

Exploration in the role of a co-operative facilitating collaborative IT decision making in the public sector

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Abstract

Public organizations are vulnerable when individual deciding upon IT investments. Collaborative IT decision making may provide the opportunity for sharing costs and expertise in the development of effective IT solutions. But, it is difficult for a facilitative leader to create shared understanding in IT decision making. Case study research of Midwaste in the waste sector is performed to explore the role of a co-operative in collaborative IT decision making. Network theory explains why IT managers prefer individual decision making. An IT manager is either depending on the political influence of the shared IT infrastructure with the municipality or the partnership with the software provider to reduce risks of IT decision making. For Midwaste the best strategy is to start collaborative IT decision making with the most willing and ready members. These are members that are the least dependent. Next, a multi issue agenda will create the shared understanding. To ensure statistical generalization of the theory more quantitative research is needed. Future research could be to investigate the shared IT infrastructure of public organizations with the municipality. How may the freedom of IT managers influence the effectiveness of IT decision making. A survey between multiple public organizations may be disseminated.

Keywords: IT decision making; co-operative; facilitative leadership; public sector; network theory; inter-organizational collaboration.

1. Introduction

In the Netherlands, a study on the success of IT decision making in the public sector shows that most public organizations are unable to develop effective IT solutions (Rijksoverheid, 2014). IT solutions in the public sector are usually developed by assigning a software provider by use of a public tendering procedure (Stuijts, van de Water, Vidal, & Ditters, 2012). Public organizations will aim for tailor made solution, because it may better fulfil all rapidly changing process or policy requirements of local public services. The absence of IT knowledge and bargaining power often lead to failed or expensive IT projects. Collaboration between public organizations may provide the possibility to share in-house IT knowledge, lower the costs for outsourcing and may provide insights in best efforts for designing interfaces between IT solutions. Collaborative IT decision making is therefore being explored for its potential to create synergy effects in the public sector.

The co-operative is a popular and persistent type of collaboration (Bosma & De Jonge, 2014). Around the 3000 co-operatives are economically active in the Netherlands wherein almost the half is less than 10 years old (Van Bekkum, 2013). In collaborative IT decision making co-operative initiatives are still limited (Gemeenten, 2015). A reason for this might be because of the characteristics of IT decision making in the public sector. Public organizations are held accountable for the quality of public service delivery by the municipality. All IT investments associated with public service delivery will be traced by central government. Managing the risk of IT decision making is an important task to the IT manager. For example to ensure the privacy and security of information inside the organization. This risk is decreasing by guaranteeing the confidentiality, integrity and availability of information (Bishop, 2004). Therefore, IT managers inside public organizations would like to be

fully in control and have a tendency to prefer individual IT decision making. It is therefore still unknown which role the co-operative association has when achieving successful collaboration in IT decision making. The aim of this study is to explore the role a co-operative as facilitative leader for collaborative IT decision making in the public sector. Main focus will lie upon how IT managers can be persuaded to join the collaboration initiative of the co-operative.

This paper is structured as follows: it begins by describing the scientific background of facilitative leadership in IT decision making and present the co-operative in the light of network theory, after which we outline our research approach. Next, we discuss what factors influences the willingness and readiness of the IT managers to collaborate. IT manager prefer individual IT decision making despite of the fact that IT investments are risky; organizations might obtain a lot of synergy effects when forming a market front against the software provider; no real competition and a lot of trust is already present in the co-operative. Finally, we present our conclusions and provide recommendations for further research.

2. Background

According to inter-organizational theory starts a collaborative process with creating shared goals, shared power and mutual trust on a certain IT issue (Kloth & Applegate, 2004). Facilitative leadership, a critical ingredient of inter-organizational collaboration, is for bringing organizations to the table and steering them through the collaborative process (Ansell & Gash, 2007). Facilitation is the least intrusive form of intervention; a facilitator's role is to ensure the integrity of the consensus-building process itself. Over the last two decades, a new strategy of governing called "collaborative governance" has been developed. A definition of collaborative governance is:

"The processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished" (Emerson, Nabatchi, & Balogh, 2011).

