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The transformation of government organizations

A theoretical and empirical exploration

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Content

1 Introduction

1.1 Background

In 2006 a research on e-government research and practice was executed. By studying the contributions to a number of academic e-government conferences and the contributions to the e-Europe awards of 2003 and 2005, a broad image of what academics and practitioners consider to be e-government was created. Various themes were identified, ranging from typical e-government topics like e-democracy and e-service delivery, policy-oriented topics like e-government vision and e-government policy and technically oriented topics like architectures.

One of the main themes identified in the research was transformation. Academics and practitioners occupied with this theme argue that e-government is about fundamentally changing government organizations. This transformation, this fundamental change, is the subject of this research.

1.1.1 Transforming government organizations

Multiple sources, like a number of benchmarks (Accenture, CapGemini, European Union), the country studies of the OECD, and authors like Kubicek (2004) and Lenk (2005) argue that e-government is entering a new phase. Many authors (e.g. see Zangl 2005) identify four phases in e-government development. The first phase is “information”, in which government agencies use their websites for giving information to citizens. The second phase is “communication”, in which the internet is used for two-way communication between citizens and government agencies. The third phase is “transaction”, in which transactions of citizens with government agencies are conducted via the internet. The benchmark of the European Union of 2006 (CapGemini 2006) shows that governments have made much progress in these stages. Many governments offer public services online and the number of online services available increases rapidly. Nowadays, e-government seems to be entering a new phase.

In literature and in new e-government policy documents of OECD countries, “transformation of government agencies” is identified as the next phase in e-government. This phase of e-government forms a qualitative leap from the previous phases. In the previous phases, governments used ICT to change the way in which government communicated with citizens and companies. In the fourth phase of e-government, ICT is used by governments to fundamentally transform the way government organizations execute their tasks. Using e-government, governments apply new organizational arrangements to their executing organizations. Transforming their organizations should enable governments to be more effective in handling societal issues. The theme of e-government thereby integrates with other, broader themes, like the decrease of administrative burden, administrative and institutional reform and civil and sectoral challenges like safety, health and the reform of social security.

Elements of this “transformation-agenda” are:

- eService delivery: overcoming organizational borders to deliver services from a customer (citizen, companies) perspective;
- Business Process Redesign: fundamentally redesigning processes in order to fully use the possibilities of ICT (instead of “equipping post-carriages with engines”)
- The connection of back-offices, complete with redesign;
- Service-delivery Portals with inter-institutional and interdepartmental integration of services;
- Multichanneling: delivering services via a number of different channels;
- Architectures and frameworks to guide this process;

- e-government components like unique numbers, basic registries, transaction protocols, authentication facilities, SOA, UML, BPEL, XML;
- Enlarging the focus of e-government, from Business-to-Government and Citizen-to-Government to Business-to-Business (XBRL) and Citizen-to-Citizen.
- Total Quality Management, like EFQM (European Foundation of Quality Management) and INK (Dutch Institute for Quality Management).

1.1.2 Benchmarking the transformation

Every year, a number of benchmarks (Accenture, CapGemini, United Nations) are published, presenting a comparison of governments' achievements on the implementation of e-government. The benchmarks study the current state of e-government in governments. E.g. they study which percentage of the service delivery of a state is offered online and whether governments have implemented portals that present online available services in a citizen-friendly way. By comparing the current status of a number of governments, the benchmarks offer insight in the relative positions of countries on the implementation of e-government and enable governments to learn from each other's experiences.

To assess how far a state is on implementing e-government, a conceptual framework on what e-government actually is and how it affects governments operations is needed. In the first three phases, this conceptual framework may be quite simple. In the first phase, the "information" phase, benchmarkers could just look at the number of government organizations that used a website for offering information to citizens. In the second phase, the "communication" phase, benchmarkers could for example study whether e-mail was used to communicate with citizens. In the third phase, the "transaction" phase, benchmarkers could count the number of services offered online by governments. However, the new phase of e-government, the "transformation" phase, puts benchmarkers into trouble. How are they to assess whether governments succeeded in transforming their organizations? This asks for a much more sophisticated conceptual model to base the benchmarks on.

The current benchmarks seem to lack such a sophisticated conceptual framework. It may therefore be questioned whether these benchmarks offer a useful overview of the statuses of different governments on the implementation of e-government. The concept of pro-active service delivery illustrates this. e-government is used by governments to increase their information position on citizens. Citizens for example tell their government what salary they earned by filling for taxes. This information can be routed to social security agencies, which are enabled to pay social payments to citizens with low salary, without the citizen needing to ask for it. This is truly citizen-centric service delivery. However, this form of service-delivery is harder to measure by benchmarkers, for example because it is not conducted via a website. A conceptual framework of the transformation of government organizations as a result of e-government implementations is therefore needed to enable benchmarkers to measure the status of governments on the implementation of e-government. This research aims at developing such a conceptual framework.

1.2 Research goal

This research has two goals:
- Gaining insight in the "transformation-agenda" of e-government;
- Enabling benchmarks to measure innovations of this new phase.

1.3 Research question

The research question is:

What organization is the result of the transformation caused by the implementation of e-government in networks of government organizations and how can benchmarks measure progress towards this organization?

A number of arguments have to be made. First of all, the research focuses on changes in organizations as a result of e-government implementations. The research focuses on changes in the organization structure (how are activities in the network organized?), in the information infrastructure (is there a structure in place for interorganizational information flows?) and in the business processes in the networks. The research focuses on systems of government organizations in which e-government concepts have been successfully implemented and studies the influence these e-government concept have had on organizational structure, information infrastructure and business processes. The research does not include innovations on other levels, such as institutional or legal innovations. Moreover, the focus is on e-government change; changes in government organisations from other perspectives, e.g. changes in Human Resource Management or Financial reforms are not considered in this research.

Second, the research focuses on systems of government organizations that are together making efforts to handle societal issues. The underlying assumption is that e-government enables government organizations to cooperate more heavily. Since most societal issues do not fit within the boundaries of the competences of individual government organizations, government organizations need to cooperate. The transformation which is studied in this research may therefore be expected to be found at the system-level of networks of government organizations, more than at the level of individual organizations.

Third, the research focuses on the level of policy-execution of government. At this level, public services are manufactured and rules are enforced. Since information is one of the main raw materials for organizations at this level, e-government may be expected to influence the organizational arrangements of these organizations very much. The influence of e-government on policy-making or on institutions like voting or participation is not included in the research.

Fourth, the focus of this research is on changes in government organizations, not on the change process. The research may be defined as a design-research: what do transformed networks of government organizations look like? The process by which this future state of government organizations is achieved is not considered in this research. This process is the subject of another research, which is conducted by Zenc on behalf of the research network ITAFIT (Meesters & Jaremba 2007).

Finally, this research is conducted from a modernist perspective. The main assumption of the research is that there are similar structural changes in governments in all of Europe and that these changes can be identified and mapped. It is the authors' believe that there are fundamental changes that all European governments go through. We agree with authors like Leitner (2003) and Lenk (2005) that organizational innovations always have certain cultural and institutional features that differ between different countries and that historical choices influence the outcome of innovation processes. However, as the examples of the Taylorist Machine-bureaucracy and the Weberian Rational-legal bureaucracy show, organizational innovations share some characteristics throughout all of the Western world. It is these common characteristics we are searching for. There may be a need for a number of conceptual models to describe the transformation of government organizations in different parts of Europe, for example on the base of the institutional framework. We do take this possibility into account.

1.4 Methodology

To answer this question, a research consisting of four phases was designed.

1.4.1 Phase 1: mapping the field of e-government

In the first phase, the field of e-government was mapped. The main question was which are the new themes that e-government academics and practitioners deal with. The themes that were identified are mapped in a conceptual model. The conceptual model maps what the newest trends in e-government research and practice are.

The conceptual model is used as the starting point in the next phase and is shortly described in chapter 2. For a comprehensive discussion of this model we refer to the report "The new generation of e-government" of Meesters, Haitjema and Zuurmond (2007).

1.4.2 Phase 2: the transformation of government organizations

In phase two of the research, the focus is on one of the themes in e-government: the transformation of government organizations. The goal of this phase is to map the newest insights of academics on the transformation of government organizations. The result of this phase is a conceptual model (or a number of conceptual models, when external contingencies seem to have profound influence on the transformation) that describes the transformed government organizations.

This conceptual model is designed using three sources of insights:

- The insights from the e-government conferences, analysed in phase 1;
- Additional literature of leading e-government academics;
- Literature from business and public administration.

Since the topic of the research is quite new, the literature study was conducted unstructured. A clear conceptual framework for studying the transformation of organizations was lacking. Therefore, the literature was quite randomly studied looking for transformational trends.

The use of these three perspectives enables the researchers to get a broad picture of what is happening in the field of the transformation of organizations. By analysing a phenomenon using three different lenses, the biases of these lenses can be filtered out to some extent. E.g. the bias towards a technical perspective on e-government, present in the contributions to the e-government Conferences (see report phase 1), can be filtered out by studying literature using broader focus on e-government. This research method ensures that some biases are filtered out, although the researchers do not pretend to not have any bias at all.

The resulting conceptual model maps some transformational trends in organizations. The conceptual model was operationalized into a number of criteria. These criteria can be used for assessing the transformation of networks of government organizations. The criteria were used to perform the case studies (phase three) and to assess and amend the benchmarks (phase four).

1.4.3 Phase 3: empirical evidence for transformation

Three case studies were performed to gain more insight in empirical instances of the transformation of organizations. In three European countries, an example of fundamental transformation is researched. The cases are the social security sectors in Belgium, The Netherlands and the United Kingdom. The selection was based on a number of criteria. First, social security is an important social issue in many European countries, in which several governmental, semi-governmental and private organizations cooperate. Moreover, a similar policy shift, from the provision of social benefits to unemployed to getting unemployed back to work is witnessed in all studied countries, which make it plausible to suspect organizational change. Second, the social security sectors in these countries have witnessed large investments in ICT in the last decennia. Therefore, transformation, if it occurs, may be expected here.

The cases were studied using the method of document analysis. The criteria developed in phase two were measured by studying key documents in the sectors. Appendix B presents an oversight of the documents that were studied. Before starting the empirical research, a list of key documents to be studied was created. This way it was ensured that every case was studied in the same way. The main advantage of this method is that the cases are judged as objectively as possible. The main disadvantage is that some trends may be occurring in the sectors, but are not identified in this research because they are not described in the studied documents. The main advantage is in this case more important, because the research aims to provide amendments for benchmarks. For benchmarks it is essential to have a clear and objective research framework with which governments' progress is measured.

This phase has three goals:

- To evaluate the transformation of the cases. Are these cases really examples of transformed government organizations?
- To evaluate and amend the conceptual model of the transformation of government organizations;
- To come up amendments for the benchmarks.

1.4.4 Phase 4: transformation and benchmarks

The conceptual model of the transformed organization is confronted with the models behind the benchmarks in this phase. The goal of this phase is to test whether the benchmarks are capable of measuring the newest developments in e-government, the transformation of government organizations. This test may show the need of amendments to the benchmarks. The case studies, in which the level of transformation of governmental sectors were studied, offer interesting experiences for possible amendments.

The conceptual model developed in phase two was used to score the conceptual models of the benchmarks. The main question in this exercise was: do benchmarks incorporate the transformational trends indentified in the literature study? Next, the criteria developed in phase two were assessed on usefulness for measuring transformation in governmental sectors. The criteria were used in the case studies and could therefore be assessed on usefulness. This exercise enabled the researchers to make some statements about the usefulness of the criteria for the benchmarks.

1.5 Research organization

The research was conducted by Marco Meesters MSc. BA. and Dr. Arre Zuurmond. Marco is responsible for the largest part of the research, he conducted the primary research activities. Arre was supervisor of Marco and was responsible for the quality check of the research. Phase 1 of the research was conducted to a large extent by a trainee.

The research was also guided by a supervisory committee. This committee was formed by Prof. Dr. Mr. Ig Snellen (former professor of Public Administration) and John Kootstra Ma. (Ministry of The Interior and Kingdom Relations). After each research phase the committee met to judge the quality of the research.

1.6 Reading guide

The structure of this research report is as follows. The model of e-government which was developed during the first phase of this study is shortly presented in chapter two. Chapter three deals with the model of the transformation of organizations, based on an extensive literature study. The model is operationalized into a number of criteria for measuring transformation in governmental sectors. Chapter four discusses the consequences for the benchmarks.

Chapter five, six and seven present the case studies of the Belgian, Dutch and UK social security sectors. The cases are analyzed in chapter eight. Chapter nine presents some amendments for the benchmarks bases on a critical assessment of the research method of this research. The report ends with the main conclusions of the research and the recommendations for further research in chapter ten.

2 E-government model

2.1 Introduction

At the start of this research, the following questions were posed: what is e-government about? What themes can be identified in e-government? These questions were answered in a separate study, but the outcome of this study is very interesting in the light of the discussion about the effectiveness of the benchmarks in measuring countries progress in e-government implementation. The themes of e-government can be used to assess whether the benchmarks include all aspects of e-government. Therefore, in this report, a short summary of the outcome of the research is presented. This short summary suffices for the goal of this research of assessing the value of benchmarks. However, the model is quite complicated and is presented in much more detail in the complete report of the study "the e-government agenda" (Meesters et. al. 2007).

To develop a model of e-government, the study focussed on contributions to academic conferences about e-government and to the eEurope Awards of 2003 and 2005. What themes were studied and discussed by academics? And what themes were implemented in practice? The contributions were categorized into the themes of e-government. This way a model of the themes of e-government was developed. In the paragraph below, the model of e-government is shortly introduced. In chapter 4 the model is used to assess the effectiveness of the benchmarks.

2.2 The process of government

All themes that were identified in the research have one thing in common: all themes are concerned with enhancing the operations of governments. A model of the operations of governments may therefore be used as an umbrella to categorize the various themes that e-government academics pay attention to.

The operations of governments may be seen as a process, divided into an input phase, a throughput phase and an output phase. The input phase consists of political processes. In this phase, politicians campaign and are elected, administrations are formed, and political plans are developed. In the throughput phase, these plans are developed further into policy plans. Policy makers collect information, deliberate with interested parties and draw up policy plans. In the output phase, these plans are executed. In this phase, the content of the policy is not debated, this has been determined in the previous phases. In the output phase the preconditions for policy execution are developed, the organization structures needed for policy execution are created and public services are produced and delivered to citizens and businesses.

The level of abstraction of these phases is quite high; therefore every phase in the model can be divided further into a number of sub-phases. Every phase in the model can be divided in an input, throughput and output phase. Thus, a layered model of the operations of government is the result. The input phase at the highest abstraction level, concerned with the development of political plans, may be divided into an input phase, in which politicians are elected and administrations are formed, a throughput phase in which political deliberations take place and an output phase, in which political decisions are made and political plans are determined.
The throughput phase also consists of three phases. In the input phase (of the throughput phase) the policy makers receive the political plans (the output of the previous phase) and collect information. This information is processed in the throughput phase; policy makers deliberate with ministers, policy executioners and third parties (such as private parties or interest groups). In the output phase of the throughput phase, policies are developed and determined.

Finally, the output phase also consists of three phases. The political plans and the policy plans form the bases of this phase. In the input phase (of the output phase) the preconditions for policy execution are developed. This entails the allotment of resources such as finances and personnel. In the throughput phase, these resources are used to create the structures (such as the organizations) to produce public services and the rule enforcing activities. In the output phase (of the output phase), public services are actually produced.

These phases can also be further divided into input, throughput and output phases. The output phase of the output phase, for example, can be divided in an input phase, in which the citizen is contacted or the citizen contacts the government, a throughput phase in which a service is produced and an output phase in which the service is provided to the citizen. However, this division would lead to a level of detail which is not needed to map the attention of academics on e-government.

The model assumes a very rational decision making process and does not suffice to describe decision making in real governments. Real processes of governments do not follow such clear paths, but may be better characterized by other models, such as the Garbage Can model of Cohen, March and Olsen or the policy-window model of Kingdon. However, the model presented above is useful for analyzing the areas of attention of e-government academics. E-government can contribute in every phase of government presented above. Therefore, the "process of government" is useful in categorizing the contributions of e-government academics. The outcomes of this exercise is presented next.

2.3 E-government and the process of government

E-government can be plotted on the model of the process of government in two ways. First, e-government is a subject that goes through all of the phases of the model. Politicians form political plans on e-government (input). These plans are developed into policy plans (throughput), which are then executed (output). Second, e-government can contribute to the process of government. E-government provides concepts that help governments to enhance their operations. E-democracy for example may be used to improve the political process (the input phase). In the following paragraphs the contributions of the academics are mapped in these phases.

2.3.1 E-government as a process of government

The implementation of the e-government can be visualized as a process. This process starts with a *vision*. E-government enables governments to enhance their outputs. Politicians need to have a vision on what the influence of e-government on governmental processes could be and how these improvements could be achieved. Vision therefore constitutes the *input* of the process of e-government.

The next step in the process of e-government is the translation of the vision on e-government into policies. The most important actor in this process are the policy makers at the ministries. They are responsible for developing policies that enable governments to achieve the goals set in the visions. Policies constitute the *throughput* of the process of e-government.

The policies developed by policy makers need to be executed to achieve the goals of politicians. Policies are executed by different governmental bodies at different levels of governments. National, regional and local governments all play their part in policy execution. Moreover, policies are executed by public, privatized and semi-privatised organizations. This is the level where governments deliver services to citizens and businesses. Governmental organizations for example pay social benefits, handle permit applications, deliver health care services and deal with criminals. This step is the *output* of the process of e-government.

Academics focus on various themes at this level. The table below shows the themes and the number of contributions.

Theme	Number of contributions
Input	
Transformation	14
Vision	21
e-government policy	15
Interoperability	11
Throughput	
Legal framework	5
Output	
e-service delivery	13
Government to Business and Citizens	7
Mobile e-government	3

Table 1: contributions of academics to the process of e-government

2.3.2 E-government as supporting the process of government

Each step in the process of government can be supported by e-government concepts. In the input-step, politicians do not act in splendid isolation; they interact with citizens. Institutions like elections and participation procedures are invented to enable politicians to develop visions in interaction with citizens. E-government concepts like e-democracy and e-participation enhance this interaction and enable politicians to formulate a better (more popular support, better connected to the "public will") vision.

Policy making (throughput) is also supported by e-government concepts. Policy makers use new technologies to gather and analyze information. These technologies, for example the Internet, enables them to access numerous new information sources. The step of throughput is therefore supported by *throughput-support*.

Finally, the policy execution (output) is supported by e-government concepts as well. On this level, we can distinguish between *specific support* for specific situations and *generic support*, which is applicable in multiple situations. Business Process Redesign is an e-government concept that is applied in specific situations, for example to redesign processes that deliver a specific public service. Registration is an e-government concept that can be applied in numerous situations: registered data about for example persons can be used in multiple situations for multiple government processes.

The table below shows the themes that e-government academics pay attention to.

Theme	Number of contributions
Input support	
e-democracy	3
e-voting	15
e-participation	8
Political actors online	0
Throughput support	
Ontology for policy	1
Output support specific	
Business Process Redesign	11

Government to government	19
e-service interoperability	17
Process architecture	9
Output support generic	
Application architecture	6
Decision support systems	5
Data architecture	3
GIS	4
Registration	3
Technical architecture	0
Infrastructure	2
Identity management	21
Security	10
Shared service centres	5

Table 2: the contributions of academics to e-government as supporting structures

2.4 The process of e-government

When the themes and the process identified above are combined, a model of e-government can be developed. E-government is on the one hand a process of government in itself and can on the other hand be used to enhance the process of government. The resulting model is presented below.

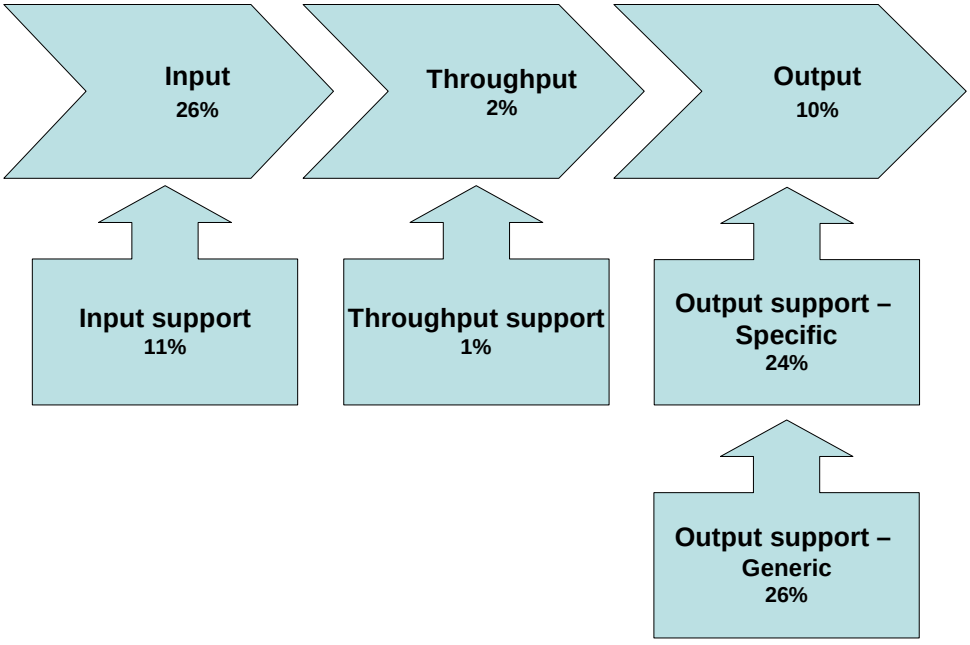


Figure 1: the process of e-government

The figures in the model represent the share of attention from academics to the theme. One of the main conclusions from the research was the bias towards the themes of output and output support. Apparently, academics think that e-government's influence is largest in the area of policy execution. This conclusion justifies the choice in this research to study the transformation of policy execution networks as a result of e-government. This transformation is the topic of the rest of the report.

The distinction between the input and throughput phase on the one hand and the output phase on the other hand is that the content of policies are created and decided upon in the input and throughput phase, whereas the output phase is concerned with achieving the policy goals of these policies. The input and throughput phase are concerned with the content of policies, the output phase with the execution of these policies. In the rest of this report, the content of policies is taken for granted. The structures that are developed to execute these policies and to achieve the goals of the policies are subject of the research.

