

DIVING IN THE DYNAMICS OF ALIGNMENT PROCESSES IN PUBLIC ORGANIZATIONS

LESSONS FOR A RECONCEPTUALIZED ALIGNMENT FRAMEWORK

Simon Vander Elst, prof. dr. Filip De Rynck
Ghent University
Henleykaai 84
B-9000 Ghent
+ 32 473 59 56 79
Email: simon.vanderelst@ugent.be

1. INTRODUCTION

In the literature about IT- and organizational change, the concept of alignment has received great attention. The basic idea behind the concept is that an organization should find a fit between its IT strategy and its business strategic orientation (Meijer & Thaens, 2010). In this paper, Business-IT alignment is viewed in terms of the strategic alignment model (SAM) of Henderson & Venkatraman (1993). *This widespread framework of alignment describes Business-IT alignment along two dimensions. The dimension of strategic fit differentiates between external focus, directed towards the business environment, and internal focus, directed towards administrative structures. The other dimension of functional integration separates business and IT.* (Silvius et al., 2009; Henderson & Venkatraman, 1993) (see scheme)

We connect the SAM to the analysis of long term reforms in public organizations, with the focus on the Flemish cities' service delivery architectures. All major Flemish cities have expressed the ambition to replace their existing supply-orientated service delivery architecture by a more customer-oriented service delivery architecture. These ambitions lead to changes of the business component of the organization, i.e. organization structure (for example: more integrated front desks, multichannel service delivery) and the business processes (cross-departmental) on the one hand; and IT-related changes on the other hand, i.e. the implementation of new organization wide IT-systems, supporting communications between different front- and back office units, and the different service delivery channels.

Despite undoubted progress in the research field of IT alignment, the review article of Chan & Reich (2007) shows that many questions remain unanswered and research gaps still exist in the alignment literature. Chan & Reich (2007: 298) for example state that the alignment research is mechanistic and fails to capture real life, and alignment is not possible if the business strategy is unknown or in process. Another critique is that the alignment theory neglects important insights from theories on organizational change, for example: neo-institutional theory. These critiques are important, especially because we deal with public sector organizations. For these public organizations, concepts like 'the management', 'the CEO', 'the CIO', business strategy, etc. are more ambiguous than in private organizations because (1) of the presence of both political and administrative managers; (2) the interactions within and between the two groups, (3) the wide variety of services delivered by the Flemish cities; touching different types of strategy at the same time; and (4) the institutional environment in which those city administrations (have to) work. It leads to the question whether the alignment concept can be applied to public sector organizations and to the (reversed) question: how we should adapt the concept to grasp the complexity of those types of public organizations.

In order to answer the research question, we work in two steps. Firstly, we scan the literature and summarize the theoretical roots of the business-IT alignment research and the critiques that have been formulated in relation to the alignment concept. This leads to the argument that the alignment literature is not in tune with the theoretical progress made in the field of organizational and IT change. The alignment literature lacks the incorporation of a political perspective on organizations and the influence of the institutional context surrounding organizations (see infra). Secondly, we make use of the results of a case study research in one Flemish city. The objective of the case study was to retrospectively and inductively reconstruct the development of the city's service delivery architecture and the processes and interactions between the actors involved, determining the features of the city's service delivery architecture. By means of the case study results, we analyze the dynamics of organizational and IT change within the Flemish city, and illustrate the discrepancies between the alignment theory and the observed IT and organizational changes.

2. Business-IT Alignment: The Strategic Alignment Model

In this paper, Business-IT alignment is viewed in terms of the strategic alignment model (SAM). Henderson & Venkatraman describe in their SAM the integration between and within the IT and Business domain. Each domain consists of a strategic and operational component. The strategic components relate to the external environment. The internal components relate to the infrastructure, the processes and the human resources. The core of the model is the strive for a fit between the strategic and operational domain (strategic fit); and the Business and IT domain (functional integration). Strategic fit refers to the vertical alignment of the internal and external domains. Functional integration relates to the horizontal alignment between the business or organization and the IT side of the organization. Following the SAM, Silvius et al. (2009) define alignment as *the degree to which IT applications, infrastructure and organization enable and support the business strategy and processes, as well as the process to realize this*.

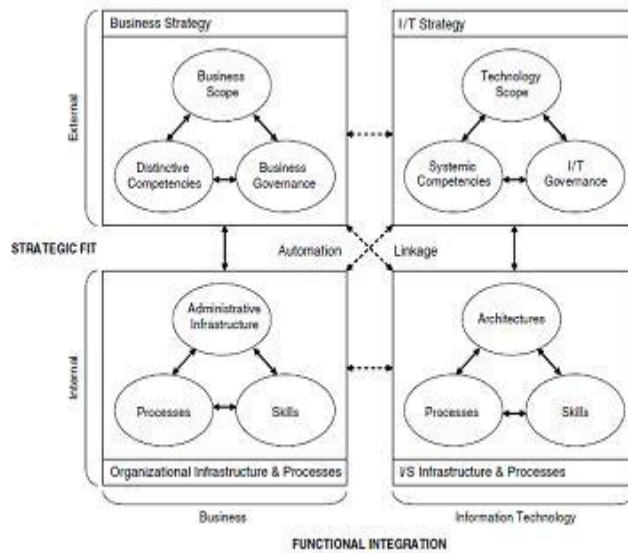


Figure 1: The SAM (Henderson & Venkatraman, 1993)

Alignment can be obtained by starting from the business side as well as from the IT side. Henderson & Venkatraman (1993) identify four alternatives of cross-domain relationships between the different components of the SAM. In the first two alternatives, the business strategy acts as the driving force towards strategic alignment, whereas the IT-strategy acts as the driving force towards alignment in the other two alternatives.