In collaborative governance one of the main knowledge gaps identified is how the facilitative leader could create a shared understanding between parties. Achieving this in IT decision making might be difficult as the organization all have a different understanding that is influenced by their political and organizational environment (Bradley, Pratt, Byrd, & Simmons, 2011; Hoch & Payán, 2008). The main reasons for this is that the organization are part of a network and not hierarchy. Also the range of intervention by the facilitator is limited because of the characteristics of a network (Bruijn & Heuvelhof, 2009). Variety causes that the actors of the network are sensitive to different types of intervention. Closedness causes that it might be difficult to get the support by others because the intervention might get unnoticed, ignore, resisted, not fulfilled or not managed to reinterpret it. Mutual dependencies causes that some actors simply do not accept directives from the intervening actor as they are already depending on other actors.

The co-operative association is a popular and persistent type of facilitative leadership. In the three pillars of the co-operative is described how by aiming for change, organizing capacity and economic capacity a great impact is achieved (van Oorschot, de Hoog, van der Steen, & van Twist, 2013). First, the co-operative is inspired by a drive for change; they want to add something to their community; improve a certain condition or serve an interest that other parties do not value. Co-operatives can be pragmatic solutions to pressing problems. Co-operatives are operating in a system, but often strive to change that system as well. Second, the co-operative has to establish economic capacity. In order to achieve change a viable business model is needed. A co-operative can pool the investments of the members, can create a better market position than individual members have, and can decide to spend the profit on the things members find important. Third, the co-operative could organize capacity. The co-operative can mobilize its members, organize involvement, and sometimes count on voluntary capacity of its members. Other literature discusses the role of the co-operative. Co-operatives do not aim at maximizing profits and the value of invested capital. Instead, the goal is to create and add value for the members, who can be simultaneously both the owners and the customers of a co-operative (Bhuyan, 2007). By self-help, self-dependence and self-government the co-operative put the emphasis on member participation rather than capital

investments (De Moor, 2015; Oesterberg, Hakelius, & Nilsson, 2007; Van der Sangen, 2015). So, it can be concluded that the co-operative a bottom up mechanism is for collaboration that is different to the more hierarchical approach. Members of a co-operative are responsible for the direction of collaboration. Collaboration will therefore only exist if the members agree upon the direction. But, when the collaboration is established it will become a persistent relationship between the members. In Figure 1 is depicted how members immediately attain value from participating in the co-operative association. The co-operative is a very effective organization as little employees may create big profits for many members.

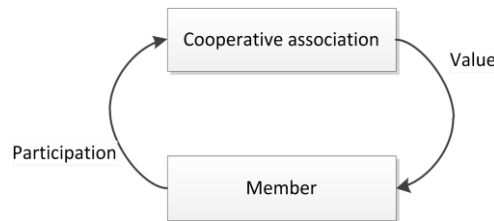


Figure 1: Value through participation of members

Thus, when designing a collaboration initiative the co-operative will take all differences and similarities in goals into account before trying to create a shared understanding. In that case it is important for the co-operative to focus their collaboration effort based upon process management. It is not in what the organizations need to collaborate, but it is how they need to collaborate. During the case study multiple IT managers will be interviewed and their answers will be assigned to the three difference characteristics of networks, see table 1.

