

## UNDERSTANDING E-GOVERNMENT IN THE INFORMATION SOCIETY

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To be presented at the 5th Seminar of M@rsouin (Môle Armorcain de la Recherche sur la Société de l'Information et l'Usages d'Internet),  
Rennes (France), June 5 and 6 2007

### **Abstract**

In this paper, we propose three different patterns to understand e-government in the context of the information society. The first pattern (idealist) focuses on adopting best practices on both government and the use of information and communication technologies (ICTs). The second pattern (strategic) emphasises shaping up the design and use of such technologies by incorporating the views of different stakeholder groups. The third pattern (power-based) conceives of any e-government initiative as generating opportunities for the use of *power* by individuals, with power being explicitly conceded as *autonomy*. Each pattern is presented with strengths and weaknesses, and the current development of the Colombian e-government initiative "Gobierno en Línea" (online government) is described and assessed using them.

### **Abstrait**

Dans cet article, nous montrons trois perspectives sur la société de l'information : idéaliste, stratégique et du pouvoir. Dans la première perspective, il y a plusieurs occasions pour utiliser la technologie de l'information. La deuxième perspective montre les opportunités d'inviter des groupes de personnes à participer. La troisième perspective donne aux participants le pouvoir d'exprimer leurs idéaux et les différentes formes de participation et l'utilisation des technologies de l'information. Cette perspective est le contraire d'une réaction de la société de l'information. C'est une perspective qui offre plusieurs occasions de développer de nouvelles formes d'interaction et d'autonomie. Avec les trois perspectives, nous décrivons le développement d'une initiative du gouvernement électronique de la Colombie.

## Introduction

The information society is unfolding worldwide. A series of developments have taken place since the definition of this term in Europe and global declarations to encourage the use of information and communication technologies (ICTs) to address social and economic problems. Within this scenario, countries have embarked in formulating and implementing different initiatives and integrating them with other ideas related to knowledge-based societies. The adoption of the ideas of having information-based societies requires a number of changes in order to achieve benefits like :

- ⇒ Participation and access to education through electronic means.
- ⇒ Generation of economic opportunities in the production, exchange and dissemination of electronic content, products and services.
- ⇒ Intra and inter-organisational collaboration across geographical locations.
- ⇒ Citizen empowerment.

This paper presents three different patterns to understand e-government in the context of the information society. The word pattern means a series of common beliefs, actions and values by individuals, groups of organisations. The patterns are influenced by personal experience, conceptual and empirical research in the uptake of approaches for ICT planning, and the use of systemic thinking to evaluate the implementation of ICT-related plans in the Colombian context. Their definition is influenced by developments in the conceptualisation of the information society, information systems practice and critical theory.

The paper is structured as follows. First, we do a brief review of emerging approaches to understand the information society. We then highlight the importance of conceptual tools to address some of these approaches' limitations. We formulate three (3) patterns to help us understand e-government in the context of the information society. These patterns are 1) idealist; 2) strategic; and 3) power-based. We use these patterns to review the Colombian e-government initiative of "Gobierno en Línea".

## **Perspectives on the Information Society and E-government**

We live in the information society and are surrounded by information and communication technologies (ICTs), and often perplexed by the pace of technological progress and the effects they are having in societies. When we try to conceptualise the information society, there are two particular perspectives we can adopt. 1) Technological Determinism, which determines relations in society via technology, and 2) the social shaping of technologies in our lives. Determinism brings ideas about the inevitability of the technological revolution, and with it a number of radical impacts or transformations in societal life. Determinism also means appreciating (and in the best of cases catching up with) economical transformations and cycles derived from ICTs 'revolutions', which also determine the degree of advantages that countries can get from technology assimilation.

Alternatively, the social shaping of technology perspective focuses on studying how certain groups participate in defining the ways in which technology is adopted (or rejected). This type of perspective adopts a more 'gradual' view when looking at the transformation of social relationships with the adoption and use of ICTs. Shaping is about informatising social relationships rather than radically change the ways we relate to each other. It is also about working to generate communities of learning, in order to avoid exclusion of certain groups from the benefits that ICTs can bring to them.

