The Challenge of Technolgy: Alignment Dynamics in Local Governments

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Abstract: In organization literature, strategic alignment is a key concept. A vast amount of literature focuses on the need for businesses for aligning their business and IT strategy. The importance of alignment in (local) governments is yet underexposed. However, local governments are also challenged to incorporate IT in their daily processess and they also strive to become more efficient and effective organizations. In practice, this proves to be a dynamic process where a lot of factors come into play when technology is introduced within these organizations. In research, there is a need for a better understanding of this dynamic process of alignment. Therefore, in this paper we want to explore the dynamic process of aligning local governments with technology. We do so by using the 7Smodel as a framework to analyze how seven different elements, both hard and soft, mutually affect each other and make out the local dynamics. Furthermore, we put forward the notion of strong and weak alignment and offer new insights into 'disaligned' organizations. Increasing insights into the organizational factors that encircle the implementation of technology will lead to a more profound understanding of how the process of alignment comes into practice in local governments. By taking into account this complex process of alignment IT projects can become more successful.

Key words: Alignment in practice, alignment, disalignment local government, e-Government, organizational change

1. Introduction

The implementation of new information technologies by governments seems to happen in a slower pace than expected (Meijer 2010) and tends to grow organically. About two decades ago, local governments in Flanders (the northern part of Belgium, home to the Dutch speaking community) began to acquire their first computers and applications. At first, there was no real strategy behind this. They started using these new technologies without realizing what the impact would be on the organization. In most cases IT implementations were initiated by a limited number of people who saw new possibilities arising from using these new technologies. Staff members interested in IT developed their skills and competences further by using new tools and supporting their colleagues.

At first the technology was at the center of the attention, but increasingly the organization and how it changes and deals with technology became the prime of interest. That is because adopting and using (new) IT challenges the current ways of working and introduces new possibilities for the organization. E-government proves to be not only about the execution of daily routines and tasks, but also about the management of the everyday practices. There is a growing need for support by experts, new competencies in staff members and a well-considered and clear vision and strategy on the role of IT for the organization comes into sight. In addition, there seems to be a shift from a technological support view towards a more strategic role for IT within the organization (Henderson and Venkatraman 1993). Local governments are challenged by technology to build their internal organizations around these new technologies.

Findings show that local governments differ greatly in how they deal with new kind of IT challenges (Meijer 2010, Boudry et al 2009). Some of them succeed in reaping the benefits of new giestechnolo, but other struggle to incorporate IT in a way that the organization as a whole can benefit from it. Therefore, it is important to understand the processes that lead to consideration of the factors that enable or inhibit alignment (Avison 2004, Luftman 1996). So with this paper we aim to describe the process of strategic alignment in practice and want to explore different factors that contribute to the process of alignment in local governments.

2. Alignment dynamics

2.1. Alignment as a process

In this paper we build on the alignment perspective which points out the importance of attuning the organization and technologyand the precarious balance between both. Initially, this idea of alignment was developed for application within a business context, but alignment models are increasingly applied in the context of the adoption of technology by governments (e.g. Fedorowicz, Gelinas, Gogan, and Williams 2009, Meijer 2010). Like businesses, governments are also challenged to harmonize their organization's goals and activities and the information systems that support them (McKeen and Smith 2003, Chan and Reich 2007). Consequently, they experience a similar need for aligning their organizational and technology dimensions.

Alignment within governmental organizations can be seen as a condition for achieving a better functioning and a more efficiently managed organization. It is a dynamic and ongoing process (Baets 1996, Rondinelli, Rosen and Drori 2001, Chan and Reich 2007) with different dimensions, such as strategic and structural dimensions, but also social and cultural elements (Chan and Reich 2007). Attempts have been made to identify factors that contribute to this alignment of organization and technology (e.g. Luftman 2003). But insights into the complexity of this alignment process and the elements that contribute or hinder this process tend to be rather limited. There is a need for insights into the complex and dynamic process of alignment and in different elements that contribute to this alignment process. Baets (1996) summarizes this by stating that *"it is not enough to simply understand the factors involved in alignment, one must understand the interrelationships among the factors"* (Chan and Reich 2007).