- **Strategic execution.** The organizational strategy drives the changes in the internal domains. This perspective corresponds with classic approaches to strategic management. The management formulates the organization strategy. The IT manager follows the management and designs and implements the processes and IT architecture that support the formulated strategy.
- **Technology transformation.** The organizational strategy is translated in an IT strategy that determines the IT infrastructure and processes. The IT manager is an architect who defines the IT infrastructure that supports the technological vision of the organization, defined by the business management.
- **Competitive potential.** The IT strategy influences the organization strategy; for example: the development of new digital service delivery channels, etc. *Unlike the previous perspective that considers business strategy as given, this perspective allows the adaptation of business strategy via emerging IT capabilities. This perspective seeks to identify the best set of strategic options for business strategy and the corresponding set of decisions pertaining to organizational infrastructure and processes* (Henderson & Venkatraman, *ibid.*).
- **Service level:** this perspective applies to an IT service organization. The alignment starts with the formulation of an externally orientated IT-strategy and the alignment of this strategy with an internal design of the IT processes and infrastructure. The IT manager has a crucial position: he or she examines the IT needs on the market and translates those needs in IT infrastructures and processes.

3. Business-IT Alignment: the foundations of the theory

The concept of alignment, including the SAM, is partly rooted in the contingency literature about organizations. Demers (2007) state that *the main assumption of contingency theory is that the structural components of the organizations must be integrated for the organization to survive*. Following contingency theorists, performance

is dependent upon the achievement of a match between various situational features (such as technology, environment, etc.) (Demers, *ibid.*). These views are present in the SAM. The SAM follows what Whittington (1993) has labeled as the classic school of thought towards the interaction of strategy and technology. This classic school considers the relationship between strategy and IT as a case of recognizing contingencies of technologies and its potential for application to business objectives (Chan & Reich, 2007).

Alignment theory and the SAM are also rooted in the configuration literature. Demers (*ibid.*) state that *according to configurational theorists, while in theory an infinite number of possible combinations exists due to the number of relevant attributes, in reality only a few coherent patterns are viable*. The configuration theory shares with contingency theory the notion of a fit (Demers, *ibid.*) but the focus is different: a contingency analysis focuses on how order is designed into the parts of an organization. Configurational theorists look at the order that emerges from the interaction between the different parts as a whole. (Demers, *ibid.*). In the alignment literature, the configurational approach is for example reflected in the work of Sabherwall et al. (1999): these authors conceptualize three organizational configurations, each configuration having a specific business strategy, business structure, information systems structure and IT-strategy (see Sabherwall, *ibid.*).

Within configuration theory, a distinction can be made between a functionalist and an interpretive view on organizational change. The first view or the functionalist view refers to the contributions made by Miller and Friesen (1984) and Tushman and Romanelli (1985); for example: the punctuated equilibrium model. The alignment literature has embraced this functionalist view in which organizations are *an instrument in the hands of managers who, through top-down decisions about factors such as values, strategy, structure, and control, have powerful levers to adjust or transform [or to align] the organization according to their objectives* (Demers, 2008). In the following paragraph, we argue why the alignment literature might benefit for a connection to the second or interpretive view within the configuration theory.

4. What is missing in the alignment literature

The rational adaptation view that is omnipresent in the alignment literature leads to a number of critiques related to the concept of Business-IT Alignment and the SAM. We introduce two critiques.

The first critique can be labeled as the neglecting of the institutional context. Meijer and Zouridis (2006) state that e-government processes take place in an institutional environment that shapes the interactions between the actors involved and the behavior of actors and their use of IT, reinforcing but also challenging the existing structures, systems and the use of IT. Also Dimaggio & Powell's (1983) notion of institutional isomorphism nuances the rational character of organizational change. The concept of isomorphism refers to an organizational strive for legitimation by taking over elements from their external environment. Dimaggio & 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; for example: new management models imposed by new legislation. This for example implies that the external environment will prescribe rules that influence or trigger the alignment processes in the Flemish cities and that reduces the potential of managers to autonomously define a business or IT-strategy and to autonomously take decisions in relation to the cities' service delivery architectures.

Secondly, despite the widespread acknowledgement that the use of IT is not a neutral but a political intervention during which existing power dependencies and interests are affected (Bekkers & Homburg, 2005), the political nature of organizations remains neglected in the alignment literature and the SAM. Elements of what Sabherwall (*ibid.*) has labeled as the processual school of thought on the interaction between IT and strategy need to be incorporated in the analysis of alignment processes. The processual school of thought considers organizations and markets as *sticky, messy phenomena, from which strategies emerge with such confusion and in small steps*. This school *rejects formal plans and methodologies as simply the tip of the organizational iceberg, exposes hidden social values, political interests, and structural inertia, which shape formal instruments of rationality, and perceives the role of IT as a resource and an instrument for gaining power – not achieving adaptation*. (Chan & Reich, 2007).

Both critiques demand for a (partial) reconceptualization of the alignment concept. In our opinion, this reconceptualization can be achieved by connecting the alignment literature on the interpretive view on organizational change within the configuration theory. This interpretive view is reflected in the work of Greenwood and Hinings (1996). They summarize the importance of the institutional context as follows: *The central point is that organizations are recipients of prescribed ideas about appropriate templates of organizing*

whose relative salience and clarity may change over time. Particular organizations do not respond to a template of organizing, but they do respond over time to evolving and competing prescriptions. Following Greenwood & Hinings (ibid.), intra-organizational dynamics determine *the response of the individual organization to pressures in the institutional environment* (Greenwood & Hinings, 1996): organizations are considered as political arenas in which multiple groups with different interests, values, power dependencies and norms interact, aimed at preserving their interests and strengthening their positions. The value commitments, power dependencies, and interests will determine the specific track or alignment process an organization will follow. We believe that the connection of the alignment literature on the interpretative view within the configuration theory might offer the possibility of an alignment framework that is more suited to understand and describe the interactions between the business and IT in complex public organizations. We illustrate this view by the results of a case study analysis.

5. Illustrating the theoretical argument: a case study research of alignment processes

5.1. The object of analysis

In this paper, we focus on intra-organizational change of Flemish cities' service delivery. The following features characterize the nature of the ongoing long term reforms (based on Vander Elst et al., 2013):

- The fragmentation of public service delivery leads to an increased administrative burden for companies and citizens. Therefore, the cities want more integrated front office desks, covering a larger number of the city' services.
- The cities want to implement multi-channel service delivery (MCSP). *The rationale of MCSP is that citizens or business can use their preferred channel to interact with the government, or change their preferred channel depending on their needs and circumstances while interacting with the government* (van Veenstra & Janssen, 2010).
- The cities want to redesign their service delivery processes from a customer orientated point of view, including smooth coordination and cooperation between the different front and back office desks involved in the business processes and a split up of front and back office functions into different units.
- The cities want to enable cross-organizational business processes by redesigning the *highly fragmented information architecture that has often been vertically organized around departments. [...] by more horizontally and vertically integrated architectures addressing the communication between systems within and between departments and organizations* (Janssen & van Veenstra, 2005).