There could be other perspectives on the information society, for instance regarding the role of governments, but they also work by portraying a deterministic force (i.e. market) and a shaping force (government). Whilst researchers explore the unfolding of the information society, we now have come to appreciate *e-government* as a set of practices which with the support of ICTs are said to transform the ways in which citizens and governments relate

The influence of the above two perspectives in e-government starts to be recognised. A deterministic perspective seems to be present in e-government understandings which claim that ICTs can become tools to 'transform' relationships between governments and citizens as well as the role of government institutions. Determinism can also be seen in the assumption that there are concepts which generate for instance a variety of whole new relations between governments, users and ICT providers. Within this 'deterministic' vision, E-government is said to go through different stages from informational and transactional to governance (i.e. autonomy) orientations in the design, provision and delivery of e-government services (e-services).

A shaping perspective on e-government can be seen in approaches which claim that e-government is an information system. As such, an e-government initiative is developed in a social context that needs consideration. Initiatives need to be developed as *processes* which go through several activities of configuration and inclusion of different aspects like technology, business procedures, working practices and public participation. It is necessary to elicit the different perspectives of stakeholders regarding these aspects so that at certain 'critical junctures' or moments, decisions can be taken to align them, and ensure that relations between stakeholders improve.

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To the existence of these possibilities, it is worth asking if beyond determinism or social perspectives one could address two of their key shortcomings:

- ⇒ The need to cope continuously with the 'old' and the 'new' in both government and e-government at the same time. Both deterministic and shaping orientations assume that there is an endpoint of initiatives: Achieving effective, transparent and inclusive e-government services. They also assume that adequate ways can be found to either adopting best practices or transiting through (i.e. accommodating) existing ones. In either case, governments might need a combination of existing and new practices and ICTs which they need to be able to manage, and might need to define not only one but also several endpoints or goals for e-government.
  
- ⇒ In this process of dealing with the 'old' and the 'new', there should also be possibilities for 'doing otherwise' about e-government, as if there was not one but several endpoints. Information society initiatives have become better featured as generating a number of configurations different from the ones that are normally expected . If this is the case, we argue that e-government initiatives should also be about *empowering* individuals. Those involved or affected by initiatives should be offered ways for them to understand how changes take place, and how people can undertake some action about it considering what is possible and available to do with the 'old' and the 'new'.

With these perspectives and potential shortcomings in mind, we now propose three different *patterns* of action that can then guide further our understanding and management of e-government initiatives. We name them as patterns, as they can embrace actions that are shared across organisations, individuals and groups. The patterns also bring sets of values and assumptions associated with them.

### **Idealist Pattern**

This pattern is influenced by writings about the transformation of society with information and communications technologies (ICTs). In those, society improves our ways of life with the use of electronic information. Convergence of technologies like computers, internet and telecommunications facilitates access to electronic information, makes it cheaper, faster and global.

With this convergence, it is possible to facilitate with it access to knowledge, opportunities and participation in societies. More education opportunities can be offered; resources to solve problems can be drawn from different locations; organisations can distribute their operations; and citizens can participate more actively in their government affairs. There are a number of *ideals* to be achieved. ICTs can help to make them reality, but also it is necessary to provide adequate (i.e. tele) communications infrastructures, more service choices for users (presumably through competitive service markets), and government intervention to avoid exclusion of less privileged citizens.

The idealist pattern assumes that technological changes are *inevitable* and follow economic trends which foresee transitions from industrialisation processes in societies. The inevitability is followed by radical transformations of the way companies and other organisations operate. Transformations are not smooth and require a number of changes, some of which could yield unexpected outcomes in the political and social arena. Ultimately, they would require the adoption of new ways of being, acting and thinking in society in order to achieve autonomy, choice and self-determination.

The idealist pattern differs from a determinism-based view in which it not only involves adoption of technology, but a set of values, beliefs and ways of life. It can also involve the adoption of best practices in terms of e-government, which could also mean that best practices on government are adopted. Best practices can be encouraged by working on a number of indicators, for instance e-government readiness (EGR) and public probity (PP).

Under an idealist pattern, those involved in e-government might decide to put 'every' service online so they can show a degree of transformations in the provision of government services, and give first steps towards more radical ones. Subsequent transformations could be increasing the coverage of services to different areas (i.e. tax payments, social security, etc) and geographic locations. Alternatively, transformations could aim to facilitate technological connectivity among government computing systems. In all of these initiatives, the vision to be developed is that of *transformation*, with a view of making relationships between the public and the state more efficient and transparent, participative and accountable.

For developing countries, adopting an idealist pattern could be taken as 'copying' what others have done; looking at best practices; and somehow fitting them in. This could include among others, bureaucratizing public administrations, or working on improving their performance according to indicators including e-government readiness.

