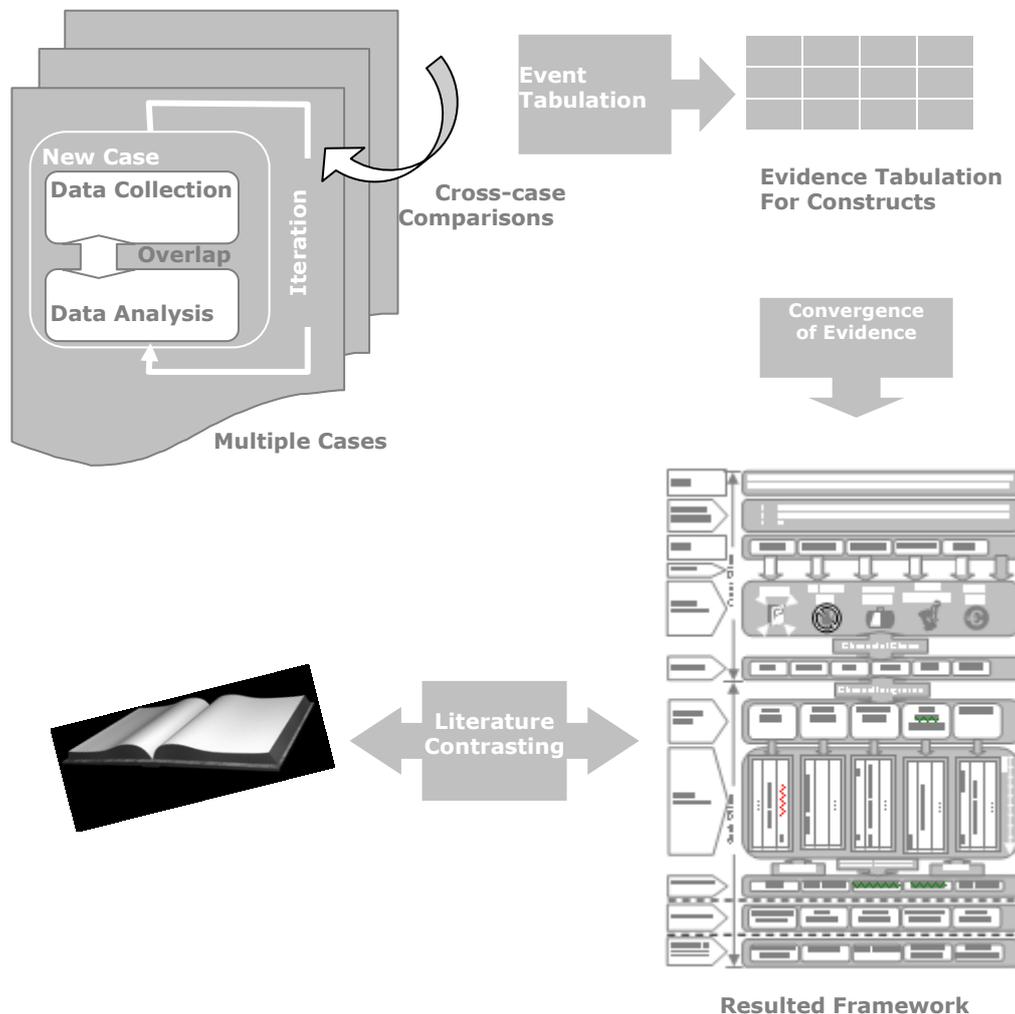
The drive behind developing e-government frameworks is the lack of mature documentation in literature (Sharma and Gupta, 2003). What is particularly noticeable about these previous studies is the intention behind building the frameworks as well as their domain of application. Most of these frameworks were developed to provide a better understanding of e-government as mentioned above. No one study was aimed at developing a framework that abstracts the e-government strategy. Furthermore, none has discussed the importance of embedding a strategic framework in an e-government strategy. This is where our contribution fits. Our study comes in to fill a gap in literature concerning e-government strategies. This article advocates the inclusion of a strategic framework in all e-government strategies in order to realise the benefits stated earlier. Thus, the contribution is distinct. We are building a strategic framework of e-government that is both generic and based on best practice.

The word “strategic” in the title refers to the facts that it stems from the e-government strategy. Hence, our approach is rather different. We primarily relied on real-life strategies of e-government of many countries to produce the proposed framework. Thus, the end product merits as both generic and best practice. In addition, we took the relevant work of researchers mentioned above into consideration in structuring the framework. Particularly, their efforts have helped us examine all possible dimensions of

our framework. It is true that e-government strategies are driven by vision, political and economic factors and requirements of each individual country (Grant and Chau, 2006), yet we found a lot in common in all these facets. Having seen the relative neglect of this vital research on this strategic level, let us now discuss the research methodology followed. This is the subject of the next section.

#### 4. Methodology

Figure 1 below gives an overview of the research methodology followed to structure the framework. As the figure shows, we resorted to the *structured case approach* by Plummer (2001). Plummer (2001) suggested that the structured case study approach has the powers of interpretive (during data analysis) and positivist (through conceptual framework) epistemologies. Riedl et al (2007) advocated and implemented the structured case approach to build theory in e-government. They argued that this methodology draws the linkage between data and conclusion. They concluded the validity of the approach for theory and knowledge building. We estimated that this scientific research methodology fits well the nature of our research. We overlapped data analysis with data collection as Van Mannen (1988) and Glaser and Strauss (1967) suggested. This allowed us to make adjustments during the data collection process. The added flexibility of data collection was important since we were not sure what data collected will become important in the course of our research. We were building a framework out of textual (qualitative) data. In the process, we conducted intensive and iterative cross-case comparisons.



**Figure 1:** Overview of our research methodology

We did not set in advance the number of cases to consult. We added new cases whenever we were in doubt about some construct or component in the framework. We kept adding cases until the addition of a new case produced minimal effect on the emergent framework. In other words, we stopped adding cases once we witnessed a convergence of evidence. 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.