5.2. Research focus

From May 2013 to October 2013, we conducted a case study analysis of ongoing organizational and IT-related reforms of service delivery in the city of Mechelen. The city of Mechelen counts about 82,000 inhabitants and is one of the thirteen major cities in Flanders (the Dutch speaking part of Belgium). The city administration has about 1,000 employees. Given the wide portfolio of services, we focused on a selection of service delivery processes, namely those business processes related to reports made by citizens about the public infrastructure. Citizens can report problems to the city about a diversity of topics. This includes reports about damaged roads, illegal waste dumping, damaged traffic signs, problems with sewers, etc.

Each year, the city of Mechelen is confronted with thousands of incoming citizens' reports about the public infrastructure. These reports trigger business processes that are cross-departmental and -organizational in nature: different units, including front office and back office units, are involved in the processing and management of the reports made by citizens. The management and processing of these reports affect the performance of the organization. Therefore, the structural, process and IT design of these business processes are a strategic topic in the Flemish cities. For several years, the importance of an effective (e.g. do we take care of all incoming reports?) and efficient (e.g. time needed to process the incoming reports) reporting system is on the agenda of the Flemish cities: IT, as well as structural and process redesign, are considered as necessary in order to increase the performance of the cities' reporting systems. In the city of Mechelen, this has resulted in a series of organizational and IT-changes: the implementation of online and telephonic reporting points, new IT systems, structural changes (new architecture of the whole organization, reorganizing administrative departments). Studying the dynamics of all these changes allows us to grasp the complexity of alignment processes within the Flemish cities.

5.3. Data collection and operationalization

The objective of the case study was to retrospectively reconstruct the development of the city's reporting system architecture and to describe the features of the architecture. We operationalized the reporting system as an architecture consisting of two layers, referring to the two internal domains of the SAM, i.e. (1) the business processes and infrastructure and (2) the IT processes and infrastructure. The first layer refers to the task division in the organization, the decision making structures and the actors and business units that play a role in the

reporting system, the working procedures or how the relevant business units process the reports (information inputs) into outputs (for example, a road that has been repaired, etc.).ⁱ The second layer refers to the IT systems used to process and register the reports, the digital connections between different IT systems of the reporting system, and the use of these IT systems.

The focus was on the long term dynamics of alignment processes. We operationalized the concept of alignment processes as all communications and interactions among different actors, aimed at or that have effectively determined the characteristics of the business and IT processes and infrastructure (Based on: Broadbent et al. 1999). In this regard, our empirical approach of alignment differs from the bulk of the IT alignment research in which an end-state approach towards alignment is considered and alignment is measured or assessed at one point in time. The research techniques encompassed an analysis of documents, observations, two focus groups, open interviews and secondary data analysis.ⁱⁱ

5.4. Data analysis

All observations and interviews were written out into a transcript that was sent back to the observed or interviewed employees who were asked to amend, correct or to verify the transcript. A total of 52 hours of interviews and 8 hours of observations were conducted, resulting in more than 400 pages of transcripts and 70 pages of observation transcripts. All empirical data were coded.ⁱⁱⁱ

5.5. Description of the case

In the following paragraphs, we describe how the reporting system developed and transformed during the past ten years.

A stovepipe and supply orientated architecture

Up until 2002, the organization counted over more than 40 specialized units, each having its own front office and back office functions. One service was responsible for the maintenance of the roads, another service organized the garbage collection, another service was responsible for the maintenance of the green infrastructure, etc. There was little interaction and cooperation between the different business units. Citizens had to search their way through a labyrinth of services and front offices. Customer-oriented or integrated service delivery was not a topic. The city reflected a closed system towards its societal environment. Incoming information, complaints and reports of the citizens were not considered as valuable inputs that demanded action from the city. This was the dominant culture.^{iv} The IT-systems of the organization reflected a stovepipe architecture. There was little attention for online service delivery. The business processes were not documented and / or defined, nor supported by IT-systems. The administrative work was conducted manually. Some business units used Word, Excel or Access applications. An attempt to implement a facility management software was a failure.

A new organizational structure

During the legislature of 2001-2006, the newly appointed college of the major and the aldermen formulated the ambition to re-organize the organizational structure. This resulted in a new organizational chart that clustered all business units into six departments. Secondly, the college placed the need for a more efficient and effective maintenance of the public infrastructure on the agenda. The new college of aldermen framed higher performance of the business, i.e. the quality of the public domain, as a problem of organizational structure. The business units responsible for the maintenance of the public infrastructure were integrated into a number of teams in the new department for city infrastructure (DCI). The line of reasoning was that the integration of the teams in one department, all under the administrative leadership of one supervisor, would increase the coordination and cooperation between the units. The college also outsourced a number of tasks to private contractors and non-profit inter-communal cooperation arrangements; for example the waste collection services. During this period, also the front office structure of the reporting system was affected by the establishment of district houses that act as integrated front office desks: residents of the different districts can report problems to these district houses. They function as integrated front office desks that are physically disconnected from the back office units, i.e. the maintenance units.

Simultaneous IT and process changes

The business and IT processes and infrastructure of the reporting system changed radically during the legislature of 2007-2013.