We elaborate on this idea of aligning organization and technology and aim for a better understanding of this process of alignment by building on the 7Smodel. This model is traditionally used for addressing how organizations deal with change and on how effective they are in this. The founding fathers of this model, Peters & Waterman (1980) distinguish seven factors that are interrelated and mutually reinforcing. These elements include both hard dimensions such as 'strategy', 'structure' and 'systems' but also soft dimensions such as 'style', 'staff', 'skills' and 'shared values'. By reviewing these seven elements we aim to contribute to the alignment literature by illustrating how alignment dynamics work and can be investigated in local governments.

2.2. Alignment strategies in local governments

Local governments differ notably in the way they make use of technology within their everyday functioning. Boudry et al (2009) demonstrate this by introducing a new type of classification that enables to evaluate the alignment status of local governments. The authors discriminate four ways in which local governments align both their organizational and their technology dimension. Two ways concern organizations that are aligned, the other two cover organizations that are not or 'disaligned'.

Aligned organizations (quadrant II and III) can be characterized by either a strong or a weak alignment. 'Strong aligned organizations' (quadrant II) succeed in a positive collaboration between the organizational and technology dimensions. They reinforce and challenge each other in becoming a better organization. In 'weak aligned organizations' (quadrant III) both the organization and the technology side lack the driving power to initiate any substantial changes. To a certain extent, they reinforce each other in a negative way and leave each other uninspired. In 'disaligned organizations' (quadrant I and IV) the organization and technology sides do not sufficiently join forces. The reasons for this mismatch can be twofold. On the one hand, there are progressive organizations that do not get the support they need from their very technical-oriented IT department (quadrant IV). On the other hand, the opposite occurs when rather conservative organizations are too much steered by a strong IT department, which leads to an unbalanced growth of their organization (quadrant I). In short, technology and the organization do not necessarily evolve at the same pace, but technology can outrun the organization and vice versa. These findings should be seen as a snapshot of a process that illustrates that organization and technology can move in a different pace resulting in a time lag between business and IT planning processes also described by Van Der Zee and De Jong (1999).

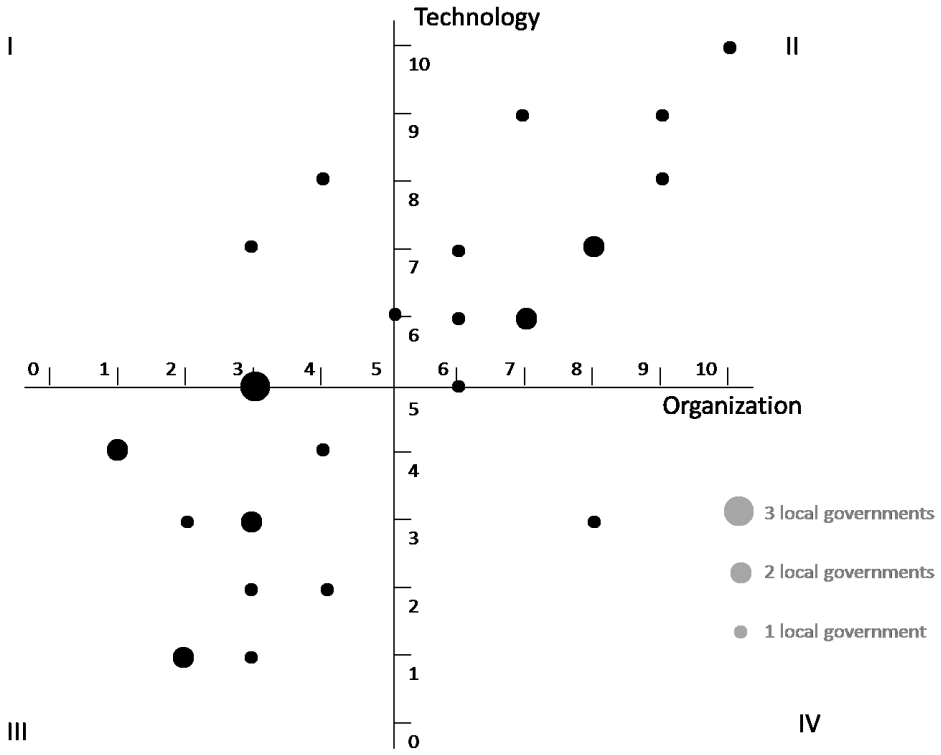

Figure 1: Alignment classification (Boudry et al 2009)

