ICT-SUPPORTED REFORMS OF SERVICE DELIVERY IN FLEMISH CITIES:

TESTING THE CONCEPT OF INFORMATION ECOLOGY

Paper prepared for the workshop:

E-GOVERNMENT (ICT in PA)

Vander Elst, Simon
De Rynck, Filip

UNIVERSITY COLLEGE GHENT

Belgium

Contact:

Simon Vander Elst

Dept. Business and Public Administration

University College Ghent

Valentin Vaeryckweg 1

9000 Ghent (Belgium)

simon.vanderelst@hogent.be

Abstract

This paper explores organizational reforms in Flemish cities related to making the cities' individual service delivery more efficient, customer orientated, customer friendly and integrated. The paper is the first one of a recently started research project and PhD research about the complexity of managing ICT-supported change of 'individual' service delivery.

The overall objective of this paper is to set the stage for the research project's research design in terms of its theoretical framework. Therefore, we report about our first explorative, inductive and descriptive findings related to this type of change within one city. We firstly inductively report about the objectives and the objects of change. Secondly, we develop a provisional theoretical framework. We therefore take the notion of an information ecology as a conceptual starting point and use a combination of elements of neo-institutional theory, system theory and a political perspective on organizational development. In order to explore the potentialities of this approach, we test the framework's value for understanding the changes within the city.

The framework enabled us to describe and analyze this type of reforms without neglecting the complexity of these changes. It tries to link some important public administration theories to the study of the e-government phenomenon that is still an important challenge. The most important lesson is that further refinement of the conceptual framework is needed. Although the analysis shows that the framework offers a conceptual basis to analyze front and back office reforms within public organizations, it still lacks a full and straightforward operationalization of its components, constructs, relations, etc.

Introduction

Scholars increasingly emphasize the role of ICT as an enabler of radical and transformative public sector reforms. Focusing on the technological characteristics of the New Public Governance (see Osborne, 2006), Dunleavy, Margetts, Bastow & Tinkler (2005) have introduced the concept of Digital-Era Governance as a post NPM-regime referring to reintegration functions into governmental sphere, adopting holistic and needs-oriented structures, and progressing digitalization of administrative processes. Hoogwout (2010) has conceptualized the paradigm of Client Orientated Government (COG) as a new wave of ICT-supported public reforms. COG refers to changes in the way in which neo-weberian states' public agencies (see: Pollitt & Bouckaert, 2011) deliver individual (as opposite of collective services) services towards citizens and companies as their customers.

Both front and back office integration seem the key characteristics of these ICT-supported reforms that have a much more transformative impact then earlier office automation processes through ICT implementation. Dunleavy et al. (ibid.) state: "What is different in the current period is the growth of the internet, e-mail, and the web and the generalization of IT systems from only affecting back office processes to conditioning in important ways the whole terms of relation between government agencies and civil society.". From an 'e-government stage models-perspective', one could state that elements of the vertical and horizontal integration (see Layne & Lee, 2001) phases are 'finally' being implemented.

Researchers primarily focus on the inter-organizational vertical integration related to this type of reforms, conceptualized as joined-up ICT-innovations (see e.g.: Huijboom, 2010), inter-governmental e-government networks (see e.g.: Snijkers, 2004; Snijkers, 2005; Snijkers, 2006a; Snijkers, 2006b) and inter-governmental data sharing projects and / or networks (see e.g. Dawes, 1996; Wolken & Landsbergen, 2001; Gil-Garcia, Ae Chun & Janssen, 2008; Yang & Maxwell, 2011; Vander Elst & De Rynck, 2012a; Vander Elst & De Rynck, 2012b).

The intra-organizational dimensions of these large scale inter-organizational reforms remains understudied. The simultaneous change of multiple ICT reforms mixed and interwoven with broader organizational reforms within one public organization (see also Markus, 2006) makes it difficult to make use of 'classical' technological or socio-organisational determinist theories to explain the outputs / outcomes and the processes of change. We need a more adapted theoretical framework.

In this paper, the focus is on intra-organizational change aimed at reforming and integration of individual and transactional ICT-based services towards citizens and companies. Individual services differ from collective services as they are meant to serve one company or one citizen. Examples of individual services are grants, permits, official documents companies or citizens need (Hoogwout, 2010). We do not conceptualize these changes based on existing literature. Instead, we start this paper with presenting the results of an explorative analysis (conducted in an inductive manner) of ICT-supported reforms of service delivery in one Flemish city. For these reforms, in which multiple organizational and ICT-supported processes are object of change, we need an appropriate research framework. Our starting point is the concept of 'information ecology'. A concept that seems intriguing because it forces us (among others) to understand the functioning of an information environment by taking into account the organizational environment which is influenced by the external environment (Davenport, 1997; Nardi & O'Day's, 1999; Bekkers & Homburg, 2005a).

A review of the literature brings us to a research framework composed of elements of neo-institutional theory, system theory and a political perspective on organizational development. We need this to make a research based use of the concept of information ecology. To test this framework we analyse in an inductive manner the results of our exploration in 'city A'[1]. The purpose is to get a first understanding of these changes and to explore the aforementioned theories for a research based understanding of ICT-supported organizational changes within public agencies.

ICT-supported reforms of service delivery: an inductive and descriptive exploration

The focus on intra-organizational ICT-supported reforms

Traditionally, a citizen is confronted with many offices, which perform separately different tasks in relation to a specific service (Bekkers, 2005). This fragmentation of public service delivery leads to an increased administrative burden for companies and citizens (Bekkers, 2001; Hartog, 2007) and a decrease of public agencies' efficiency (Yang & Maxwell, 2011). Governments are therefore setting up reform trajectories and such reforms have both an intra-and an inter-organizational dimension.