Firstly, the newly appointed alderman for the public works was confronted with poor performance of the reporting system.^v Therefore, the alderman wanted to reorganize the reporting system by a series of IT and structural changes. This leads to the further integration of all business units, involved in the maintenance of the public infrastructure, in the DCI. The alderman and the major approved the establishment of district maintenance teams in the department for city infrastructure. These teams are each appointed a specific district of the city and

are responsible for a wide range of maintenance tasks. Investments were also made to support this team with better equipment; for example: cleaning vehicles. Simultaneously, a number of functions were outsourced towards private contractors; for example: parts of the green infrastructure maintenance. The alderman also wanted 'a one-stop-shop reporting point' for the citizens. Therefore, it was decided to implement a toll free telephone number to which the citizens could call, send letters or email to report problems. Last but not least, the alderman wanted a digitalized management and processing of problems reported by citizens (see endnote v). A number of newly appointed team leaders also wanted a more efficient management and supported the demand of the aldermen for digitization. This led to the implementation of a service management software system Topdesk. This software system had to replace the existing Excel sheets and Access applications of the different teams by a single software system for all the teams.

Secondly, in 2009, the city implemented a new website (platform) and Content Management System (CMS) in 2009. This was the first organization wide e-government project of the city. The website opened up a lot of new possibilities for the service delivery of the city and the reporting system. The website included a tool for developing more sophisticated online forms. This resulted in new online forms, making it possible for the citizens to make online reports. The new website also offered an electronic platform to develop other electronic service delivery channels. In 2010, the city launched a mobile application, allowing citizens to report problems related to the public infrastructure by their smart phone. The new website also affected back office processes. The website included a so called 'e-government module'; allowing the business units to process, follow up and coordinate incoming demands and reports, by indicating the process status of a problem reported by citizens, etc.

5.6. Analysis of the case study results: the dynamics of alignment processes

A web of alignment processes

The set of changes that affected the business and IT processes and infrastructure of the reporting system were never determined by one organization-wide formulated and accepted business and IT strategy, translated into the one and only organization-wide business and IT architecture for the reporting system. Instead, the analysis indicates a set of different, often simultaneous alignment processes, that affected the business infrastructure, IT infrastructure, the business strategy and / or the IT strategy in relation to the reporting system.

Some interaction and communication processes reflect the formulation of strategic ambitions, sometimes but not always, followed by adaptations of the business and / or IT infrastructure; for example: the formulation of an online service delivery strategy by the IT department, and the acceptance of this strategy by the political and administrative top, resulting in the implementation of a new website platform and new online reporting forms for citizens, selected by the IT-department. Other strategic decision making involved other actors, for example: the decision of the alderman for public works, the IT-department and a number of middle managers to implement Topdesk, i.e. a new service management system, as a mean to increase the effective and efficient processing of incoming reports. Other alignment processes reflect smaller, incremental, bottom-up and non-strategic actions and decision making, taken by middle managers and executive employees. One example relates to the implementation of Topdesk in the different teams of the department for city infrastructure. The analysis indicates that the middle managers ('team leaders') all autonomously decided (not) to implement Topdesk within their team, after the decision was made by the alderman for public works to purchase Topdesk. In this particular case, we can speak of a partial lack of a strategic fit between the business and IT strategy to implement Topdesk (i.e. the alderman, the IT-department) and the operational IT domain or infrastructure (the team leaders).

The analysis shows how different alignment processes took place simultaneously, and how during different projects, on different levels in the organization, groups of actors sometimes take conflicting decisions in relation to the business and IT processes and infrastructure or formulated different ambitions and visions on the reporting system. An example is the (lack of) interaction between the website project and the implementation of Topdesk. During both projects, different groups of actors formulated different objectives in relation to the internal domains of the reporting system. The webmaster and the politicians involved in the website project wanted an electronic front office with reporting forms with few text fields in order to stimulate the citizens to reports problems, i.e. increasing the effectiveness of the business process. The middle managers involved in the Topdesk project also developed online forms, that were connected to Topdesk and that allowed the direct registration of citizens' reports in Topdesk. These forms contained much more text fields, in order to guarantee sufficient information about the reported problem, i.e. increasing the efficiency of the business process. The example shows the ambiguity of the business strategy, as different strategic business options emerge, but the process of strategy formulation never results in the selection of a single strategic option.

Different alignment perspectives

The SAM defines different perspectives on how the alignment process can be initiated. Our case indicates the existence of different perspectives in one organization at the same moment (see also further: the Topdesk project and the website project) and evolution with regard to the driving forces behind alignment processes in time. During some change projects, for example: the implementation of Topdesk, we notice the perspective of strategic execution. One alderman formulated the objectives in relation to the business, i.e. a strategic impulse on the business strategy to develop a more effective and efficient management of incoming reports. The IT-department translated these objectives into the purchase of a new IT-system. But, the example also indicates that the four perspectives of the SAM, cannot be observed distinctly. The perspective of strategic execution considers the IT-department as the strategy implementor, but the previous example shows that also middle managers of the teams and the external service supplier played an important role in defining the business processes and the implementation and operationalization of the system. IT is not the exclusive domain of the IT-department.

The analysis shows that actors such as the head of the IT-department and the business managers have different roles, during different decision making processes. An example is the implementation of the new website and the development of new service delivery channels on the website platform. Initially, the project corresponds with the alignment perspective of competitive potential: the IT-department convinced the political management, i.e. the college of aldermen and the major, to invest in a new website. The head of the IT-department and the webmaster played the role of catalyst: they identified the trends related to online service delivery and new website platforms in the market. But, these actors at the same time also played the role of strategy formulator by translating the potential of a new website in a business strategy on online service delivery. They developed a vision on the city's online service delivery: the baseline of the vision was to expand the number of online services, to developed more real-time online service delivery and online service delivery channels, i.e. online reporting points and forms. The website project is interesting because it shows the dynamic with regard to the role of actors. Once the new website platform was implemented, and the college of aldermen and the manager were confronted with the success of the new platform (different e-government awards, more website visitors, etc.), multiple aldermen and the major started to play the role of strategy formulator in relation to the online service delivery. One year after the implementation of the website, the major for example launched the idea of mobile phone application, allowing citizens to report problems to the city. This time, the IT-department played the role of strategy implementor.

Alignment processes as political processes

The alignment processes show resemblance with both the processual and classic school of thought. Sometimes, the processes of interaction and communication can be explained from the classic perspective of strategic management. This is for example reflected in the website project. This project fits with the classic school of thought on the interaction between strategy and IT. The organization reacted against a changing environment, i.e. citizens that increasingly use the web, and organizations that increasingly make use of the internet as a service delivery channel, by the formulation of a business an IT strategy, i.e. a new website platform was considered as a resource to be deployed according to the needs and pressures of that environment.