To counteract the possible effects of our initial impressions on data collected we searched for cross-case patterns. We used a mesh of (21) cells for each group of data to generate accurate and reliable constructs. To have a better understanding during comparison analysis we fell back on lens or keyhole comparisons (Walk, 1998). This comparison methodology has produced new perspectives. It allowed us to gather quality data. This was not easy, however. We had to do keyhole comparisons not between two cases but rather among (21).

To validate each construct in the sought framework we tabulated evidence (data) from which each construct has evolved (Miles and Huberman, 1984; Sutton and Callahan, 1987). The reason to follow this technique was the relative variation of evidence across cases. The technique followed made it easier to aggregate a qualitative evidence.

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.

The following sections describe in detail the steps taken to structure the framework.

#### **4.1 Best-practice based methodology**

This study takes into consideration diverse nations in many respects. Trying to build a generalised framework was first thought to be challenging. It seemed that one-size would not fit all. There are many differences across the different governments. Countries differ in one or more of the following characteristics:

- Political system
- Legal system
- Economic situation
- Available technological infrastructure
- Internet and PC penetration
- Availability of skills and human resources
- Literacy rate
- Computer literacy
- Level of poverty
- Leadership
- Ethnic diversities in terms of norms, languages...etc
- Training capacity
- etc...

Other contextual differences include nationally specific benchmarks such as e-readiness, legal restrictions and existence of a nation-wide e-government strategy (Becker et al, 2004). With these differences, it is impossible to copy a good example of implementation from one country for another. Yet despite all the differences, there are commonalities too. Governments face similar challenges in planning and implementing e-government. Infrastructure solutions are very much the same. In general, e-government principles are similar. In fact, we found much in common.

During this study, the focus was on commonalities and best practice. We immediately came into the dilemma of what best practice was. What was bad practice then? What counts as best practice? We reviewed a number of definitions. In the end, we settled on a workable definition that fits our research

intention. Most of the definitions mention the fact that best practice is the best or optimal solution for a problem. BusinessDictionary.com defines best practice as 'Methods and techniques that have consistently shown results superior than [sic] those achieved with other means, and which are used as benchmarks to strive for. There is, however, no practice that is best for everyone or in every situation, and no best practice remains best for very long as people keep on finding better ways of doing things'. Since there is no ultimate knowledge in e-government, best practice has to be based on experience. We define best practice as a "concept, technique, methodology, or solution that has proven reliable in achieving desired objectives, through experience, research and best available knowledge or technology and that has proven effective through replication".

With this definition in mind, our interest has been on common visions, strategic objectives, priorities, components and applications etc. Commonality can generally indicate repeated successes. This is particularly true if witnessed for a lengthy period. Indeed, we have consulted data from the late nineties through future plans targeting the late twenties of this century. We considered replication across this period. Constructs with more replication records were given higher attention. Throughout this article, evidence was sorted based on this criterion.

## **5. Structure and contents of e-government strategies**

Analysing e-government strategies was the first step in structuring the framework. This analysis has set a rough delimiter of framework. It was necessary at this point to have a general idea about the components of the framework. This analysis has actually given us the opportunity to form an impression of the common elements in national strategies.

In the research methodology we mentioned that it was necessary for us to start with no preconceptions. This, we believe, was necessary for letting data collection guide us through the process of compiling evidence. Preconceptions may have limited our focus. We wanted to start from the most abstract form of the e-government strategies. Thus, we began by studying the major components of the e-government strategies. These components have provided us with an initial guidance of what to look for during our quest. It was only logical to start from here. Furthermore, we suggested earlier that the proposed framework should reflect the e-government strategy it stems from. The proposed framework should somehow summarise the e-government strategy. We studied the most prominent contents of numerous e-government strategies of our sample countries. Figure 2 (below) shows both the common contents as well as the sequence of appearance in the national e-government strategy.



**Figure 2:** e-Government strategy development based on our findings

Figure 2 above already gives us some hints about the layering of the proposed framework. Since the above components were found to be present in all strategies then they should be basic constructs in our framework.

We studied each of these components in detail in an effort to structure the sought generic strategic framework of e-government. We were particularly motivated to know the basic elements of each of these components as well as the relationships among them. It must be said at this point, that our research was not limited to the components found in Figure 2 above. These components, however, have provided a starting point of what to look for next. The following sections present the findings.

## 6. Vision

All e-government strategies reviewed have included a vision right at the beginning. Vision and political will are indispensable to launch the e-government project. Vision is necessary, as it will be always the motto of the e-government committee, which is normally responsible for planning and spearheading implementation (Heeks, 2006). It will always be referred to during implementation later on. The vision is important because it reflects the policy of the government. From this vision, the committee is held accountable to lay out the mission statement, which is normally more expressive than the vision and contains further details. During analysis, there were only two instances (UK and Jordan) where a mission statement was mentioned together with the vision in the e-government strategy. In most cases, only the vision was included. Therefore, we did not study the mission statement as we were only seeking commonalities and repetitions.

An e-government vision is driven by the unique setting of social, political, and economic factors and requirements (Park, 2008). One should note that the vision might change for the same country upon the introduction of a new e-government strategy.

## 7. Strategic objectives

Each government sought to achieve certain objectives from the development of its e-government programme. These objectives are extremely important. They justify the huge resources often dedicated to e-government initiatives.

Unlike in business, governments must make sure that money is spent extremely wisely. In a democratic system, the government needs to get approval of the national parliament to authorise the budget. People responsible for the inception and development of e-government must work hard to convince decision makers about the necessity for e-government. Without support from the leadership, e-government is doomed for failure as many studies suggested (e.g. OECD, 2003; United Nations, 2003; BBeGov, 2007). Justification is critical for the success of e-government initiatives. The strategic objectives of e-government play an important role in this justification. Thus, greater care must be put to devise them in coherent manner.