3 The transformation of organizations

One of the themes that was identified was the transformation of government organizations. Various academics argue that ICT is used by governments to fundamentally transform their organizations. An interesting question than is: what does this transformed government organization look like? It seems that a good model of the transformed government organization is lacking in the literature. Many authors have presented some ideas on the transformation of government organizations as a result of e-government efforts, but a comprehensive model of the result of these e-government efforts seems to be missing. In this chapter, an attempt to develop such a model is presented. The resulting model will be used in chapter 4 to assess the effectiveness of benchmarks. The model of the transformed government organization is based on a literature study. Literature from various perspectives, such as strategic management, public administration and e-government were studied. This method enabled the researchers to combine newest insights from various research traditions.

3.1 Transformation: a fundamental shift in perspective

In development models of e-government, transformation of government organizations is often defined as the fourth phase of e-government. In previous phases, the sophistication of online service delivery was the main element. Governments developed from delivering information to citizens to delivering fully transactional services online. The fourth phase of transformation however forms a qualitative leap in this development. E-government is not only perceived in terms of online service delivery, but e-government is about fundamentally transforming the organizations that produce public services. To truly understand the impact of e-government on government organizations, a change of perspective is needed in studying organizations.

The traditional way of studying organizations is to perceive organizations as collections of activities. Organizations execute various activities and should be organized so that the execution of every activity is optimized. The traditional models of the machine bureaucracy of Frederick Taylor and the rational legal bureaucracy of Max Weber are based on this assumption. For every set of activities a separate department is developed, which has to account for it's set of activities. Management layers are created for achieving coordination between the activities. Large hierarchies are thus created, with many management layers and with large flows of (paper) information between the various management lines. The result is a government characterized by silo's; citizens need to deal with various departments when they want something done from government, societal issues are dealt with by various organizations and cooperation is hard to achieve. The first three phases of e-government fit perfectly within this paradigm of organizing; departments optimize their communication with citizens and businesses using new channels such as the Internet.

The fourth phase of e-government is in need of a new paradigm for organizing the operations of governments. Activities of governments should not be analyzed in isolation. Micheal Porter introduced the concept of the value chain in 1985. The value chain, see Figure 2, describes the activities of an organization as a whole. The activities of the organization create increased value for the organization. Together these value creating activities form business processes. There are primary and secondary activities that form primary and secondary business processes. Primary business processes consist of those activities that are concerned with the production of the products and services of an organization. The secondary business processes are those activities that support the primary business processes.

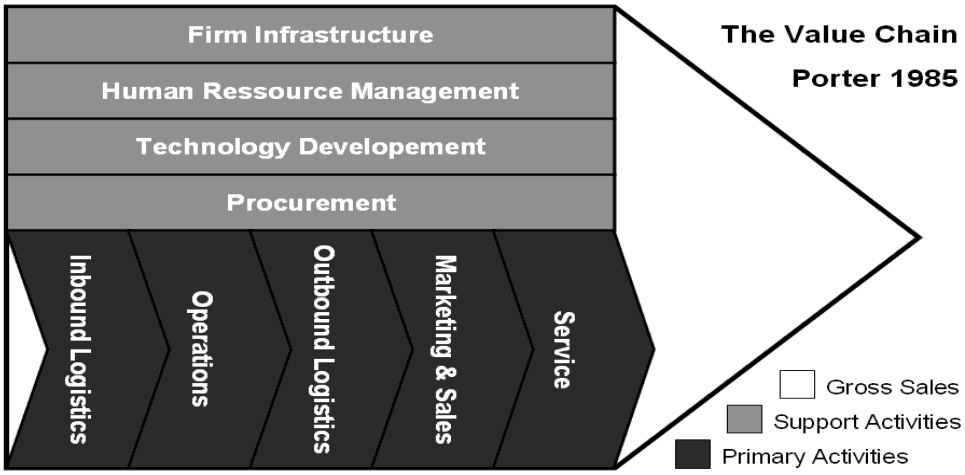


Figure 2: Micheal Porter's value chain (source: en.wikipedia.uk)

Micheal Hammer (2001) argues for analyzing organizations as bundles of processes instead of collections of activities. Business processes show the interdependence between the activities of organizations and enable organizations to increase their performance. Moreover, organizations can use the business process approach to maximize the value they produce for their customers. Hammer argues that in the modern society "it is necessary that organizations analyze themselves from the perspective of the customers and that the relevant aspects of the organizations activities are redesigned according to this perspective" (Hammer 2001). Processes should be identified and redesigned from the perspective of the customer. This also means that organizations can identify various processes for various groups of customers.

Business processes do not end at the borders of organizations. Business processes run through various organizations before reaching the "end-customer". The end-product of one organization is often the input for another organization. Porter called this the value system: the value chain of an organization is extended to include the value chains of it's suppliers and customers. In this research, we will use the term value chain for this. "A [value] chain maps the vertical sequence of events leading to the delivery, consumption, and maintenance of a particular good and service" (Sturgeon 2000). Using this perspective, we should not speak of customers of individual organizations, but we should speak of customers of value chains. The organizations in a value chain together produce products and services for customers. The sub-products that the individual organizations in the value chain produce are of little value for the "end-customer" of the value chains. Organizations add value to the end-product or –service of the value chain.

Most organizations do not operate in single value chains. Organizations are part of various value chains at the same time. Therefore, Sturgeon introduces the term production network, that maps "both the vertical and horizontal linkages between economic actors, i.e. recognizing that various value chains often share common economic actors and are dynamic in that they are reused and reconfigured on an ongoing basis" (Sturgeon 2000). Organizations add value in multiple value chains at the same time. The concept of the production network acknowledges and focuses on the linkages between the different value chains.

The concepts of the value chain and the production network come from the literature on logistics in business administration. In this field, the output of organizations is defined by their customers. The value of products and services is defined by the decision of customers to buy the products and services of the value chains. In public administration, this is somewhat more complex. The relationship between governments and citizens can not be reduced to

the relationship of service provider and customer. However, the concepts are still useable for analyzing government operations. Government organizations develop partial solutions for societal issues. Government organizations need to combine the solutions, their products and services, into a whole to cope with societal issues. A good example is the current initiative of the Balkenende administration to deal with “problem-regions” in cities in the Netherlands. To develop these regions into areas in which it is nice to live, various organizations, such as the social service, the keeper of buildings, the health care centres and the police need to combine their products and services. Individually, these organizations cannot cope with the issue at stake, together they might.

This example shows that the value chains of governments are identified by societal issues. To cope with societal issues, various organizations need to cooperate. The societal issue defines the chain of activities that is needed to cope with it, and therefore defines the organizations that should cooperate to solve the issue. In some instances (but not in all), this may mean that the citizen is central in the operations of government and that the citizen defines the value chain. This is the case when governments deliver services to individuals, e.g. when governments try to help unemployed. This is called citizen-centric government (e.g. see McDonald 2006). In other instances, such as the example above, regions or the specific characteristics of the societal issue define the value chain.

When the organizations in the value chain cooperate, these organizations might be able to solve a societal issue. The organizations thus create value for society. This value is called public value. Public value is a concept that is much harder to measure than the value of value chains in businesses. Public value is estimated in an interactive process between politicians, who make plans for what goals they want to achieve in their governing period, citizens, that have an image of what needs to be done in society and civil servants, who have an operational perspective on what activities are necessary in society. For this research it is enough to define the value of value chains of government organizations as public value, for a more detailed discussion on public value see e.g. Moore (1995).

To study the phenomenon of the transformed government organization a perspective based on value chains and production networks, delivering public value by coping with societal issues, is needed. What place do organizations take in the value chain? And how do these organizations solve societal issues in chains? How do they optimize the public value of the chains? When government organizations are studied from this perspective, a number of transformations at various levels can be identified. This transformation is described in the following paragraphs. First, the transformation of the organization structure is presented. How are the activities of government organized? Second, transformation of the information infrastructure is described. How are the information flows in government organized? Third, the transformation of business processes is described. What changes to the business processes of government can be found?

3.2 Transformation of organization structure

The shift from organizing activities to organizing business processes across organizational boundaries resonates in the organization structures of government. Many authors argue that the traditional structures of the machine bureaucracy and the rational legal bureaucracy are making way for more decentralised, network structures, in which centralised power is minimal. In such a structure, large hierarchical organizations that execute many different tasks are replaced by networks of much smaller, specialized organizations that focus on a few tasks. A number of trends point in this direction. These trends are discussed in the following paragraphs.

3.2.1 Focus on core competences

Organizations used to develop their strategy by analysing their environment for changes and deciding how they could best react. Based on an analysis of its competitors and buyer and supplier power, an organization was able to decide on it's desired position in the market and on the actions necessary to achieve this position (Porter 1980). In the '90s, this practice changed. Organizations started to acknowledge that they were unique and that this uniqueness needed to be central in the process of strategy formulation. It is the uniqueness of an organization that defines the added value of an organization in value chains and production networks. To operationalize the uniqueness of an organization, the term core competences was introduced.

Core competences are those combinations of production skills and technologies that distinguish organizations from other organizations. "Core competences are the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technology" (Prahalad & Hamel 1990). Core competences are based on the specific resources of organizations and the knowledge how to use these resources to create added value. Barney (1991) identifies three categories of resources:

- Physical capital resources; e.g. the technology in use in an organization;
- Human capital resources; e.g. the expertise of individuals in an organization;
- Organizational capital resources; e.g. the formal reporting structure of an organization.

These three categories of resources can, when organizations know how to use them and how to combine them, lead to core competences. Because of the specific combination of competences available in an organization, this organization can outperform other organizations in producing certain products. According to Prahalad and Hamel, core competencies have to pass three tests. "First, a core competence provides potential access to a wide variety of markets. […] Second, a core competence should make a significant contribution to the perceived customer benefits of the end product. […] Finally, a core competence should be difficult for competitors to imitate". In other words: core competences should be useful in various value chains, should make a significant contribution to the public value of these value chains and should be difficult to imitate by other organizations.

The notion of core competences provides an essential insight for the strategy formulation of an organization and for designing optimal value chains and production networks. Organizations should make optimal use of their core competences. This has two implications. First, organizations should produce as much different products or services as possible using their core competences. By enlarging the portfolio of products and services they produce, organizations can optimize the use of their core competences. Second, organizations should enlarge the use of their core products. Focussing on core competences means that organizations mostly produce half-products, that have to be processed further by other organizations. Organizations should produce those half-products that are useful for many other organizations in various value chains. This way, they can maximize the take-off of their core products, and therefore the use of their core competences.

3.2.2 Outsourcing of non-core activities

Organizations that focus on their core competences, stop performing activities that do not make use of their core competences. Since these activities are often essential for producing products and services that have value for the customers, organizations outsource these activities to other organizations. Organizations outsource more and more activities to other organizations that are specialized in performing these activities. Organizations specialize in certain activities, leading to vertical disintegration at the level of the production chain (Sturgeon 2000; Wynstra 2006).

Outsourcing is stimulated by developments in ICT (Strikwerda 2006). The development of open infrastructures such as the Internet create opportunities for organizations to cooperate with each other. ICT and the Internet decrease the transaction costs of doing business with other organizations, since it decreases communication costs (Malone 2003). The reduction of the transaction costs make it economically viable to outsource activities that organizations otherwise would have to perform themselves.

Outsourcing "represents the fundamental decision to reject the internalization of an activity" (Gilley and Rasheed 2000). Organizations rationally decide that they do not have the resources and core competences to execute certain activities and they start looking for organizations that can provide these activities. The process of outsourcing ideally consists of a number of steps (Monczka 2004). First, organizations develop a purchasing strategy in which they decide what the requirements for the activities are. Second, they search the best suppliers for the activities they need. Third, they establish appropriate strategic alliances with these suppliers. Fourth, they integrate these suppliers into their business processes. Fifth, they manage and develop their relationship with these suppliers. Finally, they manage the costs across the supply chain.

Outsourcing leads to an increased importance of the suppliers of an organization. The organization becomes dependent on the activities of its suppliers to satisfy it's own customers. The organization stays responsible for its service delivery to it's customer, while it cannot control every aspect that is needed for its service delivery. Often, organizations develop service level agreements in which they agree on the specifications of the products and services that are provided by suppliers.

3.2.3 Shared service centres for common business processes

Analyzing government operations from a business process perspective lets organizations realise that parts of their business processes are common for various organizations. These may be called common business processes. Common business processes are business processes that (1) are executed in various organizations and (2) have similar goals and outputs (Meesters & Jörg 2005). Examples are back office processes such as salary administration or front office processes such as contact with citizens in physical desks. These common business processes are executed by various organizations in roughly the same manner and with the same goals and outputs.

Such business processes offer opportunities, by organizing them centrally, to increase efficiency and quality. A number of possibilities are identifies to achieve this. Organizations can create knowledge centres, may create referential models or may implement shared information systems. However, the most far-reaching (and therefore probably resulting in the most fundamental improvements) is the centralization of the common business process in one organizational entity. When there is no organizational entity in the value chain with the necessary competences, a new organizational entity, a shared service centre, needs to be created.

Korsten defines a shared service centre as "a result-oriented inter-organizational cooperation, optionally concentrated in one organizational entity, that has the tasks of offering services in the area of a certain supportive function or in the area of policy development or execution to individual partner-organizations, based on a contract" (Korsten 2005). Essential differences with traditional staff departments are (1) that a shared service centre has integral responsibility for the products (or services) that it delivers, (2) that beforehand agreement is reached on the characteristics of these products and services (e.g. the quality and the price) and (3) that the shared service centre offers its services to a number of different organizations in the production network. Shared service centres may be

created for all sorts of business processes, front office as well as back office processes, primary as well as secondary processes (Meesters & Jörg 2005; Strikwerda 2006).

3.2.4 Modularization of activities

The trends mentioned above, the focus on core competences, the outsourcing of non-core activities to specialized organizations and the creation of shared service centres, lead to the creation of production networks. These networks consist of relatively small, specialized organizational entities that focus on a small number of activities that depend on their core competences. Together, these organizational entities form production networks consisting of value chains, in which they produce products or services. Cooperation between the organizational entities is essential for the production of these products and services.

The resulting organization structure is that of the "modular organization" (Strikwerda 2006). Modularization is concept that came from engineering information systems and was introduced in organization theory in the automobile industry. "Modularity is a general systems concept: it is a continuum describing the degree to which a system's components can be separated and recombined, and it refers both to the tightness of coupling between components and the degree to which the 'rules' of the systems architecture enable (or prohibit) the mixing and matching of components" (Brüggemeier et. al. 2006). The modular organization is made up of organizational modules. An organizational module is "an isolated set of activities that knows a certain degree of alternative use within the architecture of products, services and creation processes, of which the output can be contracted and the performance can be judged financially" (Strikwerda 2006). Organizational modules may be derivates of the traditional organizations, or may be newly created shared service centres. In this modular organization, we see "[organizational] modules that cooperate in constantly changing configurations to increase the performance of an organization, in term of higher efficiency and more differentiation in products and services" (Strikwerda 2006).

Brüggemeier et. Al. (2006) identify three elements in modularization: "[1] The module as unit that may be limited, distinguished and combined, [2] the connections between these modules and [3] the rules that enable the combination of different modules". This has a number of implications for modular organizations, in which the organizational entities are the "modules". First, the products of the organizational entities, in fact the sub-products of the value chains, must be clearly defined. Second, a process of making combinations of sub-products is necessary. This process is called "orchestration", searching for the right combination of sub-products needed to produce a certain end-product. Third, there must be a "set of rules" that enables the (re-)combination of the sub-products into various end-products.

In the business environment, modularization is often analysed as a result of the evolution in businesses: the strongest organization structure survives and the modular organization offers advantages in certain environments. In the government environment this evolution mechanism is much weaker, since government organizations mostly do not go bankrupt. The development of modular organizations in governments is therefore depending on another mechanism. This mechanism may be found in the decision of centralised authorities (e.g. ministers and their staff departments) on how activities should be executed by government organizations. Last decades have seen many efforts to reorganize various governmental sectors (think of social security or youth care). These reorganization efforts often result in plans on how to distribute tasks between the various government organizations in the sector. The decision of who does what is often based on considerations of core competences and common business processes. The modular organization in governments may therefore be the product of deliberate reorganization efforts of central authorities.

This does not mean that the evolution mechanism is not there at all in government environments. Some academics argue that it is there, but it is less strong than in business. In

the end, inefficient and ineffective government organizations will be abolished, under the pressure of new governments or of the public.

3.3 Transformation of information infrastructure

The previous paragraph dealt with the question how governmental activities are organized in the transformed government organization. The paragraph presented an image of the transformed organization structure: a modular structure of independent organizational entities cooperating in a common framework. A second question posed in the introduction was how information flows are organized in the transformed government organization. The following paragraph presents a model on structure of information flows.

3.3.1 The information infrastructure

Essential for the functioning of a modular organization is that the activities of the organizational entities are attuned. The output of one organizational entity has to be processed by the next organizational entity, so the second organizational entity has to be able to use the output of the first. In other words: activities of the organizational entities should be interoperable. "Interoperability means the ability of information and communication technology (ICT) systems and of the business processes they support to exchange data and to enable the sharing of information and knowledge." (European Commission 2004; in Kubicek & Cimander 2005). To achieve this interoperability, a common infrastructure is needed. The infrastructure consists of a number of rules that all organizational units abide to and that ensures that organizational entities activities are attuned.

The term infrastructure encompasses more than just an information infrastructure. The infrastructure refers to “democratic routines, financial routines, personnel routines and informational routines [as well as] juridicial definitions” (Zuurmond 2003). At each level, a limited set of rules has to be agreed upon to ensure interoperability. The infrastructure ensures interoperability between the organizations and thereby enables organizational entities to cooperate in constantly changing combinations, depending on what societal issues need to be resolved. Zuurmond (1994; 2003) calls this organization the “infrastructural organization”, or as a variation on Weber’s bureaucracy, the “infocracy”.

3.3.2 The layers of the infrastructure

One of the elements of the infrastructure is the information infrastructure. The information infrastructure consists of a number of standards agreed upon by the organizational entities in the modular organization. These standards, involving the design of the information systems of the organizational entities, the messages they send to each other and the use of information in their business processes, cause interoperability of their information systems and their business processes. This interoperability is essential for the functioning of the modular organization, since it enables the organizational entities to cooperate in varying combinations, without making large changes to their business processes or information systems. Moreover, the infrastructure consists of a number of common business processes: common information systems, e.g. for online identification, and common databases, for example of personal data of citizens. These common elements are used by all organizational entities in the modular organization that need these elements for the execution of their tasks.

This information infrastructure consists of a number of layers; the standards and common elements may be categorized into five layers. The layers lay on top of each other and depend on each other; each layer uses elements of the layers below it. The identification of layers in the infrastructure clarifies the concept of interoperability. Interoperability does not mean that everything has to correspond with everything. Interoperability must be achieved in each layer, and each layer should correspond to the layer above and below it, which is often hard enough to achieve.

The process layer describes the business processes of the organizational entities and the interfaces between them. At this level, we find the common business processes that were discussed earlier. The functional layer describes which functionalities ICT offers for the use in the business processes of organizations. An example of a common element at the functional level is a common functionality for online authentication (e.g. DigiD in the Netherlands or the electronic ID card in Belgium). The data layer describes how data used in these functionalities are defined, processed and stored. Examples of common elements at this level are common, centralized databases that all organizations connected to the infrastructure can make use of, such as central residents registers or central car registers. The IT infrastructure layer describes the technical issues of linking computer systems and services. An example of a common element at this level is a common glass fibre networks. Finally, the IT organization layer describes which organizational entity is competent for information management in the modular organization. This organization should be able to ensure that all organizational entities apply the rules of the infrastructure. This organization may be a shared service centre.

3.3.3 The modular, infrastructural organization

The models of the modular organization and of the infrastructure may be combined into an image of the modern, transformed government organization. Figure 3 presents this image.

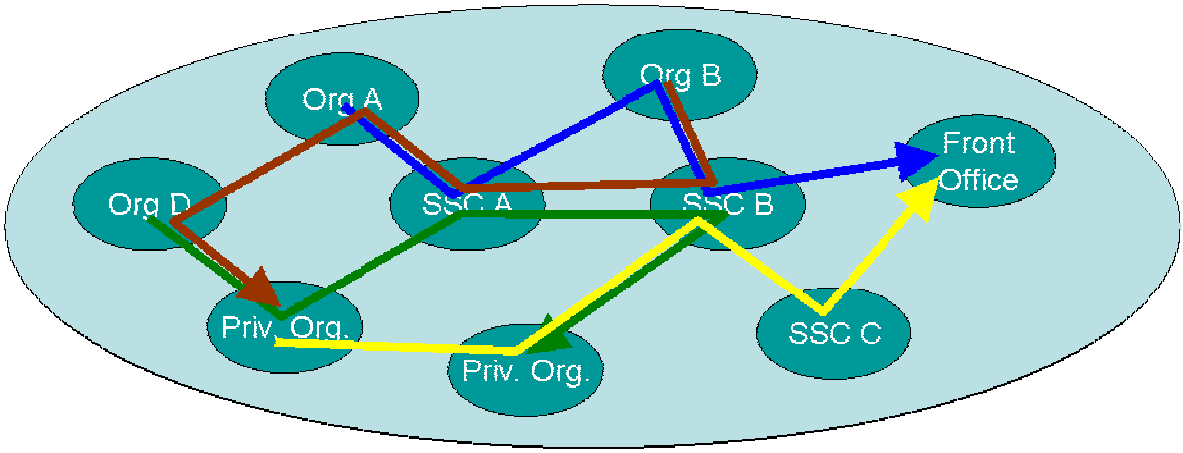


Figure 3: the modular infrastructural organization

The modular organization structure consists of various organizational entities (or modules). There are independent governmental organizations (org. A, B,D), shared service centres (SSC A, B, C), private organizations and a shared front office (in fact another shared service centre). These organizations have specialized in what they do best and offer their services to any organization in need of them. The arrows in the image present processes of service delivery. Every service is produced by a coalition of various organizational entities and offered to citizens or businesses in the place most logical for them. Some services are offered in the shared front office, for example the town hall. Other services are offered by private organizations, for example the post office or the automobile dealer.