But, this classic interaction perspective is mixed with elements of the processual school of thought (see supra) that stresses the political nature of organizations, the hidden social values, and the role of IT as an instrument for gaining power (Chan & Reich, *ibid.*). Different examples illustrate the relevance of the processual school. The first example refers to the previous example of the website project. Although, this project at first sight affirms the relevance of the classic school, the project also illustrates the evolution with regard to the power balance in the organization. Whereas in the past, the business units could autonomously decide about the use of the internet and systems for their work, the implementation of the new website reduced this autonomously and meant a more powerful position for the IT-department, that had become the new organization-wide coordinator of the city's online service delivery. Another example is that multiple IT system implementations characterize the ambition of administrative managers and the staff to increase control on the middle managers and the executive employees or the ambition of middle managers to increase control on their executive employees. This is for example reflected in the purchase of tablet devices for the community guards, who register problems related to the public infrastructure of the city. At first, the project seems to be aimed at increasing the effectiveness and efficiency of the registration process. But, behind those 'formal' ambitions and objectives, other ratios took precedence. In this case, the head of the community guards considers the tablet devices as an important instrument to control the whereabouts of the community guards and to monitor and compare the number of reports made by the different community guards. For the head of the community guards, the promise of better monitoring and registration, becomes an argument to obtain additional funds from the college of aldermen to further invest in the digitalization of the registration of reports by the community guards.

Alignment processes are institutionally constrained

The analysis shows the influence of the institutional context on the alignment processes. Firstly, not all decisions in relation to the business processes and infrastructure are determined by an autonomous decision of and in the organization. We also notice the alignment of business processes and infrastructure on rules prescribed by the oversight authorities, i.e. the Flemish regional government. The Flemish municipal decree for example stipulates that all Flemish cities and municipalities must implement a complaint management system. Such rules influence the alignment dynamics within the organization. The obligation leads to an impulse of the IT department, the staff and the secretary (head of the administration) to define the working procedures in relation to complaint management and to digitize the registration and follow-up of complaints formulated by citizens. Institutional pressures interact with the position of the internal actors and are interpreted in line with those positions.

Secondly, interactions and planning processes that determine the IT infrastructure are constrained by previous decision making and implementations of IT systems. These constraints also influence the possibility of realizing the formulated strategic IT-ambitions. In the city of Mechelen, one of the IT ambitions is to develop a more integrated IT-architecture with maximal electronic data sharing between the front and back office systems. The realization of this objective is hindered by decisions made in the past, in relation to the IT infrastructure in both the front and back office. As new service delivery channels, for example: the mobile phone application, are connected to the website platform, incoming data from the mobile application need to be manually registered in the back office system because the website platform (front office system) and the back office system Topdesk are not connected to each other. This IT path dependency determines the dynamic of the alignment process: decision made in the past, generate new evaluations and perceived problems, initiating a new round of interaction and communication processes, i.e. the search for a digital connection between the website and Topdesk.

5.7. Analysis of the case study results: alignment as multi actor processes

Alignment processes relate to interactions between a diversity of actors, i.e. the IT-department, the staff, the political and administrative management, executive employees, middle managers and external actors. In this paragraph, we analyze the position of these actors in the case of Mechelen.

The political and administrative management

The concept of managers or 'the management' is more ambiguous in public organizations than in private organizations because of the distinction between the administrative and political management. Even this distinction is not sufficient as some actions are taken by, or strategic ambitions are formulated by one alderman, or the college of the major and the aldermen as a whole, by a single leading civil servant (head of department or the city secretary); a partial network of certain civil servants or the whole administrative management team.

The role of politicians differs between different alignment processes. Mostly, they formulate project objectives or strategic ambitions at the level of the organization and leave the operationalization of these objectives to the IT-department, the staff or middle managers. But, sometimes they also directly interfere in the decision making processes in relation to the purchase of a new IT system or by imposing their will on the operational and even the technical level. For example, during the Topdesk project, the alderman for public works took the final decision to purchase Topdesk for the management of incoming reports.

The nature and the pace of alignment processes coevolves with how the decision making model of the organization evolves. In the case of Mechelen, we notice the influence of two decision making models. For a long time, decision making was characterized by the so called aldermen model. *In this model, the autonomy of an individual alderman can be very important. They are, on behalf of the college, responsible for policy preparation and implementation follow-up in certain policy fields. In that blurred sphere of political and managerial autonomy, the alderman sometimes functions as the daily manager of the services, even taking over the operational responsibilities of "their" public managers.* (Plees & de Leemans, 1997). The alderman model is for example reflected in the implementation process of Topdesk. One aldermen formulated the objectives in relation to 'her' departments and asked the IT-department and 'her' middle managers to take action. The risk of this alderman model is IT-fragmentation and a lack of interdepartmental cooperation as all aldermen might decide autonomously to implement new and different IT systems for 'their' business units.

Since the legislature of 2007-2012, we also notice elements of the management team model. In this model, a *group of leading public officials is responsible for managerial tasks, such as strengthening the strategic quality of policy, arranging interaction between politics and administration, improving coordination and enhancing management quality in local government. The town clerk presides this management team as the CEO of the organization.* Following this model, the management team and the college of aldermen jointly define the strategic ambitions of the organization (De Rynck et al., *ibid.*). This model is for example more reflected in the

website project. Both groups of political and administrative managers took over the strategic ambitions in relation to the online service delivery, formulated by the IT-department, and gave the IT-department a mandate to implement the organization-wide vision on online service delivery.