From an inter-organizational perspective, an important issue in the delivery of public services is the need for integration and coordination of organizational providers into [integrating] service delivery networks (Provan & Milward, 2001). Also another trend contributes to and urge for these networks: the contracting out of services to semi-autonomous agencies and private parties (Baldwin, Irani & Love, 2001; Milward & Provan, 2003; Scholl, 2006). Information can be considered as the main resource triggering the cooperation between different government agencies at different levels towards public service delivery networks. Service provision in networks is likely to fail if the information systems of the public agencies are not properly integrated (Janssen, 2010). Hence, a typical characteristic of this type of networking is the use of (joined-up created) information and communication technologies (ICT): inter-organizational information systems become necessary in order to increase information sharing between different public and private agencies (see e.g. Dawes, ibid.; Wolken & Landsbergen, ibid.; Gil-Garcia et al., ibid.; Yang & Maxwell, ibid.) or to enable cross-organizational business processes.

In this paper, the focus is on complex change trajectories within single public organizations in which the implementation of new ICTs and other organizational innovations plays a key role in order to integrate individual services towards public agencies' customers. From an intra-organizational perspective, such reforms are characterized with a strive for back office integration that refers to connecting the quasi-autonomous information chains of different constituting single organization entities in order to transform, optimize and integrate front office interactions between citizens and companies (based on: Bekkers, 2005; Rhodes, 1997). Hoogwout (ibid.) labels these reforms as a fundamental change process towards client oriented public organizations in which ICT-changes form only one element. The fundamental characteristic of this change is reflected by the fact that Hoogwout conceptualizes Client Orientated Government as a new paradigm composed of a set of values, practices and a set of beliefs shared by the representatives of the paradigm.

---

1   For reasons of confidentiality, we label the city as 'city A'
                                                          .

In the following paragraph, we illustrate the characteristics of this type of change by presenting the results of an explorative research within the case of 'city A'. We conducted an analysis of relevant policy documents and organized an interview with a leading civil servant in order to analyse the ongoing reforms related to the integration of individual services towards the city's customers.

ICT–supported integration of individual public services within 'city A'

In 2009, the management team (top civil servants) and the political executive board formally approved a policy paper in which they formulated their vision about the reorganization of the cities' individual service delivery. The general principles and objectives of the reform project can be summarized as follows: the realization of a demand-orientated, a correct, a qualitative, a complete and a customer orientated individual service delivery and an increase of the organization's efficiency.

In 2010, both the political and administrative top of the organization set up a master project to implement their vision. The objective of the master project was twofold: firstly, it was aimed at setting up a whole series of new operational change projects ('type one projects'). Secondly, already existing and ongoing projects related to the organization of the city's individual service delivery had to be coordinated and supported ('type two projects') in order to synchronize them with the vision of the political and administrative top of the city.

The starting point for the implementation of the master project was an inventory of the products delivered by the city's administration. All these products were classified based on their degree of complexity and volume. On the basis of this inventory a new service delivery concept, that is composed of three layers, was developed:

- a first layer or a digital (the digital front office desk), a physical (physical information points) and a telephone (client contact centre) 'front door' for the completion of the products with the lowest degree of complexity (e.g. dispatching of information demands, picking up of documents,…);

- a second layer for the completion of more complex products with a high volume, composed of a number of physically concentrated and integrated front desks (e.g. a one-stop-shop front desk for all services related to housing);

- a third layer[2] of specialized back office employees who interact with customers, after an appointment is planned, in order to take care of the most complex products with a low volume .

The realization of this concept implies a large number of ICT-, structure-, HR-related operational type one projects of which a number is already realized, being implemented at the moment and others which have not yet been further operationalized into an operational project.

A first operational project is called 'digital service delivery' and refers to the setting up of a new digital front office. This project is related to all three layers of service delivery and is a type one

---

[2] For a number of products of both the second and third layer; it will also be possible to take of these products by making use of the digital / online office.

project. Today, the project has resulted in the implementation of a new digital search engine, an online inventory of the city's products with all the necessary information, centralization of all the city's products into one digital front office and digital or manual forms for these products. Today, 200 products are available through the digital front office of which 30 percent can be filled in and transmitted online. The final objective is to develop a 'my city' personal internet page that enables each citizen to log in on the city's website in order to finalize all their interactions, or at least as much as possible, in a digital way and which enables each citizen to follow the progress of each of his demands, transactions, products, notifications and to proactively receive information.

A second operational project is called 'The city Info'. This project is related to the first layer of service delivery. Today, the city has already implemented an organization wide client contact centre to which citizens can telephone or email questions, demands that are distributed towards the relevant organizational entities. The objective is to expand this concept by also introducing a number of physical one-stop-information points within the city that for example guide citizens towards the right physical location for their demands, request, etc. A first physical 'The city Info' will be fully operational in 2012.

A third project is still in an early stage of conceptualization and relates to the physical relocation, integration and concentration of all physical front desks of different city departments that are located in the city centre. Today, the city has a large number of physical front desks that deliver only a small number of products. The goal is to concentrate (in the same physical space) and to integrate (not a full one-stop-shop but a reduced number of front desk responsible for a high number of products; e.g. one physical front desk for the department of citizens affairs). This project relates to the second layer of service delivery and is a type one project. The objective is to realize this physical relocation in the long term by building a new administrative centre. In the absence of this new administrative centre, some physical front desks of the existing central administrative centre are at the moment being relocated, concentrated and integrated in their existing building.