We expect that a reinterpretation of the findings in these local governments will help to investigate the results in a more systematic way, in order to unravel the dynamic interrelationships of different organizational elements according to the different alignment statuses. Since we want to focus on the different 'types' of alignment dynamics we decided to exclude the 5 organizations that are situated on one of the axes. So, we will base our analysis on 24 of the total of 29 local governments investigated, consisting of 10 strong aligned organizations, 11 weak aligned organizations and 3 disaligned organizations

3. Methodological approach

We used a mainly qualitative approach for gathering the data in order to get as much as information on the dynamic relationship between an organization and technology, in an attempt to grasp the complexity in how local government deal with technology. The data at hand are collected by means of an IT alignment audit in which a self-selecting sample of 29 Flemish local governments was used. In each local government the audit commenced with at least one introductory interview with in the town manager and in most cases the communications officer and/or the IT professional. Next, a focus group discussion took place with people from different departments and positions and a non-limited discussion about leadership, management, strategy and policy, daily tasks, use of data, database management and the role of the IT professionals within the organization. The qualitative data from the interviews as well as the focus groups were complemented with a document analysis for each individual local government on documents such as the organization chart and policy and IT strategy documents.

For this study, the individual reports of the local government were analyzed by scoring each organization on the factors of the 7Smodel. As mentioned before, local governments situated on one of both axes were excluded from this additional analysis. Because of the low number of cases in the quadrants I and IV, we did not score the 3 disaligned organizations. At the end of this paper, we do go deeper into the particular situation these organizations are in. The remaining 21 organizations were attributed a score of 0 to 2 on each of the 7S factors. We did so for both an organizational as well as a technology perspective. So, each local government was attributed a total of 14 scores. A score of 0 on a factor was given to the organizations where we found a poor execution within the local government cases investigated. A score of 1 on a factor was given to the organizations where we found an average execution within the local government cases investigated. A score of 2 on a factor

was given to the organizations where we found an excellent execution within the group of the local government cases investigated. For example; City X can be characterized as a dynamic organization with a well thought-out strategy. They developed a series of key projects that reflect the main organizational strategic lines resulting from their interpretation of the Municipal Decree (= Score 2 on 'Organization-Strategy'). The management team used to focus too much on a practical agenda, but is growing in its 'steering role'. Members of the management team have a lot of goods ideas but have problems communicating with the basis of their organization (= Score 1 on 'Organization-Style'). Staff members lack clear results of what the management team is doing. They are confronted with a high workload and focus only on their daily tasks. They are not inclined to think any further than what is in their job description (= Score 0 on 'Organization-Staff'). When it comes to technology there is no IT strategy or plan (= Score 0 on 'Technology - Strategy'). The management team is not interested in IT and leaves it to the IT department (= Score 0 on 'Technology-Style'). No one is in charge, the IT department is guided by the need for technical support of the staff members (= Score 0 on 'Technology-Staff').

This way, each local government was attributed 14 scores. Next, we calculated the mean scores of each factor of the 7Smodel for both the quadrant II as quadrant III organizations. These means were rescored on a total of 10 (instead of 2) for an easier interpretation. So we ended up with 7 mean scores for the organizational dimension and 7 mean scores for the technology dimension. This way, we were able to compare the mean scores of the strong aligned organizations on the one hand with the weak aligned organizations on the other hand.

4. Alignment in practice

In this part of the paper, we elaborate on the local dynamics in both the strong or weak aligned organizations. Based on the summarizing figures of the mean scores of the organization and the technology dimensions we are able to explore the 7 elements and the dynamics between them for the two types of organizations.