The blue circle around the organizations represents the infrastructure binding all organizational entities together. The organizational entities have agreed upon a number of standards on various levels and these standards enable them to cooperate in ever changing coalitions. The infrastructure explicitly does not form a impermeable border. Other organizational entities can enter the network, by applying the standards agreed in the framework in its organization.

3.4 Transformation of business processes

As the organization structure and the supporting information infrastructure of organizations change, the performance of their tasks changes too. Business processes of organizations transform together with the organization structure. In this paragraph, the transformation of business processes is discussed.

3.4.1 Business process redesign across organizational boundaries

Business process redesign is essential in creating a super-efficient organization (Hammer 2001a). Hammer (2001) argues that most waste in business processes is found at the borders of organizations. Organizations mistakenly act like they produce products and services for their customers (other organizations that use the products and services for their own production process). In contrast, Hammer argues, various organizations together produce end-products and services for end-customers (citizens). Instead of focussing on their own outputs, organizations should cooperate to create public value. This goal can be achieved by optimizing “chain processes”, processes starting with a request of a societal issue and ending with the delivery of services or products to cope with this issue. In this chain process, various organizations may perform various tasks, all leading to the production of services or products for society.

Hammer argues that the output of one organization is often inefficiently transported and processed to the next organization in the chain process. To optimize the public value organizations deliver, organizations should strive to optimize chain processes. Therefore, organizations should redesign business processes across organizational borders. New technologies like shared ICT-infrastructures and the Internet (in the end an ICT-infrastructure shared by the whole wide world) offer various opportunities for business process redesign, especially for the information-intense business processes of governments. These infrastructures enable the automatic transfer from cases from one organization to the other (using universal message language), enable the sharing of data used by many organizations and even enable the automatic processing of cases across various organizations (Zuurmond & Meesters 2005). ICT-infrastructures may be used by organizations to optimize chain processes.

3.4.2 Modularization of business processes

Lenk and Traunmüller (2006) observe a second transformation in business processes. They argue that business processes can be divided into sub-processes or process modules. ICT offers increased possibilities for linking activities. Activities, as parts of business processes, may be performed independently. The linkage opportunities of ICT ensures that the results of these activities can be combined into end-products and –services.

The division of business processes in process modules offers a number of opportunities for redesigning business processes. First of all, process modules, parts of complete business processes, may be executed by various organizations. Organizations can specialize in certain process modules. A second opportunity is that process modules may be automated. Some activities in a business process can be automated very easily, whereas other parts, for example those involving heavy contact with citizens, cannot be automated. Dividing business processes in process modules that can and process modules that cannot be automated offer new opportunities for automating processes. A third opportunity is the creation of common business processes, discussed earlier in paragraph 3.2.3. Process modules that are part of various business processes may be organized centrally.

3.4.3 Variation between front and back office

Millard (2004, 2005) also argues for what he calls government process reengineering (GPR). Millard identifies a third transformation in governmental processes: separate developments

for front office and back office processes. Front office processes are the processes of the provision of public services to businesses and citizens. In these processes, businesses and citizens interact with governments (G2B and G2C). The focus in front office processes is on content. Back office processes are the processes a bit further from citizens' and business' attention. Governments interact with each other to verify requests for services and to produce the necessary services or products. These processes focus on control.

Millard identifies different developments in Front Office and Back Office reengineering. In the back office, downsizing and centralization are key words. Back office processes are integrated on national or even international level. Centralization offers opportunities of downsizing since economies of scope and scale can be achieved, which enable the creation of cost advantages. In the back office, we find integrated processes, shared databases and shared service centres. In the front office, upsizing and decentralization are key words. Decentralization of front offices means that front offices are placed near citizens and businesses. This entails physical nearness, e.g. in town halls, but also nearness to the place where citizens and businesses need a service, e.g. the registration of a new car at car dealers. The decentralization of front offices offer opportunities for providing "high quality, simple, localised, personalised, customized services" (Millard 2004).

Back offices get "smaller and smarter", Front office get "bigger and better". This approach to government process reengineering combines the achievement of cost advantages (in the back office) with increased quality of services (in the front office). The approach entails the redistribution of resources from back office activities to front offices.

3.4.4 An image of the transformed business processes

The trends discussed above have profound influence on the business processes of governments. Figure 4 presents an image of the resulting business process of government organizations. The image is an effort to present the changes from a citizen perspective. Before turning to the government, citizens prepare their request, sometimes assisted by governments. In the front office, citizens request for and receive public services. In the back office, governmental organizations together verify the request and produce the service. An information infrastructure, consisting of common business processes, supports every step in this simple process. The various items of the image are discussed below.

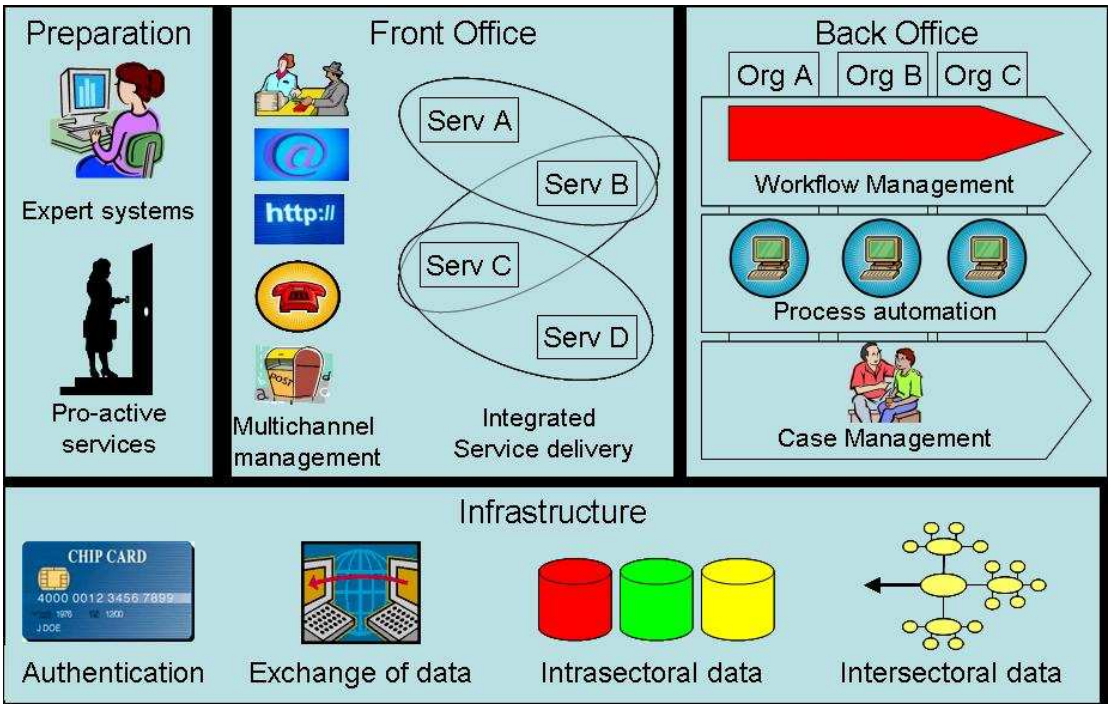


Figure 4: transformed business process

Preparation

The phase before a citizen turns to government to ask for a public service changes as a result of ICT developments. First, citizens can be enabled to prepare before they turn to government organizations for services. With expert systems, citizens can be enabled to check whether they are entitled for a service (e.g. a social benefit), to which government organization they should turn, what papers and documents they need to bring with them, etcetera. This saves citizens from going to the wrong door or asking for services that they are not entitled to. Moreover, citizens are empowered, since they can see what their rights are, instead of being dependent on a civil servant to tell them.

Second, governments can offer services without waiting for citizens to ask for them. Since governments have much information on citizens (e.g. income data), government can offer citizens the services they are entitled to without waiting for requests. This way, non-use of public services, the problem that many citizens that are entitled to services do not use the service, for example because they do not know of the service or do not know that they are entitled to it, may be reduced dramatically.[1]

Front office

The first development is that ICT offers new channels to offer services to citizens. Next to the traditional channels of the desk at the town hall and the telephone, new channels like e-mail and the internet may be used to offer public services to citizens. Modern government organizations make an effort to manage the service delivery among these various channels. This is called multichannel management. The citizen is enabled to use the channel he or she prefers. Government can steer this choice to the channels that are most favourable for it.

A second development is the integration of various interrelated services. In paragraph 3.3.3 the concept of shared front offices was introduced. Government organizations create common front offices in which they offer various services. Citizens often are in need of various services; someone may need to receive a social benefit, need help to get back to work, need mental assistance to be released of his drinking problem and need assistance with reducing his debts. In the shared front office, governments can offer all those services from a single point. This increases the chances of the service delivery being successful and saves the citizen from being sent from pillar to post.

Back office

In the back office, three developments can be identified. First, interorganizational workflow management systems (WFM) are introduced. These systems are used to guide cases across the various “desks” they need to pass. Think of a request for a building permit. Various persons need to make a decision about such a request. The workflow management system makes sure that every person that needs to make a decision receives the request in the right order. Interorganizational WFMs do not stop at organizational boundaries, but guide cases across various organizations.

Second, business processes are automated. Business processes that used to be executed by persons are now totally executed by computers. The abilities of computers to make calculations and to process large amounts of data in short time make them very effective for certain tasks. The ability to collect data from registers of various organizations make that business processes can be automated across organizational boundaries.

[1] For a detailed discussion on approaches to non-use see Zuurmond 2007.

Third, citizens are guided through the various procedures of government organizations by one case manager. The case manager is the only civil servant with whom citizen has contact. The case manager makes sure that the service that the citizen is in need of is offered to him or her in the right way. For the citizen, it seems that it acts with only one organization, while in fact various organizations may produce parts of the public service he or she needs.

Infrastructure

Most of the developments described above involve various government organizations to work together. To do this, they are in need of a shared infrastructure. The infrastructure was discussed before in paragraph 3.3. The infrastructure consists of a number of common business processes (CBP).

The first CBP is online authentication. Online authentication enables citizens to identify themselves online. Therefore, secure public services can be offered online. Several options are open for governments to use as online authentication, ranging from low security level solutions as combinations of username and password to high security level solutions like electronic identity cards. Governments create single authentication functionalities that can be used for various services. This way citizens do not need different electronic ID's.

The second CBP is the exchange of data. Governments can develop solutions to send automated messages between organizations. Organizations develop standards for messages, which enable them to send each other messages automatically from their information systems. These messages may also be automatically processed by the information system of the receiver. The creation of these automated message enables communication between the information systems of organizations without human interference.

The third and fourth CBP are concerned with the collection and storage of data. To produce public services, data is needed in several occasions and by several organizations. Governments develop shared databases, accessible for various organizations. Organizations in need of these data can collect them in the shared database, without having to ask the citizen for it. Citizens have to answer questions only once. The third CBP is concerned with intrasectoral collection and storage of data, the fourth CBP is concerned with intersectoral collection and storage of data.

3.5 Performance of the modular infrastructural organization

The image of the modern organization that was presented above is that of a modular, infrastructural organization. The "organization" is not conceived as a single entity, like the traditional rational legal bureaucracies, but consists of several organizational entities. These organizational entities, all concerned with creating leverage for their core competences, cooperate to produce products and services for society and to deliver public value. The organizational entities are bound together by an infrastructure of several layers; a legal infrastructure, a human resource infrastructure, an information infrastructure, etcetera. The information infrastructure contains agreements on standards on a number of levels: the process level, the functionality level, the data level and the technical level. In the modular, infrastructural organization, business processes are designed across the borders of organizational entities. The design is based on the perspective of citizens and businesses.

Several authors argue that the modular organization outperforms traditional organizational models. Some of the advantages are:

- The ability of organizational entities "to increase managerial attention and resource allocation to those tasks that it does best and to rely on management teams in other

organizations to oversee tasks at which the outsourcing firm is at a relative disadvantage" (Gilley and Rasheed, 2000);
- The creation of economies of scale (Opheij & Willems 2004);
- Working for customers enhance the motivation of employees and forces organizational units to work business-like (Opheij & Willems 2004);
- The possibility of mass-customization: producing customized end-products, based on standard sub-products and therefore at acceptable costs (Strikwerda 2006);
- Innovation of sub-products is possible, without the need for changes to the entire value chain;
- Easily adaptable organizational boundaries and activities (Strikwerda 2006).

The modular, infrastructural organization delivers more public value than the traditional Weberian bureaucracies in the complex, dynamic and interdependent society of today. The organization structure enables governments to cope with quick changes in society. The flexible structure of the modular infrastructural organization enables the creation of new coalitions of organizational entities when new societal issues arise. These coalitions can cooperate quickly, because they use the common infrastructure. The infrastructure prevents heavy investments being needed to cooperate. The possibility of creating new coalitions also increases governments ability to cope with interdependent societal issues. The infrastructure enables various coalitions working on societal issues to cooperate with each other.

An example is the development of a group of youngster with problems. These youngsters do not have a job nor a diploma, lack a stabile environment at home, are addicted to drugs or alcohol and commit several crimes a day. A government that wants to do something about this problem needs to get together educational institutes offering educational programs, social services offering social benefits, mental institutes offering help in addict rehabilitation, youth care institutes offering stabile home environments and the police to stop the criminal activities. Every organization is specialized in its activities and is therefore able to perform these tasks as good as possible. However, the various services should be offered integrally, since otherwise their results might be contradictive to each other. A common infrastructure enables the quick sharing of data on the situation of the youngsters and on activities that organizations may have performed in the past. Moreover, the infrastructure enables quick communication between the organizations on what activities to perform. The introduction of a case manager that is the one single entry for a youngster to the government enables integration of the various services. Since the process modules of the organizations are standardized, the process modules can be fitted together easily.

The products and services of the modular infrastructural organization are of higher quality than those of the traditional Weberian bureaucracy. Since every organizational entity in the organization structure specializes in a small number of core activities, these organizational entities produce with very high quality. Resources and management attention can be focussed on these activities, technologies needed can be invested in, economies of scale can be achieved, and innovations in the sub-products can be developed without adaptations in the rest of the business process being necessary. The previous example illustrates this. Every organization involved is specialized in some activities. The educational institution is very good at providing education. However, it is incompetent of providing the mental health care or the social benefits that are needed. These activities are performed by other organizational entities in the network. Together, they provide every service that is needed. Focussing on a small number of activities enable these organization to optimize their performance in these activities.

Of course there are some disadvantages to the modular infrastructural organization. Organizational entities in this organization structure are to a large extent dependent upon each other. No organizational entity can deliver public value in its own since many activities that are needed for its products and services are produced by other organizational entities in

the network. The failure of one of the organizational entities in the network can therefore have impact on the operations of many other organizations in the sector. The modular organization therefore asks of its organizational entities that they deliver high quality. Moreover, since every interdependence between organizational entities is to be managed carefully, the modular organization asks high quality governance of individual organizational entities as well as of the network. The common infrastructure is essential in this process and must therefore be of very high quality. Summarized: the organizational entities should be very well developed organizations in order to prevent the whole network from failing.

3.6 Operationalization of the modular, infrastructural organization

The model of the transformed government organization is meant to be used to measure the transformation of governmental sectors. To this end, criteria should be developed to measure whether governmental sectors have gone through transformation. In this paragraph, these criteria are presented. The criteria are used in the case studies to assess the transformation in the social security sectors.

3.6.1 Transformation of organization structures

The criteria in Table 3 may be used to assess the transformation of organization structures. The criteria can be measured by analysing a number of key documents in the sector. The most recent policy plan of the sector, the organization chart of the sector and strategy documents of three key organizations offer valuable insight in the transformation of the organization structure of a sector. The criteria should be answered with yes or no.

Core competences / resources
1. In the sector policy plans for 2005/6/7, core competences of organizations in the sector are identified.
2. In strategy documents of three organizations in the sector, core competences are identified.
Outsourcing
3. In their strategy documents for 2005/6/7, organizations in the sector make clear decisions on what activities to execute themselves and what activities to outsource.
4. In the sector policy plans for 2005/6/7, tasks are distributed among organizations using the notion of core competences.
5. In their strategy documents for 2005/6/7, organizations in the sector pay attention to their relationship with their suppliers.
Shared Service
6. In sector plans for 2005/6/7, common business processes are identified.
7. In sector plans for 2005/6/7, common solutions (e.g. shared service centres) are identified for common business processes.
8. In the sector, organizations make use of services provided by shared service centres for front office as well as for back office tasks. (organization chart).
Modularisation
9. The sector has a product architecture, in which the products of the sector and their interdependencies are displayed.
10. The sector has a product architecture, in which the main directions to which the products have to apply and the rules for the connections between products are identified. The rules enable the re-combination of sub-products into end-products.
11. In the sectoral organization chart, the role of orchestration is covered, either by an organizational entity or an information system.

Table 3: Criteria for the transformation of organizations

3.6.2 Transformation of the information infrastructure

The criteria in Table 4 may be used to assess the transformation of the information structure. The information policy of the sector offers insight in this transformation. The information policy is sometimes found in a separate document, but may also be found in sector policy plans or in sector laws. The criteria should be answered with yes or no.

Information Infrastructure
1. At the sector level, there is a functional architecture, which describes the functionalities that are in use in the business processes. All organizations comply to this architecture. This architecture is available at the website of the sector.
2. At the sector level, there is a data architecture, which describes which data are used and how these data are stored and distributed. All organizations comply to this architecture. This architecture is available at the website of the sector.
3. At the sector level, there is a technical architecture, which describes the technical standards that all organizations in the sector comply to. This architecture is available at the website of the sector.

Table 4: Criteria for the transformation of the information infrastructure

3.6.3 Transformation of business processes

The criteria in Table 5 may be used to assess the transformation of business processes as described in paragraph 3.4. The transformation of business processes may be assessed by studying the sectoral website and by studying information brochures meant for clients of the sector. The criteria should be answered with yes or no.

Preparation
1. Potential clients can use expert systems to check whether they may apply for a service and estimate the service that they may receive.
2. Potential clients are actively approached by government.
Front Office
3. Identical services may be received via multiple channels.
4. Several services may be started up simultaneously.
Back Office
5. Cases of clients are automatically guided through various organizations.
6. Standard cases are processed automatically by information systems.
7. Complex cases are processed by employees, with one case manager per client for the whole process
Information Infrastructure
8. Clients may identify online using a common identification tool.
9. Organizations in the process send each other messages that may be processed automatically.
10. Clients have to provide data only once for the whole process.
11. In the process, information form other sectors is used when necessary, without asking the client.

Table 5: criteria for the transformation of business processes

In this chapter, a model of the transformed government organization was developed. The transformation was described at three levels: organizational transformation, informational transformation and business process transformation. To test the model, three case studies are presented in the chapters 5, 6 and 7. The model of the transformed government organization is used in these case studies to describe the transformation of government organizations in the social security sector in three countries. The main question of these

chapters is whether the model is useful in describing transformations of government organizations.

In the next chapter, the consequences for the benchmarks of the model presented above are discussed.

4 The scope and depth of benchmarks

4.1 Introduction

Several benchmarks focus on the achievements of countries in e-government. The benchmarks try to measure the extent to which these countries have succeeded in implementing e-government. For the benchmarks to be successful, insight in what e-government is and what it's results are is important. Therefore, two models were presented in this study, in the chapters two and three. Chapter two presented a model of the themes of e-government, chapter three presented a model of the modern organization. These models can be used to assess the success of benchmarks in measuring the implementation of e-government by countries. Two questions can be answered:

1. Do benchmarks measure the full scope of e-government implementation? Are all themes of e-government included in the benchmarks?
2. Do benchmarks measure the full depth of the transformation as a result of e-government implementation?

In the coming paragraphs, a number of benchmarks are discussed. For every benchmark, a description of the conceptual model and the method of benchmarking is given. Furthermore, each benchmark is assessed in it's success of measuring the development of a state towards the modernised organization.

4.2 The European Commission Benchmark

4.2.1 The conceptual model

The benchmark of the European Commission is executed by CapGemini. The benchmark aims at analyzing the progress of governments in the field of e-government. The conceptual model of the benchmark is based on the objectives of the Lisbon European Council of March 2000. In this meeting, the European Ministers agreed to provide "generalized electronic access to main basic public services by 2003". Moreover, the Ministers agreed that "basic public services are interactive, where relevant, accessible for all, and exploit both the potential of broadband networks and of multi-platform access". The European Commission defined 20 basic public services, for which these goals are applicable. CapGemini has classified the 20 services into four clusters: income-generating cluster, registration cluster, returns cluster and permits and license cluster

To measure the success of governments in achieving these goals, CapGemini measures the percentage of online sophistication of these basic public services available on the Internet.. To this end, CapGemini has developed the E-service sophistication model, which distinguishes four degrees of sophistication of online public services. In the figure below, these phases are presented.

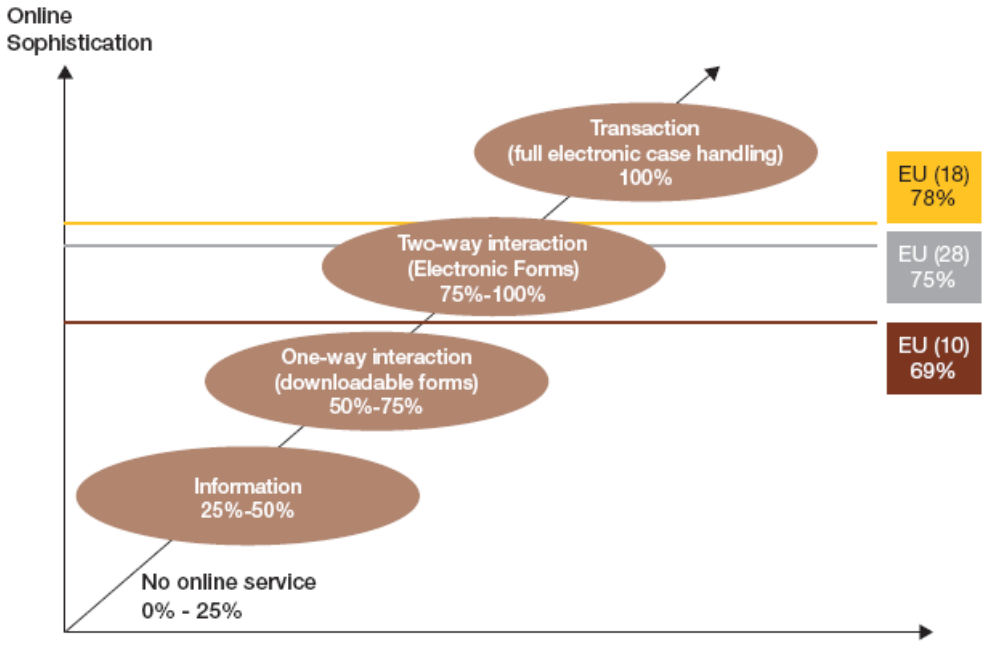


Figure 5: conceptual model of CapGemini benchmark

To cope with some of the issues in the benchmark identified by CapGemini, the model was extended with a qualitative study on services scoring phase 4. These services were investigated on seven aspects; multi-channel service delivery, support and mediation, proactivity, service integration, tracking and tracing, accessibility, multi-lingual access. However, no comparison of the countries investigated is performed. The extended study only aims at providing some insights in best practices.