A number of type two projects have also been implemented or are being implemented at the moment; they are related to the establishment of 'the second layer' of service delivery: a new physical front office is being implemented for the department of migration and a physical front office has been realized for starting companies.

Realizing these projects implies investments in a new ICT-infrastructure that must allow the realization of the new service delivery concept from an ICT-perspective. The objectives to implement a personalized internet webpage, organization wide client customer centres, etc. have confronted the organization with the need for a mid office. This mid office has to consist of a service bus that has to streamline and synchronize both front and back office by making use of web service technology that transfers data from the front to the back office. Next to this service bus, a customer relationship management system, a knowledge management system, a dossier monitoring system and a document management system have to enable each relevant organizational entity with a clear and unambiguous organization-wide view on ongoing citizens' demands, dossiers, etc. Each relevant employee must have access to the same information about a citizen's ongoing demands, dossiers and information requests. A number of projects are already in an implementation stage and are aimed at realizing some of the above mentioned components of the mid office: one project aims at

implementing an organization wide database by connecting all existing databases to each other, another project is aimed at developing a knowledge management system for the already existing customer contact centre 'The city Info'.

Finally, these organizational changes also affect the HR-management of the city. For establishing these new service delivery concepts, other and new personal competences have become more important. For example, the 'The city Info' information points started with C-level employees that already have been replaced by higher educated B-level employees. These HR-management reforms can be summarized as an increased need for generalists in the front office while the back office remains in need of specialists.

A complex and interwoven set of changes can thus be identified. We want to develop a theoretical framework that enables us to study these reforms. In the next paragraph, we take the notion 'information ecology' as a conceptual starting point for the development of a framework.

In search for a framework: the concept of an information ecology as a conceptual starting point

In this paper, we use the concept 'information ecology' as the framework for understanding the processes of ICT-supported changes of service delivery within one organization. The founding fathers are Davenport (ibid.) and Nardi & O'day (ibid.) who oppose against a machine engineering approach of the use of ICTs within organizations (Bekkers & Homburg, 2005a). Nardi & O'Day (ibid.) define an *information ecology* as "*a system of people, practices, values, and technologies in a particular local environment.*". The constituent elements of this definition are (Nardi and O'Day, ibid., p. 53; adapted from: Fedorowicz, Gogan & Ray, 2004): "*a system of interrelated people and tools; contains a diversity of roles for the people and functions for the tools; there is coevolution over time as new technologies arrive and are assimilated, and as people's roles develop and change; there is a keystone species – a particular role, such as a person who can translate across disciplines – that is essential to the success of the ecology; and has a defined locality.*". We choose to make use of Bekkers & Homburg's redefined notion of the information ecology which is composed of (Bekkers & Homburg, 2005a):

- *The idea that ICTs are developed* [and implemented, used] *in interaction with actors who have specific positions, roles, values, beliefs and interests and who operate in the environment of technology*. Consequently, organizations cannot be considered as black boxes in which ICTs are being implemented in an autonomous manner;

- But: *Technology itself is also an embodiment of the potential to control and to discipline; a potential which is rather autonomous;*

- *The embedded and the attached meaning to the technology are brought together in the complex interactions between stakeholders;*

- *These interactions are embedded in an a specific cultural, political, intellectual and economic environment [...]. Therefore it is important to look at the institutional context;*

- *These interactions are embedded in a local institutional and organizational context which leads to the idea of variety, contextuality and contingency;*

- *These interactions are also unpredictable and not linear.*

The problem with the concept of 'information ecology' is the transfer to empirical research, although the approach implicitly indicates which set of public administration theories could be used for studying ICT-supported change within public organizations. We think that three PA-theories should be combined to describe, understand and explain those changes: open system theory, neo-institutional theories and a political perspective.

The first is open system theory (see Luhmann, 1965; Easton, 1966) and its derivative contingency theory. Public organizations are open systems that receive inputs (demands, support,…) from their environment which are being absorbed and manufactured (throughput) through policy processes and the use of management techniques which leads to outcomes that generate new feedback from the organizational external environment (Vallet & De Rynck, 2005). Using this theory implies an analysis of how the external environment of organizations influences them to implement changes with regard to the integration of their services. By doing so, open system theory leads to the insight of contingency or the fact that each public organization works within its own societal environment which is partly identical and partly different or specific. Assessing both the internal and external situational factors becomes necessary in order to understand why each organization has a certain specific character (Vallet & De Rynck, ibid.). Following the structural contingency theory (Burns & Stalker, 1961; Lawrence & Lorsch, 1967), this specific character refers to the optimal structure which is different for each organization. Such a perspective emphasizes effectiveness and efficiency: organizational reforms need to be considered as a strive for a 'best fit' between organizational structures and the environment surrounding an organization. Contingency theory assumes a rational adaptation to the environment (Homburg, Workman & Krohmer, 1999).

By using system theory, we want to integrate the external environment in our analysis. By making use of contingency theory, we incorporate the idea of locality, or the idea that *the practice of e-government is miscellaneous or has a local habitation* (Bekkers & Homburg, 2005a).

Introducing system theory which emphasizes the importance of the external environment, does not conflict with our intra-organizational focus. Differentiating between an intra- and inter-organizational dimension of integration reforms is a conceptual distinction. In practice, both intra- and inter-organizational dimension of integration efforts will be intertwined. Rotthier (2012) for example proved that elements of different e-government phases are being implemented at the same time within the same organization. The external organizational environment surrounding single public organizations can therefore not be neglected when studying intra-organizational integration reforms but the relationships between different organizations involved in inter-organizational integration reforms are not our main research focus.