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In terms of strengths, adopting an idealist pattern can help organisations (including government) to define a 'north' or a vision for e-government, and encourage efforts to work towards it. Given the inevitability of technological (and with it social change), attention is focused on how to achieve a vision rather than defining it. The availability of ideals and visions can gather a number of different stakeholders around them and get resources committed for their achievement. It can also facilitate evaluation towards progress, and incorporation of new concepts and practices at both technological and government levels.

The use of this pattern is not related to a particular organisation in general, and this can be used to provide a 'whole picture' of e-government in terms for instance of the penetration of ICTs via internet usage, number of services being automated online, number of computers and computer systems being used, connected or integrated.

However, the idealist pattern could abandon what is currently taking place in a context and replace it by a new set of ideals, or implement a number of initiatives similar to others that have worked *elsewhere*. Mere adoption of ideals can degenerate in simply copying and imitating, and then blaming technology or the institutional climate for any failures, or accepting that there are other factors (i.e. economic conditions, corruption) which impact the achievement of e-government indicators. To address this abandonment of the 'context' in which e-government initiatives can be developed, another pattern emerges: Strategic.

### **Strategic Pattern**

Within the strategic pattern, the salient idea is the avoidance of any technological or e-government determinism by promoting inter-dependence between social contexts and ICTs. Society shapes or moulds ICT changes. This means that e-government initiatives are moulded by a number of technological, social and organisational elements. Elements include values, interests, policies, problem solving strategies or simply existing ways of doing things (with or without ICT). The influence of these elements pervades relationships between individuals, and therefore their uptake of ICT or government-based practices.

The strategic pattern embeds the use of socio-technical approaches to change. Outcomes of ICT designs and implementations are the result of interplays between a number of different actors who have diverse interests. Actors shape ICT initiatives, and at the same time are shaped by them. Changes can be mapped out, and interactions between groups studied and interpreted.

Complementary to a socio-technical description to change, within the strategic pattern there is the possibility of action. Change can be 'negotiated' and accommodated to needs, values and perspectives of different groups. For negotiation, dialogue and participation of groups is essential in order to 'fit' ICTs and systems to the ways in which people already (want to) interact. Dialogue and participation would also enable ICT designers and suppliers to suggest using technologies to improve the quality of life of those involved and affected by change. At certain critical 'junctures', those in charge of e-government initiatives can include different aspects of the context of initiatives and devise action plans to tackle them. Gradual implementation

is fostered to achieve desired transformations, and implementations are geared towards incremental rather than radical change.

In the realm of e-government the strategic pattern can be seen in the adoption of hybrid methods and approaches to e-government design and implementation . It is considered that after all, e-government systems are information systems to support human activity and therefore need to be embedded into the activities that make *sense* to individuals (politically or rationally driven), their views and appreciations . These appreciations can be mapped and aligned in relation to certain categories whose management could contribute towards successful implementations of e-government systems .

The use of a strategic pattern allows the inclusion of a variety of groups involved and affected in initiatives at different levels to be mapped with their perspectives and managed . Negotiation and accommodation of perspectives can also take place, and a number of considerations can be included to secure e-government implementation success. Ideals can then also negotiated, adapted, re-defined or created according to what is considered appropriate for the context of e-government initiatives. In short, there is the possibility to act upon and intervene on change.

However, the strategic pattern seems to assume that groups will agree on what needs to be done, and will be committed to achieve it. Differences in perceptions are worked out by refining the description of groups which are involved . Connections between aspects to be addressed can also be accommodated. It is assumed that interpretations can be improved (or hybridised) so as to provide people with opportunities to share and agree on what to do to improve e-government initiatives . Interpretations also include those about the purpose, scope and impact of initiatives. However, if change is uncertain and subjected to the influence of different factors, people and their interests, how can it be fully defined and managed?

The study of how e-government changes are shaped needs to consider as Mansell and Silverstone and Hawkins point out, that often certain interests from certain groups are privileged at the expense of others. There is struggle or conflict (either implicitly or explicitly) when interests are to be accommodated, and therefore the existence of a number of constraints should be taken into account. Participative approaches to e-government need should taken into account frailties and imbalances in participation generated by issues power, politics, under representation and others that could be affecting the definition and outcomes of initiatives. Participation also needs ways of addressing such imbalances, and we think that this could be developed via empowerment within the old and the new in e-government.