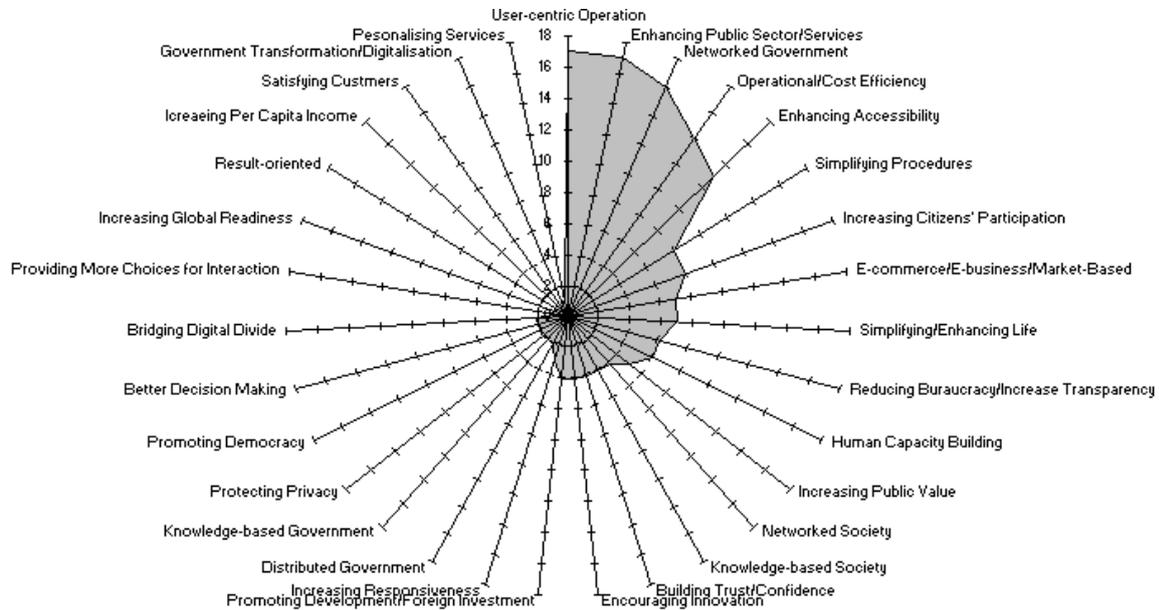
Strategic objectives should provide a complete package for what the government is going to achieve. They must not be totally unrelated or completely disconnected. For a viable implementation, they must provide some sort of a universal focus that reflects a general direction behind the initiative. For example, some strategic objectives are focused around providing more citizen satisfaction (e.g. Singapore). Others seek to achieve more citizen participation or democracy (e.g. Korea, Egypt...etc.) and so on. This focus might come in response to existing deficiencies or shortcomings.

Because of the absolute importance of the strategic objectives behind e-government implementation, they are highlighted in the national e-government strategy. They are referred to as strategic here because they stem from the e-government strategy. They also show a long term and high impact intent. They guide an important investment. It is a transparency imperative for these objectives to always be a coherent part of any e-government initiative.

We analysed and compared the strategic objectives found in each of the e-government strategies of the sample countries. To see exactly what strategic objectives the majority of governments sought, we studied all e-government strategies of this group of countries. Figure 3 shows strategic objectives based on their popularity among countries. We started by tabulating each country's vision and strategic objectives. We studied each objective to find out what meanings it held. We panned through the mesh of objectives looking for similarities. Afterwards, we were able to introduce a list of objectives that can fairly represent each of the original individual objectives. This way, 31

representative strategic objectives were identified. The objectives were then examined for commonality.

For each common objective, we counted the number of countries that adopt a similar one. For instance user-centric operation/orientation scored 17. In other words, out of 20 countries, 17 of them declared in their e-government strategy that user centricity was a strategic objective. The same methodology was applied to each common objective.



**Figure 3:** Popularity of strategic objectives as evidenced in the e-government strategies of the sample countries

This study revealed that the number one strategic objective sought after by governments was “user-orientation”. In fact, some studies have accentuated the importance of client-centricity (e.g. CceGov, 2007, Dutil et al, 2007, ECOTEC, 2008). Practically, to achieve cost-effective, relevant and personalised services, e-government needs to be client-centric as revealed by a new study (CceGov, 2007). The study also concluded that customer focus and addressing customers’ changing needs enhances democratic dialogue.

Enhancement of public sector capacity for better services, networked government, efficiency, simpler procedures, to boast citizen’s participation, business facilitation, simplification of life, increasing public value and human capacity building are respectively among the most prominent strategic objectives that appeared in the e-government strategies.

These objectives have affected the design of the strategic framework of e-government. For example, the developed framework has manifested client-centric design. This was because client centricity was found to be the number one strategic objective. The other strategic objectives have at times forced a particular layout of some relevant parts of the framework.

### 7.1 Guiding principles - trends

Common guiding principles of e-government were explored. These principles define the general themes of e-government projects. We managed to capture the trend in these guiding principles from a global perspective. These trends show where world governments are heading in their e-government programmes. The findings tell us about what qualities can be expected from e-governments in the coming few years.

Common trends in e-government strategies play an important role in designing a strategic framework. They delimit the possible constraints. In addition, they provide focus and control over design and implementation.

We collected the guiding principles through delving in to the strategies at hand in a similar manner to what we did previously for the strategic objectives. Table 1 below lists these principles sorted in terms of adoption by the different countries in a descending order.