4.1 Alignment from an organizational perspective

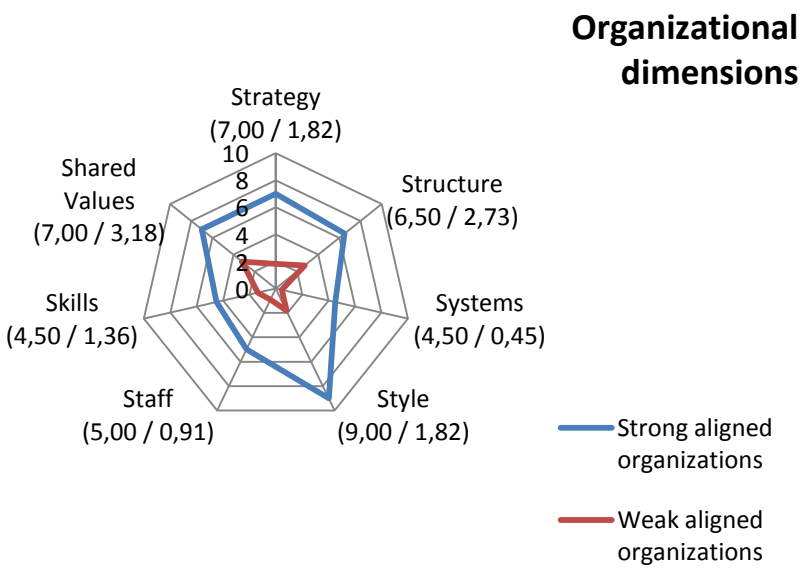

Figure 2: Mean scores of the 7S elements from an organizational perspective for both strong and weak aligned organizations

Looking at the radar below, we see that strong aligned organizations systematically score better than the weak aligned organizations. The most prominent contrast is reflected in the 'style' dimension and shows that strong aligned organizations score a lot better than the weak aligned organizations when considering their leaders and their leadership style. The 'systems' dimension reveals the lowest score

for the weak aligned organizations and reflects the lack of attention for processes in weak aligned organizations. It is important to point out that these mean scores only give an indication of the difference between both types of organizations. They are the summary of the individual cases and stories of these organizations. So next, we discuss the 3 hard S's; strategy, structure and systems and the 4 soft S's; style, staff, skills & shared values for both types of organizations.

4.1.1. Strategy, structure and systems from an organizational perspective

Considering the structure of local governments in Flanders, they have a scope for policymaking and translating their policy to their organizational structure. We find that the strong aligned organizations have a well considered and in most cases written out vision and strategy that is supported throughout the organization. They have an ambitious policy plan that is generally developed after careful consideration of the input of both political as administrative leaders as well as based on the input of the executive staff. There is a broader strategy that is clear for the people involved. These ambitious goals are reflected in a well-considered organizational structure. They do not have strong hierarchical structures but in most cases they have recently been in the process of rethinking their organizational charts in order to group policy domains that are related. Since the 1st of January 2008 the creation of a management team is mandatory for all local governments in Flanders[1]. In the strong aligned organizations we notice a considerable number of higher managers that steer the administration, and that are supported by the middle management. They make a thought-out distinction between line and staff services. Their line services focus on the provision of services for citizens and the staff services support other departments in their daily activities by providing the logistic framework. Both line and staff services are - at least partially - organized around the notion of processes, which are descriptions of the everyday operations and services. Strong aligned organizations realize the importance of thinking and organizing in terms of processes, are active in revising them and see it as a means to strive for a more effective and efficient organization.

In contrast, weak aligned organizations are noticeably less ambitious when considering their strategy, structure and systems. They struggle in formulating a strategy and their expectations for the future. In most cases their strategic documents are developed by a limited number of people (influenced by the pressure of electoral ambitions), but this does not affect the daily functioning of the administrative organization. Day-to-day practices focus on the legislative role of the local government and the citizen-related services. In addition to the execution of these mandatory tasks there is little desire for formulating supplementary objectives. The organizational chart shows a rigid and mainly vertical structure with a limited number of managerial functions. In practice, department managers - and in some cases even the town managers - struggle with their managerial roles and sometimes even fall back on mainly executive tasks. They find it hard to think in terms of the organization as a whole and works towards a better and more efficient organization. The description and revision of processes is a real sticking point for weak aligned organizations. Most of them only have a limited number of process descriptions that have little effect on daily services, or have not started working on it yet.