### **Power-based pattern(s)**

Difficulties related to the accurate implementation of a 'vision' (idealist pattern), and the shape of e-government initiatives via participation and dialogue ('strategic pattern) can lead us to consider a different pattern in which initiatives can be used for different purposes, some of which intended, some of which unintended. Research literature on information systems has begun to acknowledge the existence of theoretical and methodological approaches which study ICT change as an intertwining of success and failure, benefits and harms . Such approaches would enable us to contemplate and embrace apparently contradictory effects of systems (i.e. good and bad) in organisations and individuals. Embracing contradiction would also mean that effects of initiatives would include the opposite to those intended to be generated. Those involved and affected by initiatives can not only adopt but resist systems or use them for their own purposes .

Inherent to the inclusion of these possibilities is the use of the concept of 'power' as existing in the relationships between individuals . Power is conceived of as an analytical concept by which actions of individuals influence other individuals' actions . By using concepts like this, it is possible to interpret how actions could have unintended consequences at different levels (individual, institutional), and going beyond interpreting or managing accommodations as the strategic pattern suggests . Unintended consequences could include for instance the generation of positive and negative impacts, and opening up of new relations between people. According to Foucault, power produces asymmetrical relations between people, and induces ways of knowing, acting and behaving .

More importantly, the notion of power as proposed by Foucault encourages individuals to situate themselves as subjects of power within a complex, unpredictable and dynamic landscape of relations . In such relations, there are possibilities and constraints for future action. Foucault invites individuals to recognise their limits and imagine new ways of being, acting and behaving, in other words to exert their freedom or autonomy, but to be continuously vigilant about it . Any action should be conceived of as related to power relations, so that any action can make use of power that is recognised as being available at a particular moment in time.

Within the dynamics of e-government, the use of understandings of power like the one above can help individuals to identify and use possibilities for action. Whilst they can be designing, implementing and using e-government services according to existing purposes, there could be possibilities to establish new opportunities by the use of these services. This would mean for instance that individuals can act within what is institutionally planned (i.e. by following ideals or forms of participation), and make use of these possibilities to (re) develop their own agendas. This could also mean that individuals can also act to perpetuate, resist or create new ways of relating to themselves, their governments and other stakeholders of initiatives. In either case, these possibilities should be worked out with them.

Although the literature on e-government talks about citizens empowerment via transformation of relationships, working towards being citizen-centred , little is said about how to develop this possibility. Perhaps there is an inherent limitation in a



power-based pattern: The uncertainty and unpredictability with which individuals (i.e. citizens) could make use of power resources and possibilities given to them. More needs to be studied and said about developing 'empowerment' or 'autonomy' practices in e-government.

Having considered the above perspectives, what follows is a reflection of how they could be present and coexist within e-government initiatives. To explore this we refer to the case of a current Colombian e-government initiative called "Gobierno en Línea". This exploration is based on an interview with the initiative technical director of the programme under which this initiative is being developed, electronic material available on the internet and personal experience as a Colombian citizen and now e-government user. A detailed description of this initiative can be found in the appendix. Questions of the interview were focused to elicit the following elements in the government strategy: 1) An overview of the development of the e-government initiative. 2) Aspects / strategies that have been included to facilitate dialogue with different stakeholders. 3) Aspects / strategies that have been conceived of to facilitate the autonomy of service users or their empowerment in understanding and using e-government services.

### A Case Study

Insert table 1 about here

Table 1 contains a summary of the information gathered about the Colombian initiative "Gobierno en Línea". This initiative aims to contribute through the use of ICTs to develop a more transparent, participative, and efficient government, so that citizens and businesses see improved services being delivered to them.

In this initiative, there is *interplay* of the different patterns, as there are elements of each of them. The prevailing one seems to be the idealist one, in which a vision has been set up and a number of architectures have been planned to guide the implementation of projects. Ideals are defined in relation to both government and technological aspects that support e-government implementations. The current vision focuses on one particular strategy (online government) after a number of previous developments in different areas. It is intended to be implemented for instance via projects that include the provision of integrated and online information systems to government organisations at the central and regional level.