**Table 1:** Common guiding principles of e-government by country

Guiding Principle	Adopting Countries
Efficiency/capacity	India, Jordan, The Netherlands, Egypt, Australia, New Zealand, Finland, Austria
Participatory government/Considerate administration	Korea, The Netherlands, Egypt, Brazil, New Zealand, UK, Finland, Austria, Denmark
Universal Accessibility	India, Japan, Brazil, UK, Austria, New Zealand
User-oriented	Japan, Egypt, Australia, UK, Denmark
Convenience/Satisfaction	India, The Netherlands, New Zealand, Austria
Interoperability	Finland, France, Denmark, Austria
Knowledge-based government	Korea, Finland, Brazil, UK, Belgium, Germany
Transparency	India, The Netherlands, Austria
Reliability	India, The Netherlands, Jordan
Trust	Finland, The Netherlands, New Zealand
Networked/integrated government	Korea, Brazil, New Zealand
Quality	The Netherlands, Jordan, Denmark
Open source/standards	Brazil, France, Austria
Redundancy Control	Jordan, The Netherlands
Flexibility	Jordan, Denmark
User-friendliness	Japan, Austria
Rationalisation of resources	Brazil, Denmark
Shared services	Australia, Denmark, New Zealand, Korea
Mutualism & Cooperation	France, Austria
Privacy	The Netherlands, Austria
Orchestration/standardisation	Brazil
Channel of choice	The Netherlands
Personalisation	The Netherlands
Accountability	The Netherlands
Balanced Social development	Finland
One-stop-shop	India, Korea, Austria
Responsiveness	The Netherlands
Value for money	Australia
Security	Jordan
Scalability	Jordan
Manageability	Jordan
Continuity	Jordan
Creativity	Japan
In conjunction with the European Commission	France
Shared software development	France
Competitiveness	Finland
Sustainability	Austria
One-time information entry	Australia
No wrong door	New Zealand, Australia
Service packaging	New Zealand
Attract Employees	New Zealand

The most recurring guiding principle is to always consider efficiency while devising solutions. The second guiding principle is to design e-government in such a way as to allow greater participation from the constituents. Clearly, this is a social requirement that also calls for government to become more responsive and considerate vis-à-vis its users. A responsive government aims at offering better services. To achieve this, we need to achieve internal efficiency.

The third most important guiding principle for e-government is to achieve universal access. Throughout our quest, we have seen that accessibility was given amplified attention. This is actually, quite logical. There is no point in designing state-of-the-art services (online or otherwise) at high costs without being accessible to every one. Services should be accessible to all, indiscriminately, regardless of their financial abilities, language, geographical locate etc.

User-centricity was found earlier to be the most sought after strategic objective. Appearing here at position number four, has surprised us. This means that governments do not give it the necessary attention when developing e-government. We expected a guiding principle that enforces client centricity on the design of every system or service. This is especially because we have used the same group of countries to generate both the common guiding principles and the common strategic objectives. Still though, it is in an advanced position among the guiding principles.

The fact that each government in this study has created a portal means that they made a great step forward towards one-stop shop. Still, not all of them have explicitly adopted the one-stop service delivery model. The portal per se does not guarantee a one-stop shop. It requires designing all the e-government systems to be *connected* in such a way that no matter where the user starts his or her quest, he or she will always be pointed to the right service. This clearly needs collaboration among all government units. Therefore, this guiding principle should receive more attention for a better user experience.

The proposed framework should incorporate the major guiding principles listed above. They affect the general layout of the framework, particularly the relationships among the components. The common guiding principles of Table 1 above were found to target three areas of e-government: *service delivery*, *internal efficiencies* and *government networking*. These three areas were found to capture most attention of world governments, as we shall see in the next section.

## 7.2 Focus areas of e-government

In the previous section, it was mentioned that there are three main areas targeted by certain guiding principles. These areas were service delivery, internal efficiencies and government networking. We wanted to certify this fact by measuring another construct.

To do this, we looked for the key areas targeted by e-government strategies. We relied on the focus areas declared by governments themselves in the strategies. Similar to the methodologies described above, we tabulated the findings in Table 2 below. The left column lists the common focus areas sorted by replicatability. The right column squeezes in for each focus area the countries that have declared it as a focus area in their national e-government strategies as well as probably other official documentation. Again, the findings are sorted top-down based on the number of countries (replication).

**Table 2:** Focus areas of e-government

Focus Area	Countries
Service Delivery	India, Egypt, Canada, Germany, Austria, The Netherlands, Denmark
Internal Efficiency	India, Brazil, UK, The Netherlands, Denmark, Egypt
Government Networking	Germany, Finland, Denmark, Austria, Brazil, Belgium
Infrastructure Development	India, Japan, Egypt, Brazil, Germany
Accessibility/Interface	India, Canada, UK, Finland
Administrative Reform	Korea, Finland, The Netherlands, Belgium
Knowledge/Information Management	Korea, India, Brazil, Germany
Legislation/Regulations	India, Egypt, UK
e-Commerce/business adaptation	Japan, Egypt, UK
HR Development	India, Japan
Cooperation	Austria, Belgium
PPP	Austria, UK
Simplifying procedures	The Netherlands, Belgium

Focus Area	Countries
Engagement of people	Austria, Finland
Building confidence/trust in online services	Canada
Standardisation	Germany

From Table 2 above, one can see that the number one focus area is service delivery. This piece of finding shows that the majority of governments pay the greatest attention to service delivery. A government service can be either informational, interactive or transactional (United Nations, 2001). Governments seek better service delivery.