4.1.2. Style, staff, skills & shared values from an organizational perspective

In addition to these rather formal and 'hard' elements, we also need to consider more 'soft' elements, such as style, staff, skills and shared values. The 'style' dimension stresses the role of managers and their style of leadership. This is reflected by the role of the town manager. The role of a town manager in a Flemish local government plays, as the head of the administration, a key role between the politics on one side and the administration on the other. In eight out of the ten strongly aligned organizations we perceive the town manager as a strong leader who can be described as an organization coach who has a vision for the organization. It is a manager who is open for change with good insights into the organizational strengths and weaknesses and who is able to question the function and goals of the organization as a local government. We notice that the management style of the town manager reflects on how the middle management is managing their departments, services and staff members. This management style stimulates a culture of openness and change, which can be considered as a basis for the shared values within an organization. This stimulates the staff in thinking out-of-the-box, or at least, to think further than their daily tasks and routines and to see convergences with what

[1] According to article 98 of the Municipal Decree states that *the management team supports the coordination of the different services in the preparation, implementation and evaluation of policy. The management team also monitors the uniform operation, the quality of the organization and the operation of the services, as well as internal communication* (Boudry et al 2009).

colleagues or people in other departments do. Both formal and informal consultations between staff members are based on trust and mutual respect. We see productive teamwork arising that breaks through boundaries between different departments. In terms of skills, staff members are no longer narrow-minded specialists but think in terms of services for citizens and how they can make the underlying processes more efficient and effective.

In the weak aligned organizations we also assessed the important role of the town manager as a leading actor. For example in the two local governments where there is an ad interim town manager. These organizations are characterized by a standstill where little to no new initiatives are initiated. This lack of leadership spreads over the rest of the organization. In the other organizations Boudry et al (2009) distinguish between two types of weak town managers. The first type does not take control over their organization but tend to fall back on executive tasks. They are not behind the wheel of their organization. The second type are leaders who are too directive; they give orders that stem from a strict legislative view of the organization. They keep a too firm grip on their organization and block bottom-up initiatives. This weak management style of the town manager spreads over to the middle management and the staff members. Most people within the organization hold to their own job and tasks and focus more on action rather than thinking. Joint initiatives between departments are rare and people are not concerned about their position within the organization as a whole. These organizations are very bureaucratic with invisible fences between departments aiming for consolidating rather than improving. The formal, one-way communication leaves little room for bottom-up ideas. The organizational culture is marked by a lack of trust and low flexibility. More ambitious people tend to leave their job in these kinds of organizations relatively quick.

4.2. Alignment from a technology perspective

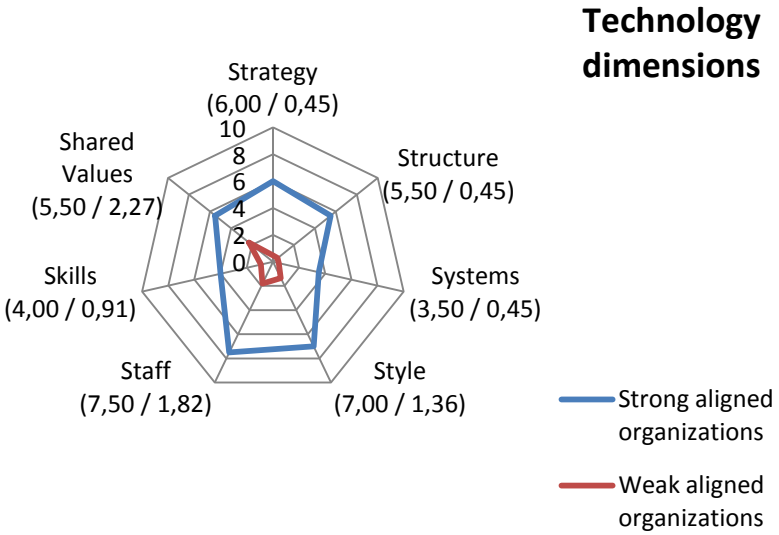

Figure 3: Mean scores of the 7S elements from a technology perspective for both strong and weak aligned organizations

When looking at the local governments from a technology perspective, the second radar also shows systematically better scores for the strong aligned organizations than for the weak aligned organizations. The dimensions 'strategy', 'structure', 'staff' and 'style' show a similar contrast between both types of organizations. When considering the hard dimensions, we find that the weak aligned organizations have no IT policy, have a minimal IT staff and show no attention to their IT processes. What attracts our attention the most, is that there is quite a low contrast between the mean scores on the 'skills' dimension. So, strong aligned organizations still have a considerable number of staff

members that do not dispose of the necessary skills to use technology. Next, we discuss the 7 dimensions from a technology perspective.