The IT-department

The analysis indicates an evolution with regard to the position of the IT-department in the organization and the internal domain of IT processes. For a long time, the IT-department solely functioned as a help desk and a technological implementer of new systems, purchased by the different business units. The IT-department lacked the capacity to develop a vision on the IT-infrastructure of the organization. It had no mandate to steer and coordinate decision making in relation to the purchase of new IT-systems. This led to a stovepipe IT infrastructure. A new head of the IT-department and a new alderman, responsible for IT, implied the start of a repositioning of the IT-department. These actors achieved in strengthening the capacity of the IT-department to initiate large IT-projects, such as the implementation of the new website. In relation to the online front office, the IT-department has acquired the position of a strategy formulator. In relation to the back office of the organization, the IT-department still lacks the capacity and the power to coordinate all IT implementation projects. It does not succeed in developing an organization wide IT architecture model. This is due to a lack of staff, the large number of IT-projects, but also a lack of expertise to implement technologically complex solutions such as web service technology in order to connect different systems.

The staff

During the last years, the staff department of organization developed towards a unit with four employees, called 'Strategy and organizational development'. The optimization of the business processes is considered as one of the most important tasks of this unit. Since 2011, the involvement of this unit in IT related projects has increased. The unit has invested in increasing its expertise for business process management but they did however not interfere in the IT projects, determining the IT infrastructure of the reporting system. Multiple respondents consider this as a missed opportunity to streamline the business processes between the front and back office units of the reporting system from an organization-wide perspective. The cooperation between this unit and the IT-department seems very important and has increased. The lack of cooperation between both units in the past, is considered as one of the main reasons why the organization struggles to realize a more integrated business and IT infrastructure. IT systems were implemented without an analysis and definition of the business processes. This for example negatively influenced the full potential of Topdesk to implement one uniform software system for the management and processing of incoming reports on an organization-wide scale. During the project, nor the middle managers of the back office units who were going to implement Topdesk, nor the IT-department analyzed the work processes between the different front offices (for example: the community houses) and the back offices of the reporting system (for example: the maintenance teams).

The middle managers and the executive employees

The analysis shows that alignment processes do not stop after the translation of objectives into the design and the implementation of changes of the business and IT infrastructure. Interactions between middle managers and executive employees or actions taken at the individual executive level influence the alignment of the different SAM components. Our analysis shows that the middle managers act as gatekeepers for their units in relation to the implementation of new IT systems and business process redesign. To a large degree, they determine the degree of innovativeness of the organization. The case indicates differences between the different individual middle managers. Some middle managers take the initiative to analyze the work processes within their unit or to implement new systems. Other middle managers refuse to use new IT-systems. The reasons therefore are multiple, we notice differences with regard to the capacity of middle managers to think about how IT could improve their work processes, their degree of affinity with IT, the implementation capacity, perceptions about the surplus of new IT-systems. Middle managers are not always convinced of the promises of new IT systems.

Interesting is how at the lower level of the organization, autonomous actions taken by executive employees influence the IT infrastructure of the organization. We for example noticed how one back office team has started to use google maps to better indicate the location and the possible nature of a reported problem. The example shows that impulses, leading to a new alignment process, do not always start at the top of the organization but can also be triggered bottom-up; i.e. executive employees at the bottom of the organization who are in search for a more efficient and effective way of working within their unit, are confronted by the objective of the top to more effectively take care of each reported problem, take autonomous actions, i.e. the use of new IT infrastructures in the organization.

External actors

The alignment processes do not stop at the borders of the organization. The processes interfere with external actors such as IT service suppliers, private contractors who are responsible for a part of the public maintenance, other public organizations, most notable the Flemish oversight authority. For example, an important objective of the IT department is the realization of a more integrated IT infrastructure, by connecting Topdesk and the website platform. This implies negotiations and interactions between the city and the different IT service suppliers of both systems. The city is dependent upon these actors for aligning its IT strategy and IT infrastructure.

The increasing process of outsourcing tasks, leads to a more interorganizational alignment process. In case of further outsourcing of public infrastructure maintenance functions, the city will have to align its own IT infrastructure with the IT infrastructures of its private contractors and vice versa in order to assure smooth information sharing between the front office desks of the city, who register the incoming reports of citizens, and the back office, i.e. private contractors that are responsible for fixing the reported problem. This is also the case for other public organizations that have developed reporting points; for example: the Flemish Department Mobility and Public Works has developed an online reporting points to which citizens can report problems about road infrastructure. Some of these reports are related to the city's public infrastructure. If the city wants to further streamline all incoming reports into one system, it will be necessary to align these initiatives with the own IT infrastructure.

6. Conclusion and lessons learned

We posed the following question: can and how should the concept of alignment and the SAM be adapted to allow us to grasp, understand and identify the dynamics of alignment processes in public organizations, over a long period, as the interactions and communications between the actors who shape the Flemish cities' service delivery architectures? In this section, we reflect on a number of lessons learned.

Methodological implications: assessing alignment differently

We raise three methodological lessons with regard to the study of alignment processes that deserve further attention.

Firstly, we choose to apply an intensive qualitative research to investigate the nuances of long term alignment processes. This long term perspective is essential to understand the changing nature of the configuration in one organization. We think we need also more inductively driven research on those changing configurations in order to distillate the patterns of communication and interactions that determine the IT and business processes and infrastructures of organizations. Exposing the configuration of actors within organizations and how this configuration determines the nature, sequence and pace of alignment processes deserves further attention.

Secondly, we applied a long term perspective analysis on an important cluster of service delivery processes. But, by doing so, we only grasped part of the IT and organizational changes in the city of Mechelen. This raises a question about what is the adequate level of analysis to study alignment processes? In their review, Chan and Reich (ibid.) already referred to different levels of alignment, i.e. the project level, system level, the individual level, the level and the organization as a whole. The SAM does not differentiate between those levels. We think that future alignment research should reflect more on the level of analysis and on the consequences of this choice in relation to what can be said about alignment towards the case(s) under analysis. As concerns our research, it is for example not possible to formulate conclusions in relation to alignment at the organizational level as IT and organizational changes in relation to those other business processes were out of scope. This choice can be motivated by the diversity of services delivered by the cities towards citizens as different clusters of services and business processes are affected by different strategies and implementation trajectories. Thus, the nature and the number of the services delivered by an organization can be considered as one factor determining the adequate level of analysis.