The report of CapGemini acknowledges the problems concerning the outdated methodology that is used in the benchmark. The report enumerates a number of developments that have occurred in the last years and that are not acknowledged in the used methodology:

- New disruptive technologies
- Public private partnerships;
- Intelligent services gathering data from various back offices;
- Proactive, automated service delivery

The report concludes: “eServices have in many cases transformed. The original measurement framework was not designed to capture these new evolutions and thus a review of the overall framework is required.” The report searches for improvements in measuring impact of e-government services and measuring the contribution of e-government services to the goals of the i2010 e-government Action Plan.

4.2.2 The EC benchmark and the scope of e-government

When analysed from the perspective of the model for e-government themes, the benchmark of the European Commission offers a very limited image of e-government in governments. The benchmark purely focuses on the delivery of public services online. Online service delivery is one of the elements in the theme of output of e-government. However, it’s only one of the themes, other themes like rule enforcement are important elements of the output of e-government to but are not included in the EC benchmark. The supporting structure of the output, another theme in e-government, is also not included in the benchmark. The idea that generic concepts may be developed that support various processes is not acknowledged in the benchmark.

The EC benchmark neglects the other themes of e-government: throughput and input. Policy-making and it's supporting structures, just as e-democracy or the vision of e-government are excluded from the benchmark.

4.2.3 The EC benchmark and the depth of e-government transformation

How does the CapGemini benchmark score in measuring countries development towards the model of the transformed government organization? First of all, the benchmark pays no attention to structural transformations. The transformation of organization structures and information infrastructures as described in chapter three is not included in the benchmark. The benchmark purely focuses on the process-level by measuring success in a number of service delivery processes.

The transformation of business processes is central in the EC benchmark. However, also in this focus we find some biases. The benchmark only measures the extent to which services are offered online. Whether services are offered via various channels (multichannel) or whether services are integrated with other, related services, are not included in the benchmark. The integration of services of various organizations is excluded as well.
The benchmark is also biased towards the front office of service delivery. The phases of preparation and the back-office, just as the underlying information infrastructure, are not measured in the benchmark.

4.2.4 A new methodology

As mentioned before, CapGemini acknowledges some of the issues discussed above and has developed a new methodology for it's 2007 benchmark, that is bound to appear soon. The methodology is an extension of the existing methodology. A fifth phase of online sophistication is introduced, measuring pro-active and automatic service delivery. The new methodology also includes a citizen-centric indicator, indicating to what extent government organizes it's service delivery around the needs of it's citizens and businesses. Finally, the new benchmark methodology assesses the extent to which the national portal helps in integrating services.

The new benchmark methodology is definitely an improvement to the previous methodology. The new methodology pays attention to topics that were previously neglected. The user centricity indicator measures the reuse of data, so that citizens do not have to provide the same information several times. The indicator also measures whether services are provided via various channels. Assessing the national portal enables the benchmark to measure to some extent whether services are integrated. The fifth phase of online sophistication brings automatic and pro-active service delivery into the model, although it is only introduced for two of the 20 services.

However, when the new methodology is analyzed from the perspective of the models presented in this study, the benchmark shows some lacks. The benchmark still has no attention for other phases than the output phase of government. Moreover, there is no attention to structural changes in the sector.
The sophistication of the measurement of transformation in service delivery processes is increased in the new methodology. However, some aspects of the model of the transformation of processes are excluded. There is still little attention for back office transformation. Although some variables (the user centricity indicator) may offer signs of back office integration, the back office integration is not measured in itself. Moreover, there is little attention to functionalities of the infrastructure, such as the use of common authentication mechanisms. Finally, issues such as case management are excluded from the methodology.

4.3 United Nations / American Society for Public Administration

4.3.1 The conceptual model

The benchmark of the United Nations chooses another perspective. The benchmark tries to assess the extent to which governments use the ICTs to provide access and inclusion for all. E-government is an instrument to include citizens in the information society by increasing access to public services and public policy making. E-government is defined as "the use of ICT and its application by the government for the provision of information and public services to the people. The aim of e-government therefore is to provide efficient government management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information and participation in public policy decision-making" (UN 2005, p.14).

The benchmark measures two aspects. The first is a countries e-government readiness. Therefore, three indexes are used; the web measure index, the telecommunications infrastructure index and the human capital index. The web measure index measures a state's online presence. The index defines five stages:

- Emerging presence; representing limited, basic information
- Enhanced presence; more information available, with search options and help-features
- Interactive presence; downloadable forms, e-mailadresses
- Transactional presence; two-way interaction, paying options
- Networked presence; participatory, deliberative decision-making and integration of public sector agencies with full cooperation

The Telecommunications infrastructure index provides insight in the technical infrastructure of a country. The index is calculated by combining a number of indices, such as the number of PCs, internet users, telephone lines and mobile phones per 1000 persons. The Human capital index measure the educational level of the population of a country. The index is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio.

E-participation is defined as "the sum total of both the government programs to encourage participation from the citizen and the willingness of the citizen to do so" (UN 2005, p. 19). In this benchmark, only the G2C side is investigated. To measure the extent to which a country has implemented e-participation, e-participation index is developed. The e-participation index "assesses the quality and usefulness of information and services provided by a country for the purpose of engaging its citizens in public policy making through the use of e-government programs" (UN 2005, p.19). The e-participation framework identifies three levels of sophistication:

- E-information: websites are used for the dissemination of information;
- E-consultation: citizens can engage in discussions on public policies;
- E-decision-making: citizens participate in decision-making.

4.3.2 The UN benchmark and scope of e-government

The UN benchmark focuses on two aspects of the e-government model. It focuses on e-participation, which is part of the e-government input and on e-service delivery, which is part of output. The benchmark also provides for some insight the supporting structures of e-government input and output, by measuring some technological infrastructural components. However, the functional aspects of the supporting structures, such as authentic registrations or electronic identification are not included.

The themes of throughput and throughput support are neglected by the benchmark.

4.3.3 The UN benchmark and the depth of e-government transformation

The UN benchmark totally neglects the transformation of the organization structures and the information infrastructure. The benchmark focuses on processes of public service delivery. However, the model of the UN benchmark of public service delivery is quite shallow, it only focuses on the front office of service delivery. Moreover, the benchmark only focuses on online service delivery.

The UN benchmark pays no attention for back office redesign, and for more sophisticated front office redesign like multi-channel service delivery and service integration. There also is no attention for the infrastructure of public service delivery.

4.4 Accenture – leadership in customer service

4.4.1 The conceptual model

The benchmark of Accenture aims at measuring the maturity of public service delivery. E-government is, so the report argues, not an issue in itself, but is a catalyst for enhancing public service delivery. E-government should be an integral part of government service delivery. This notion is translated in a vision on leading public service delivery. This vision is the basis for the Accenture benchmark. The vision consists of four dimensions of public service delivery:

- Citizen-centric perspective;
- Cohesive multi-channel service;
- Fluid cross-government service;
- Proactive communication and education.

To measure the maturity of governments in customer service, 177 services have been studied. These services come from various sector. 12 sectors were studied: agriculture, defence, eDemocracy, education, human services, immigration, justice and public safety, participation, postal, procurement, regulation, revenue, transport.

The method of measuring of Accenture is based on two components: service maturity and customer service maturity. Service maturity represents the breadth and depth of online service offerings. The breadth stands for the number of services that are available online in a country. The depth stands for the level of sophistication of the services offered. Accenture identifies three levels: (1) publish, in which the user does not communicate electronically with the agency, (2) interact, in which the user communicates electronically with the agency but the agency does not respond electronically and (3) transact, in which the whole process is executed electronically.

Customer service maturity represents “the extent to which government agencies manage interactions with their customers and deliver service in an integrated way” (Accenture 2005). Based on it’s vision on leadership in service delivery, Accenture measures the maturity on four dimensions. (1) Citizen-centric interactions “measures the extent to which the government creates a relevant personalized experience for customers by understanding who they are and anticipating their needs” (Accenture 2005). (2) Cross government service interactions “measures the sophistication of government service capabilities, agency interactions, and the extent to which departmental lines and government structures are invisible to the customer” (Accenture 2005). (3) Multichannel service delivery measures “the extent to which service delivery channels are integrated to deliver uniform information and a consistent customer experience in a comprehensive and timely manner” (Accenture 2005). (4) Proactive communication and education measures “the extent to which the agency actively informs or educates the citizen of current government capabilities, creates effective segmentation means and uses techniques to help citizens become well versed in the

benefits of optimal service delivery in a consistent and timely manner" (Accenture 2005). Accenture identifies four levels of sophistication for every dimension.

Accenture combined three research methods to assess service delivery maturity:
- Quantitative online service assessment: the researchers attempt to fulfil service needs;
- Citizen research: citizen survey to perceptions and practices;
- Qualitative research on the "service delivery environment", mostly plans, strategies and initiatives to increase the quality of service delivery.

4.4.2 The Accenture benchmark and the scope of e-government

The Accenture benchmark focuses on the output of e-government: public service delivery. The input or throughput, just as the supporting structures, are not included in the benchmark. Policy-making or politics are no issues in the Accenture benchmark.

The focus on output is biased too: only public service delivery is an issue in the benchmark. Other policy-execution themes, such as rule enforcement, are not studied. Although services in several sectors have been studied, the research methodology is focussed on situations in which the citizen is a customer of government.

4.4.3 The Accenture benchmark and the depth of e-government transformation

The Accenture benchmark does not pay attention to transformations in organization structures and information infrastructures. The benchmark focuses on transformations in business processes.

The transformation of business processes is measured in the front office and, to some extent in the back office. The benchmark measures the extent to which citizens can use various channels for receiving public services. Moreover, the benchmark pays attention to integrated service delivery, since it measures the extent to which lines between government agencies are invisible for citizens and the extent to which services are offered "citizen-centric". The back office sophistication is measured by measuring the data sharing between various channels and case management across organizational boundaries.

The information infrastructure needed for service delivery is not measured. The common elements that may be used for various public service delivery processes are not included in the benchmark.

4.5 Analysis

The previous paragraphs discussed the success of three e-government benchmarks in measuring the sophistication of e-government implementation of countries. The benchmarks all have their advantages and their disadvantages. In these advantages and disadvantages are discussed.

4.5.1 Benchmarks and the scope of E-government

Using this model of e-government themes, the conclusion can be drawn that the benchmarks have a very specific focus when measuring e-government. The benchmarks all focus on policy-execution (output). More specific, all benchmarks focus on public service delivery. Only the UN benchmark includes e-participation, element of the input-theme, in its measuring.

When benchmarks aim to measure the success of countries in implementing e-government, it seems necessary to include the whole scope of e-government in the benchmark. There is no good reason why the input- and throughput themes of e-government should be neglected

in the benchmarks. Themes like e-politics and e-policy making are very important in the progress of countries towards modernisation. E-government is more than delivering services via the internet, it is about aligning government and society. The use of ICT to enable citizen participation in policy making and to close the gap between politics (and politicians) and citizens are essential elements in this development. These themes should be included in the e-government benchmarks.

Moreover, e-government benchmarks should aim to measure the supporting structures of input, throughput and output as well. An essential element of modernisation is the creation of common infrastructures for the input, throughput and output of governments. Governments that have developed such structures are able to make structural changes in input, throughput and output much more easily and against much lower costs than governments that have not developed such structures. For example, governments that have developed a system of authentic registrations containing basic information used in various governmental processes are able to redesign countless governmental services. This is much more valuable than governments redesigning one or two governmental processes. Another example is developing functionalities for electronic identification. When such functionalities are in place, they may be used to redesign various governmental processes such as elections and participation.

A third amendment to benchmarks is a focus on the outcome of governments. The model of e-government defined three main stages in government: input (politics), throughput (policy making) and output (policy execution). These stages are not an end in themselves; they are meant to deliver valuable outcomes for society. In other words: these stages have to deliver public value. Public value is the value that governments create in society. Governments aim to govern society. To this end, politicians develop political plans and ideas, policy makers translate them into policies and policy executioners develop actions to achieve the goals of the policies. The result of all these efforts is the outcome, or the public value delivered by the government. For e-government to be truly successful, it must create public value. This goes further than the mere output of policy execution processes. The outcome of governments is not that several poor people received a social benefit, but that these people are enabled to live in human way. The outcome of governments is not that citizens are able to receive a passport easily, but that citizens are enabled to travel freely across various countries. E-government may be used as a tool to achieve such outcomes. It is important for benchmarks to measure the outcome of e-government, since this enables the assessment of the important of e-government for society.

4.5.2 Benchmarks and the transformation of organizations

Chapter three presents a model on the transformation of organization structures and business processes of government organizations as a result of e-government initiatives. This model can be used to assess the success of benchmarks in estimating the stage of development of government organizations.

Transformation of business processes

Most benchmarks focus on the front office of government. CapGemini and the UN do not go any further than assessing the extent to which services are offered online and the level of maturity of these services. Accenture and the new CapGemini methodology go a step further and perform some research on the sophistication of front office processes by researching dimensions like multichannel strategies and integrated service delivery.

There is little attention for back office processes like case management and data sharing. Only the Accenture benchmark looks at such processes. The infrastructural processes, processes needed for various front and back office processes and organized centrally, are neglected in the benchmarks.

Transformation of organization structures

All three studied benchmarks totally neglect the transformation of organization structures in their measurement of countries' e-government maturity. The benchmarks focus on the changes in business processes that directly affect citizens. However, if governments want to achieve real, structural transformation, transformation of the organization structure is essential. Benchmarks should therefore include a section on organizational transformation.

Amendments to the benchmark

The benchmarks need to be amended to be able to really measure transformation. The criteria that were developed in chapter 3 may be useful for this. To be sure of this, the criteria are used to study the transformation in a number of cases. In the next three chapters, the transformation of the social security sectors of Belgium, the Netherlands and the United Kingdom are studied using the conceptual model and the criteria of chapter 3. In chapter 9 the success of the criteria in measuring transformation is discussed, as well as the consequences for the benchmarks.

The social security sector in the case studies is defined in this study as the sector that ensures that everybody has enough income to take care of him- or herself. Activities as the care for safe working environments are not taken into account in this research. In every case study, three processes are described: the provision of social benefits for unemployed, the reintegration of unemployed and the collection of social security contributions. This study focuses on a specific group of beneficiaries of the social security sectors: people that have become unemployed against their will, for example because their job was terminated, but that are fully able to work. Governments provide them with social benefits and organize reintegration trajectories for them. Part of the funds for these processes are gathered from the social contributions that employers have to pay.

5 The Belgian Social Security sector

5.1 Organization structure

The figure on the next page shows the organizations that make up the social security sector in Belgium. The agencies are divided in three groups. First are the collecting agencies (RSZ, RSZPPO, HVZ and DOSZ). These agencies are responsible for the collection of the social security benefits from employers and employees. Second, there is a group of managing agencies. These organizations manage the financial streams from the collecting agencies to the payment institutes. Some of these organizations are payment institutes themselves. For different target groups there are different managing agencies. The third group consists of payment institutes. These institutes are responsible for the payment of the social benefits to the clients. A number of managing agencies also pay benefits to clients. For three target groups, different payment institutes have been set up. For sickness and disabled persons, a number of interest groups are authorized to pay the benefits. For child support, child support funds have been created. For the payment of unemployment benefits, three unions and a public agency are authorized.

Another organization of the social security sector in Belgium needs introduction: the Crossroadbank (CRB). The CRB is responsible for the introduction of e-government in the Belgian Social Security. Since the late 1980s, this organization was responsible for the most influential reorganization in the sector: the introduction of a common information infrastructure combined with the redesign of many business processes.

5.1.1 Criteria

Core competences

In march 2005, the minister of Social Security published a new policy plan for the period of 2006 until 2008[2]. In this report, a number of new plans are introduced for the improvement of social protection and inclusion. These plans are appointed to the organizations of the social security sector. However, it is unclear what arguments were the basis for the distribution of these plans. The core competences of the organizations are not identified.

A discussion on core competences is also lacking in the strategy documents of some of the organizations in the sector. The RVA, the Central service for employment provision[3], and the RSZ, the Central office of the social security[4],do not mention their core competences in their strategy documents. The OCMW of Antwerpen, the local social service provider[5], does mention the importance of core competences, and even provides a list of the distribution of tasks between the OCMW and the municipality. It seems to be the only organization in the sector that does so.

The OCMW does mention a distribution of tasks between the municipality and the OCMW, but does not account for the decision of this distribution.

[2] Strategisch rapport voor de sociale bescherming en insluiting 2006-2008 (strategic report for social protection and inclusion 2006-2008), published by the Federal government service for social security. http://socialsecurity.fgov.be/NL/nieuws_publicaties/publicaties/strat_lissabon.htm

[3] Annual report of the RVA 2006.

[4] Online description of the RSZ and it's tasks: http://www.onssrszlss.fgov.be/onssrsz/nl/Corporate/corporate_home.htm

[5] OCMW Antwerpen beleidsplan 2001-2007 "het OCMW herontdekt…" (OCMW Antwerpen policy plan 2001-2007 "the OCMW rediscovers…".

Outsourcing

The strategy documents of the OCMW Antwerpen, the RSZ and the RZA do pay attention to their chain partners. The OCMW Antwerpen identifies it's partners and argues that it should occupy a "directing role" in the chain. The OCMW outsources the execution of primary activities, such as the "activating trajectories" (trajectories aimed at helping unemployed get back to work) to several external, mostly private parties. Moreover, it identifies "suppliers" of jobs for it's unemployed clients, such as the municipality and other governmental institutes.

The RSZ and the RVA outsource secondary activities. The RSZ has outsourced the automatic processing of large information flows to SmalS-MvM (see shared service centres) and the RVA have outsourced the execution of information flows between the payment institutes (see shared service centres).

Common Business Processes and Shared service centres

In the overview of the sector[6], a document offering insight in the organizations of the Social security sector and their tasks and competences, various Common Business Processes are identified. For these CBPs, common solutions were developed, ranging from common information systems to common databases. Some examples are a verification functionality for the electronic signature, the LATG-register (Loon- en arbeidstijdgegevensbank, salary and employment-time database), the SIS-card (an electronic identity card) and the DIMONA-report (employers report their new employees to the RSZ, which shares the information from the reports with all other organizations in the sector).

The Common Business Processes are organized centrally. Some CBPs are assigned to existing organizations (the DIMONA-report is executed by the RSZ), others are assigned to the Crossroadbank (CRB). The CRB operates as a shared service centre for the social security sector, executing various common business processes. Other shared service centres are the previously mentioned SmalS-MvM and Inter-UI. SmalS-MvM[7] is an association offering various automating services to the organizations of the social security. Inter-UI is an association of the RVA and the four payment institutes, that executes the information flows between the institutes.

Modularization

The Crossroadbank fulfils an orchestration role when it comes to the information flows in the sector. The CRB receives requests for data from the organizations of the social security and answers these question using the databases of the organizations of the social security. On the level of business processes, the role of orchestration is not covered. The CRB seems to be the most appropriate organization to take up this role, but has until now focused on the information flows. However, since information is one of the main "raw materials" of government processes, it is to be expected that the CRB will take up this role more and more.
At this moment, there is no product architecture, an overview of the sectors products and their interdependencies.

5.1.2 Organizational transformation?

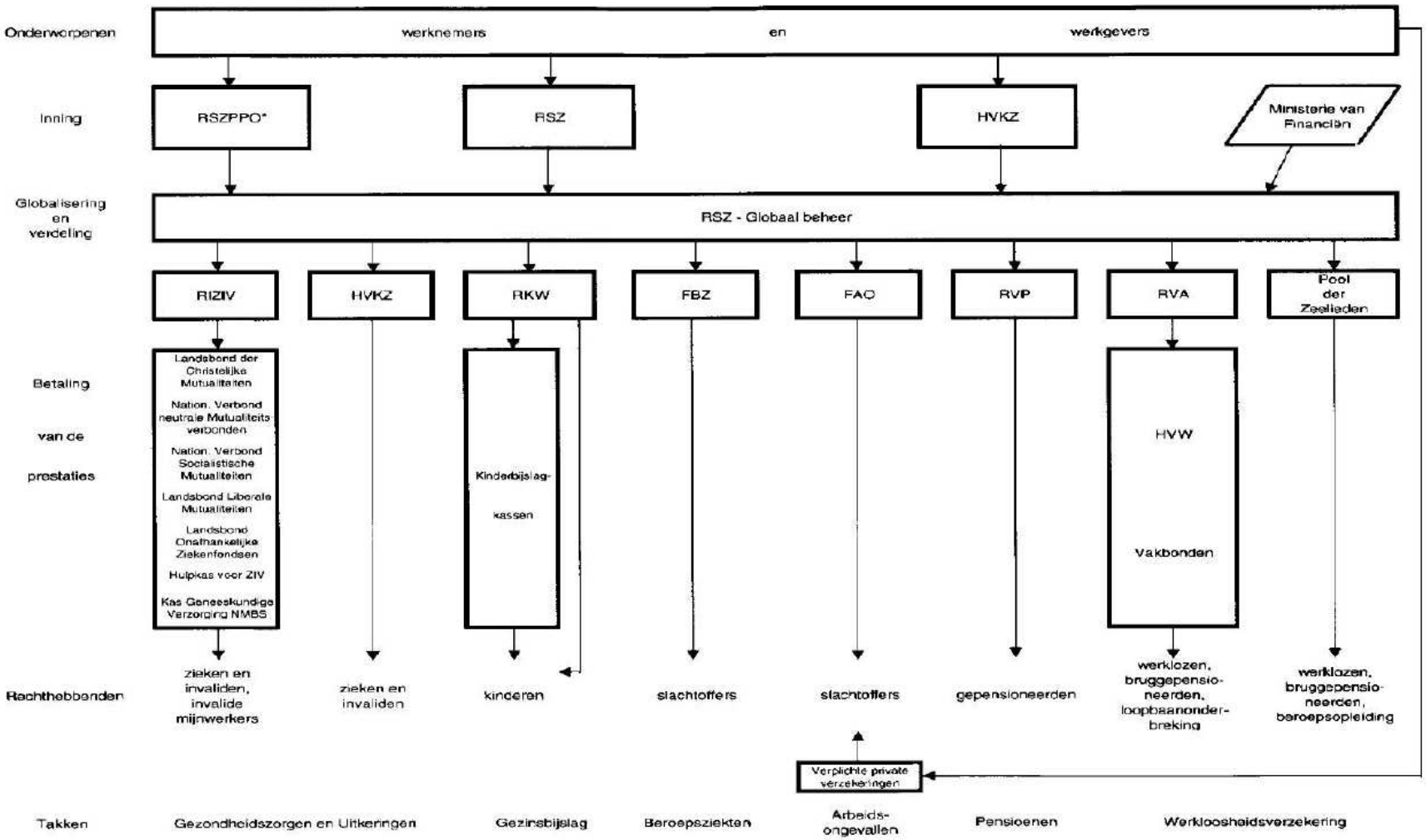
The Belgian social security sector shows some aspects of transformation of the organization structure towards the modular organization. A lot of common business processes are identified, common solutions are developed and shared service centres are created. The role of orchestration is covered on the level of information flows and this role is extended more

[6] "Beknopt overzicht van de sociale zekerheid in België" (short overview of the social security in Belgium), Federale Overheidsdienst Sociale Zekerheid, 2006
[7] http://www.smals.be/site_nl/home.html

and more to the level of business processes. The organizations in the sector pay attention to their suppliers.