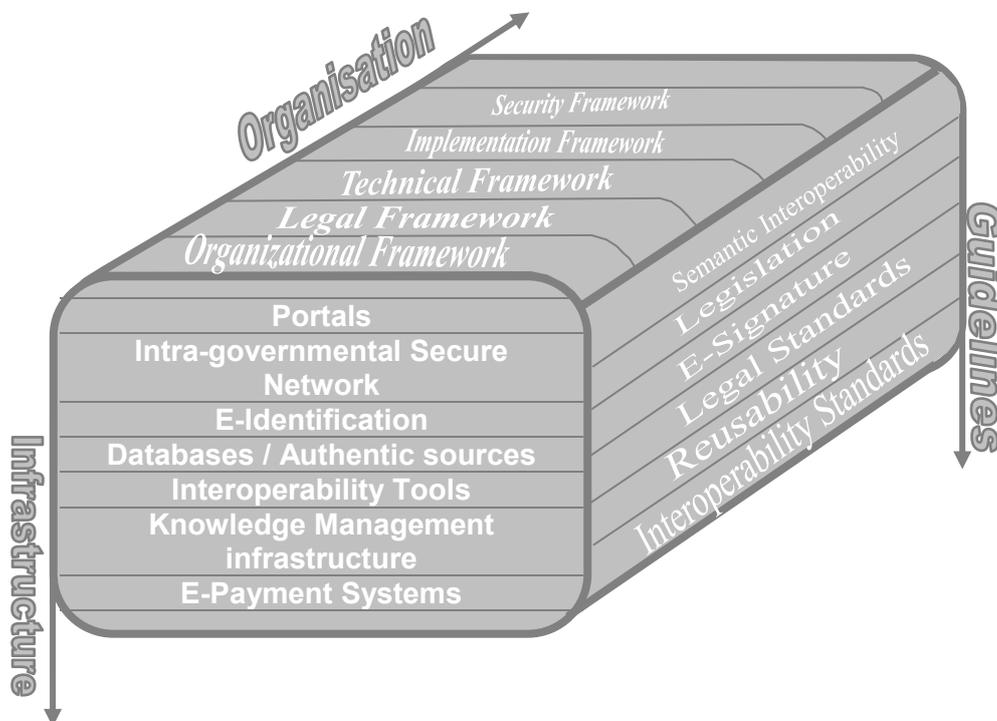
However, intensities of effort in these focus areas are not equal. The list in Table 2 is sorted according to the intensity of work from top to bottom. The more the number of countries in a particular focus area the more work is being carried out in this area. The table reflects the priorities of action for governments. The top four focus areas of e-government, which involve the highest number of countries, are service delivery, internal efficiency, government networking and infrastructure development. However, work on infrastructure will not continue to be a major action area of e-government for two reasons:

- Government investments in infrastructure are not as eager as that of business
- This domain is important at the starting phase of e-government. Many governments have already achieved mature IT infrastructures.

This leaves us with three major areas of action: service delivery, internal efficiency and government networking.

### 8. Building blocks of e-government

A similar approach was followed in order to discern the common basic building blocks of e-government. Not all governments have explicitly stated the building blocks in their strategies. For such cases in particular, we had to have a look at the major projects carried out during implementation of e-government. This allowed us to figure out the basic blocks implicitly.



**Figure 4:** e-Government components cube

Figure 4 shows the different components of e-government. This cube of components of e-government depicts the organisation of e-government from a practical perspective. It shows how governments visualise the basic elements of their e-government programmes. The cube is based on commonalities

in describing the building blocks as evidenced in the national strategies of e-government of the samples countries.

## **9. Modularity**

As mentioned earlier, newer versions of e-government strategies are very common. This comes as a response to changes in the environment. Even some parts of the e-government strategy can be fixed, updated, or changed. The proposed strategic framework of e-government must thus exhibit a flexible design. Rigid frameworks will fail to survive in a world where technology advances rapidly. In addition, reform can result in many organisational and even possibly functional changes.

Modularity allows flexibility. Therefore, the proposed framework is modular. It is easy to add new modules to the framework. It is also convenient to update a certain module without messing up the whole framework. As such, the proposed strategic framework is fully extensible and customisable. It can be augmented with all kinds of sub-frameworks and architectures.

Modularity serves another purpose set forth as one of the basic characteristics of the sought framework. It makes the framework layout less cluttered and more legible. It was also found to be one of the trends in some e-government strategies (e.g Austria, The Netherlands, Jordan). These strategies have been planned to be modular. The strategic framework of e-government presented in this article is a core framework that needs local customisation.

At this point, all the bricks and mortar to structure the strategic framework of e-government are ready at hand. The next section introduces this framework and elaborates on its components.

### **9.1 The strategic framework of e-government**

Figure 5 presents the proposed strategic framework of e-government. This is the generic and best-practice based framework that we were seeking to put together.

As we can see, layering reflects the common components of the strategic frameworks of e-government reviewed. The general flow of the layout matches up roughly the general layout of e-government strategies described in a previous section.

The framework is obviously modularised. Each component is a module in itself. Figure 5 shows these modules and the relationship among them. One can see that there are more modules than the basic common components of the generic e-government strategy described above. The reason is this framework shows more than just the common components of an e-government strategy. The modules are:

- Vision
- Strategic objectives
- Users
- Delivery modes
- Guiding principles
- Channels
- Priority areas
- Major initiatives
- Infrastructure
- Organisation
- Guidelines

The framework is subdivided into two main parts: the front office pane and the back office pane.