Open system theory stresses the cohesion of a system or organization and considers the behaviour of an organization as a whole without looking at the behaviour of organizational groups or individuals (Majoor, 2000). This theory does not focus on what happens within organizations or remains vague about the mechanisms that are going on in 'the black box': the transfer from inputs into outputs (Vallet & De Rynck, ibid.). Such a perspective conflicts with the notion of an information ecology because it neglects the importance of different organizational stakeholders' meanings attached to e-government practices (Bekkers & Homburg, 2005a). Therefore, we introduce elements of neo-institutional theory and a political perspective on organizations into our research framework.

Bekkers & Homburg (2005a) refer to the fact that the behavior and the interactions between stakeholders and the meanings attached to the use of ICTs are guided by specific rules. This makes its necessary to look at the institutional contexts in which these actors operate. Two elements of neo-institutional theory are put into the research frame.

The first element is Dimagio & Powell's (1983) notion of institutional isomorphism that refers to an organizational strive for legitimation by taking over elements from their external environment. Dimagio & Powell (ibid.) identify three mechanisms which lead to changes in the institutional isomorphism: normative isomorphism or the adoption of *'innovations'* because *"the scientific or professional society of which the organization is a member advocates the innovation"*; mimetic isomorphism or the copying of innovations from other organizations and coercive isomorphism or the use of formal and informal power to adopt an innovation (Korteland & Bekkers, 2007).

The second element is related to the sociological and historical institutionalism. Krasner (1988) refers to the concept of *path dependency* as a mechanism that contributes to the sustainability of institutions. Within an organization, certain ways of working, thinking and acting have been established and institutionalized. These institutionalized practices will influence the way in which reforms are being set up: the history of the organization moulds the ongoing changes.

The neo-institutional theory is able to explain why reforms (partly) fail or succeed: the implementation of reforms is interpreted, by the members of the organization, as a threat towards their institutional identity (Boin, 1996; van Vliet, 2008). In order to assess the influence of these institutional practices – that can be considered as social constructions (Visser & Hemerijck, 1998) – we need to identify the relevant institutions that structure the process and outcomes of social conduct. These can be both formal and informal rules, organization structures, prescriptions, shared values, norms and other elements of culture (Edwards, 2001).

On the one hand, the use and implementation of technology can be considered as a product of institutions that influence the interactions in which the use and implementation of ICTs is determined. On the other hand, it remains important to underline that ICTs also have an autonomous character to control and to discipline (Bekkers & Homburg, 2005a). The neo-institutional theory enables us to consider ICT as an artifact or as an institution itself with the autonomous potential to control and to discipline.

A third set of elements for our research approach stems from a political perspective on organizational development which can be considered as an umbrella for different bodies of literature such as resource dependency theory (Pfeffer & Salancik, 2002), a polycentric perspective on policy making (Teisman, 1998), network literature,…

A first theory of which we make use is resource dependency theory. Pfeffer and Salancik (ibid.) state that the resources of which an organization is dependent can be considered as important contingency factors (Majoor, ibid.). These resource dependencies could have both an inter- and intra-organizational dimension. Following this theoretical perspective, the success of integrating both the front and back office can be considered as the degree to which an organization is able to mobilize internal or external resources.

Next to resource dependency theory, we make use of the notion of arenas or networks in which power games take place (see e.g.: Crozier & Friedberg, 1980). An arena-perspective emphasizes that a large number of parties is involved in policy making[3] with each party having its conflicting or similar interests. This leads to strategic behavior or a pattern of interaction characterized by for example conflicts, exchanges, collaboration, negotiations, etc. Such interaction patterns can be considered as games that are characterized by certain rules. At this point, elements of the neo-institutional theory and the organizational politics perspective meet each other. (Based on Bekkers, 2007)

Introducing this multi-actor perspective implies that the nature of the decision making processes aimed at developing and implementing front and back office integration have an incremental nature. This fits into the revised notion of an information ecology as described by Bekkers & Homburg (2005a) who stress the unpredictable and nonlinear character of ICT innovation processes.

This framework is under construction: we are well aware that it lacks for the moment a straightforward operationalization. We used it as a holistic frame in order to better understand what is going on in Flemish cities when ICT-supported changes of the organization are at stake. We present in the following section the results of the application of the framework to the case of 'city A'. This should provide us with the variables that could be tested in all the big Flemish cities in the next step of this research project.

Using the multi theoretical framework: lessons learned

The systemic character of intra-organizational ICT-supported reforms: the focus on the external environment

We notice that the changes taking place in the 'city A' do not occur within a vacuum: the external environment influenced the development of a reform agenda and the implementation process of these changes.

A first explanation to understand the external influence for this type of reforms might be the city administration's need and willingness to reform its structures in a more efficient and effective way ('a best fit') in order to align with a changing external environment that demands such changes. Indeed, the analysis indicates that the organization received new information inputs from its external environment that stimulated the attention of the organization's leaders for re-organizing the city's individual service delivery. For example: the implementation of a complaint system and the appointment of an ombudsmen led to a continuous flow of information about customer's complaints and perceptions about the way the city delivers services. Also an external research project, that was set up to evaluate the quality of the city's individual service delivery and that led to a research report, influenced the internal debate and the agenda about how to reform the city's individual service delivery.

