Abstract: In this paper, we will explore the way in which an e-Government policy takes shape. First, we will analyse the three core ingredients of e-Government: technology, back-office reforms and front-office applications. Second, we will look at two theoretical models of policy development (the rational policy model and the incremental policy model) and we will discuss the consequences of these policy models for the development of e-Government. Third, we will study the e-Government development at the Flemish administration. We will look into the way in which e-Government took shape between 1999 and 2005. In this six-year period, we will distinguish three different phases.

Keywords: e-Government, back-office, front-office, policy development, policy models, Flanders

1 Introduction
The implementation of e-Government seems to be a difficult matter. Especially during the 1990s, many policy documents were published in countries throughout the world with promising statements about the use of ICT in the public sector. Democratic processes as well as public service delivery could be improved by the use of ICT. The use of ICT would lead towards higher levels of efficiency and effectiveness of public service delivery, transparency of policy processes and democratic participation of citizens. In practice, however, the actual realisations often seem not to fulfil the intended goals. The expectations from the planning-phase of e-Government are often hard to realise during the implementation-phase.

2 Three elements of e-Government implementation
In the implementation of e-Government we can distinguish three important elements: (1) information and communication technologies (ICTs), (2) back-office administrative reforms and (3) front-office (use of) applications and public services. It is important to make a distinction between these three elements. We will now shortly analyse these three elements.

2.1 Information and communication technologies
ICTs are the first element of e-Government. ICTs have made an evolution during the past decades. Especially the emergence of networks like the internet has been of great importance. Several authors talk about a technological revolution and compare the internet with other technologies like the printing press or the steam engine (Lenihan & Kaufman, 2001). Lenihan and Kaufman refer to these technologies as ‘transformative’ technologies because they do not only speed up certain processes, like copying books or transportation, but also alter the way in which our society is organised. The steam engine was the embryo of the industrial society that emerged during the 18th century. In the 21st century, ICTs seems to play the same role for the information society (Castells, 1993; Castells & Himanen, 2002). As a transformative technology, ICTs are not only able to enhance the efficiency of certain tasks but can also enhance the quality of entire processes.

There is a lot of discussion about the way in which ICTs transform society in general and public administration in specific. Bouwman and others distinguish three different perspectives on this issue: technological determinism, socio-organisational determinism and the adaptive structuration theory (Bouwman, van Dijk, van den Hooff, & van de Wijngaert, 2002). Technological determinism claims that
technology has a causal influence on the way in which an organisation is transformed. The technology itself is the only determining factor of this transformation. Socio-organisational determinism contests this perspective. In socio-organisational determinism, it is not the technology that determines the way in which the organisation takes shape, but the organisation and existing institutions in which the technology is implemented. The adaptive structuration theory takes a midpoint between these two extremes. In this last theory, technologies as well as organisational structures create possibilities and impediments for each other. Thus, the way in which an organisation transforms using ICTs is the result of the interplay between technology and existing organisational structures.

### 2.2 Back-office process reorganisation

Back-office process reorganisation is the key of e-Government. The possibilities that are offered by new technologies have to be used to reorganise and innovate processes in public administration. Several authors refer to the possibilities of ‘business process reengineering’ or ‘business process redesign’. Hammer and Champy define business process reengineering as ‘the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed’ (Hammer & Champy, 1993).

The important evolution that was made by the business process reengineering-movement is the shift from attention for tasks to attention for processes. The attention for tasks and task-allocation was introduced by the scientific management of Taylor (Van Hooland, 1996). Taylor argued that the best way to produce a product (or a service) was to split up the production in several tasks and find the best way to execute these tasks. So, the emphasis in scientific management lies on task division and task allocation. Business process reengineering does not focus on tasks but on processes. Davenport and Short define a process as a ‘set of logically related tasks performed to achieve a certain business outcome’ (Davenport, 1993; Davenport & Short, 1990). Now, business process reengineering tries to innovate these processes in such a way that the value-creation of the process is maximised.