In relation to other patterns, the Colombian government has taken steps to facilitate inclusion of citizens and the provision of transparent and accountable services via principles of transparency and efficiency in services. This is said to be achieved by for instance, simplifying and unifying the service delivery through multiple channels. The overall strategy at a general level addresses the issue of participation with citizens. It is less clear though, how a strategic pattern of dialogue with different actors and shaping up of the services at different levels (regional, national) can be implemented in practice. In relation to the third pattern, it can be said that it has some foundations that could be taken forward. The establishment of principles to offer transparent and efficient services could be taken further in order to create opportunities for citizens' empowerment. There are opportunities for citizens and businesses that could be developed by extending existing (i.e. one-stop) services

which currently include for instance registering of companies, tendering, acquiring licences or paying taxes. Extensions can give users possibilities to follow up on issues like service delivery, service accountability or the use of services for different purposes.

The intermixing of patterns also seems to suggest that they could occur sequentially and that an ideal pattern could be adopted initially. The subsequent adoption in the sequence strategic / power-based pattern(s), or the other way round is less clear. Considering the possibilities and constraints of patterns, it can be suggested that an ideal pattern could be followed by a strategic pattern *and* a power-based pattern simultaneously or sequentially. If a power-based pattern is followed simultaneously with a strategic one, it can complement dialogue and participation by providing ways of generating knowledge out of existing individual possibilities of autonomy. For instance, giving away some knowledge on services to people can help them to have something to say if they are involved in consultations about services' effectiveness. If alternatively a pattern of power is followed sequentially after a strategic one, the table suggests that it can also help to improve participation by helping those involved and affected by e-government initiatives to (re) define new ideals, strategies for service design and implementation *within* existing plans.

The definition and adoption of strategic or power-based pattern(s) in e-government could be used to inform critical reflection on the boundaries adopted in initiatives. Those involved in them can ask questions like why certain services have become privileged, whose purpose they are serving, what is allowed to do with e-government services and by whom. This entails including critical questions about the purpose(s) of such initiatives; what effects are they generating in different stakeholders; and what possibilities for action (in relation to which types of power are available) could be offered to individuals.

### **Conclusions**

In this paper, an attempt has been made to define three patterns to understand e-government in the context of the information society. These patterns are 1) idealist; 2) strategic; and 3) power based. Each pattern has been described with its particular strengths and weaknesses.

The idealist pattern can be helpful to gather different organisations, individuals and other stakeholders related to e-government initiatives to define a vision, and the means (i.e. organisational, technological) to pursue it. However, it can also be used to 'copy' foreign visions and practices without considering their effectiveness in the particular context (local, regional) where e-government initiatives are to be implemented.

The strategic pattern would enable shaping of e-government initiatives by different groups involved and affected by these initiatives. Accommodation among different interests could be promoted; however, as it is often the case accommodation can be the result of imbalances and frailties of participation in the context where e-government initiatives are to be implemented.

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A third pattern was defined to address the shortcomings of the other two. Based on a relational view of power, this pattern would facilitate the exploration of opportunities and constraints for action given the old and the new in terms of government and e-government practices. It could also be used to foster *autonomy* in individuals, so they can take advantages of e-government initiatives according to what they consider beneficial, right or wrong for them.

A brief exploration of the Colombian initiative “Gobierno en Linea” using these three patterns has allowed us to see how they can mix and relate in practice, potentially inform each other. Our exploration also suggests that some of these patterns could be used simultaneously (i.e. strategic and power-based), in order to enhance possibilities of people’s involvement in e-government initiatives.

### **Acknowledgement**

We would like to thank Dr Hugo Sin from the Colombian Ministry of Communications for his valuable support during our visit in March 2007.