---

[3]   This implies that we consider the change processes that are being studied as a type of policy making. This is not problematic as similar innovations have been conceptualized as a *specific type of policy change* [and thus as a form of policy]*, namely the development of a program to apply new information and/or communication technology and the implementation of the new technology* (Huijboom, 2010).

However, our analysis indicates that internal drivers seem more important and strongly influenced the start of the reform trajectory. The increased interest of both the political and administrative top of the organization for re-conceptualizing the delivery of individual services seems above all inspired by a number of civil servants' perceptions and a number of ongoing projects that led to the awareness of a defective, supply-orientated, incomplete and inefficient organization of individual service delivery.

This does not imply that the initial decision making process is fully determined by a strive for increasing efficiency and effectiveness. When using Dimagio & Powell's institutional isomorphism, we also notice a strive for obtaining external legitimacy. The case for example shows that mimetic isomorphism is present: the policy paper contains elements of similar reforms in other cities. Also indications of coercive isomorphism can be identified; for example: the development of a complaint management system, that can be considered as a practice of a customer oriented organization, has been legally forced top-down by the municipal decree of the supervisory regional Flemish government. This decree also led to the start of major structural changes within Flemish cities and municipalities; for example: it forced cities and municipalities to formally implement a new 'management team model'; that indirectly also influence the implementation of new concepts related to integration of individual services (see infra).

A third theoretical perspective considers external resources as contingent factors. Such a theoretical perspective seems interesting to understand the influence of external environment during the implementation of the reforms. It shows that during the preparation and the development of operational projects, the organization makes use of external actors' resources. This resources can have different characteristics and relate to different external actors. The city is for example dependent upon the knowledge and technical capacities, as types of resources, of external stakeholders such as private ICT service suppliers. The Flemish government also possess authentic information about citizens and companies as a resource that is relevant for the city that strives to reduce the demand for information towards its customers.

The institutional environment surrounding intra-organizational ICT-supported reforms: the focus on internal institutions

The reforms that are taking place can be considered as an institutional renewal. Certain ways of working, thinking and acting that have been institutionalized in the past need to be replaced by new ones. At the core of this reform lies a clash between a way of working that takes the internal bureaucratic structure of the organization as a starting point for the functioning of the organization and a new way of working that is centred around the customer and his perspective as a way of re-organizing the organization (see also Hoogwout, ibid.). In order to succeed in this renewal, a first set of relevant institutions that need to be renewed or implemented can be identified. These institutions shape the implementation context of ICT-supported change of individual service delivery.

The first variable is the degree to which both the political and administrative top of the organization consider internal reforms related to the organization of individual services as important and desirable. In the case of 'city A', both parties formally and informally acknowledge the need for integrating the delivery of individual services and to make these services more customer orientated.

This is for example characterized by the fact that they strategically steer the implementation process: a steering committee was installed, consisting of several heads of departments and a number of aldermen, the city secretary was appointed as the chairman. Also, the debate about the core tasks of the city resulted in a renewed interest: the executive top considered the delivery of individual services as one of the core tasks of the local government.

The second variable can be labelled: the 'dominant management model' and refers to how the organization management model, its characteristics influences the implementation of an organization wide integration of the city's individual service delivery.

The integration of individual services is intertwined with the establishment of a new 'management team model'. Up to a decade ago (and in a number of cities till today), the dominant management model was the alderman model. In this model, the organization structure is based on bilateral relationships between aldermen and the leading civil servants of the departments that were 'controlled' by aldermen. The last decade, the 'management team model' has come to the forefront. It is based on a demarcation of the roles of politicians and managers and implies that both the political and administrative leadership negotiate the strategic objectives of the organization. It offers the opportunity to leave the track of a departmentalized organization. This does not mean that the routines and the arrangements related to the alderman model have completely disappeared. In practice, the interaction between politicians and top administrators is a mix of routines of both models (see also: De Rynck, Ackaert & Wayenberg, 2007; Vallet & De Rynck, 2005).

In the 'city A', the degree to which the new routines related to the 'management team model' are institutionalized positively influence the setting up of organization wide or cross departmental reforms of individual service delivery. Both politicians and top civil servants were both involved in / negotiated the defining of the strategic objectives of the reforms and formally mandated the horizontal department of organizational development to set up operational cross departmental of organization wide projects (see supra).

The 'management team model' is however not fully realized in practice: elements and routines of the 'aldermen model' remain negatively influencing the reforms. This is for example reflected by both political and administrative resistance to leave the track of autonomous departmental reforms. Some alderman for example aim at preserving their interests (securing their votes) by autonomously setting up new projects related to service delivery and by blocking integration reforms.

The complexity of these institutional reforms further increase in the case because of the existence of subcultures or a fragmented institutionalized organization which is reflected by the fact that some city's departments responsible for the delivery of more administrative services (the department of citizens' affairs) have a much more bureaucratic culture while more recently established departments (for example: the department of mobility) have a much more innovative culture and are open for joining an organization wide concept on service delivery. The willingness to leave the silo-based structure differs between different departments and their leaders.

A third variable relates to the degree to which the organization is able to set up / and is familiar with large scale project and program structures. Our findings indicate that the large scale reforms of individual service delivery implies setting up robust implementation structures. In the case, such a

robust implementation structure was claimed to be achieved but we notice a clear difference for the type one and two projects (see supra). This also reflects the hybrid management model.