Our third methodological remark relates to the position of the researcher and the research object. In many alignment studies, researchers ask the top managers about how they assess the degree of alignment. The relevance of a political context however implicates that perceptions about the degree of alignment might differ, according from the position of the assessor. Therefore, we advise researchers to connect the assessment of alignment on what Guba & Lincoln (1989) have labeled as fourth generation evaluation, i.e. assessing alignment by identifying the claims, concerns and issues of a wider group of relevant internal and external actors, including politicians and especially the executive employees at the bottom of the organization. In our opinion, such a multi actor assessment would help managers to better understand how the interaction between the IT and business side really takes place within their organization. In this regard, we agree with Chan & Reich (ibid.) that *more grounded research is needed – work that questions the very possibility of alignment and allows the voices of the participants to be heard*. This suggestion also relates to our previous remark about the adequate level of analysis.

The SAM focuses solely on the ambitions and objectives of the management and the degree to which these objectives are translated towards the internal domains. Decision making, interaction between and actions taken at the bottom of the organization are not taken into account in the model, despite our findings showing how those decisions and actions also trigger alignment processes, interfere, enforce or threaten the strategic ambitions, formulated by the diverse group of management actors. Next to a multi actor analysis, future alignment research should also be conducted by means of a multilevel alignment analysis.

Revisiting the concept of alignment in relation to public organizations

The assumptions behind the SAM and the focus of the model do not allow to fully understand the dynamics of IT and organizational change in public organizations such as the Flemish cities. We see multiple reasons why this is the case, and identify several elements that deserve further attention for the further application of the concept of alignment to the study of public sector organizations.

Firstly, the SAM approaches the interaction between IT and the business from a strategic management approach. It depicts organizational and IT change as a rational adaption process that is initiated by the formulation of strategic objectives and visions at the top of the organization and followed by the implementation of these objectives into new organizational structures, processes and systems. Our case study results however indicate that organizational and IT changes in a public organization do not always fit the format of strategic management but also reflect many small, incremental, non-strategic decisions, taken at other levels than the top of the organization, interfering, strengthening or threatening the strategic decisions formulated made by the management. An alignment model for public organizations should integrate this diversity of (strategic) impulses, decisions and actions.

Secondly, an alignment model for public organizations should allow to study the dynamics of alignment processes in the long term. The SAM invites researchers to conduct a cross-sectional analysis, to take a look at organizations from a static perspective or at one moment in time. For public organizations like the Flemish cities, such a static analysis does not fully allow us to understand the characteristics of the Flemish cities' service delivery architectures and the perceptions about the performances of these architectures. If we would only have focused on how the alderman for the public works formulated strategic ambitions in relation to the reporting system and the alignment of these ambitions with the internal IT domain, resulting in the purchase of Topdesk, alignment could be considered as high. However, by also taking into account the implementation choices within the different teams, and the decision of some team leaders to not implement the system, the degree of alignment decreases from the perspective of the alderman.

Also interesting is how a long term approach shows us how multiple perspectives on alignment simultaneously occur in one organization and the role of actors, according to the alignment perspectives, shifts in time and actors take different roles in relation to different processes of IT and organizational change. Such long term insights generate the possibility to grasp the complex interdependencies between different processes; for example: the interaction between the organizational decision making model and IT decision making within public sector organizations. Long term analysis of alignment processes show us the incremental progress and evolution of the organization, for example: how the IT department obtained the position of a strategy formulator and then evolved towards a catalyst, whereas the political management started to play its role as a strategy formulator for the online service delivery. The many different groups of actors within public organizations, the ambiguity of the concept of management, the shift in actors' position in those organizations demands a long term analysis of alignment processes to understand the degree of alignment by the different actors.

Thirdly, the SAM remains vague about the different groups of actors that are involved in alignment processes and very much focuses on the interference of the CIO and CEO. Our analysis however indicates that many actors, political and administrative, of different nature and at different levels are involved in the processes of communication and interaction and that the alignment processes coevolve with the position of actors in the organization. Also important is the involvement of external actors such as other public organizations at different levels of government, IT-suppliers, consultants and contracted parties, during alignment processes. The city is for example dependent upon these actors for aligning its IT strategy and IT infrastructure. Therefore, alignment models should incorporate a multi-actor perspective on alignment processes, considering that each group of actors or individuals has a specific position, concerns, issues, interests, etc. and the capacity to influence the alignment perspective and the characteristics of the alignment process. Such a perspective should imply that an alignment model does not solely take the ambitions and objectives of the management as the starting point for assessing alignment but should look at the broad diversity of objectives, interests, positions, preferences within the organization. Taking this variety as a starting point would allow alignment researchers to better understand and explain the degree of alignment or misalignment. It would show how some actors for example have other opinions compared to those of the top management, or oppose to certain strategic ambitions, and explain why

actors within the organization show resistance towards actions taken by the management. The remark applies especially to public organizations such as cities in which many different groups of actors operate and because of the existence of a political and administrative top, each often having their own priorities and interests, politicians for example interested in short term results whereas administrative managers focus or an IT department focuses on the long term establishment of an integrated IT architecture.

Fourthly, in the context of public organizations, alignment models should integrate the view of alignment processes as institutionally constrained processes. Alignment processes are sometimes moulded by previous decisions or by external dependencies of external actors such as IT suppliers and other governments, that determine the future dynamics of alignment processes and actions, and reduce the autonomy of the organization to freely formulate new (strategic) objectives. Each phase in this historical evolution leads to changing constellations of actors, interests and instruments and each new decision or emerging new ambition is determined by and should be understood from this evolving constellations.