The organizations in the sector, just as the policy makers, do not use the concept of core competences in the distribution of tasks and activities. It is unclear what distinguishes the various organizations in the sector from each other and in what tasks they excel. The decisions to distribute tasks seems to be based more on historically grown situations than on arguments of competences.

Tabel 1: De sociale zekerheid der werknemers



* Werknemers van de plaatselijke besturen die niet definitief benoemd zijn, zijn onderworpen aan volgende takken van sociale zekerheid: de ziekte- en invaliditeitsverzekering (gezondheidszorgen en uitkeringen), de pensioenen en de werkloosheid.

5.2 Information infrastructure

The Crossroadbank has created an information network between all agencies of social security. The agency is responsible for the management of this network. The agency is also responsible for the creation and management of the information policy of the social security sector.

5.2.1 Criteria

The CRB has developed a number of ICT-architectures. The CRB is responsible for managing the architectures and for inspect that every organization applies to the principles of the architectures. In the functional architecture the common information systems that have been described are identified. The Crossroadbank tries to optimize the use of these common information systems by the organizations of social security.

The data architecture of the social security sector consists of a number of agreements on data storage and usage and a number of common databases. The architecture identifies five principles of data storage and data usage:

- Modelling of information
- One off data provision
- Management of information
- Electronic exchange of information
- Information security

Moreover, the architecture of the social security sector identifies a number of common registers (Central register on citizens of the Ministry of the Interior, Central registry of salary and working hours, Central register of employees). The Crossroadbank tries to optimize the use of these registers by the organizations of social security.

Finally, the crossroadbank of social security has developed a technical framework for communication in the sector.

5.2.2 Informational transformation?

The Crossroadbank plays a pivotal role in the information flows in the social security sector in Belgium and has developed a strong information infrastructure. Organizations have stopped developing their own systems and databases and turn to the Crossroadbank for data requests. Moreover, the common functionalities of the infrastructure are heavily used. The Belgian social security has been transformed into a infrastructural structure when it comes to information flows.

5.3 Processes

Next to the organization structure and the information infrastructure of the sector, this study also focuses on the way processes are organized. In the next paragraphs, three processes are discussed.

5.3.1 The provision of social benefits for unemployed

Client process

When a citizen becomes unemployed and wants an unemployment benefit, he or she needs to register at a payment institute. There are four different payment institutes, three provided by the unions (ACLVB, ACV, ABVV) and one provided by government (HVW). At the payment institute, unemployed need to:

- request for unemployment benefit.
- get a control card (obligatory for unemployed, needs to show it every month to the payment institute)

Next, the unemployed needs to register at a competent regional service for employment-finding. There are four employment-finding offices, VDAB, BGDA, ADG or FOREM, one for each language region. At the employment-finding office, the unemployed needs to:
- Get a stamp on your control card as prove that you are registered at the employment-finding office, or
- Get a certificate from the employment-finding institute.

When the unemployed has registered at the payment institute, the institute creates a dossier. The dossier is send to the Rijksdienst voor Arbeidsvoorziening (RVA). The RVA collects some more information and decides on the right of the unemployed for a social security benefit. The RVA communicates its decision to the payment institute, which communicates the decision to the unemployed.

Criteria

In the preparation phase, citizens cannot use an expert system to see whether they may request for a social benefit. The sectoral website does not offer such an expert system. There is some sort of proactive service delivery, although it has little to do with the possibilities of ICT and Internet. The social intervention teams of the VDAB go to companies in trouble to help the employees. This process is further described in the process of reintegration of unemployed. The focus of these teams is on reintegration, not on social security benefits.

In the front office, there is no multichannel strategy. The payment institute is the front office for the unemployment benefit. The payment institute is where the intake takes place and the institute communicates the decision of the RVA to the client. New clients have to come to the institute and cannot conduct business with it via for example the internet or telephone. Moreover, there is no single front office where clients can request for various services. Unemployed have to register at two institutes (the payment institute and the employment-finding office).

In the back office, cases are not managed across organization boundaries. Clients have to report themselves at the employment-finding office. There is no case manager that operates across organization boundaries, nor are cases guided automatically across organization boundaries. Standard requests are handled by information systems that calculate the amount of benefit a client is entitled to.

The infrastructure of the Belgian Social Security is developed quite well. This is visible in the process of the provision of social benefits. The organizations communicate electronically with each other on standard cases. The unemployment office communicates its decision to the payment institute in an computerized way. The employment-finding office reports to the RVA electronically about every unemployed that is registered at the employment-finding agency. Moreover, clients have to provide basic data only once. The RVA combines data from multiple sources into a dossier for the unemployed:
- Data that is provided by the former employer of the unemployed. These data are provided by the employer via the electronic report that the employment of the client has ended (ASR-1, report social risk).
- Data that is provided by the employee, when he reports to the payment institute.
- Data from the central register of the RSZ (LATG register), with data on salary and working hours of the unemployed. This data is provided by the employers four times a year to the RSZ.

In this process, data from other sectors is also used. Personal information (address, etc.) of clients is gathered from the national register (Rijksregister), via the Crossroadbank.

Business process transformation?

Although the information infrastructure is in place and is used heavily in the process of the provision of social benefits to unemployed, there seems to be little transformation of the entire process. The preparation phase does not make use of the infrastructure, whereas the front office and back office activities are characterized by separate activities of the various organizations.

5.3.2 The reintegration of unemployed

According to Belgium policy, people that become unemployed need to try to find a new job. To help them in this process, the Belgian government offers services to get an unemployed into a new job.

Client process

A Belgian citizen that becomes unemployed can get a social security benefit (see previous process description) and can get help from government to get a new job. To get this help, the citizen needs to report at the local employment-finding office. Every region has its own employment-finding institute (VDAB, BGDA, FOREM, Arbeitsamt) and all these institutes have local offices. Unemployed citizens that receive a social security benefit need to register at one of these offices within 8 days after they filed for a social security benefit.

When an unemployed (from now on: client) is registered, he or she gets access to a number of services. The client can distribute his or her curriculum vitae, can access job vacancies and can follow education. In the first months, the client is free to decide on his or her actions to get a new job. However, when a client is not successful in finding a new job after six months, the client is contacted by the employment-finding office. Young clients under 25 are contacted after three months. The unemployed are provided information about the services of the employment-finding office.

When the client still has not found a job after three months, the unemployed is invited for a meeting with a trajectory-coach. The coach and the unemployed make a plan for a trajectory to get the unemployed back to work. The trajectory consists of three steps:

- Diagnosis: Via a combination of computerized psychological tests and talks with the trajectory-coach from the employment-finding office, a diagnosis is made of the clients situation.
- Trajectory content: Next, the trajectory to get the client back to work is mapped out. The trajectory consists of a number of the following modules:
    - Job application training and coaching
    - Education: following courses
    - Social profit education
    - Person-based training: training of general personal competences
    - Training in enterprises: internships
- Trajectory coaching: during the trajectory, the client is supported by a trajectory coach from the employment-finding office.

Criteria for transformation

In the preparation phase, unemployed may use three websites:

- www.socialsecurity.be: portal for social security, with information on all agencies and services in the sector
- www.aandeslag.be: unemployed can see, based on their personal profile, which arrangements have been created by Belgian government to get them to work. Arrangements for unemployed as well as for employers are shown.
- www.slimtewerkstellen.be: offers a similar application. It also offers tests for unemployed: job-application tests and job tests.

These websites offer expert systems that help unemployed to see which arrangements are in place to stimulate employees to hire him or her. Moreover, to-become-unemployed are pro-actively approached by social intervention-teams of the employment-finding offices. They contact enterprises in difficulties. The social intervention-advisors:

- Inform “to be” unemployed about the labour market and about the service delivery of the VDAB.
- Register “to be” unemployed at the VDAB
- Learn “to be” unemployed to find work

In the front office, client can use various channels for identical services. Unemployed have access to the service delivery of the employment-finding office via a number of channels:

1. Internet:

There are two portal sites via which clients can access the public service delivery.
Via the portal website www.werkwinkel.be (employment-shop), unemployed are provided information and services of all organizations in Belgium that help unemployed:

- Help finding right education, help writing an application letter
- More support (what ???)

Via the vdab.be (mijn vdab)unemployed can:

- Register as unemployed
- Print the declaration necessary for getting an unemployment benefit
- Write and manage his/her cv
- search and apply for jobs.
- search and register for education (special for unemployed)

2. Telephone:

Via a single telephone number, clients can:

- register as unemployed
- receive job vacancies

3. Counter:

Clients can also access public service delivery via a physical counter. This counter is situated in the Werkwinkels. A Werkwinkel is the single office for unemployed. In the Werkwinkel, the employment-finding office, the municipality, the local social assistance office, and other local parties are present. The stores offer the same services as via the internet. Moreover, in the stores, unemployed are provided access to the internet and may use computers.

4. Kiosks:

Moreover, throughout the country there are so-called WIS-kiosks. These kiosks are computers that may be used by unemployed to access the services mentioned above. Kiosks may be found in Werkwinkels, city halls, libraries, railway stations and shopping malls.

5. Teletext:

Finally, clients have access to job vacancies provided by the employment-finding office via teletext.

In the back office, the services for the client are produced. In this case, the production of the service, e.g. trainings and help with applying for jobs, is characterized by heavy interaction between clients and service providers. Therefore, the back office process cannot be automated. There is a case manager for each client. However, every organization involved, the VDAB and private reintegration companies, have their own case manager.

The information infrastructure of the Belgian social security is also used in this process. Clients that receive a social security benefit need to prove to the payment institute that they are registered at an employment-finding office. The employment-finding office therefore sends a message to the RVA (the broker-organization for the payment institutes) that an unemployed is registered at the employment-finding office. For every client, the employment-finding office has a dossier. Some data in these dossiers are automatically updated using

data from the Crossroadbank and of the DIMONA declaration. All cooperating organizations have access to the dossier of the client of the employment-finding office. The organizations can see what activities other organizations have done and can enter their own actions. Via the Crossroadbank, some information of other sectors is used. An example is the personal data from the central register on persons of the Ministry of the Interior. Information from for example the fiscal sector is not used in the process.

Business process transformation?

The process of the reintegration of unemployed is transformed to some extent. Clients are offered identical information via multiple channels. Internet is heavily used to quicken the process of finding a new job for unemployed. However, the process of a reintegration trajectory is hardly touched by ICT and Internet; clients still have to go to the reintegration company and organizations in the back office are not aligned.

5.3.3 The collection of social security contributions

Part of the funding for the social security sector is provided by the contributions that employers pay for their employees. The collection of these contributions is the third process studied.

Client process

Employers in Belgium are obligated to report new employees before these employees start working for them. The employer that hires a new employee reports the data for this employee to the RSZ in the DIMONA-report (Déclaration Immédiate, Onmiddelijke Aangifte; Immediate declaration). The RSZ creates a personnel-dossier for the employer, in which all employees of the employer are registered.

Via the DMFA-report (Déclaration Multifonctionelle – Multifunctionele aangifte; Multifunctional report), the employer reports four times a year the data on salary and working hours of its employees. The application that is used to report the data automatically calculates the amount of social security contributions an employer has to pay.

Criteria for transformation

In the front office, clients can use various channels. The DIMONA and the DMFA report may be started from the same channel. For the DIMONA report of new employees, employers may use three channels:

- The portal-website of the social security sector in Belgium: www.sociale-zekerheid.be.
- A vocal server, available via telephone.
- File transfer, directly from the personnel administration of the employer.

For the DMFA report, employers may use two channels:

- The portal-website www.sociale-zekerheid.be
- File transfer

The back office processes are automated to a large extent. For the process of the collection of the social benefit contribution, employers only deal with the RSZ. No other organizations are involved. However, the information from the DIMONA and DMFA reports are used by all other social security agencies. Most cases in the collection of social contributions are standard. These standard cases are fully conducted automatically by the information system. The employer enters the data in the system via the internet and the system automatically calculates the contributions. For questions on the technique of the reports, a contact centre is in place. For questions on specific cases, the employer can contact the RSZ. In the end, all reports have to be conducted by one of the channels identified earlier, without interference of civil servants.

The infrastructure of the Belgian Social security is used in this process. The messages, or reports, of the employers to the RSZ are processed automatically by the RSZ. The data gathered from the DMFA and the DIMONA reports have to be provided by the employee only once. The data are used by all other social security agencies. When doing the DIMONA or the DMFA report, information is gathered for the employer from the Central Register on citizens of the Ministry of the Interior.

Business process transformation

The process of the collection of social security benefits is transformed to a large extent. Most of the handlings are automated. Employers can use various channels, even the automatic transfer of data from their own information systems. Data is asked for only once and used multiple times. The process of the collection of social security benefits in Belgium is a good example of business process transformation.

6 The Dutch Social Security sector

6.1 Organization structure

6.1.1 Introduction

The Department of Social Affairs and Employment is the central organization in the sector of social security (from now: SUWI-sector). The department has political, general responsibility for the sector. The department formulates policies and inspects the execution of these policies. The department is supported by two organizations: the Raad voor Werk en Inkomen (RWI; Council for employment and income) for policy-formulation and the Inspectie Werk en Inkomen (IWI; Inspection of employment and income): for the inspection.

In the SUWI-sector, three organizations are responsible for the execution of policies. The Sociale Verzekeringsbank (SVB; Social Insurance Bank) is responsible for supporting elderly people, the surviving relatives of deceased people and for people with children (child benefit). The Centrale organisatie voor Werk en Inkomen (CWI; Central organization for employment and income) and the Uitvoeringsinstituut Werknemersverzekeringen (UWV; Execution-office employees insurances) are responsible for helping unemployed people. These organizations offer social benefits to unemployed and help them get back to work. Municipalities also play an important role in policy-execution in the SUWI-sector. Municipalities are responsible for the execution of some of the arrangements for the social weaker, such as helping unemployed and people without income. Moreover, other parties like the reintegration companies, institutes for education and vocational training and employment agencies offer services for unemployed.

Finally, two organizations need mentioning: the BKWI (Office for Chain Informatization Employment and Income) and the Inlichtingenbureau (Intelligence office). The BKWI offers services for the organizations in the sector to share their data and aims to stimulate chain cooperation in the sector. The Inlichtingenbureau offers support to the Dutch municipalities by offering electronic applications, mainly aimed at legitimacy checks of benefits.

In 2002 an extensive reorganization has taken place in the SUWI sector. The goal of this reorganization was to create more cooperation and integration. Some of the main changes were the creation of the UWV and the CWI, which were fusions of various organizations. Moreover, in the SUWI law, the tasks and competences of the various organizations were redefined. Finally, a new structure for information exchange between the organizations in the sector was agreed upon.

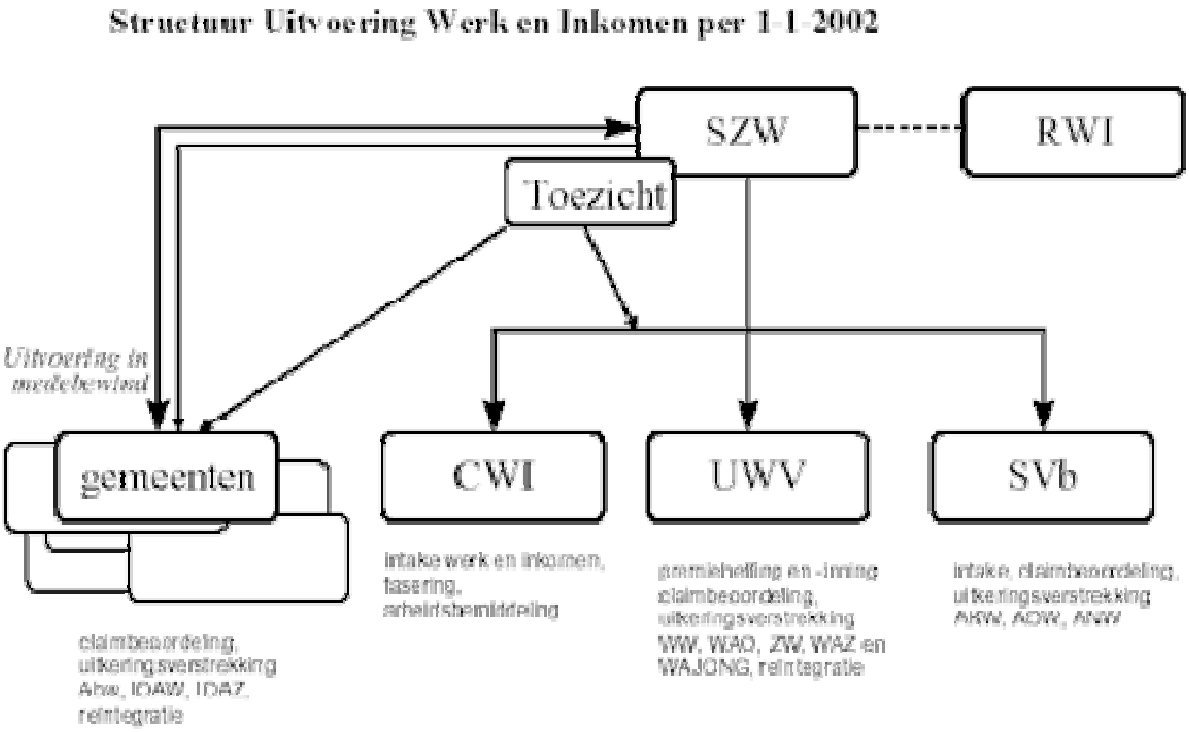


Figure 6: organization structure of the Dutch social security sector[8]

6.1.2 Criteria

Core competences

One of the main elements of the SUWI operation was the redistribution of tasks among the organizations in the sector. The operation aimed at creating a more logical structure in the sector. The distribution of tasks is registered in the SUWI law. The core competences of the organizations in the sector do not seem to play an important role in this distribution of tasks. The distribution is based on arguments of economies of scale (for the fusion of several organizations in the CWI and the UWV) and on the political wish to introduce market mechanisms in the sector. Other criteria mentioned are:

- Collection of social contributions, decisions on requests for social benefits and payment of the social benefits must be placed in the hands of one organization. This leads to uniform execution and to economies of scale.
- In the CWI, the request for social benefit and the search for a job are combined.
- Since UWV and municipalities pay for social benefits, they must be made responsible for reintegration of unemployed

In the strategy documents of the CWI[9], the UWV[10] and the social office of Rotterdam[11], there is little attention for core competences. The CWI has identified four core competences (it's independent position, it's nation-wide network of agencies, it's network of relations and it's good ICT-infrastructure) but we may wonder whether these are specific enough to be useful for strategy-making. Moreover, the core competences are not used to decide on the most favourable position of the CWI in the SUWI chain. The UWV and the Social Office of Rotterdam do not mention core competences at all.

[8] Source: http://cba.uwv.nl/cba/opencms/CBA/module6/systeemenpopulatie/320/10.htm
[9] Meerjarenbeleidsplan CWI 2007-2011, CWI, december 2006
[10] Annual Report UWV 2006, UWV march 2007
[11] Strategisch Meerjarenplan 2005-2008, Sociale Dienst Rotterdam, april 2005

Outsourcing

Much attention is paid in the strategy documents of the CWI, UWV and the social office of Rotterdam on the "chain-partners". The organizations argue that it is important to invest in their relation with their partners and that cooperation is essential for offering good quality of service to the clients of the sector. Together, the organizations have developed a "SUWI-chainprogram"[12], in which they define a common vision and mission and in which they describe how they want to cooperate. The document contains description of the "common client-approach for unemployed", a number of principles of service delivery to clients. However, this vision is not operationalized. This counts for most of the acknowledgements of the importance of cooperation in the strategy documents of the organizations; it is argued that cooperation is essential, but it is not operationalized how this cooperation should take place.

The UWV and the social office of municipalities are by law obliged to contract reintegration trajectories from private reintegration companies. The UWV does not offer a comprehensive purchasing strategy. The social office of Rotterdam does identify some principles of purchasing of reintegration trajectories in it's strategy document.

Common business processes and shared service centres

The SUWI operation aimed at reducing double work by redistributing tasks. The common business processes should be organized centrally in one organization. However, a research by ECORYS[13] showed that there is still a lot of double work in the sector. The intake of clients is duplicated by various organizations and the reintegration trajectory is characterized by double work.