ICTs are an enabler of business process reengineering. It is not just the case to implement ICTs in existing processes. In this way, only incremental improvements in the process are obtained (Davenport, 1993; Davenport & Short, 1990). Hammer and Champy go even further by stating that ICTs sometimes are misused to automate existing bad processes (Hammer & Champy, 1993). The best way to reorganise processes is by looking at ICTs as an enabler of new processes. Here, you start the reorganisation of the process from scratch and look at the possibilities that are offered by ICTs. ICTs make it, for example, possible to alter the sequens of a process, to eliminate intermediary structures or to integrate different tasks or processes that used to be separated (Davenport, 1993; Davenport & Short, 1990). In this way, the value of the output can be maximised and useless tasks can be eliminated. An example of a useless task is the practice that different administrations often ask the same information to the same citizen or company. When information is collected and saved by different administrations this does not only create administrative costs for the government as well as for the citizen, but also poses problems for the control and up-dating of this information. A citizen can (accidentally) provide different information to different administrations or forget to update information (e.g. a change of address) that is stored in a certain administrations’ database because he simply does not know that this administration holds the information. This problem can be solved if processes are integrated and information is (electronically) exchanged.

### 2.3 Front-office (use of) applications and public services

The front-office is the face of the government. Yet, governments have many faces. Due to the compartmentalisation of the public administration, many administrations have the key to solve one small piece of a citizen’s problem. In this way, it is difficult for a citizen to find a solution to his problem. For example, if a citizen would like to build a house or to start up a business he has to go to several different administrations that all have a small piece of the solution to his problem. With ICTs this problem can be solved. Services that are scattered throughout the government can be integrated. Well-known examples of this are the one-stop-shops. In a one-stop-shop, a citizen can find all sorts of service delivery from public (or even private) organisations concerning a topic. Leenes argues that integration of services however is only one possibility to enhance service delivery (Leenes, 2001). Beside the level of integration Leenes poses that there is another important dimension to front-office service delivery: the way in which an administration reacts to a question from a citizen. The simplest way of helping a citizen is to give him an answer to his question. In this case, the administration just
reacts on a question, nothing less, nothing more. Another possibility is that the administration reacts to the specific question of a citizen, but also provides other services or information that can be of interest to the citizen. The most complex form of service delivery is pro-active service delivery. Here, an administration does not react to a question of a citizen, but provides a service or information to a citizen without the need for this citizen to ask for the service. An example of this is the automatic granting of an allowance. In this way, the front-office is abolished. A citizen does not need to contact the administration anymore.

The front-office can take many forms. In the 1990s, portal sites received a lot of attention. These portal sites were sites a citizen could find in an easy way the needed service or information. On a portal site, services are grouped in different ways: in alphabetical order, thematically, according to the bureaucratic structure or in a lifeline. However, due to problems of take-up of electronic services by citizens it soon became clear that services could not only be provided through the internet. There are many citizens that cannot, or do not want, to make use of the internet. Therefore, an important principle of front-office service delivery is the multi-channel approach. This means that services are provided through several channels: a real counter, telephone, internet or digital television. The administration has to choose the channels in function of the citizens it wants to reach. In this way it is, for example, possible that for large companies a certain service is only provided via the internet, but that a service for ordinary citizens still is provided in a real counter.

It will be clear that it is important to make the right choices concerning the channels through which a service will be provided (Janssen, Roithier, & Snijkers, 2004). A very successful back-office reorganisation can fail to reach its intended goals when citizens do not use the reorganised service on the internet. On the other hand, front-office service delivery needs a good back-office reorganisation. Pro-active services, for example, can only work if the back-office processes are well integrated.

3 Different views on e-Government policy development

Now we will try to understand how e-Government takes shape in practice. We will start with the distinction between two classic policy models that will give us insight in the way in which e-Government develops: the rational policy model and the incremental policy model.