The concept nota of the political and administrative top resulted in a master project for the type one projects. Next to the steering committee (see supra), there is a master project team which consists of three civil servants, who are responsible for preserving the master projects' vision on communication, ICT and infrastructure; and a civil servant from the horizontal department of organizational development who presides the master project team. The master project team is responsible for the preparation of new operational projects by translating the objectives formulated by the steering committee into implementation trajectories. Finally, there are the operational project structures that are responsible for the implementation of the change trajectories and in which civil servants from the city's departments and services affected by the operational project are represented.

The second category of operational projects that have grown bottom-up or within the borders of one city department were initially coordinated by the city's departments themselves. For these second type projects, an employee of the horizontal department of organizational development is being appointed to join the steering committee or project team of these projects. He or she is also responsible for preserving the vision of the master project team.

A fourth variable is the organization's ability to think in terms of products and processes and to reorganize the organogram which is needed in order to realize the new service delivery concept and its constituting layers. Specialization and differentiation of the individual services or products delivered by Flemish cities has greatly expanded the last two decades which resulted in a complex web of municipal services and departments often only delivering a small number of products or services (via a complex web of physical front office desks) and organized following a supply orientated structure. Integration of individual services implies thinking in terms of processes and products and re-clustering these products into a demand orientated way. The city has the ambition to implement these new ways of working. At the moment, processes are for example being analysed and a knowledge management system is being set up; and, in the long term, the implementation of a front office model (a new organogram) in which front and back offices are physically disconnected and in which one merged back office supporting all customer's focused front office entities is considered.

The fifth variable relates to the degree to which the HR-management enables the organization to realize its objectives with regard to reorganizing the organization of individual services. In order to realize the new concept on the delivery on individual services, the city for example became confronted with the highly specialized nature of its personnel. Realizing a demand orientated and customer friendly organization however implies personnel with the ability to function as generalists and who have the right profiles and competences to act as customer friendly civil servants.

The sixth set of variable refers to formal rules (legislation, laws, …). In the case, such formal institutions affect the ability of the organization to implement its organization-wide service delivery concept. In the case, this is for example reflected by the fact that a number of forms cannot be digitalized and electronically transmitted because they need to be manually signed by the citizen.

The eighth variable relates to a cluster of institutional factors influencing the implementation of a new ICT infrastructure. Next to an 'organizational institutional environment', there is also the need for an technical or ICT infrastructure. Our explorative results indicate that integrating both the back and front office implies a radical change of the ICT infrastructure. In the case, the organization therefore prefers to implement a new ICT-infrastructure, labelled as a mid office. The realization of this mid office seems however challenging and slowly developing in practice. This is firstly due to a path dependency of the existing infrastructure: the current ICT infrastructure of the city still to a large degree represents the departmentalized structure of the organization. This hinders the implementation of a new individual service delivery concept. For example; closed standards and applications make it impossible to connect different ICTs to each other, information is not being shared between different department which leads to increased administrative burden for companies, etc. But also other institutional factors influence it development; for example: the technical capacity and expertise of the organization and its external partners to develop these systems.

The introduction of neo-institutional theory offers a first and partial basis for explaining the process of change and its degree of success or failure. It shows that an interwoven set of institutions creates an implementation context for these reforms in which existing institutions need to be interchanged for new institutions which leads to institutional stress. However, it is important to combine such a perspective with our contingency approach: at the level of all Flemish cities, institutional clashes might seem quite similar while at the level of one organization or city (see Hoogwout, ibid.), the unique contingent character of each Flemish city might imply a heterogeneous process of institutional stress due to varying set of institutions.

The political environment surrounding intra-organizational ICT-supported reforms

Although an exploration of the institutional environment leads to useful insights, a number of potentially relevant variables remain underexposed. For example: how do internal power relations influence change related to re-organizing the city's individual service delivery? And: what are the characteristics of the interactions that take place between the different stakeholders within the operational project structures, taking into account the effects of the institutional environment? How is the organization able to implement reforms, giving the existence of institutional stress? In this paragraph, we therefore explore the political environment in which the new service delivery concept is being implemented.

Although both the political and administrative top of the organization developed a vision, the implementation of this vision cannot be considered as a linear process. New strategic and operational objectives are constantly being framed within arenas of actors. The conflicting institutional nature of the change makes it much more a process of muddling through for which our arena or network's perspective seems well suited. Next to this conflicting institutional nature, the implementation of these changes will be characterized by power games in which actors make use of resources in order to preserve their interests.

In the case, the arena perspective is reflected by the existence of the steering committee, the master project team and the constantly rise of new operational projects with different actors. In a number of operational projects, also external actors are involved; for example: in the project aimed at

establishing a renewed database infrastructure. An important element within the city is the existence of two types of projects which reflects in fact the arena perspective: in the type one projects, an organization-wide perspective dominates; in the type two projects, a departmental approach dominates. The implementation process is characterized by both a bottom-up and top-down approach and they meet each other in the formal and informal arenas.

In these arenas, interactions take place to further implement the master project. Although the employee of the department of organizational development has a formal mandate to set up operational projects, the dominant pattern of interaction is characterized by negotiation and convincing the relevant departments to participate in an operational project. This employee states that: *"Yes, I have a formal stick to force changes but such a power instrument has only little meaning. It's is important to bring a story and to convince employees to step into a project. Sometimes, this works, sometimes it doesn't. This sometimes implies a change of the initial objective. It leads to an acceptable reformulation of your organization wide concept."*. Understanding these interactions implies analysing the constituting actors' functions, positions and interests.