The informatization of the sector was identified in the SUWI operation as a common business process. This task is assigned to the BKWI. The BKWI should create a common infrastructure and should stimulate the use of this infrastructure by the organizations in the sector. Interestingly enough, the BKWI is not mentioned in the strategy documents of the CWI and the UWV.

Another interesting common business process that has been identified is the online authentication process. Every organization wanting to offer online services needs some sort of online authentication. The SUWI partners, together with a number of organizations from other sectors, therefore developed the DigiD, a online authentication tool which enables citizens to identify themselves on the internet. The DigiD is managed by an organization outside of the SUWI-chain.

Modularization

An element of the SUWI operation aimed at the development of an architecture for the SUWI sector. The architecture that has been developed consists of a number of layers. The first layer is the service- and process-architecture. The architecture consists of agreements on service delivery, on client processes and the connected business processes. The goal of this architecture is "to make sure that clients experience the chain as one logical entity. Besides, the internal organization of the processes needs to be efficient en effective and the management of the chain-partners should have periodic insight in the performance of the chain".

The architecture seems to describe the ideal situation instead of the current situation. The architecture describes how the client should "walk through" the SUWI sector. The individual products and services, as well as their interdependencies are not identified in the

[12] Investeren in resultaat, SUWI-ketenprogramma 2007, Algemeen Keten Overleg (AKO), oktober 2006
[13] Evaluatie Doelmatigheid SUWI, ECORYS, juni 2006

architecture. Therefore, combination and recombination of process modules is not possible. Moreover, the architecture is not implemented, but is a vision of the SUWI sector. The role of orchestration is not assigned in the sector. Therefore, the Dutch social security sector is not modularized.

6.1.3 Transformation of the organizations structure?

The SUWI operation aimed at transforming the organization structure of the SUWI sector. After a couple of years of focus on the integration of numerous organizations in two (UWV and CWI), now these organizations focus on cooperation. This becomes clear in the strategies and policies they publish: the organizations make an effort to present themselves as one to public, but also to politicians and the ministry. Indicators therefore are the large number of “chain-programs” and collective messages (Manifest) and the large use of words like “we”, “ours” and “collective” in these plans and messages.

The other side of the coins is that there is hardly any attention in the policies and strategies for the division of activities among the organizations. Since the focus is on collective performance, the individual performance is no point in the discussion. There is no clear distinction between the activities of CWI, UWV and municipalities. Logically there is no policy on how to manage the interdependencies.

The common service- and process-architecture shows the same picture: it is a common vision of how the SUWI sector should operate in a number of years. Although this picture is essential for creating cooperation, it is not enough to qualify as a modularized organization. Maybe we should see this as a first step in cooperation. In the first phase, organizations try to reach commitment for the cooperation. Collective symbols etc may lead to the creation of a sphere of cooperation. However, the next step must be the development of a clear cooperation strategy, including an answer to the question who does what and why. This step has not been taken yet in the Suwi-chain.

6.2 Information infrastructure

6.2.1 Introduction

One of the elements of the SUWI operation was the improvement of information sharing between the various organizations in the sector. To this end, an information infrastructure should be developed. The BKWI was assigned the task of defining several architectures, in conjunction with the other organizations in the sector. This resulted in the “SUWI Chain-architecture”. This architecture consists of various agreements and aims at improving quality of service delivery in the SUWI sector.

6.2.2 Criteria

The SUWI Chain architecture consists of four layers. The service- and process-architecture was discussed earlier. The other layers are the information architecture, the process-support architecture and the technical architecture. The information architecture consists of agreements on the use of information in the sector, The information architecture describes the agreements on what information is used by each party, where this information is gathered (from a client or from a partner organization) and where information is stored. The process-support architecture consists of agreements on the functionalities in the sector. The architecture describes the common applications in use and the common databases in the sector. The technical architecture consists of agreements on technical facilities. The Suwinet has been developed to enable organizations to exchange data. The Suwinet consists of mechanisms for collecting data (Suwinet-inkijk), for sending data (Suwinet-meldingen) and for secure mail traffic (Suwinet-mail).

6.2.3 Transformation of the information infrastructure?

In the Suwi sector there is an information infrastructure consisting of four layers: a process-layer, a data-layer, a functionality-layer and a technical-layer. However, there is no organization that makes sure that everybody applies to these rules. The BKWI is assigned the task of managing the infrastructure but has no competencies in directing the organizations in the sector. The research of ECORYS shows that only a limited number of moments of interaction are supported by the infrastructure. ECORYS concludes that large amounts of paper information flows remain in the sector.

6.3 Business processes

Next to the organization structure and the information infrastructure of the sector, this study also focuses on the way processes are organized. In the next paragraphs, three processes are discussed.

6.3.1 The provision of social benefits for unemployed

One of the main processes in social security is the provision of social benefits to people that have become unemployed. In this study, the focus is on people that have become unemployed against their will, for example because their job was terminated, but that are fully able to work.

Client process

When a citizen becomes unemployed, he or she turns to the CWI and does two intakes. First he or she registers as searching for work and second he or she requests for an unemployment benefit. CWI first looks whether there is work for the unemployed. If not, the request is send to the UWV.

The CWI collects the data for a request for an unemployment benefit and the data for the report of unemployment and sends the dossier to the UWV or the Municipality. The UWV or the Municipality does a second intake. The UWV or the Municipality decides on the right for an unemployment benefit. Next, the UWV or the Municipality sends a message to the unemployed about the decision on the amount and period of its social benefit.

Criteria

In the preparation phase, clients are not supported with ICT-solutions. There is no expert-system available for clients wanting to know which arrangements are present for them or whether they may request for a social benefit. Besides, to become unemployed are not proactively approached by the SUWI organizations.

Unemployed wanting to register at the CWI can use three channels: internet, telephone or the counter of the local CWI office. However, every registration needs to be finalised with a visit to the office of the CWI. Unemployed making use of online registration need to call CWI to make an appointment. In the CWI office, unemployed are offered two services: they may register as searching for work and file a request for an unemployment benefit at the same time. To start a reintegration process unemployed have to go to another office (of the UWV or the Municipality).

In the back office, the process is not redesigned across organization boundaries. Dossiers of clients are sent by post from the CWI to the UWV. There is no workflow management system that guides individual cases through the organizations. The cases of “standard” clients are not processed automatically. The sector aims at introducing a single case manager for clients for the whole SUWI chain (is stated in the SUWI chain architecture), however this has

not been achieved yet. Every organization has its own case manager. Clients dislike the accompaniment, the support and the mediation to work[14].

The infrastructure for the process of the social benefits is not optimal. Dossiers are sent by mail from CWI to UWV. In more than 20% of the cases, something goes wrong with this transport (ECORYS). Dossiers become incomplete or get lost and it often takes long for a dossier to arrive at the right place. Clients have to provide the same data several times. Although the UWV is obligated by law (SUWI law) to use data from GBA, the polisadministratie and the SVB before asking data to the citizen (Suwi art 33a, lid 2), the UWV and the municipality ask many questions that were already asked by the CWI (average 40% (ECORYS)). In practice these data are only used to control the data that is provided by the citizen. Also, data that are provided to the CWI by the unemployed is only used by the UWV to control the data that are asked from unemployed. (Orbis). Moreover, UWV asks extra questions to the former employer on data that is not included in the monthly salary-report that is send to the tax agency (see process 3), e.g. hours of work and number of sickness days.

Business process transformation?

The description above shows an image of a traditional process. The only real element of transformed business processes to be found in this process is the offering of several services from one place; clients can register for social benefits and for a job search at the counter of CWI. Other elements are not present. The preparation phase is not supported by the SUWI organizations, clients have to go to various organizations and have to answer the same question several times. The information infrastructure seems unsuitable to support the transformation of this business process.

6.3.2 The reintegration of unemployed

According to the policy in the Dutch social security sector, citizens that become unemployed have to get back to a job as fast as possible. To this end, the Dutch social security offers reintegration services for unemployed that do not succeed themselves in finding a new job.

Client process

The process of reintegration starts six months after the registration at the CWI. The CWI writes a Reintegration advice. The client goes to the UWV or the municipality with this reintegration advice. A reintegration coach or employment expert from the UWV/municipalities have an reintegration conversation with the unemployed. Together with the unemployed, a reintegration vision is written.

For the actual reintegration trajectories, the UWV and the municipalities have hired reintegration companies. The unemployed him/her selves chooses a reintegration company, in consultation with the reintegration coach from the UWV. The unemployed goes to a reintegration company for an intake conversation.

a reintegration plan is developed by the reintegration company, together with the unemployed. The reintegration coach of the UWV or municipality judges the reintegration plan and approves it. The reintegration trajectory is started. UWV is responsible for purchasing, monitoring and judging the reintegration trajectories.

Criteria

In the preparation phase, citizens can turn to www.uwv.nl to find information on what they need to do in specific situations, e.g. when they become unemployed, or sick, or pregnant,

[14] De klant in de keten, ketensamenwerking SUWI-partners vanuit het klantperspectief, Orbis 2005

etc.. No expert system on possibilities for reintegration trajectories is available. Moreover, clients are not proactively approached by the government.

In the front office, clients need to go to the CWI, to the UWV and to the reintegration company to discuss their reintegration trajectory. This is the only “channel” available.

In the back office, clients are involved in the service delivery process so clients have to go to the organizations themselves. However, the cooperation between UWV and reintegration companies is vague. There are many reintegration companies. There are no clear agreements between the UWV and the reintegration companies (or their branch-organization BOREA) on the cooperation and the way information is shared. Moreover, there is no case manager for the whole chain; an unemployed has contact with one person at the UWV and at the reintegration company, he or she also receives a coach.

The information infrastructure seems to be incapable of supporting the reintegration process. The reintegration companies are not involved in the information infrastructure. CWI, UWV and reintegration companies ask the same questions time and again and dossiers of clients are transported in paper (if they are transported).

Business process transformation

This process shows the same picture as the process of the provision of social benefits for unemployed. The process shows hardly any element of transformation. The infrastructure is not suitable to support the transformation of the business process.

6.3.3 The collection of social security contributions

Part of the funding for the social security sector is provided by the contributions that employers pay for their employees. The collection of these contributions is the third process studied.

Client process

Since the first of January of 2006 the process of the collection of social security contributions has been redesigned. Since then, employers are obligated by law to report new employees before their first working days. New employees have to report their personal data (name, address, BSN-number) to their employer. Moreover, he or she has to hand in a copy of an identity-card. The employer has to send the report to the tax agency. The tax agency sends the report to the UWV, which stores them in the Polisadministratie.

Besides, employers have to report monthly on the salary they have paid to employees. Therefore, they send one combined salary-report to the tax agency every month. The tax agency sends the data from the salary-report to the UWV, which stores them in the Polisadministratie. The UWV uses the data for the calculation of the social benefits.

Companies pay their contributions to the tax agency. The payment is integrated with other contributions that the employers have to pay.

Criteria

In the front office, new employees can be reported via three channels. New employees may be reported via the Internet, directly from the administration software of the company or by a tax consultant. Moreover, via these channels employers can file their monthly salary-report. The process is thus organized according to the principles of multichannel service delivery and integrated service delivery.

In the back office, data is automatically transferred to the UWV, that uses it for calculating social benefits. The calculation are made by computers, so no human interference is needed in the process.

The information infrastructure supporting this process consists of a common database, the Polisadministratie. In this database, the salary data that employers send to the tax agency are stored and this information is used by the UWV. The data that employers report when they report a new employee does not have be reported again in the monthly salary-report. Moreover, information from other sectors, namely the personal data from the GBA is used in the process.

Business process transformation?

The process of the collection of the social contributions from employers has been transformed since 2006. Employers have to report data only once and the data is shared in the SUWI sector. However, due to automation problems large amounts of data were lost since then. Employers therefore have to provide data about 2006 again. It is unclear when, or even whether, the automation problems can be solved.

7 The UK Social Security sector

7.1 Organization structure

The social security sector of the United Kingdom is much more centralized than it's Dutch and Belgian counterparts. The Department for Work and Pensions, the DWP[15], is the central authority in the sector. The department is responsible for policy making and execution in the sector. The department is split up into a number of policy departments, a number of specially designed executive agencies and a number of corporate directorates-general.

There are four executive agencies:

- The Pension Service; provides pensions for the elderly;
- Disability and Carers Service; provides benefits and help for the disabled;
- Child Support Agency; provides child support;
- Jobcentre Plus; supports people of working age from welfare into work, and helping employers to fill their vacancies

The Jobcentre Plus (JCP) plays a major role in supporting the Department's aim to 'promote opportunity and independence for all through modern, customer-focused services'[16]. The Jobcentre also provides tax credits advise and customers may transact tax credits business through JCP. The JCP is organized in numerous local offices around the country.

The corporate directorates-general are responsible for "setting corporate functional strategies, frameworks and associated policies for the effective management of key resources on which the Department as a whole depends. There are dg's for Finance, Human Resources, Information Technology, Law, Governance and Special policy and Communications.

A number of other organizations play a role in the social security sector. The Department of Revenue and Customs (HMRC)[17] is responsible for the collection and administration of all direct taxes (Capital gains tax, corporation tax, income tax, inheritance tax and National Insurance Contributions) as well as indirect taxes. The HMRC is also responsible for the payment of Child benefit, child trust fund and tax credit. In this service, HMRC cooperates with the JobCentre Plus. The JobCentre Plus provides tax credits advice and customers may transact tax credit business, while Revenue and Customs is responsible for the operation of the schemes.

Some other organizations need to be mentioned. Local authorities deliver housing benefit and Council tax benefit. JCP have many contractual relationships with private and voluntary sector service providers to deliver programmes for its customers. Examples are work-based learning for adult programme, basic skills provision, basic skills provision and a wide range of specialist help. Finally, the DWP has contracts for the delivery of a number of key services, such as benefit payment services and information systems and technology.

7.1.1 Criteria for transformation

Core competences and resources

Core competences were not mentioned in any of the documents studied. The Welfare Reform Act of 2007, a reform operation aimed at getting unemployed out of welfare and into long-term work, does not mention the core competences of organizations. The JobCentre

[15] www.dwp.gov.uk
[16] www.jobcentreplus.gov.uk
[17] http://www.hmrc.gov.uk/

Plus business plan 2007-2008 and the annual report 2006 of the DWP also do not mention core competences of the organizations in the sector. There is no attention to this phenomenon at the sector level as well as on the level of individual organizations. The choices of what organizational entity is entitled to conduct certain activities is not explicitly based on the core competences of the organizations.

Outsourcing

External partners receive a lot of attention from the Department of Work and Pensions. In the Departmental framework of DWP, the relations with external parties are described. The department aims at cooperating with its partners to deliver joined up services. "Effective strategies need to involve joint working between central, devolved and local government and in partnership with the voluntary and community sector and with business" (DWP 2005).In the framework, the interdependencies are identified and management solutions are described. In their strategy document of 2003, the JobCentrePlus acknowledges the importance of their suppliers. All kinds of private and voluntary sector organizations offer specialised services to the JobCentrePlus (JCP).

The JCP aimed at developing an external strategy to improve communications withy external partners and to involve the partners in the strategy formulation. Moreover, a contracting framework was developed for specialist services. On the 1st of April 2007, the responsibility for contracted employment programs was transferred to the Commercial and Estates Directorate, the central procurement office of the DWP.

Although the outsourcing structure of the DWP and the JCP is quite professional, there is no attention for the decision which activities to outsource. The outsourcing of specialist services seems to have grown historically.

Shared service centres

The DWP has organized a number of Corporate services, that provide services to all agencies of the DWP. These services include Finance, Human Resources, Information Technology, Communications and Law, Governance and special policy. The corporate Directorates-General "carry responsibility for the professional standards with which the function is delivered and for the maintenance and development of requisite professional expertise" (departmental framework 2005). These Corporate services may be identified as shared services, however only for agencies part of the DWP. Other involved organizations, such as the HMRC and the local authorities, are not customers of these shared service centres.

Modularisation

There were no signs of modularization in the sector. There is no product architecture or orchestration organizational entity. In the sector, emphasis seems to be on decentralisation and accountability of independent organizational entities. There is little attention for common supportive structures like infrastructures or architectures.

7.2 Information infrastructure

In the British social security sector there is no common information infrastructure shared by all organizations. The Corporate Service IST of the DWP only serves the organizations that are part of the DWP, like the JCP. Other organizations, such as the Department of Revenues and Customs, the external service suppliers or the local authorities are not included in this infrastructure.

7.3 Processes

Next to the organization structure of the sector, this study also focuses on the way processes are organized. In the next paragraphs, three processes are discussed.

7.3.1 The provision of social benefits for unemployed

One of the main processes in social security is the provision of social benefits to people that have become unemployed. In this study, the focus is on people that have become unemployed against their will, for example because their job was terminated, but that are fully able to work. In the UK, unemployed citizens can request a Jobseeker's Allowance.

According to the CapGemini benchmark, this process is 60% electronic, which means that there is a mixture of paper forms and electronic forms used.

Client process

Main organization: JobCentrePlus: is front office and back office
JobCentrePlus: integration of paying benefits and reintegration activities

To file a request for a Jobseeker's Allowance (JSA), citizens turn to the JobCentre Plus. This organization has local offices all over the country where citizens can go to. Unemployed can request for a Jobseeker's Allowance using three channels:

1. call Jobcentre Plus
2. go to Jobcentre Plus
3. online: http://www.dwp.gov.uk/eservice/#. Jobseekers can identify online using their government gateway login. The government gateway is a centralised registration service for e-government services in the UK.

Citizens receiving a Jobseeker's Allowance need to come to the local JobCentre Plus for a "New Jobseeker Interview". At the interview, an adviser will:

- Make sure the jobseeker understands the rules for JSA;
- Discuss the kinds of work the jobseeker is looking for and the best ways of finding a job;
- Give information about jobs, training and other opportunities;
- Check that the jobseeker have filled in the form fully and given all the information that is needed;
- Draw up a jobseekers agreement (see paragraph 7.3.2)

Jobseeker's need to confirm their claim in person every two weeks. The activities of the jobseeker to find work are evaluated during these meetings. Moreover, the jobseeker needs to come to the JCP for regular, more detailed interviews to look at his or her situation.

In the next paragraphs, the hypotheses for the different phases of the process are discussed.

Criteria for transformation

Citizens that loose their jobs are not actively approached by the UK government. Moreover, there is no expert system available to see whether one may request for a jobseeker's allowance.

Unemployed citizens can file their request for a Jobseeker's Allowance via various channels: the internet, telephone and at the counter. The Jobcentre Plus offers various services to the jobseeker, such as help at getting a new job (see paragraph 0).

Jobseekers always need to come in person to the local Jobcentre Plus office to receive a Jobseeker's Allowance. Therefore, standard cases are not processed automatically by information systems. Since the Jobcentre Plus is the only organization that is involved in the

process, cases do not have to be guided to other organizations. At the Jobcentre Plus, a jobseeker has contact with one case manager; the jobseeker's adviser.

The process of the provision of social benefits does not make use of a common information infrastructure. The only common element that is used is the government gateway, to identify citizens online. There are no common databases used and clients have to provide data various times (e.g. they have to report when they have moved).

Business process transformation

Since the Jobcentre Plus is the only organization involved in this process, the process has not been redesigned across organization boundaries. Some transformation has been achieved in the front office, showing the multichannel strategy and the integrated services delivered at the Jobcentre Plus. The lack of a common information infrastructure makes that citizens need to provide information several times. The service delivery seems to be optimized from the perspective of the individual organization (JCP). This may be a result of the strong focus on business-like operating in the UK government, with it's emphasis on decentralization and accountability.

7.3.2 The reintegration of unemployed

Client process

At the interview, the jobseeker and the adviser of JCP draw up a Jobseeker's agreement. The Jobseeker's agreement includes:

- The jobseeker's availability for work;
- The kind of work the jobseeker is looking for;
- What the jobseeker will do to look for work and improve his or her chances of finding work;
- The services provided to help.

The Jobseeker's agreement makes sure that jobseekers keep looking for jobs. They are supported in a number of ways by the Jobcentre Plus:

- Jobseeker Direct: a telephone number that may be used to keep in touch with the newsy job vacancies and helps unemployed to find a job that's right for them.
- Online Job search: jobseekers can search for suitable jobs in a database. Based on criteria such as favourite sector, preferred number of working hours and location jobseekers can search for jobs. The website offers the address where jobseekers can apply for the job.

The Jobseeker needs to come to the Jobcentre Plus every two weeks for an interview. A number of issues are discussed during these interviews:

- whether the jobseeker still meets the conditions for Jobseeker's Allowance and what the jobseeker must do to carry on receiving the benefit;
- how the jobseeker is progressing with the actions in the Jobseeker's Agreement, and whether this agreement needs updating;
- whether there are suitable vacancies;
- the availability of training courses, job search programmes or other services that might be helpful;
- other opportunities and benefits that might be available.

In the next paragraphs, the criteria for the different phases of the process are discussed.

Criteria for transformation

Unemployed are not supported in the preparation phase. They may however, use multiple channels for their job search. They may use the jobdirect telephone or the website of the

JCP to find a suitable job. Moreover, the JCP is the front office for the request for a social benefit as well as for the job search, so these services are integrated.

The jobseeker has one case manager at the JCP. It is unclear to what extent this case manager is involved in possible trainings and courses that the jobseeker might take at other organizations. Information flows between these organizations are also unclear, since they are not mentioned at the website of the JCP.

The services for jobseekers do not make use of a common information infrastructure. The common identification service is not used, there are no common databases and information is not transported automatically.

Business process transformation?

The process of the reintegration of unemployed in the UK shows little characteristics of a transformed business process. Only the front office is redesigned, using multiple channels and integrated services. In the other phases, no transformation is found.

7.3.3 The collection of social security contributions

Client process

Report new employees
To report a new employee, the employer has to fill in two forms, a P45 form with the information on the employee and his previous employer and a P11 form with the data on salary, national insurance contributions and income taxes.

The P45 is a certificate providing details from the employee's previous employment. Part of this form is filled in by the previous employer of the employee. The new employee gives the P45 form to the employer. The new employer fills in the remaining part of the form and sends it to the Inland Revenue Office. When an employee leaves, the employer fills in a new P45 form and sends it to the Inland Revenue Office.