4.2.1. Strategy, structure and systems from a technology perspective

The (absence of an) IT strategy gives a first idea of how an organization looks at IT. Do they see it as something technological or as means for supporting and improving the organization as a whole? In all of the researched organizations the IT department is assigned with a supportive role. Even tough, they differ in how they translate this into a particular strategy and organizational structure. We notice that the strong aligned organizations have a better idea of what this supporting role entails. They see IT not as merely technical but as supporting for the organization as a whole. They think in terms of quality and efficiency and think about how they can deploy ITs in striving for a better functioning organization. This attention for IT is in most cases translated into an IT strategy that is written down in a separate IT policy plan or is included in the general policy plan. This strategy affects the IT processes within the organization and very often this is not restricted to merely technological processes but it supports important organization wide processes. Next to strategy and systems, also the embedding of the IT department reflects how the organization looks at technology. In most strong aligned organizations the I T department is under authority of the town manager or is closely linked with domains such as internal affairs, communication, information, quality functions. This way, IT is frequently discussed in the management team.

Weak aligned organizations have no or a very technical IT strategy. When IT is mentioned in the organizations' policy plan, it reveals a very technical view that focuses on the functioning and maintenance of the hard- and software that is available and on the technical support of the staff members. The IT professional provides single solutions for individual requests. Generally, needs from staff members or departments that run parallel are not linked. As a consequence there do not result in a joint solution. IT processes are therefore limited to technical and supporting processes. The role of IT in the organizational processes stems from the software applications the organization has acquired, but not from a consideration of the role IT could play in vital organizational processes. If we consider the organizational chart, not all weak aligned organizations have an IT department (see below). If there is an IT department, its position within the organizational structure reflects a technical and functional interpretation. The classification under technical departments stresses the focus on automation and support. Subsequently, if IT is discussed on the management or intermediate level, it is treated as something technical.

The IT market for local governments in Flanders is relatively small. Until recently there were only four major players but since a few years other IT suppliers started discovering the local governments as a new market for their products. There are two ways in how local governments deal with the IT market. There are local governments that have an active attitude towards the offerings on the IT market and consider different software solutions from different suppliers. They make a well-considered choice for the package that serves them with the best solution for their needs. In contrast, other governments show a much more passive attitude. They prefer buying software packages from one ITsupplier, even though this supplier does not always offers the best solution for them. They are afraid that a new software package from a new supplier could conflict with their existing packages. They have too little knowledge for dealing with compatibility problems while using software from different suppliers. This way, they are very dependent on what their suppliers offers them but also of the choices that were made in the past. Five out of the ten strong aligned organizations reflect an active attitude towards the I T market. Eight out of the eleven weak aligned organizations have a passive attitude towards the I Tmarket and choose to work together with one IT supplier for buying soft-and hardware. The others are still searching how to align the offerings of the suppliers with their organizational needs.

4.2.2. Style, staff, skills & shared values from a technology perspective

The 'soft' elements reflect how IT is handled in reality. When we consider the IT staff, we find that the strong aligned organizations have IT departments consisting of a number of IT staff members ranging fom 1 to 5, with an average of 2,8. Six of them dispose of an IT professional at level A[2]. In contrast, four of the weak aligned organizations do not have a separate IT department nor an IT staff and level B is the maximum level in the weak aligned organizations. The average number of IT professionals is

[2] Staff members working in Flemish local governments are employed in different levels, ranging from A to E, according to their educational level. Level A corresponds to a master's degree, level B to a bachelor's degree and so on.

0,6 with a maximum of 2. The four organizations without an IT professional there is at least one staff member that has a lot of interest in IT and takes care of some basic technical interventions.