3.1 The rational policy model

The rational policy model states that policy development is ‘rational’ (Hoogerwerf, 1993; Brans, 1996). A rational policy starts with a description of the policy problem. What is our problem and why is it a problem? Based on this problem statement the objectives of the policy are formulated. The next stage in the model is the description of several alternative ways and resources to reach the policy objectives. The alternative that offers the best chances to reach the objectives will be chosen. This choice is based on extensive information about the alternatives (e.g. different values or a cost-benefit analysis of the different alternatives). There are two important critiques on the rational policy model (Hoogerwerf, 1993; Brans, 1996). The first critique is that the rational policy model supposes that there is only one decision maker. This decision maker has a certain goal and wants to reach this goal. Nevertheless, what happens when several decision makers are involved in the policy process? In such a case, it is possible that these decision makers have different goals or priorities. The second critique is the ‘bounded rationality’ of decision makers. The rational policy model argues that a policy maker is perfectly informed about the policy objectives and the different alternatives. However, this is not always the case. Many problems are very complex, and it is impossible for a policy maker to oversee the problem in a perfectly rational way.

In the context of e-Government the rational policy model would mean that the analysis would start with the problem statement: for example the lack of customer orientation in public sector service delivery. Next, the technological resources and their possibilities for back-office process reorganisation are assessed. Which technologies are the best to use? What are the back-office processes that have to be reorganised and in which way? The last step is the development of front-office applications. So, a rational policy model would arrange the three elements of e-Government in a clear, sequential and linear order. In this way, in theory, it would be possible to reorganise public service delivery in a quite spectacular way: existing technologies, processes and applications are erased and entirely new processes come in their place.
3.2 The incremental policy model

The incremental policy model was formulated as an answer to the shortcomings of the rational policy model (Hoogerwerf, 1993; Brans, 1996; Parsons, 1995). The incremental policy model is based on the assumption that policy makers are not able to collect and understand all the information needed to choose the best alternative to reach the policy goal and that goals between different persons involved in the policy can differ. Furthermore, policy makers often do not design an entirely new process, but only make incremental changes to the existing one. Once a certain process is in use it seems to be difficult to abolish it, given to the often large investments that have been made, and replace it by a new one. Once certain choices have been made, these choices will not easily be abandoned.

It will be clear that an incremental e-Government policy will look a lot different from a rational e-Government policy. A first difference is the possibility for the radical redesign of back-office processes. Whereas the rational policy model assumes that existing structures and processes are erased and replaced by new processes, the incremental policy model states that existing processes will not be erased, but only slightly adapted. Large investments in the existing (ICT-)infrastructure, the division of power within and between organisations or the psychological fear of change are all possible impediments to the redesign of processes (McNulty & Ferlie, 2004).

A second difference between a rational and an incremental e-Government policy is the order in which the different elements of e-Government are looked at. Whereas in a rational e-Government policy there is a clear linear order between these elements, this is not the case in an incremental e-Government policy. An administration does not necessarily have to start with investments in technology followed by the reorganisation of back-office processes and, as a last stage, the development of front-office applications. Indeed, there are administrations that spend a lot of attention to the front-office, without giving attention to the necessary redesign in the back-office (Janssen, Rothtier, & Snijkers, 2003). Tempted by the cry of front-office quick wins, administrations develop applications for those services that are easy to put on-line (read: services that do not need a lot of complex back-office reorganisation).

The third difference between a rational and an incremental e-Government policy is the fact that not all actors involved do have the same goals. Whereas in theory the goal of e-Government should be the improvement of service delivery for the citizen, one can imagine that a lot of actors also have some other goals like the preservation of their own database or counter, or the minimisation of costs for their specific administration (Lips, Boogers, & Weterings, 2000; Zeef, 1998; Bekkers, 1997).

Now, which policy model is the most realistic and feasible? At first sight, a rational e-Government policy seems to be the most feasible in an ideal world whereas an incremental e-Government policy seems to be the most realistic. In practice, however, both models do not work. On the one hand, an e-Government policy should take into account the difficulties that accompany the implementation of change-processes; on the other hand, incremental changes are just not enough and are a danger for the good development of e-Government.

A good e-Government policy should find a balance between a rational and an incremental approach. It should also address issues of technology, back-office process reorganisation as well as front-office application development in a balanced way. Lack of attention for one of these issues, in favour of another, can be very dangerous for the successful implementation of e-Government.

4 e-Government in the Flemish administration

In the next paragraphs, we will analyse the way in which the Flemish e-Government took shape. We can distinguish three different phases during the period 1999-2005. In these different phases, the attention for each of the elements of e-Government development changed. These changes were not only changes in political choices, but also institutional changes. For technological issues an important role is played by the administrative cell 'Steering and Control ICT'. This cell did not change during this period, so our attention will go especially to the front-office and back-office development.