The P11 form is the deductions working sheet and is kept by the employer. The employer fills in this form. On this sheet, some data has to be provided again, such as the employee's name, address, national insurance number and date of birth. Moreover, employers have to provide their own details. Employers have to decide which tax code to use and which rate of national insurance contribution applies for the employee, using a flowchart. The P11 calculator helps employers to calculate the tax and national insurance contribution of new employees. The P11 form may be used by the employer to fill in his end of year return.

At the end of the yea, employers fill in the Annual Employer Return, using a P35 form. This form may be filled using the P11 form with data on working hours and salary. The employer has to calculate the amount of tax and national insurance (social benefits) contributions that he has to pay for the employees. The Annual Employer Return is a combined report of tax and social contributions.

Criteria for transformation

Employers can use the Internet or a paper form for sending the P45 form to the Inland Revenue Office. From April 2009 companies with more than 50 employees have to report employees starting and leaving details online. Employers can use a paper form or the Internet to send in the Annual Employer Return. Moreover, this report can be done directly from the administration system of the employer, using EDI or the Internet.

Employers deal with one organization for the report of new employees and the Annual Employer Return, the HM Revenue and Customs. The data presented in these reports are not used by other organizations.

The infrastructure of the Government Gateway is used for the online service delivery. However, the service does not make use of data already available for the government, for example personal data of the employee or data of the employer. There are no messages sent automatically.

Business process transformation?

The process of the collection of social contributions is not transformed. Only the front office is redesigned, since employers may use various channels to communicate with government and two services (tax return and social benefits return) are offered simultaneously. In the back office there is no cooperation between various government organizations. Since the information infrastructure is poorly developed in the UK social sector (see paragraph 7.2), this infrastructure is not used in this process.

8 Transformation in the social security sector

The social security sectors of Belgium, The Netherlands and the UK offer some interesting insight in the transformation of organization structures, information infrastructures and business processes. A summary of the criteria in the cases is presented in appendix A. The main insights are discussed in this chapter.

8.1 Comparing the countries: who does best?

The three countries show different pictures of the transformation of their structures and processes. The UK shows little movement towards modularization or business process redesign. The social security sector of the UK does not have a common information infrastructure, organizations do not use shared service centres and core competences and outsourcing receives little attention. The organizations in the social security sector seem to be preoccupied with restructuring their own organizations and processes and seem to have little attention for cooperating with other organizations. The strategy documents of the organizations show large attention for planning and control issues, such as the formulation of key performance indicators and measuring the performance of their organization on these KPI's. The UK organizations seem to be pretty successful in translating their strategies into measurable performance indicators and in measuring their performance on these indicators. Under the pressure of the New Public Management paradigm, UK organizations seem to have focussed on operating business-like, and they seem to be pretty successful in this. In this process however, the organizations seem to forget that they are not alone in offering services to citizens and businesses. Cooperation in creating common infrastructures and in business process redesign across organizational boundaries are neglected.

Belgium and The Netherlands do show a movement towards modularization, whereas Belgium seems to be a bit further than The Netherlands. The strategy documents of the social security organizations in these countries show large attention to cooperation. Every strategy document has a paragraph or chapter on cooperation or on chain partners. The organizations seem to be aware of their need to cooperate with each other. This awareness has lead to the creation of common structures, such as a common information infrastructures, connecting the various organizations in the sector together and enabling information sharing. The study of various business processes shows that the Belgian infrastructure is much more heavily used in business processes, such as the process of paying social benefits to unemployed. The Dutch infrastructure seems to exist mostly on paper and is not used extensively in business processes. Moreover, the Belgians have created a orchestrating organization, the Crossroadbank, which is more and more involved in transforming business processes of the organizations involved.

8.2 Modernising structures

8.2.1 The infrastructure first?

How do the countries modernize their organization structures and information infrastructures? Interestingly, both Belgium and the Netherlands score high on the dimension information infrastructure. Both countries have developed a common information infrastructure, consisting of architectures on various levels, connecting the various organizations in the sector. Especially the Netherlands seem to have started the transformation of their structure with this: the country shows little progress in any of the other fields. Perhaps the country sees the development of a common infrastructure as the first step towards transformation of the structure.

Developing an infrastructure seems to be a logical first step towards modularization. The modular organization can only exist when a common infrastructure is in place. The

infrastructure binds the organizations together and enables cooperation between the organizations. The infrastructure makes sure that organizational and informational processes are attuned to one another and that the operations of organizations are interoperable. When an infrastructure is in place, business processes can be redesigned, using the common elements of the infrastructure. Moreover, the infrastructure creates the perfect conditions for outsourcing and shared service centres. The infrastructure makes sure that activities that are outsourced to other organizations or to shared service centres fit in the operations of the outsourcing organization. In enabling outsourcing and the creation of shared service centres, the infrastructure creates space for organizations to focus on their core competences. Building a common information infrastructure may therefore be a perfect first step in developing towards modularization.

8.2.2 Outsourcing without core competences?

Belgium and the Netherlands show a move towards outsourcing and the creation of shared service centres. Especially the Belgians have identified numerous common business processes and have developed common solutions for this. Outsourcing and the relationship with suppliers and customers is a topic in the strategy documents of many social security organizations in Belgium and the Netherlands.

Interestingly, whereas outsourcing and shared service centres do receive attention from the organizations, core competences do not receive attention. This raises the question on what basis activities are outsourced. When an organization has not identified it's core competences, the organization is incapable of identifying the activities in which it excels. It seems to be quite difficult than to decide which activities to outsource.

The problem becomes even bigger when the specific nature of processes of outsourcing and the creation of shared service centres in governments are taken into account. In business, the decision to outsource and to create shared service centres is taken by leaders of companies, who do probably have quite a good image of what their organizations do good. In government however, these decisions are often taken by centralized departments. These departments stand on a larger distance of the operations as in most businesses and are therefore bound to have less insight in the capabilities of the organizations involved. The decision to outsource and to create shared service centres therefore seems to be not base4d on arguments of core competences but seems to be based on other arguments, for example arguments of politics. It may be questioned whether such arguments result in the best division of activities between organizations.

8.2.3 Modularization?

In chapter three it was argued that all developments, the identification of core competences, outsourcing, the creation of shared service centres and the development of infrastructures, resulted in the development of a modular organization. The developments should lead to relatively small organizational entities, focusing on their core competences, cooperating in varying coalitions based on a shared infrastructure. None of the cases shows this final image. The Belgian social security sector goes furthest in this development, with a fully developed information infrastructure, many shared services in place and even an orchestrating organization. However, also in the Belgian case the modular organization does not function in its full extent, since at the level of processes and products no real architecture was developed and organizations therefore cannot cooperate easily in varying coalitions.

However, especially the case of the Belgian social security sector shows that a development towards a modular, infrastructural organization is feasible in the foreseeable future. The Belgian social security sector seems on its way to developing such an organization and the strategy documents of the Dutch social security sector also show a vision in this direction.

8.3 Modernising business processes

8.3.1 Processes and structural transformation

Three business processes have been studied in this research. The business processes provide an interesting extra dimension in the study of the transformation of organization structures and information infrastructures. An important problem in studying this transformation is that it is difficult to separate words from real action. The transformation of organization structures and information infrastructures is an abstract issue that can be found in various strategy documents, such as policy statements, new laws or annual reports. It is sometimes hard to assess to what extent plans that are described in the documents have actually been implemented or only exist on paper. Interviewing key persons in the organizations does not solve this issue, since these persons can draw an image that is not consistent with practice.

Studying a number of business processes in the sector can solve this issue. In the business processes, the structural reforms should resonate. The best example is the information infrastructure. The Netherlands and Belgium have both developed an information infrastructure. At least, on paper. Both countries have developed functional, data and technical architectures describing the standards on these levels that all organizations in the sector have to abide to. However, the study of the business process of the payment of social benefits to unemployed shows that the Dutch infrastructure is in fact a “paper tiger” that is not heavily used in practice or is not implemented yet. In the process of the payment of social benefits to unemployed, the elements of the infrastructure are hardly used. The Belgian social security infrastructure is used in this process.

8.3.2 Starting transformation in the front office?

The study of transformation in three business processes in the social security sector shows an interesting image of transformation of business processes. By far the most extensive transformation can be found in the front office. In almost all the business processes studied the front office activities were redesigned. In seven of the nine processes, services are provided via various channels and various services are integrated. Other phases of the business processes score much lower on transformation.

Apparently, countries argue that the front office is a good starting point for the transformation of business processes. Transformations in the front office resonate immediately in visible results for citizens. These citizens notice that they can access services differently and more conveniently. Transformations in the back office in the infrastructure are less visible for citizens and businesses. Moreover, transformation of the front office may trigger transformations in the back office, since they may make inefficiencies in the back office more visible and more acute.

However, when transformations in the front office are not directly followed by transformations in the back office and in the infrastructure, transformations are bound to stay shallow and may be characterized as “window dressing”. In the back office the real profits in efficiency and effectiveness can be achieved, since it is there where various organizations need each other the most. The pitfall in transforming the front office without the back office is that the “chaos” in the back office becomes visible for citizens.

The Belgian case shows another transformation strategy: the infrastructure is used heavily in the processes but has not yet resulted in transformation of the front office or the back office. The infrastructure is in place, but citizens may not notice it when they need a social benefit or a reintegration trajectory. The pitfall in this strategy is that citizens and politicians start wondering why all the money has to be spend on transformations that no one notices.

8.3.3 Transformation for citizens or businesses?

Another remarkable thing in the cases is the extensive transformation of the service delivery process for businesses in contrast to the shallow transformation of service delivery for citizens. The process of the collection of the social contributions of employers has been extensively transformed, especially in Belgium and in the Netherlands. The other two processes, focussed on citizens, show much less transformation. Apparently the governments of the Netherlands and Belgium have chosen to provide better services to businesses first before transforming service delivery to citizens.

There might be various reasons for this. First, probably the influence of business on governments is larger than the influence of the relative poor and weak population that needs social benefits and reintegration trajectories. Business can show more strength in asking better service delivery from governments, for example by threatening to move to other countries. A second explanation could be the shift of focus in social security sectors in Europe from providing income to the social weak towards reducing social fraud. Service delivery to citizens has been reduced to a second goal where the first is fraud detection. A third reason might be the extensive use of ICT by companies, compared to the use of ICT by the social weak. Since companies make extensive use of ICT for their administration, it is much more easy to use new channels such as the internet for doing business with companies than it is to use these channels for service delivery with citizens.

8.4 Structural transformation or process redesign, who comes first?

The business processes in the social security sectors of the UK, Belgium and the Netherlands were studied because they shed some light in the question whether the structural transformations have really occurred or they only exist on paper. However, the study of the processes is interesting in another way: they may show some light in the pathway towards modularization.

The first insight is that transformation of the organization structure and transformation of business processes should go hand in hand. Transformation of the organization structure and the information infrastructure is a large and complex operation. The operation takes a lot of resources and may cause enormous resistance in the organizations involved. Organizations need to outsource activities, which causes losses of budgets and more alike, and become more and more dependent upon each other. When such an extensive operation is not combined with business process transformation, the visible results of the operation will be quite small. Some efficiency gains might be achieved, but these are not visible, especially for citizens. Transforming business processes is essential in achieving gains that are visible for citizens and businesses, such as the quality of service delivery. The SUWI operation in the Netherlands is a good example of this. In this extensive operation, hundreds of organizations were merged into two large organizations and activities were redistributed between them. Moreover, an information infrastructure was developed. However, since business processes have not been transformed, the visible results were small.

The second insight is that the transformation of business processes is not enough to achieve continuous results. If business processes are transformed without structural changes in the sector, the business process transformation is bound to remain superficial. To fundamentally transform business processes, activities have to be redistributed between organizations and organizations need to increase cooperation. When these developments do not result in structural changes in the organization structure and in the information infrastructure, the new business processes will probably function with many difficulties or may even develop back into the “old” business processes.

The third insight is an insight in the process of transformation: the path towards a modular organizations structure might go through the transformation of business processes before achieving structural transformation. When analyzing business processes, double work and inefficiencies may be identified. These can be used to transform the business processes by redistributing activities in the network. When these task redistributions are formalised and worked out into sourcing strategies and shared service centres are created for certain tasks, a more structural transformation can be achieved.

9 Amendments to the benchmarks?

Chapter 4 discussed the success of several benchmarks in measuring progress of countries in implementing e-government. The conclusion was that the benchmarks need some amendments. The empirical data from the previous chapters offer some interesting insights in these amendments.

The model of the transformed organization in chapter three has been used to assess the transformation of the social security sectors in three countries. For this aim, the model was operationalized into a number of criteria. In the case studies in the previous chapters, the sectors were scored on these criteria and the score offered insight in the transformation of the sector. These criteria may therefore be useful for benchmarks. In this chapter, the experiences with these criteria in this research are discussed. The result of this discussion is a proposition for amendments of the benchmarks.

Since in this chapter the usefulness of the model is discussed, this chapter forms a critical reflection on the research as well as an attempt to formulate amendments for the benchmarks.

9.1 Business process transformation

In chapter three a number of criteria for measuring business process transformation were developed. The experiences with the use of these criteria in the case studies are interesting for the benchmarks. In the table below the criteria are enumerated. To assess the usefulness of the criteria for benchmarks, two measurements are used. The first is whether the criteria are easy to measure. Benchmarkers try to measure progress of many countries and their time is short. Therefore, criteria in benchmarks should be easy to measure. Most benchmarkers do not have extensive knowledge of the cases they study. Criteria that are "easy to measure" are therefore criteria that may be measured without having extensive knowledge on the sector or the country that is studied. Criteria that can be measured by checking the sectoral website are more easy to measure than criteria that can only be measured by reading specific documents of the sector. Criteria that can only be measured by interviewing key persons in the sector are even harder to measure. The experiences in the case studies showed whether the criteria were easy to measure.

The second measurement is whether the criteria offer valuable insight in the transformation of organizations. Benchmarkers want to know as much as they can of a sector or a country with as less effort as possible. Therefore, criteria should not only be easy to measure, but they should also provide extensive insight in the transformation achieved in a sector or a country. The criteria were developed to do so, the use of the criteria in the case studies showed whether this proved to be right.

Together, these two measurements mean that we are looking for those variables that are easy to measure and that offer extensive insight in the transformation in the sector. In methodological terms we might call them "proxy variables"; variables that can be measured at the surface but that offer insight in a deeper lying phenomenon.

	Easy to measure?	*Offers insight in transformation?*
Preparation		
1. Potential clients can use expert systems to check whether they may apply for a service and estimate the service that they may receive.	+	-
2. Potential clients are actively approached by government.	-	+

Front Office		
3. Identical services may be received via multiple channels.	+/-	+
4. Several services may be started up simultaneously.	+	+
Back Office		
5. Cases of clients are automatically guided through various organizations.	-	+
6. Standard cases are processed automatically by information systems.	-	+
7. Complex cases are processed by employees, with one case manager per client for the whole process	-	+
Information Infrastructure		
8. Organizations in the process send each other messages that may be processed automatically.	-	+
9. Clients have to provide data only once for the whole process.	+/-	+
10. In the process, information form other sectors is used when necessary, without asking the client.	+/-	-

Table 6: measuring business process transformation

The phase of preparation is not discussed by the present benchmarks. Both measurements seem to be applicable to measure progress in this phase.

- Measurement 1: An expertsystem should be available at the website and can therefore be found easily. An expertsystem is a measurement of how customer-friendly a sector operates. However, it is no measurement of real transformation.
- Measurement 2: is valuable in the light of the goal of pro-active service delivery. However, for the measurement to be useful in benchmarks, the measurement should be operationalized. In this form, it is hard to measure.

The phase of the front office is measured by all benchmarks. The benchmark of Accenture is the most sophisticated in this phase, studying multichannel management and citizen-centricity. The two measurements from this research may be used in addition with the Accenture measurements. The measurements should be further developed to be useful. Measurement 3 can be answered by doing some in depth research, for example studying the brochure of organizations for their customers. Measurement 4 are quite easy to measure: researchers can just go to the website and see whether various services are offered integrated.

The phase of the back office was neglected by all benchmarks. In this research, three measurements were introduced. All three are hard to measure. This is probably the case for any measurement of back office processes. Back office processes are by definition not accessible online. Moreover, many governments try to make back office processes totally invisible for citizens. Since process descriptions are often not available or not up to date, a number of interviews are probably unavoidable to get insight in back office processes. The measurements seem to offer valuable insight in the transformation of organizations:

- Measurement 5 offers insight in the cooperation between various back office organizations;
- Measurement 6 offers insight in the sophistication of the information systems and the automation of routine tasks;
- Measurement 7 offers insight in the consequences for the role of civil servants.

The phase of the information-infrastructures was also neglected by all benchmarks. In this research, three measurements were introduced.

- Measurement 8 offers valuable insight in the transformation of communication between organizations and the linking of business processes of various organizations. However, the measurement is hard to measure, since the message flows are invisible for citizens.
- Measurement 9 offers valuable insight in the transformation of communication between organizations and citizens and in the use of common databases. The measurement is measurable by researchers pretending to be clients. They have to follow the whole process and compare all forms, which makes it a quite intensive research process. Moreover, for the measurement to be really measurable, the term one-off data provision should be operationalized.
- Measurement 10 is to abstract to be measured. Therefore, the measurement should be operationalized, for example by identifying data elements. Moreover, it may be questioned whether this measurement offers valuable insights not gained from measurement 10.

A number of conclusions may be drawn from the discussion above:

- Most measurements introduced offer valuable insight in the transformation of organizational processes.
- The measurements require a change of research methodology. Some require researchers to conduct a more in depth study of available forms (e.g. measurement 9) and some need interviews (e.g. measurement 5-7).
- Some measurements require operationalization. To this end, the approach of the European Commission may be interesting: choosing a number of services and operationalizing the model for each service.

9.2 Transformation of organization structures

The same exercise can be executed for the criteria used for assessing the transformation of organization structures and information infrastructures. The table below shows the results.

	Easy to measure?	*Offers insight in transformation?*
Core competencies		
1. In the sector policy plans for 2005/6/7, core competences of organizations in the sector are identified.	+	-
2. In strategy documents of organizations in the sector, core competences are identified.	+/-	-
Outsourcing		
3. In their strategy documents for 2005/6/7, organizations in the sector make clear decisions on what activities to execute themselves and what activities to outsource.	+/-	+
4. in the sector policy plans for 2005/6/7, tasks are distributed among organizations using the notions of resources and core competences	+	-
5. In their strategy documents for 2005/6/7, organizations in the sector pay attention to their relationship with their suppliers.	+/-	+
Shared Service Centres		
6. In sector plans for 2005/6/7, common business processes are identified.	+/-	+
7. In sector plans for 2005/6/7, common solutions (e.g.	+/-	+

shared service centres) are identified for common business processes.		
8. In the sector, organizations make use of services provided by shared service centres for front office as well as for back office tasks.	+/-	+
Modularisation		
9. The sector has a product architecture, in which the products of the sector and their interdependencies are displayed.	-	?
10. The sector has a product architecture, in which the main directions to which the products have to apply and the rules for the connections between products are identified. The rules enable the re-combination of sub-products into end-products.	-	?
11. In the sectoral organization chart, the role of orchestration is covered, either by an organizational entity or an information system.	-	?
Information infrastructure.		
12. At the sector level, there is a functional architecture, which describes the functionalities that are in use in the business processes. All organizations comply to this architecture. This architecture is available at the website of the sector.	-	+/-
13. At the sector level, there is a data architecture, which describes which data are used and how these data are stored and distributed. All organizations comply to this architecture. This architecture is available at the website of the sector.	-	+/-
14. At the sector level, there is a technical architecture, which describes the technical standards that all organizations in the sector comply to. This architecture is available at the website of the sector.	-	+/-

Table 7: measuring organization structure transformation

All three studied benchmarks neglected the transformation of organization structures. Since this seems to be an interesting area to benchmark, a number of insights may be gained from this research.

9.2.1 Core competences

Measurement 1 is aimed at the sectoral policy plan. The measurement may be measured using a word count method. However, since core competences are to be found in individual organizations, it is more logical to focus on policy documents of individual organizations.

Measurement 2 is aimed at strategy documents (e.g. annual reports) of organizations. The word count method may be used. Studying the strategy documents of individual organizations seems to be more appropriate for measuring a phenomenon in individual organizations. The problem here is to decide how many organizations should be studied to make the outcome representative for the entire sector.

9.2.2 Outsourcing

Measurement 3 and 5 focus on individual organizations. Since outsourcing is a decision of individual organizations, this seems appropriate. The two measurements need more

operationalization to be measurable. Terms like “clear decisions” (measurement 3) and “attention” (measurement 5) need to be operated. Moreover, the problem of how many organizations to study is also apparent in these measurements.

Measurement 4 focuses on the sector level and this seems to be less appropriate for the topic of outsourcing. This measurement is more applicable for the topic of modularisation. Measuring requires some in depth study of the policy plan.

9.2.3 Shared service centres

Measurement 6 and 7 focus on the sector policy plan. These measurements can be assessed by studying the policy plan, which needs some extensive research. Word count does not seem to be appropriate, since various terms may be used for the same phenomenon and the term common business process is not likely to be used. A problem is to decide how many common business processes and common solutions must be present to score high on the measurement. The measurements does offer valuable insight in the way common activities are assessed and organized.

Measurement 8 is an extension of measurement 7 and tries to assess the actual use of shared service centres. This is hard to estimate, since it needs researching the actual operations of organizations in the sector. This may only be done by interviews. However, the measurement does offer additional valuable insight in the use of the shared service centres.

9.2.4 Modularisation

Measurement 9 and 10 focus on the product architecture of a sector. This appeared to be quite difficult, since no sector has a document which is called product architecture. Therefore, a term that is more appropriate for the sector studied is needed. Moreover, the differences with the organization chart of the sector must be defined. Measurement 11 is quite difficult to measure for the same reason: the term orchestration is not used in the sectors and therefore hard to find. This may be a signal that modularisation is just a bridge too far for now. However, it may be that the trend may be visible under different terms. More research is needed to answer these questions.

9.2.5 Information infrastructure

Measurement 12, 13 and 14 focus on the information architectures of the sector. The measurements are difficult to measure since they in fact consist of a multitude of questions. Is the architecture present? And is it available on the website? And do organizations apply to the architecture? These questions can better be asked sequentially, since they all provide insight in the level of development of the information infrastructure. Measuring the first two questions is quite easy; this may be done via the website. However, measuring the question whether organizations apply to the architectures is quite difficult and needs some in depth research.