Resources also influence these network and arena interactions. At this point, the systemic and political dimensions of the framework meet each other as resources of external actors (e.g. knowledge to design ICTs) become relevant for the arena in which an operational project is developed. Such a resource dependency perspective is however also reflected within fully intra-organizational arenas; for example also the ICT department has a lot of resources with regard to developing ICTs that are relevant for certain arenas.

Conclusion

In this paper, a provisional framework has been developed to understand the complexity of intra-organizational changes in the Flemish cities, related to the integration of individual services. By taking the notion of an information ecology as a starting point, we stated that in order to fully understand this type of change, a multi theoretical perspective is needed. We therefore developed a conceptual framework in which elements of system theory, institutional theory and a political perspective on organizations were combined. In order to test the potential conceptual surplus of this framework, we used it to analyze the case of a Flemish city in which large scale organizational reforms, related to the individual services, are being set up.

A number of critical remarks can be derived from this test. The most important lesson is that further refinement of the conceptual framework is needed. Although the analysis shows that the framework offers a conceptual basis to analyze front and back office reforms within public organizations, it still lacks a full and straightforward operationalization of its components, constructs, relations, etc. for analyzing the aforementioned type of change. Also more attention has to be paid to define and differentiate between the constituting elements of the framework. For example: the differences between a situational factor (contingency theory) and an institutional factor remains too vague (see also: Ketokivi & Schroeder, 2004). Each component of the framework needs further elaboration and conceptualization. For example: in order to study the different arenas or networks in or by which integration reforms are being developed and implemented, the framework needs to be further developed with a clear set of research variables (a network approach) to analyze (e.g.: number of

actors, interaction patterns, …) these arenas or networks. This holds also for the concepts of 'resources', 'institutions', 'situational factors',… Last but not least, it is important to stress the explorative nature of our analysis: we only conducted one interview.

Nonetheless, the framework enabled us to describe and analyze this type of reforms without neglecting the complexity of these changes. It tries to link some important public administration theories to the study of the e-government phenomenon that is still an important challenge. If further inductive and deductive refinement of the conceptual framework takes place, based on the principles of grounded theory, we believe the framework might have the potential to become a valuable framework to study intra-organizational e-government innovations related to ICT-inspired organizational changes.

References

Baldwin, L.P., Irani, Z. & Love, P.E.D. (2001).Outsourcing information systems: drawing lessons from a banking case study. European Journal of Information Systems, 10.

Bekkers, V. (2001). De mythen van de elektronische overheid. Over retoriek en realiteit. Bestuurswetenschappen, 4, p. 277-295.

Bekkers, V. (2005). The Governance of Back office Integration in e-government: some Dutch Experiences. In: Wimmer, M. et al. (ed.). Electronic Government, Springer, Heidelberg (2005), 12-25.

Bekkers, V. & Homburg, V. (2005b). The back office of e-government: Managing information domains as political economies. In: Bekkers, V. & Homburg, V. (red.). The information ecology of e-government. Amsterdam: EOS Press, p. 1-20.

Bekkers, V. & Homburg, V. (2005a). E-Goverment as an information ecology: backgrounds and concepts. In: Bekkers, V. & Homburg, V. (red.). The information ecology of e-government. Amsterdam: EOS Press, p. 1-20.

Bekkers, V. (2007) Beleid in beweging: achtergronden, benaderingen, fasen en aspecten van beleid in de publieke sector. Den Haag: Uitgeverij Lemma.

Boin, R. A. (1996). De recalcitrante organisatie: Leadership in administration van Philip Selznick. Bestuurskunde, 3, p. 145-155.

Burns, T. & Stalker, G.M. (1961). The Management of Innovation. London: Tavistock.

Crozier, M. & Friedberg, E. (1980). Actors and systems: the politics of collective action. Chicago: University of Chicago Press.

Davenport, T.H. (1997). Information ecology: Mastering the information and knowledge environment. Oxford: Oxford University Press.

Dawes, S.S. (1996). Interagency Information Sharing: Expected Benefits, Manageable Risks. Journal of Policy Analysis and Management, 15 (3).

De Rynck, P., Ackaert, J. & Wayenberg, E. (2007). Local political leadership and new public management. The impact of regionalization on local leadership. Paper presented at the Third Transatlantic Dialogue. Newark: University of Delaware.

DiMaggio, P. J. & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. American Sociological Review, 48 (2), p. 147-160.

Dunleavy, P, Margetts, G., Bastow, S. & Tinkler, J. (2005). New Public Management is Dead: Long Live Digital Era Governance. Journal of Public Administration, 16, p. 467-494.

Easton, D. (1966). A framework for political analysis. Englewood Cliffs: Prentice Hall.

Edwards, A. (2001). Interactieve besluitvorming en de instituties van het lokale bestuur. In: Edelenbos, J. & Monnikhof, R. (red.). Lokale interactieve beleidsvorming. Utrecht: Lemma, p. 117-142.

Fedorowicz, J., Gogan, J. L. & Ray, A. W. (2004). The Ecology of Interogranizational Information Sharing. Journal of International Technology and Information Management, 13(2), p. 73-86.

Gil-Garcia, J.R., Ae Chun, S. & Janssen, M. (2008). Government information sharing and integration: Combining the social and the technical. Information Polity, 14, 1-10.

Hartog, M. (2007). Ketensamenwerking bij cliëntondersteuning in het Wmo-loket. Een vergelijkende casestudie in de gemeenten Leeuwarden, Enschede en Zoetermeer. Rotterdam: Erasmus Universiteit Rotterdam.

Homburg, C., Workman, J. P. & Krohmer, H. (1999). Marketing's Influence Within the Firm. Journal of Marketing, 63, 2, p. 1-17.