The explicit attention for e-Government started after the elections of 1999. Before 1999, there have been several ICT projects at the Flemish administration (e.g. the project tele-work/tele-administration). However, the new government that took office after the elections of 1999 (the liberal party VLD, the
socialist party SP and the ecological party Agalev) gave priority to the development of e-Government. According to the policy statement of the new government:

‘Flanders cherishes the ambition to be the first region in the world to build a fully functional e-Government. The citizen has to be able to consult all policy documents on-line, to apply for all administrative forms on-line and to contact every political responsible or administrative service on-line. Citizens and companies must receive an integrated service delivery at a one-stop-shop (a virtual or a real one) for all of their questions and administrative files. (Dewael, 2000)’

To realise this vision, in 2000, a new administrative structure was set up in which there were three important actors: the e-Government steering committee, the e-Government team and the thematic clusters (Vlaamse regering, 2002; e-Government Team, 2003; Vlaamse regering, 2000). The e-Government steering committee and the e-Government team played a central role. The e-Government steering committee had to take the strategic decisions and consisted of high-level politicians (e.g. the minister-president of the Flemish government, who was politically responsible for the e-Government project) as well as high-level civil servants (e.g. the ICT-manager of the Flemish administration). The e-Government team had to support the e-Government steering committee as well as the thematic e-Government clusters with the development of the Flemish e-Government. The head of the e-Government team, Filip De Graeve, was appointed in 2001 and reported directly to the minister-president, Patrick Dewael.

The e-Government clusters were built around specific themes: building & living, companies, work, care & welfare and taxes. In 2001, other thematic clusters were added: environment, education & training, mobility, culture, government and science & technology. Each thematic e-Government cluster consisted of a cluster steering committee and a cluster team. Therefore, for each cluster the cluster steering committee was responsible for the strategic decisions whereas the cluster team was responsible for operational decisions. The cluster teams did the reorganisation work in the back-office: they had to start up reforms within their specific cluster to enhance service delivery.

The e-government team wanted to obtain results very fast, and gave a lot of attention to the development of front-office applications. In 2001, the thematic clusters were given a very simple target: before December 2003, all relevant information should be available on-line and at least three interactive and one transactional application should be on-line. As priority was given to the development of front-office applications, there was less attention for back-office integration. In this way, the risk existed that the thematic e-Government clusters would develop interactive and transactional applications that were easy to build rather than would create benefits for citizens. This method of e-Government development contrasted heavily with the approach of the Belgian federal government during that period. The federal public service ICT (FEDICT) did not concentrate on front-office applications but built back-office components like a UME first.

In the front-office an important element was the portal site www.vlaanderen.be. Before 1999, there already existed a quite static site. This site was very fragmented: many departments and administrations of the Flemish government built their own small site. This site was replaced in 2001 by a new site that tried to overcome the problems of fragmentation. In February 2003 the e-Government team launched another portal site. This portal site was expected to solve all problems of fragmentation and was built according to ‘life events’. The new site gave access to the first interactive and transactional services. At first sight, this site looked quite well, but anyone who passed the ‘front door’ would get lost in the old messy fragmented administration. Even the search engine that was built into the portal site was impossible to use: it created the strangest results, but no answer to the question of a citizen. These problems were not only related to a bad design of the front-office, but to a lack of attention for reorganisations in the different back-office clusters.

The hunt for front-office quick wins of the e-Government team clearly failed. Instead of a balanced e-Government development, the e-Government team focused on front-office applications. In the midst of the e-Government hype, pushed by a lot of political attention and haunted by e-Government benchmarks the Flemish administration was not able to become the first region in the world with a fully functional e-Government. This first period of the Flemish e-Government development ended in June 2003 when minister-president Patrick Dewael left the Flemish regional government to become Minister of Interior Affairs in the Belgian federal government. However, the exit of Dewael did not mean the end of the e-Government development.
4.2 2003-2004: The quest for citizen take-up

In June 2003, Patricia Ceysens was appointed as minister of Economy, Foreign Trade and e-Government. Patricia Ceysens established some different priorities. First, the co-operation with the e-Government manager, Filip De Graeve, was ended in July 2003. He was not replaced by a new e-Government manager. Minister Ceysens did not want to put more services on-line, but she wanted to give more attention to citizen take-up (Ceysens, 2003).