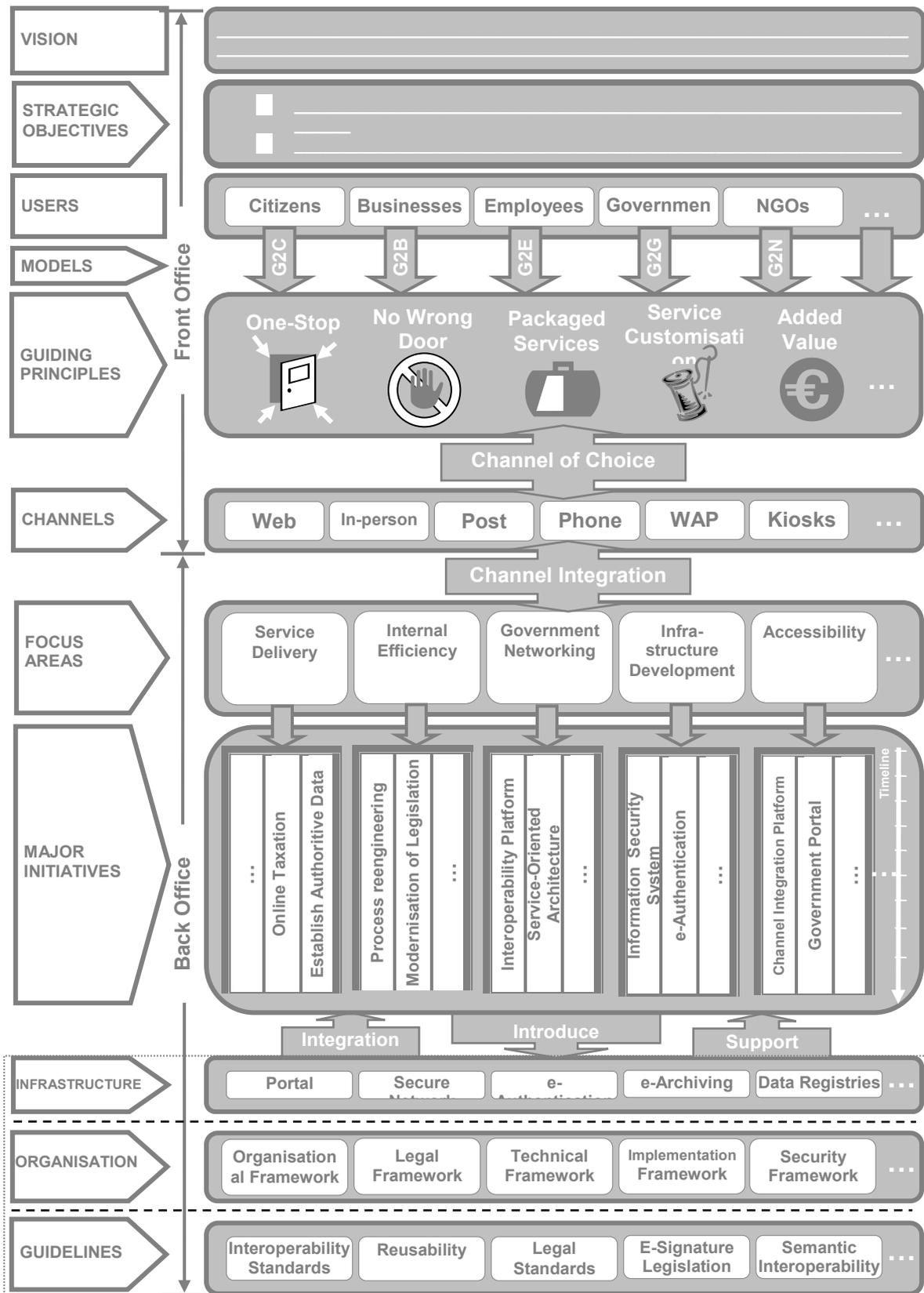


Figure 5: The proposed strategic framework of e-government

## 10. Conclusions

We have introduced a generic strategic framework for e-government. This framework is very useful to incorporate in e-government strategies. It simply adds value to an e-government strategy. Not only

does this graphical representation recap the basic elements of the strategy, it also visualises the relationships among the basic components within the strategy. It has been found that no such framework was present in most e-government strategies reviewed in this study. This gives rise to the importance of the proposed framework.

The proposed framework offers a comprehensive view of the e-government programme. It incorporates very important components of front office and back office views. It has been modularised for flexibility, extensibilities and customisability.

Unlike other frameworks, the proposed one is best practice based. It comes as result of a comprehensive study of e-government strategies produced by (20) countries in addition to the European Union. We hope that the proposed framework will help practitioners and researchers for better implementation and understanding of e-government.

One of our prominent findings in this research is the noticeable concentration on the technical components of e-government. We found out the following components labeled as "Basic Components" in the majority of strategies reviewed:

- Electronic access to government
- Electronic authentication
- Unique identification numbers for citizens and businesses
- Key registers/Authentic sources
- Electronic personal identification (chip cards)
- Electronic information exchange
- Fast connections among government organisations

Although these technical components are crucial for building the basic infrastructure, yet a holistic view of e-government must be depicted in the strategy. Since there has been a shift from e-Government to e-Governance (e.g. Marche and MacNiven, 2003; Dawes, 2008) other socio-technical components must receive proper attention.

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. From our experience, getting cooperation from government officials is not an easy task.

## References

- Aichholzer, G. (2004) 'Scenarios of e-Government in 2010 and implications for strategy design', *Electronic Journal of e-Government*. Volume 2, Issue 1.
- Agence pour le développement de l'administration 1 électronique, (2004) *Enjeux stratégiques de l'administration électronique*. France.
- Australian Government Information Management Office, (2006) *Responsive Government - A New Service Agenda*. e-Government Strategy. Australia.
- BBeGov (2007). *Breaking Barriers to eGovernment* study, [Online], Available: <http://www.egovbarriers.org/>. [7 August, 2008].
- Bhatnagar, S. (2004) *E-government: From Vision to Implementation : a Practical Guide with Case Studies*. ISBN 0761932607, 9780761932604. SAGE.
- Cabinet Decision, (2002) *Implementation Plan for the E-government Initiative 2005. Progress Report on Implementation*. Dated 11 December 2002.
- Cabinet Office, (2006) *Transformational Government Enabled by Technology*. UK.
- Cabinet Office, (2005) *Transformational Government Enabled by Technology*. Cm 6683. UK.
- CceGov (2007) *Citizen-centric eGovernment* study, [Online], Available: <http://www.ccegov.eu/> [1 September, 2008].
- Central IT Unit, (2000) *e-Government - A Strategic Framework for Public Services in the Information Age*. ISBN 0 7115 0394.X. Cabinet Office. UK.