### **References**

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Pattern	Idealist	Strategic	Power-based
<p><b>Features</b></p>	<p>A vision related to access. Values support vision. The vision might be copied, adapted or generated.                      Radical transformations are sought                      Indicators are established for the provision / coverage of e-government services through initiatives.                      Concepts, ideas and ways of doing things can be used to inform government <i>and</i> ICT related activities. For instance, the concept of digital era governance</p>	<p>Vision, principles, values and plans of the initiatives are shaped between stakeholders. Aspects of the context (i.e. procedures, participation, technology, working practices) are taken into account and included in the definition of e-government initiatives .                      Critical junctures or moments can be identified and used to promote such inclusion .</p>	<p>Unintended, contradictory consequences are considered and embraced . Power is identified and incorporated into initiatives to offer possibilities for autonomy and action</p>
<p><b>The Colombian Initiative “Gobierno en Línea”</b></p>	<ul style="list-style-type: none"> <li>⇒ Definition of narrower ‘vision’ to articulate efforts around ‘online government’ via multiple channels</li> <li>⇒ Provision of architectures for IT, costing of services and implementation of services (i.e. outsourcing)</li> <li>⇒ Citizen-centred notion of e-government</li> <li>⇒ Establishment of indicators of e-services use, penetration of internet, cost reductions.</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Consultation with different sector organisations about vision</li> <li>⇒ Some principles of the current strategy state that plans must respond to ‘needs’ of citizens, and that value for them will be created.</li> <li>⇒ Different sectors (state, industry, the community) are considered in the definition of projects tailored to them.</li> </ul>	<ul style="list-style-type: none"> <li>⇒ Some declarative aspects in principles, objectives and action axes (i.e. transparency, efficiency).</li> <li>⇒ Some autonomy via one-stop services (i.e. payments, certificates).</li> <li>⇒ Some feedback facilities for citizens in institutional websites.</li> <li>⇒ Need to promote citizen’s autonomy via services <i>according to</i> citizen’s purposes</li> <li>⇒ Some existing one-stop applications could be extended to offer autonomy, accountability.</li> <li>⇒ Need to operate <i>within both</i> institution and citizen-centred cultures</li> </ul>

## Appendix

### *Idealist thinking in e-government*

E-government strategy “Agenda de Conectividad” has been defined for 2007 as aiming to build “...a more efficient, transparent and participative state, which delivers better services to citizens and businesses” . Since its inception in 2000, has evolved through several stages. Currently is being focused on a programme (series of projects) under the name of ‘online government’. Projects include initiatives at the national and regional levels.

For its definition and action plan, the online government programme has two key components: A definition of a vision and a series of architectures at the technological level that also define the ways citizens will operate with their governments. This vision statement provides elements of efficiency, transparency and participation. In this regard, it resembles other statements which incorporate the benefits of ICT to the development of democracy, for instance Heichlinger .

Both the vision and architectures aim to transform government practices from being ‘institution-centred’ to become ‘citizen-centred’ . The architectures have in general two types of components: A ‘front-end’ (or tip of the iceberg), which comprises elements that the end-user is going to perceive and use; and a ‘back-end’ (or the iceberg itself), which includes the different elements to support the delivery of services. The aim of these architectures is to provide support for a shift in the conception and implementation of e-government, from being institution-centred to citizen centred.

Current projects of the e-government initiative include :

- ⇒ Information systems in public administration (i.e. portals)
- ⇒ Online tendering, one-stop registrations and certifications.
- ⇒ Government intranet.
- ⇒ High speed communications network (RAVEC)
- ⇒ Data centre and common services to access citizen’s information
- ⇒ Multimedia interactive centre for citizen’s services.
- ⇒ Regional e-government.

### *Strategic thinking in e-government*

The 2007 strategy for online government has some principles stating multi-channel access and equitable participation. It also has some action axes, one of which is transparency and participation. The objectives of the strategy are developing e-government services that respond to needs of citizens, and increasing the level of satisfaction of citizens in their interactions with government institutions. Transparency is an objective that aims to be achieved via better visibility of government affairs (i.e. through online services provision); creation of new channels to facilitate participation; and increase the use of citizens’ feedback regarding their interactions with government.

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At the level of strategies, the above principles are implemented by awareness activities in government institutions; unifying the attention given to citizens; communication strategies with different stakeholders about the services to be implemented through plans of the online-government initiative; the promotion of incentives for those using such services and integration of users' feedback on services.

### *Power-based pattern(s) in e-government*

This way of thinking seems not to be either fully conceived of or implemented in the e-government initiative. It is said that a big challenge for the current plans is to develop a different mindset in government institutions to become more citizen centred, and this could mean developing changes in several aspects of government institutions. There seem to be though, a number of conditions that could facilitate the definition of initiatives to empower e-government users and give them autonomy. These conditions include for instance, the principle that e-government is more than technology; other principles and strategies which encourage participation (as said before); an improved up-take of information and communication technologies so that people develop trust and credibility in e-services; and the improvement of standardisation and quality of information involved in services. Although these principles and strategies can be used to make the delivery of services more efficient (and therefore benefit the transformation of government institutions), they can also offer opportunities for empowerment for end-users. For instance, better standardisation and quality of information can help them to use services in a more reliable way, and from there encourage users to manage information to address their needs. Alternatively, facilities for the use of services can be extended so that users can exert accountability on services and institutions, and use services for a number of purposes.