References

- Bekkers, V. & Homburg, V. (2005). E-Government as an Information Ecology: Backgrounds and Concepts. In: Bekkers, V. & Homburg, V. (Eds.). *The Information Ecology of E-Government*. 1-19. Amsterdam: IOS Press.
- Brignall, T.J.S. & Modell, S. (2000). An institutional perspective on performance measurement and management in the 'new public sector'. *Management Accounting Research*, 11 (3): 281-306.
- Chan, Y. & Reich, B. (2007). IT alignment: what have we learned? *Journal of Information Technology* 22: 297-315.
- Demers, C. (2008). *Organizational change theories. A synthesis*. Montreal: Sage Publications.
- Vallet, N. & De Rynck, F. (2005). Learning from and about the Flemish cities. The cases 'Mechelen', 'Antwerpen', 'Leuven' and 'Oostende'. Research report for the Flemish government.
- DiMaggio, P.J., & Powell, W.W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, 48 (2), 147-160.
- Greenwood, R. & Hinings, C. R. (1996). Understanding radical organizational change. Bringing together the Old and the New Institutionalism. *The Academy of Management Review*, 21 (4): 1022-1054.
- Henderson, J.C. & Venkatraman, N. (1993). Strategic alignment: leveraging information technology for transforming organizations. *IBM Systems Journal*, 32 (1): 43-49.
- Janssen, M. & van Veenstra, AF (2005). Stages of Growth in e-Government: An Architectural Approach. *The Electronic Journal of e-Government* 3 (4): p 193-200.
- Meijer, A.J. & M. Thaens (2010). Alignment 2.0: Strategic use of new internet technologies in government. *Government Information Quarterly*, 27(2): 113-121.
- Meijer, A.J. & S. Zouridis (2004). E-government as Institutional Transformation, In: *Innovations through Information Technology*, M. Khosrow-Pour (ed.), Idea Group, Hershey PA, 2004, pp. 565 – 568.
- Meyer, J.W. & Rowan, B. (1977). Notes on the structure of educational organizations. Paper presented at annual meeting of the American Sociological Association, San Francisco.
- Miller, D. & Friesen, P. H. (1984). *Organizations: A quantum view*. Englewood Cliffs NJ: Prentice Hall.
- Plees, Y. en De Leemans, K. (1997). Gemeentelijke organisatiemodellen en modelsecretarissen? *Tijdschrift voor Overheidsmanagement*, 2: 4-14.
- Sabherwall, R., Hirschheim, R. & Goles, T. (2001). The dynamics of alignment: insights from the punctuated equilibrium model. *Organization science*, 12 (2): 179-197.
- Silvius, A.J.G., de Waal, B. & Smit, J. (2009). Business and IT alignment; answers and remaining questions.
- Tushman, M.L. & Romanelli, N.E. (1985). Organizational evolution: A metamorphosis model of convergence and reorientation. In: Cumming, L.L. & Staw, B.M. (Eds.). *Research in organizational behavior*, 7: 171-222.
- Vander Elst, S. & De Rynck, F. (2012). Flemish cities and their individual service delivery. An exploratory investigation of ongoing e-government reforms. Leuven: The policy research center on governmental organization.
- van Veenstra, A and Janssen, M. (2010). Migration Strategies for Multi-Channel Service Provisioning in Public Agencies. *Electronic Journal of e-Government*, 8 (2): 215-226.
- Whittington, R. (ed.) (1993). *What is Strategy – And does it matter*. Routledge Series in Analytical Management. London: Routledge.

ⁱ We examined both the formal and informal characteristics of the process layer. We did not only analyze how the work should be done or how the managers think the work is conducted, but also examined the real working procedures by multiple on the job observations (see infra).

ⁱⁱ Firstly, we gathered and analyzed a wide variety of documents; for example: both official and unofficial policy documents indicating objectives formulated by different actors in relation to the design of the city's service delivery and reporting system; internal documents with information about the performance of the reporting system; documents related to the tendering of new ICT-systems, etc.

Secondly, we conducted 25 open interviews with a wide variety of actors, including both the administrative management, aldermen, the middle management and executive civil servants of the city. We asked these actors to describe the working procedures, the IT-systems in use or that have been used, the task division, their opinions about how the reporting system is or should be functioning and their perceptions related to the performance of the reporting system. The interviews also contained questions aimed at reconstructing the changes related to architecture of the reporting system.

Thirdly, we observed four civil servants during their day to day activities in order to capture the 'real' working procedures. Next to these observations, we also observed two meetings during which decision making processes took place in relation to the adoption of new IT-systems.

Fourthly, we conducted a secondary data analysis. We re-analyzed existing data sets from two other research projects

The first research project, conducted by Vallet and De Rynck (2005), was an extensive comparative analysis of the structural and cultural characteristics of the Flemish cities, including the city of Mechelen. This qualitative research gave us insights in the changing structure of the city of Mechelen (the decision making structure, the task division, etc.) during a period of more than 15 years (1985-2002). The second research project concerned a so called I-scan of the internal organization of Mechelen, conducted in 2009 by the University College of Ghent,

that focused on the development of both the business component (strategy, processes, leadership, etc.) and the IT-component (systems, data management, hardware-architecture, etc.) of the city of Mechelen.

- iii We started with broad codes (for example, ‘structural changes’ or ‘implementation of the new website’) and gradually refined the coding scheme (for example: ‘implementation of the website – actor X’). The transcripts were read and re-read by two researchers who regularly discussed the research data with each other. This process took several months (October, November and December 2013) and resulted in multiple PowerPoint presentations and documents synthesizing the analysis through the eyes of the researchers, offering a basis for discussion and reflection. This analysis resulted in a research report. We presented the findings during two focus groups with multiple actors of the city of Mechelen. One focus group was organized with six middle managers of the city. The second focus group was organized with the members of the management team, i.e. the city secretary and the heads of department. During the focus groups, we presented and discussed the results. The results were widely accepted by the participants of the focus groups.
- iv A research report of De Rynck and Vallet (2005) stated (translated by the authors): *“Interesting is that a number of business units that frequently receive reports and complaints from citizens, for example: the public works unit, have difficulties to react to signals of citizens. In general, there is a culture that is not aimed at resolving complaints and reports and that is not externally oriented.”*
- v She for example stated (translated by the authors): *“When I came into office, answering incoming telephones and emails with reports was no priority at all. The teams focused on their own planning and the day to day maintenance of the public infrastructure. The first months, I was confronted with a large number of citizens, complaining about unanswered emails and telephone calls.”*; and: *“The problem was that many reported problems remained unanswered, that there was no overview of the number of complaints and problems reported. At best, a citizen who reported a problem, received a receipt notification, but after three weeks, nothing was done to solve the problem. In my opinion, we needed a defined process with warning systems and the commitment of the business units to solve each problem in time. A reporting system based on fixed procedures that allowed for an efficient follow-up of all incoming problems reported.”*