- Chen, Y., Chen, H. Huang, W., Ching, R. (2006) 'E-Government Strategies in Developed and Developing Countries: An Implementation Framework and Case Study', *Journal of Global Information Management*. Idea Group.
- Civil House of the Presidency of the Republic (2002). *2 years of Electronic Government Review of Achievements and Future Challenges*. Ministry of Planning, Budget and Management . Presidency of the Republic. Council of Government. Executive Committee of Electronic Government. Brasilia.
- Dawes, S. (2008) 'Governance in the information age: a research framework for an uncertain future', *Proceedings of the 2008 international conference on Digital government research*. Montreal, Canada.
- Commission of the European Communities, (2006) *i2010 e-Government Action Plan: Accelerating e-Government in Europe for the Benefit of All*. SEC(2006) 511.
- Department of Information Technology Website. Ministry of Information and Communication Technology, [Online], Available: <http://www.mit.gov.in> [5 May 2008].
- Dutil, P., Howard, C., Langford, J., Roy, J. (2007) 'Rethinking Government-Public Relationships in a Digital World: Customers, Clients, or Citizens?', *Journal of Information Technology and Politics*. Volume 4, Number 1.
- ECOTEC (2008) Organizational change for citizen-centric eGovernment: Issues, Policy and Strategy. ECOTEC Research and Consulting Ltd. UK.
- e-Government 2.0. *Das Programm des Bundes* (2006). Bundesministerium des Innern | IT-Stab Alt-Moabit 101D | 10559 Berlin. Available: <http://www.verwaltung-innovativ.de> [1 September 2008].
- e-Government Overview, [Online], Available: <http://www.american.edu/initeb/ym6974a/egovernment.htm#E-Government%20Overview> [15 January 2008].
- e-Government Programme, (2007) *Jordan e-Government Architecture Vision*. Government of the Hashemite Kingdom of Jordan.
- e-Government Programme, (2007) *Jordan e-Government Target Architecture (Central Platform)*. Government of the Hashemite Kingdom of Jordan.
- E-government Unit of the State Services Commission, (2003) *The e-Government Component Architecture*. Version 1.1. New Zealand.
- e-Government Unit, (2005) *e-Government Interoperability Framework*. Version 6.1. Cabinet Office. UK.
- e-Government Unit. *Transformational Government – Implementation Plan*, [Online], Available: <http://archive.cabinetoffice.gov.uk/e-government> [3 May 2008].
- Enterprise Operations Division, (2000) *Texas Electronic Government Framework*. USA.
- ePractice.eu (2008) *eGovernment in Austria*. E-Government Factsheets. European Commission.
- ePractice.eu, (2008) *eGovernment in Belgium*. e-Government Factsheets. European Commission.
- ePractice.eu, (2008) *eGovernment in Finland*. e-Government Factsheets. European Commission.
- ePractice.eu, [Online], Available: <http://www.epractice.eu> [17 February 2008].
- European Commission, (2004) *Framework to Reinforce the Exchange of Good Practices in eGovernment A contribution to eEurope 2005*.
- Federal Enterprise Architecture Programme Management Office, (2007) *Value to the Mission*. FEA Practice Guidance, OMB. USA.
- Federal Planning Bureau Economic Analyses and Forecasts, (2002) *Towards E-Gov in Belgium*. Situation in August 2002. Working Paper. Belgium.
- Federal Information and Communication Technology (FEDICT), (2007) *Fertile Soil for Customer-Friendly e-Gov*. Activity Report 2001-2006. Belgium.
- Glaser, B. and Strauss, A. (1967) *The discovery of theory: Strategies of qualitative research*. London: Wiedenfeld and Nicholson.
- Government of the Netherlands (2006) *Progress Report 4 e-Government*. The Netherlands.
- Government of the United States of America, (2002) *Implementing the President's Management Agenda for E-Government - E-Government Strategy. Simplified Delivery of Services to Citizens*. Version 60. USA.
- Grant, G. and Chau, D. (2006) 'Developing a Generic Framework for e-Government' in Felix, B. (ed.) *Advanced Topics in Global Information Management*. Idea Group Inc (IGI). ISBN 1591409233, 9781591409236.
- Guido Bayens (2006). *e-Government in the Netherlands - An architectural approach*. Available: <http://www.via-nova-architectura.org> [1 September 2008].
- Government On-Line, (2006) *From Vision to Reality and Beyond*. Government of Canada.
- Government On-Line, (2005) *From Vision to Reality and Beyond*. Government of Canada.
- Government On-Line, (2004) *From Vision to Reality and Beyond*. Government of Canada.
- Heeks, R. (2001). 'Understanding e-Governance for development'. *i-Government Working Paper Series*, Institute for development Policy and Management, University of Manchester.
- Heeks, R. (2006) *Implementing and Managing EGovernment: An International Text*. ISBN 0761967923, 9780761967927. Sage.
- International Economic Affairs Division, (2007) *Japan's New IT Reform Strategy and u-Japan*. Deputy Director. Telecommunications Bureau. Ministry of Internal Affairs and Communications of Japan. Japan.
- ICT Strategy Unit, (2007) *Administration on the Net - An ABC Guide to E-Government in Austria*. Federal Chancellery. Austria.
- ICT Strategy Unit, (2008) *i2010 Austria – Strategic Framework*. Federal Chancellery. Japan
- IT Strategy Headquarters, (2001) *e-Japan Strategy*. January 22, 2001. Japan.
- Japanese Ministry of Internal Affairs and Communications, [Online] Available: <http://www.soumu.go.jp> [1 August 2008].