Not only the IT professionals leave their mark on how the organizations deals with technology. In agreement with the important role of the town manager on the organizational level, we also see a significant influence of the town manager on the vision on the role on technology within the organization. Boudry et al (2009) found that a town manager does not need to have a technical background to guide the technological growth of the organization. It is important for them to see new opportunities arise from technology and to be open for them. This came specifically to the fore in organizations where a new town manager was recently appointed, for example when the former town manager retired. There we saw a striking and positive change in how the organization looks at the opportunities that IT holds for it. Where before there was an almost standstill in adopting new technology, suddenly the organization finds itself in a world full of new IT challenges.

Next to staff and style, we also need to consider skills and shared values as interesting factors when we consider the use of IT by organizations. All researched organizations find significant differences in the IT skills of their staff members. Every local government seems to have staff members that have limited IT skills when using for example a word processing program or a spreadsheet. But they also have staff members who think along and show a proactive use of IT in their job. When considering the 'shared values' or the organizational culture, we find that strong aligned organizations show a culture that is more open for technological changes than weak aligned organizations.

4.3. Disaligned organizations

So far, we focused on aligned organizations where both the organizational and technology dimension show a comparable speed in their development. Next, we want to discuss the 3 cases in our study that lack alignment. All three of them reflect a considerable contrast in the stage of development of both dimensions. Because we only came across 3 organizations that were not aligned, calculating the scores of the 7 dimensions of the 7S model would only have a limited value. So we decided to confine ourselves and provide a solid description of these cases.

There are two ways of mismatching the organization and technology. These opposing types of disalignment are reflected by the cases in quadrants I and IV. Both cases in quadrant I show large IT departments outrunning their organizations. The IT professionals are able transcend their technical support role and focus on organization-wide and policy-oriented tasks. But these IT departments make high demands for the rest of the organization and we see other departments struggling in meeting these expectations. We also state that most of the leading actors within the organization work for the IT department. This dominance of the IT department facilitates the unbalanced growth of these organizations further.

In quadrant IV we encountered an organization with a very clear and solid vision on the organization's way forward. But their IT professional does not meet the organization's expectations. The organization does not get the support it needs from their very technical-oriented and badly communicating IT department (quadrant IV). We feel that this particular situation of disalignment can quite easily be turned around. For example, hiring a new – or a complementary – IT professional with better communication skills and better insights into the organization's needs, the organization can make a short-term transition from quadrant IV to quadrant II. On the contrary, we think that a transition from quadrant I towards quadrant II will be much more difficult. We expect that the lack of a solid organizational foundation will hinder the organization to turn around the dominance of the IT department. In this sense, the disalignment we determined in quadrant I is much more problematic than in quadrant IV.

5. Conclusion

In this paper we stated that local governments differ notably in the way they make use of technology within they everyday functioning and we wanted to stress the importance of investigating the internal dynamics of organizations dealing with technology. We applied the idea of strategic alignment to local governments and explored the 7S model as a lens to examine case studies. By analyzing previous research findings we explored the different elements that help us to explain how organizations deal with IT. Doing so, we aimed for a better understanding of the dynamic and ongoing process of

aligning local governments with technology. There is definitely a need for more empirical research in a more structured and systematic way to identify and objectify these 'hard' and 'soft' elements that influences an organization's alignment level. We believe that the alignment level of an organization has an influence on how and to what extend technology is used within this organization. An organization's level of alignment will also affect the succes rate of IT projects. Better insights into the complexity of this alignment process will thus lead to a more profound understanding of how this process comes into practice. For local governments, these new insights can contribute to a better understanding of internal factors and processes that contribute to or hinder the implementation of technology. This can result in a more solid approach of new IT projects. We also showed that an analysis on an aggregated level can form a good basis to develop a typology of how local governments deal align their organization with technolgy. This can be beneficial for both higher governments as well as IT suppliers when they work out IT projects for local governments. In short, we wanted to demonstrate that alignment is not an outcome but a complex and dynamic process. It influences how local governments deal with technology. and needs to be further examined in order to increase the understanding of how alignment comes into practice.

Acknowledgments

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