9.3 Conclusion and recommendations

The conclusion that the benchmarks do not suffice in measuring the full depth of transformation as a result of e-government implementation was already drawn in chapter 4. In this chapter a number of amendments were discussed. Some criteria that were used in this research seem to be interesting and promising for benchmarks and could improve the benchmarks. A number of criteria seem to be useful but need some more operationalization to be really useful.

The amendments presented in this chapter may be used by benchmarkers to amend their current benchmarks. Some of the criteria can be added to the existing benchmarks to improve them. However, the comparison of the benchmarks with the conceptual models of

chapters 2 and 3 shows that the benchmarks have some fundamental conceptual flaws. To really enable the benchmarks to measure transformation as a result of e-government, the conceptual models of the benchmarks should be changed. The current conceptual models of the benchmarks are far to superficial to measure real transformation. The conceptual models of chapter 2 and 3 as well as the amendments of chapter 9 may be used as examples for this. Moreover, the benchmarkers can learn from their colleagues, since every benchmark showed its own advantages in contrast to the others. The approach of studying a number of service delivery processes of the European Commission, the study of the United Nations of participation and the comprehensive approach towards service delivery of Accenture can be copied by the others.

The use of some of the criteria mentioned above have consequences for the research method of the benchmarks. First, the benchmarks try to assess the maturity of countries. The level of abstraction seems to be to high to make meaningful statements about e-government maturity. This research shows that a focus on governmental sectors could be useful to overcome this problem. Studying sectors can be done in much more depth than studying countries. Every sector has its specific characteristics. When benchmarks focus on a sector, their models and criteria can be developed in much more depth, fitting the specific characteristics of the sector. Moreover, focussing on sectors makes the development of criteria for measuring outcome much more easy. The European Commission benchmark offers an interesting example of this, since it has developed it's general framework for various services. However, the focus on sectors instead of individual services seems to be more valuable, since it offers a more comprehensive view on the public value that is offered by the government.

Second, most benchmarks are performed by an assessment of the websites of governments. This research method does not suffice to assess the transformation of back office processes, infrastructural processes and the transformation of organization structures. More in depth research is needed. One possibility for this is to study some key documents. Sector policy plans, sector organization charts, annual reports of key institutes in the sector and sector information policy plans can offer useful insight in the state of development of sectors. Another possibility is to conduct some interviews in each country. Interviewing actors central policy makers and decentral policy executors can offer additional insight in the state of development of a sector.

10 Conclusions and recommendations for further research

10.1 Conclusions

Governments are transforming as a result of the implementation of e-government. E-government is no longer just about the online provision of information, about online communication or about online transactional service delivery, it is about transforming the organizations of government. Governments use ICT to fundamentally change the way in which they produce and deliver public value. This transformation, this fundamental change, is subject of this research.

The main question of this research was: what organization is the result of the transformation caused by the implementation of e-government in networks of government organizations and how can benchmarks measure progress towards this organization? This question consists in fact of two questions, that are dealt with separately in this chapter.

10.1.1 The modern organization

What does the transformed government organization looks like? The term “organization” was divided in three aspects: the organization structure (how are activities in the network organized?), the information infrastructure (is there a structure in place for interorganizational information flows?) and the business processes. The transformation of organizations were studied at these three levels. The transformation is studied in networks of organizations, since ICT enables coordination and collaboration between organizations and organizations need each other to deliver optimal public value.

The literature study resulted in an image of the transformed government organization. To see this image, a new perspective on organizations is needed. The modern organization is no bundle of separate activities, but is a bundle of business processes. When the modern organization is analyzed from this perspective, the image of a modular infrastructural organization comes up. The organization consists of a network of various organizational entities (the modules). The organizational entities specialise in core activities. One organization is in charge of customer service, one organization specializes in the collection of fines, etc.. The organization form of the organizational entities, just as their technology and other resource, define these core activities. Therefore, the organizational entities differ in organization form and resources. Activities that are not core activities are outsourced to other organizational entities in the network. A dense network of organizational entities is the result and the organizational entities are aware of their position in this network. Organizational entities have professionalised their sourcing departments to ensure smooth cooperation with other organizational entities. Activities that are needed by various organizational entities are centralized in Shared Service Centres. These shared service centres provide services for all organizational entities that need the service. Examples are shared front offices such as one stop shops in municipalities and shared ICT management centres.
The organizations share a common information infrastructure. This infrastructure is made up of various layers, such as a process layer, a functional layer, a data layer and a technical layer. At these layers, standards are agreed upon and common functionalities and databases are developed. The standards of the infrastructure are used by every organizational entity in the network.
The infrastructure enables quick recombination of organizational entities as societal issues ask for this. Since every organizational entity adheres to a set of standards, operations can be combined quickly. When a new societal issue arises, the organizational entities that are needed to tackle the issue can easily combine their operations into new products or services for this societal issue. The infrastructure and the modular nature of the network enables quick reactions to new societal issues. Moreover, it enables the customization of service delivery to individual citizens. Organizational entities can easily cooperate to satisfy the

needs of the citizen. Since organizational entities focus on their core activities, they can deliver the highest possible public value.
Business processes run through various organizational entities. Citizens that need some help of the government are helped by various organizations, but these organizations cooperate to offer all the services that the citizen needs at the same time, at a place logical for the citizen. Citizens are proactively approached for services they are entitled to. Citizens may use various channels (telephone, counter, Internet) for the same service. In the back office, operations are organized so that the citizen does not notice that various organizations are involved. Operations are streamlined and automated across organizational boundaries as much as possible. Various business processes make use of certain common business processes, that form an infrastructure that underlies all business processes in the sector.

The social security sectors of Belgium, The Netherlands and the United Kingdom show some characteristics of the modular infrastructural organization. Belgium and the Netherlands, with a historically strong focus on cooperation, show most progress towards this organization structure. The countries have started with developing an information infrastructure. The Belgian infrastructure is heavily used in processes, whereas the Dutch infrastructure exists mainly on paper.
Organizations in all three countries outsource some of their activities and pay attention to the relationship with their suppliers. Moreover, in Belgium and The Netherlands shared service centres are created. These decisions seem to be based on “gut feeling” rather than on rational arguments; most organizations have not identified their core competencies and therefore cannot decide what activities correspond with their core competencies.
However, none of the sectors studied showed real modularized organizations. The sectors seem to be moving in that direction, but none of them has achieved the final state. This also becomes clear when the service delivery processes are studied. The processes show some characteristics of transformation, mostly starting in the front offices, but real fundamental transformation in front as well as back office is only visible in the collection of social contributions in Belgium and The Netherlands.

10.1.2 Benchmarking transformation

The second sub-question of the research was whether the benchmarks were able to measure the transformation. Or should the benchmarks be amended? The research on the transformation of organizations resulted in an advice to benchmarkers how to measure this transformation.

Three e-government benchmarks are studied in this research: the benchmark of the European Commission, executed by CapGemini, the benchmark of the United Nations and the benchmark of Accenture. The research concludes that none of the benchmarks succeeds in really measuring fundamental transformation of organizations. The benchmarks have no attention for structural transformations and focus mostly on service delivery processes. In these processes, most attention goes to front office transformation, while back office or infrastructure receives far less attention. Using a model of e-government, the research also showed that the benchmarks focus to much on the output side of government; politics and policy-making are mostly neglected in the benchmarks.

A number of amendments were developed for the benchmarks. To really measure progress in the field of e-government, benchmarks should measure input (politics), throughput (policy-making) and output (policy execution, e.g. service delivery or rule enforcement). These phases are supported by supporting structures (infrastructures), which should be included in the benchmarks. When it comes to measuring the output and it’s supporting structures, benchmarks focus to much on “shallow” front office changes and should include structural changes and changes in the infrastructure and the back office. Moreover, benchmarks should include the outcome of e-government: does e-government deliver public value? Only

the amendments on measuring the structure and the business processes in policy execution were developed further into usable criteria. These criteria were used in the case studies and evaluated in chapter 9.

10.2 Recommendations

10.2.1 Actions for benchmarkers

Amendments to existing benchmarks or designing new benchmarks?

Can amendments enable the benchmarks to measure real progress in e-government? Or should the benchmarks be totally redesigned to this end? The last seems to be the truth. The existing benchmarks are developed to measure service delivery, not to measure changes to structure and not at all to measure the phases of input or throughput. To measure e-government in it's full extend the benchmarks should be redesigned to include all the phases of e-government. For every phase a conceptual model and measurement criteria should be developed.

The model that was developed in this research covers the phase of output and output support. Such models should also be developed for the other phases of the model of Figure 1: the process of e-government. For these phases, it may be necessary to develop separate models for the phases of input and throughput and input support and throughput support. The first two phases deal with the process of e-government, so with the way in which politicians deal with the issue of e-government and with the way policy makers make policy plans on e-government, while the supporting structures deal with how e-government can contribute to the process of government.

So, for the input phase, a conceptual model on how politicians should be concerned with e-government should be developed. The model should answer questions like should e-government be a separate issue in the political debate or should e-government be included in other debates, like debates about social security or health care? And should there be a minister for e-government or should every minister be responsible for e-government in his or her department. For the input-support phase, a model of the influence of e-government on the political process should be developed. How does e-government influence political processes such as campaigning, elections and participation?

For the throughput phase, a conceptual model on e-government policy should be developed. What does the ideal e-government policy looks like? What elements should be in this policy? For the throughput-support phase, a conceptual model on the influence of e-government on policy making should be developed. What is the influence of the Internet on the process of policy making? And how can developments like ontologies and centralised registers influence the process of policy making?

Finally, benchmarks should also include the outcome of governments. What public value can e-government deliver? To measure this, it is not enough to focus on output criteria like how many unemployed receive a social benefit and how many unemployed follow a reintegration trajectory. These criteria tell little about the real effects of the actions of government. Therefore, criteria should be found a bit further into society: how many unemployed have become employed again? The problem with measuring outcome is that to measure real outcome, the criteria should be formulated relatively far from the actions of governments. This makes it difficult to measure the dependency of the outcome on the actions of governments. It could be that other factors than the actions of governments influence outcomes. Criteria for measuring outcomes should be developed at the level of sectors. Further research into this topic is needed.

For every phase, a conceptual model including measurement criteria should be developed. The benchmarks should measure all these phases. However, to measure all phases of e-government in depth is too much for one benchmark. It may therefore be more attainable to develop a system of benchmarks, each benchmark focussing on a specific phase. Still, this means that the existing benchmarks should be fundamentally redesigned, incorporating transformation of the structure of sectors.

Comparing various countries?

Another topic in the benchmarks is whether various countries can be compared to each other. The current benchmarks compare e-government progress in many countries with varying circumstances. Countries may for example vary very much on institutional frameworks, from relatively centralized governments such as France to federal governmental systems like Germany. Moreover, political and governmental cultures differ very much between various countries. This is not a large problem when the benchmarks only study the front office side of service delivery, but it becomes an issue when the benchmarks start studying more in depth and also include other phases. This issue also arose in this research. The social security sectors of the Netherlands and Belgium show remarkable resemblance, since they are both characterized by a heavy involvement of local parties such as labour unions and municipalities. The social security sector in the United Kingdom however is quite different, since it is operated by central departments. Moreover, the UK government is strongly focussed on the principles of New Public Management, such as accountability and competition between organizations, whereas the Netherlands and Belgium are much more focussed on cooperation and consensus. The outcomes of measurements in various countries are therefore much harder to compare. It may be questioned whether the benchmarks, when they decide to go more in depth as was argued for above, are still able to incorporate such varying countries as they do now, or that benchmarks should be designed for clusters of countries with some comparable characteristics.

Generalising outcomes

A final issue in the benchmarks is the generalisability of outcomes. It was argued in this research the benchmarks could be developed further by focussing on a number of sectors. By focussing on sectors, measurement criteria can be developed to much more detail and the research can be executed more thoroughly. The question than arises to what extent outcomes of individual sectors can be generalised into outcomes for countries. Or, how many sectors should be studied in a country to be able to make statements about e-government in a country. This issue needs to be worked out in more detail.

10.2.2 Recommendations for further research

Use a process oriented methodology for studying organizations

This research started with the notion that e-government was entering a new phase. After phases of online presence, online communication and online transactions, e-government developed into a fourth phase, a phase of transformation. In this phase organization structures and business processes are fundamentally transformed and governments are enabled to enlarge the public value they create.

The fourth phase of e-government is fundamentally different from the first three phases. In the development from the first to the second and third phase, the communication between governments and citizens and businesses changed. The fourth phase entails a change in communication between governments and citizens and businesses, but entails much more. Government organizations start cooperating, information flows and business processes across organizations are redesigned, competences are redistributed and common infrastructures are created. It may be questioned whether this is really the fourth phase of e-government. Maybe we should speak of a first step in a totally new development.

The new phase of e-government introduces a new perspective on organizations. Studying organizations, we should no longer define organizations as bundles of activities, but as bundles of business processes leading to the development of products and services. These business processes run across various organizational entities before they reach the “end-customer”; society. Analyzing governmental operations in this way, we come across various developments that we would not encounter when we analyzed organizations from the traditional perspective. A recommendation for future research is than that organizations should be analyzed as production networks of organizational entities with various value chains.

Include more dimensions of organization structure

Using this perspective, we may be able to find various other developments complementary to the developments identified in this research. This research focussed on the positions of organizations in value chains. The developments identified all concern the choice of which activities organizations execute themselves and which activities they outsource.

Now that this research is done it is possible to develop a more structural research approach to studying the transformed government organization, using the process oriented perspective. Therefore, the dimensions of the organization structure should be identified and developments on every dimension should be identified. Since e-government changes the perspective of organizations, e-government is bound to influence these dimensions too. A model of the dimensions of organization structure is needed. One way to conceptualize the dimensions of organizations is the model of Richard Daft, which identifies six dimensions: centralization, formalization, hierarchy, routinization, specialization and training. Incorporating other dimensions of the organization structure may be a fruitful way to identify new developments and gain more insight in the transformed organization structure.

More in depth research of mechanisms and concepts

More in depth research is needed in the developments that were identified in this research. Most concepts were gathered form the literature on business administration. Concepts like core competencies and outsourcing need more translation into the field of pubic administration. The mechanisms around these concepts probably differ somewhat from the mechanisms in business. Questions like what role central government plays in developments of core competences, outsourcing and shared service centres can shed light in the development of the transformed organization. Besides, the concept of the information infrastructure is in need of some more research. What does a good information infrastructure consist of? And what does belong to the information infrastructure and what should be organized by individual organizations?

The disadvantages of the modular infrastructural organization

Finally, this research was quite positive of the possibilities of the modular infrastructural organization. The authors believe that this organization structure enables governments to create fundamental better public value than the traditional organization structures. These structures are unable to cope with the complex, dynamic and interdependent environment that modern society has become. However, this is not to say that there are no disadvantages of the modular infrastructural organization. In chapter 3 some disadvantages were identified already. However, some more research on the disadvantages is needed to create a balanced image of the transformed organization. E.g. what issues arise from the increased interdependence between organizations in the transformed organization? And what is the effect of the shifts in the value chain on the accountability of organizations to the public? And what about transparency? Such issues need to be subject of further research.

Appendix A – the criteria for transformation

Criteria Organization Structure

Criteria	*UK*	*Neth*	*Bel*
Core competences / resources			
1. **In the sector policy plans for 2005/6/7, core competences and resources of organizations in the sector are identified.**	No	No	No
2. **In strategy documents of organizations (2) in the sector, core competences and resources are identified.**	No	No	No
Outsourcing			
3. **In their strategy documents for 2005/6/7, organizations in the sector make clear decisions on what activities to execute themselves and what activities to outsource.**	No	No	Yes
4. **In the sector policy plans for 2005/6/7, tasks are distributed among organizations using the notions of resources and core competences.**	No	No	No
5. **In their strategy documents for 2005/6/7, organizations in the sector pay attention to their relationship with their suppliers.**	Yes	Yes	Yes
Shared Service			
6. **In sector plans for 2005/6/7, common business processes are identified.**	No	No	Yes
7. **In sector plans for 2005/6/7, common solutions (e.g. shared service centres) are identified for common business processes.**	No	No	Yes
8. **In the sector, organizations make use of services provided by shared service centres for front office as well as for back office tasks. (organization chart).**	No	Yes	Yes
Modularisation			
9. **The sector has a product architecture, in which the products of the sector and their interdependencies are displayed.**	No	Yes	No
10. **The sector has a product architecture, in which the main directions to which the products have to apply and the rules for the connections between products are identified. The rules enable the re-combination of sub-products into end-products.**	No	no	No
11. **In the sectoral organization chart, the role of orchestration is covered, either by an organizational entity or an information system.**	No	no	Yes

Criteria Information Infrastructure

Infrastructure	*UK*	*Neth*	*Bel*
1. **At the sector level, there is a functional architecture, which describes the functionalities that are in use in the business processes. All organizations comply to this architecture. This architecture is available at the**	No	Yes	Yes

website of the sector.			
2. **At the sector level, there is a data architecture, which describes which data are used and how these data are stored and distributed. All organizations comply to this architecture. This architecture is available at the website of the sector.**	No	Yes	Yes
3. **At the sector level, there is a technical architecture, which describes the technical standards that all organizations in the sector comply to. This architecture is available at the website of the sector.**	No	Yes	Yes

Criteria Processes

Criteria	*Social Benefit*			*Reinte-gration*			*Contribu-tion*		
	UK	Neth	Bel	UK	Neth	Bel	UK	Neth	Bel
Preparation									
1. Potential clients can use expert systems to check whether they may apply for a service and estimate the service that they may receive.	No	No	No	No	No	Yes	NA	NA	NA
2. Potential clients are actively approached by government.	No	No	No	No	No	Yes	NA	NA	NA
Front Office									
3. Identical services may be received via multiple channels.	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
4. Several services may be started up simultaneously.	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Back Office									
5. Cases of clients are automatically guided through various organizations.	Na	No	No	No	No	No	No	Yes	Yes
6. Standard cases are processed automatically by information systems.	No	No	No	NA	NA	NA	No	Yes	Yes
***7.* Complex cases are processed by employees, with one case manager per client for the whole process**	Yes	No	No	No	No	Yes	NA	NA	NA
Information Infrastructure									
8. Clients may identify online using a common identification tool	Yes	Yes	Yes	No	No	No	No	No	Yes
9. Organizations in the	No	No	Yes	No	No	No	No	Yes	Yes

process send each other messages that may be processed automatically.									
10. Clients have to provide data only once for the whole process.	No	No	Yes	No	No	Yes	No	Yes	Yes
11. In the process, information form other sectors is used when necessary, without asking the client.	No	No	Yes	No	No	No	No	Yes	Yes

Appendix B – the case study documents

Belgium

Category	*Document name*
Sectoral organization chart	Federale Overheidsdienst Sociale Zekerheid, 2006, Beknopt overzicht van de Sociale Zekerheid
Sector policy plan	- Federale Overheidsdienst Sociale Zekerheid, 2005, Strategisch rapport voor de sociale bescherming en insluiting 2006-2008 - Federale Overheidsdienst Sociale Zekerheid, 2006, Belgisch strategisch verslag inzake sociale bescherming en sociale inclusie
Sector information policy	Federale Overheidsdienst Sociale Zekerheid, 2006, Beknopt overzicht van de Sociale Zekerheid
Sectoral product architecture	-
Strategy documents	- OCMW Antwerpen, 2001, beleidsplan 2001-2007 "het OCMW herontdekt…" - Federale Overheidsdienst Sociale Zekerheid, 2004, geïntegreerd management- en operationeel plan - Rijksdienst voor de Arbeidsvoorziening (RVA), 2007, Annual report 2006 - VDAB, 2006, Annual report 2005
Sector website	www.socialsecurity.be
Other websites	www.rva.fgov.be www.ksz.fgov.be www.ocmw.antwerpen.be socialsecurity.fgov.be www.aandeslag.be www.werkwinkel.be www.smals.be www.onssrszlss.fgov.be

The Netherlands

Category	*Document name*
Sectoral organization chart	- Ministerie van Sociale Zaken en Werkgelegenheid, 2001, Wet SUWI - Ministerie van Sociale Zaken en Werkgelegenheid, 2001, Wet SUWI memorie van toelichting
Sector policy plan	- Ministerie van Sociale Zaken en Werkgelegenheid, 2007, Stand van zaken van de sociale zekerheid - Ministerie van Sociale Zaken en Werkgelegenheid, 2003, Sociale nota 2003
Sector information policy	-
Sectoral product architecture	BKWI, SUWI-ketenarchitectuur
Strategy documents	- CWI, 2006, meerjarenbeleidsplan CWI 2007-2011 - UWV, 2007, annual report 2006 - Sociale Dienst Rotterdam, 2005, strategisch meerjarenplan 2005-2008
Sector website	-
Other websites	www.szw.nl www.uwv.nl www.sozawe.rotterdam.nl www.bkwi.nl www.werk.nl Cba.uwv.nl
Other documents	- Algemeen Ketenoverleg, 2006, Investeren in resultaat, SUWI-ketenprogramma 2007 - ECORYS, 2006, Evaluatie doelmatigheid SUWI - Orbis, 2005, De klant in de keten, ketensamenwerking SUWI-partners vanuit het klantperspectief - PriceWaterhouseCoopers, 2006, SUWI-evaluatie 2006 - TNO, 2006, SUWI-evaluatie 2006, Werk boven uitkering - BKWI, 2005, jaarplan 2006

The United Kingdom

Category	*Document name*
Sectoral organization chart	- Department for work and pensions, 2005, Departmental framework - HM Treasury, 2006, departmental report
Sector policy plan	- Welfare Reform Act 2007 - Social security administration act 1992
Sector information policy	-
Sectoral product architecture	-
Strategy documents	- JobCentre Plus 2006, Business plan 2007-2008 - Department for work and pensions, 2007, opportunity for all: eight annual report 2006, strategy report - HM Revenue and Customs 2007, Annual report 2005-2006
Sector website	-
Other websites	www.dwp.gov.uk www.jobcentreplus.gov.uk www.hmrc.gov.uk www.epolitix.com www.disabilityalliance.org
Other documents	- JobCentrePlus, Jobseeker's allowance - JobCentrePlus, Our service standards - Freud, David, 2007, Reducing dependency, increasing opportunity: options for the future of welfare to work

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