- Kenniscentrum bouwt mee aan de e-overheid, (2007) *NORA 2.0 Netherland's e-Government Reference Architecture*. The Netherlands.
- Joint Research Centre, (2004) *e-Government in the EU in the Next Decade: the Vision and Key Challenges*. Technical Report Series. EUR 21376 EN. European Commission. Directorate General.
- Joint Research Center, (2006) *Towards the eGovernment Vision for the EU in 2010: Research Policy Challenges*. Directorate General. European Commission.
- Marche, S. and MacNiven, J. (2003) 'E-government and e-Governance: The Future Isn't What It Used To Be', *Canadian Journal of Administrative Sciences*. pp. 74-86.
- Miles, M., and Huberman, A. (1984) *Qualitative data analysis: A source book of new methods*, Beverly Hills, CA: SAGE.
- Ministry of Telecommunication and Information Technology, (2005) *The National Strategy of Telecommunications and Information Technology 2005-2008*. Final Edition. Palestine.
- Ministry of Government Administration and Home Affairs, (2006) *Annual Report for e-Government*. South Korea
- Ministry of Government Administration and Home Affairs (MOSTI), (2007) *Korea E-Government*. Ministry of Government Administration and Home Affairs. Korea.
- Ministry of Communication and Information Technology, (2004) *The Egyptian Information Society Initiative for Government Services Delivery*. e-Government Programme. 7/3/04 AD-1/11.
- Ministry of Communications and Information Technology, (2006) *Information Technology Annual Report 2005-2006*. Government of India.
- Ministry of Communications and Information Technology, (2007) *Information Technology Annual Report 2006-2007*. Government of India.
- Ministry of Communications and Information Technology, (2008) *Information Technology Annual Report 2007-2008*. Government of India.
- Miranda, R. (2000) The Building Blocks of a Digital Government Strategy. *Government Finance Officers Association*. Volume 16. Issue 5. Page 9.
- Modernisation.gouv.fr, (2006) *Le Schéma Directeur de l'administration électronique 2006-2010*. Principes. France.
- Murakami, T. (2005) *Japan's National IT Strategy and the Ubiquitous Network*. No. 97. Government of Japan.
- OECD (2003), *Challenges for E-government Development, 5th Global Forum on Reinventing Government, Mexico City*, [Online], <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan012241.pdf> [17 August, 2007].
- Office of e-Government, (2008) *Citizen Centric Government Electronic Service Delivery Strategy for the Western Australian Public Sector*. Department of the Premier and Cabinet Government of Western Australia. Australia.
- Office of the Chief Information Officer, (2003) *e-Government Plan, 2004 – 2007*. Ministry of Management Services. British Columbia.
- Park, R. (2008) 'Measuring Factors That Influence the Success of E-government Initiatives', *Proceedings of the 41st Hawaii International Conference on System Sciences*. 1530-1605/08, IEEE.
- Plummer, A. (2001) 'Information systems methodology for building theory in health informatics: the argument for a structures approach to case study research', *Proceedings of the 34th Hawaii International Conference on Systems Sciences*. Maui, Hawaii, USA.
- Project Steering Committee, (2006) *From Integrating Services to Integrating Government. Report by the iGov2010*. 2006 Report on Singapore e-Government. Ministry of Finance. Singapore.
- Projekt Digital Forvaltning Den Digitale Taskforce, (2002) *Towards e-Government – Vision and Strategy for the Public Sector in Denmark*. Denmark.
- Public Works and Government Services Canada. Audit and Ethics Branch, (2005) *Evaluation Framework for the Government On-line (GOL) Initiative*. 2004-613 Final Report.
- Riedl, R., Roithmayr, F. and Schenkenfelder, B. (2007) 'Using the structured case approach to build theory in e-government', *Proceedings of the 40th Hawaii international Conference on Systems Sciences*. 1530-1605/07. Hawaii, USA.
- Secrétariat d'État à la Réforme de l'État, (2004) *Plan d'Action de l'Administration Electronique (P2AE)*. Ministère de la Fonction publique, de la Réforme de l'État et de l'Aménagement du territoire. France.
- Shahkooh, K., Abdollahi, A. (2007) "A Strategy-Based Model for E-Government Planning. International Multi-Conference on Computing in the Global Information Technology (ICCGI'07).
- Sharma, S, Gupta, J. (2003) 'Building Blocs of an E-Government—A Framework', *Journal of Electronic Commerce in Organisations*. Volume 1 Number 4. pp. 1-15. Article No. ITJ2487.
- State Services Commission, (2006) *Enabling Transformation A Strategy for e-Government 2006*. November 2006. ISBN 978-0-478-30302-5. New Zealand.
- State Services Commission, (2006) *State of the Development Goals Report 2006*. ISBN 0-478-24473-8. New Zealand.
- Sutton, R., and Callahan, A. (1987) 'The stigma of bankruptcy: spoiled organizational image and its management', *Academy of Management Journal*.
- Technical Committees, (2004) *Strategic Planning Workshops*. Consolidated Report. Executive Committee of Electronic Government.
- The Danish Government, (2004) *The Danish eGovernment Strategy 2004-06*. Denmark.

- The Danish government, Local Government Denmark (LGDK) and Danish Regions, (2007) *The Danish e-Government Strategy 2007-2010 - Towards Better Digital Service, Increase Efficiency and Stronger Collaboration*. Denmark.
- The Official Web Site of the President's e-Government Initiative, [Online], Available: <http://www.whitehouse.gov/omb/egov> [23 April 2008].
- The Open Group (2007), *The Open Group Architecture Framework (TOGAF)*. Version 8.1.1, Enterprise Edition. Exeter: Author.
- The National Knowledge Society Strategy, (2006) *A renewing, human-centric and competitive Finland 2007–2015*. Finland.
- The Norwegian Ministry of Government Administration and Reform, (2006) *An Information Society for All*. Norway.
- Treasury Board of Canada Secretariat, (1999) *Strategic Directions for Information Management and Information Technology: Enabling 21st Century Service to Canadians*. Catalogue No. BT53-10/1999. ISBN 0-662-64526-X.
- United Nations (2001) *Benchmarking E-government: A Global Perspective - Assessing the UN Member States*. United Nations. Retrieved 1 August, 2007 from <http://www.park.cz/soubory/egov-un2001.pdf>.
- United Nations (2003) *World Public Sector Report: E-government at the Crossroads*, New York: United Nations, [Online] <http://unpan1.un.org/intradoc/groups/public/documents/un/unpan012733.pdf> [19 June, 2008]
- US Department of the Interior, (2007) *e-Government Strategy FY 2008 – FY 2013*. USA.
- Van Mannen, J. (1988) *Tales of the field: on writing ethnography*. Chicago: University of Chicago Press.
- Vanvelthoven, P. (2003) *Note stratégique du Secrétaire d'Etat à l'Informatisation de l'Etat*. Belgium.
- Walk, K. (1998) *How to Write a Comparative Analysis*, Writing Center, Harvard University. Retrieved 12 December, 2007 from <http://www.fas.harvard.edu/~wricntr/documents/CompAnalysis.html>.
- Wimmer, M. (2002) *Towards Knowledge Enhanced E-Government: Integration as Pivotal Challenge*. Johannes Kepler Universität, [Online], Available: <http://www.iwv.jku.at/aboutus/wimmer/habilschrift.pdf> [14 August 2008].