In order to reach this goal the administrative structure was changed: the e-Government team merged with the Flemish Infophone and the participation project ‘Colourfull Flanders’ into the Contactcentre Flanders. The Flemish Infophone, managed by Mireille van Pollaert, is a free telephone number that citizens can call when they have a question about the Flemish administration. The Flemish Infophone started in 1999 and soon became very successful. The idea now was that the knowledge of the Flemish Infophone could be used to steer the further development of the Flemish e-Government. In this way, the development would be demand-driven. The risk of this approach was, however, that there still went too much attention to the front-office. Although the focus in the front-office changed (do not put more services on-line but take the expectations of citizens and companies into account) and was institutionalised, this was not the case with the back-office reforms. The priority clearly was to steer the e-Government development according to expectations and questions of citizens. Of course, back-office reforms never have been a completely blind spot: during this period, for example, attention was given to the construction of a Service Bus.

In the front-office, the portal site www.vlaanderen.be was replaced in April 2004, only a year and two months after the problematic launch of the portal site by the e-Government team in February 2003.

4.3 2004-present: Balanced e-Government implementation?

After the regional elections from 2004, Geert Bourgeois, as minister for Administrative Affairs, Foreign Policy, Media and Tourism, became responsible for e-Government. Within the administration, the Contactcentre Flanders stayed an important actor for the front-office development. Yet, a new administrative cell has been set up that is responsible for back-office reorganisations: the Co-ordination Cell for the Flemish e-Government, headed by Geert Mareels. This Co-ordination Cell tries to improve the back-office that has to support the further development of e-Government in the Flemish administration. Priority is given to projects that make use of the Flemish Service Bus and/or the Access Control Management system. Both are important components of the e-Government back-office.

Although it is too soon now to evaluate this new administrative structure, in theory it has a lot of potential. Each of the three elements of e-Government development is institutionalised now: for technological issues there is the administrative cell ‘Steering and Control ICT’, headed by the ICT-manager of the Flemish administration, for back-office reorganisation there is the Co-ordination Cell e-Government and for front-office applications there is the Contactcentre Flanders. This however will not automatically lead towards an ideal e-Government development. It will be critical to find a good balance and co-ordination between the different administrative entities. Dominance from one of the three elements has to be avoided. In the light of new technological perspectives and in function of citizens’ priorities back-office processes will have to be (re)designed. The further development of the Flemish e-Government will depend on this balance.

5 Conclusion

In the development of e-Government, there are three necessary elements: technology (ICTs), back-office administrative reforms and front-office service delivery. According to two policy models (the rational, policy model and the incremental policy model) the way in which e-Government takes shape and the way in which technology, back-office reforms and front-office applications are related to each other differ. The rational policy model sees e-Government as starting from scratch. Using ICTs new processes and services are designed. There is a rational, sequential, order between the use of ICTs, the reform of back-office processes and the design and uptake of front-office applications. The incremental policy model argues that a purely rational development of e-Government is not possible. Existing structures and processes have to be taken into account in the design of new ones: we cannot totally break with the old structures. The relation between technology, back-office reforms and front-office applications is not a clear, rational and sequential one. An administration does not necessarily
have to start with technology or back-office reforms. It is very well possible to start with front-office applications. However, the position from which an administration starts will have an effect on the further development of e-Government.

In the Flemish administration, the development of e-Government since 1999 has not been a large rational reform, but an incremental one in which we can distinguish three different periods. Between 1999 and 2003, the emphasis was placed on the development of front-office applications. This led to a slow development of components in the back-office and, eventually, to sub-optimal front-office applications. Between 2003 and 2004, the emphasis was placed on citizen take-up and the improvement of front-office applications. However, there was little attention for back-office reforms. Since 2004, a more balanced approach has been followed, with attention for technology, back-office reforms and front-office applications. Priority is given to projects that make use of new back-office components like the Flemish Service Bus and the Access Management Control.

6 References