Hoogwout, M. (2010). De rationaliteit van de klantgerichte overheid. Een onderzoek naar de spanningen die de invoering van het klantdenken bij gemeenten veroorzaakt en de manier waarop gemeenten daarmee omgaan. Nieuwegein: Uitgeverij Réunion.

Huijboom, N. (2010). Joined-up ICT innovation in government. An analysis of the creation of EIDM systems from an advocacy coalition and social capital perspective. Rotterdam: Erasmus Universiteit Rotterdam.

Janssen, M. (2010). Governing and integrating public service networks. Delft: University of Technology.

Ketokivi, M.A. & Schroeder, R.G. (2004). Strategic, structural contingency and institutional explanations in the adoption of innovative manufacturing practices. Journal of Operations Management, 22, p. 63-89.

Korteland, E & Bekkers V. (2007). Diffusion of E-government Innovations in the Dutch Public Sector: The Case of Digital Community Policing. Information Polity, 12 (3), 139-150.

Krasner, S. D. (1988). Sovereignty: An Institutional Perspective. Comparative Political Studies, 21, p. 66-94.

Lawrence, P.R. & Lorsch, J.W. (1967). Organization and Environment: Managing Differentiation and Integration. Boston: Harvard University.

Layne, K., & Lee, J. (2001). Developing fully functional E-government: A four stage model. Government Information Quarterly, 18, p. 122-136.

Luhmann, N. (1965). Theorie der Verwaltungswissenschaft, Köln-Berlin: Grote.

Markus, M. L. (2006). Technochange Management: using IT to drive organizational change. Journal of Information Technology, 19, 3-19.

Majoor, D. J. M. (2000). De school als organisatie. In: Majoor, D. J. M. (2000). Voortgang in autonomie: een studie naar de organisatorische gevolgen van financiële en personele beleidsbenutting in het basisonderwijs. Amsterdam: Universiteit Amsterdam.

Milward, H.B. & Provan, K.G. (2003). Managing the hollow state. Journal of Public Administration and Theory, 10.

Nardi, B. A. & O'Day, V. L. (1999). Information ecologies. Using technology with heart. Massachusetts: Institute of Technology.

Osborne, S. P. (2006). The New Public Governance. Public Management Review, (editorial), 8 (3).

Pfeffer, J. & Salancik, G.R. (2002). The external control of organizations. Stanford: Stanford University Press.

Pollitt, C. & Bouckaert, G. (2004). Public Management Reform. A comparative analysis: New public management, governance and the Neo-weberian state. Oxford: Oxford University Press.

Provan, K.G. & Milward, H.B. (2001). Do networks really work? A framework for evaluating public sector organizational networks. Public Administrative Review, 61, 4.

Rhodes, R. A. W. (1997). Understanding Governance: Policy Networks, Reflexivity, and Accountability. Buckingham, UK: Open University Press.

Rotthier, S. (2012). eGovernment achter de schermen. Een onderzoek naar de inzet van ICT in de back office van Vlaamse gemeenten. (Proefschrift), Gent: Hogeschool Gent.

Scholl, H.J. (2006). Electronic government: information management capacity, organizational capabilities and the sourcing mix. Government Information Quarterly, 23, 73-96.

Snijkers, K. (2004). eGovernment in een interbestuurlijke context: een exploratie. (Onderzoeksrapport). Leuven: SBOV.

Snijkers, K. (2005). eGovernment in een interbestuurlijke context. Casestudie ocmw's en de Kruispuntbank van de Sociale Zekerheid. (Onderzoeksrapport). Leuven: SBOV.

Snijkers, K. (2006a). Managing intergovernmental e-government projects. Paper for the 14th Annual NISPAcee Conference Ljubljana, Slovenia, 11-13 May 2006.

Snijkers, K. (2006b). Management van interbestuurlijke e-Government projecten. Paper voor het Politicologenetmaal, Den Haag, 2006.

Teisman, G. R. (1998). Complexe besluitvorming. Een pluricentrisch perspectief op besluitvorming over ruimtelijke beslissingen. Den Haag: Elsevier.

Vallet, N. & De Rynck, P. (2005). Leren van en over stadsorganisaties. Rapport over de bestuurskundige en beleidsmatige context voor het werken met een stadsmonitor. Gent: Hogeschool Gent.

Vander Elst, S. & De Rynck, P. (2012a). Performance assessment of public service delivery networks: a case study of the Belgian network Crossroads Bank for Enterprises. Paper presented at the Transatlantic Dialogue 2012.

Vander Elst, S. & De Rynck, P. (2012b). Intergovernmental data sharing and the concept of networks. Towards a network approach for analyzing intergovernmental data sharing networks. Paper prepared for the IRSPM-conference 2012.

Van Vliet, O. (2008). Gemeenschappelijke diensten, gescheiden veranderingen. De institutionele factor in organisatieverandering. Bestuurskunde, 17 (4), p. 98-108.

Visser, J. & Hemerijck, A. (1998). Een Nederlands Mirakel, Beleidsleren in de verzorgingsstaat, Amsterdam: Amsterdam University Press.

Wolken, G., & Landsbergen, D. (2001). Realizing the Promise: Government, Information Systems and the Fourth Generation of Information Technology. Public Administration Review, 61 (2).

Yang, T.M. & Maxwell, T.A. (2011). Information-sharing in public organizations: A literature review of interpersonal, intra-organizational and inter-organizational success factors. Government Information Quarterly, 28, 164-175.