Table 1: Combination of theories

Three pillars of the co-operative	Network theory	Inter-organizational collaboration
<i>Is saying that...</i>	<i>is dealing with...</i>	<i>while creating...</i>
1. Aiming for change	variety of parties	shared goals.
2. Organizing capacity	closedness	mutual trust.
3. Economic capacity	mutual dependencies	shared power.
(van Oorschot et al., 2013)	(Bruijn & Heuvelhof, 2009)	(Kloth & Applegate, 2004)

3. Method & material

This is a qualitative case study aiming at understanding collaborative IT decision making within a real-life context (Gibbert & Ruigrok, 2010; Yin, 2009). The case study will consider Midwaste as facilitative leader for collaborative IT decision making in the waste sector. Midwaste is a co-operative in the waste sector of the Netherlands (Van Bekkum, 2013). Their members are all (semi) public waste collection organizations: *Afvalstoffendienst 's-Hertogenbosch, ACV, Avalex, BAT, DAR, Meerlanden, Irado, Afvalservice Gemeente Breda, Omrin, Saver, Gemeente Oss, Gemeente Doetinchem and Cure*. Midwaste was aiming for change by creating a new balance between the small, regional waste collection services (Midwaste, 2015). Their main goal is to join forces and operate on a larger scale towards the market.

All waste collection organizations obtain a geographic monopoly and there is only an incentive to start collaborating and not competing (Dekkers, 2006). In such a real life context it should be easy to start collaborating in IT decision making. Yet collaborative IT decision making is still limited. Also, the central government of the Netherlands increasingly changes the regulation towards waste collection. Because of these changing rule and regulations the waste collection organizations need to have good IT decision making to support the (core) processes. To manage the registration, collection and processing of different waste streams multiple IT software packages are available in the software market. Recent movement of waste collection organization changing their IT environment has the potential to give a lot of insights in why the IT managers all individually go into IT decision making. It is an unique opportunity to investigate collaborative IT decision making in which factors such as trust and commitment are already considerably present (Eisenhardt, 1989). Activities included an open in-depth interview with 13 IT managers and online questionnaire (Jacob &

Furgerson, 2012). The following topics were discussed: IT environment and the characteristics of person or organization, collaborative IT decision making in a co-operative and future IT issues for the waste sector. All interviews got a mp3 file and transcript.

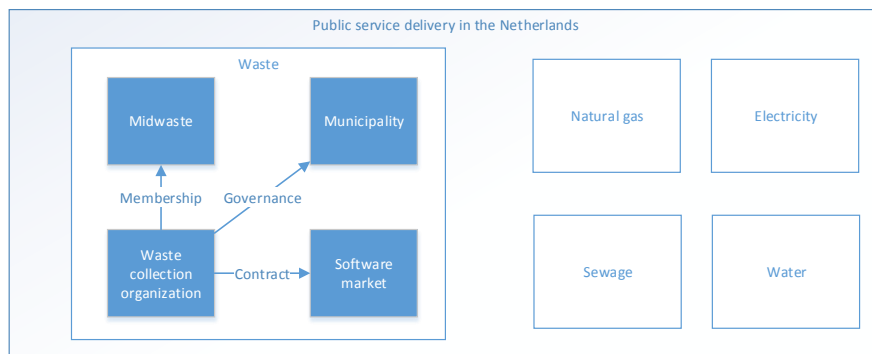


Figure 2: case study design

4. Results

Network theory is used to assess the transcripts of the IT managers (Beijert, 2015; Bootsman, 2015; Brouwer, 2015; de Cocq, 2015; den Bode, 2015; Gouw & van der Drift, 2015; Jansen, 2014; Minderman, 2015; Mol, 2015; Ruiter, 2015; Scheltenaar, 2015; van Grunsven, 2015; van Montfort, 2015). In this chapter all findings are presented. Paragraph 4.1. says something about why it will be hard for the co-operative to find the right direction for collaborative IT decision making. This is because municipalities have a lot of freedom to interpret legislation in the way they think is best. A lot of differences in implementation of legislation exists and therefore differences in information need. Paragraph 4.2. explains that it will be difficult for the co-operative to find and involve the right authority for collaborative IT decision making. This is because a history of IT decision making causes increasing mutual dependencies in the division of role and responsibilities. Finally, Paragraph 4.3. explains how it will be difficult for the co-operative to synchronize the IT decision making process of its members. This is because IT investments have high costs and are long term. Changing IT landscape is something that is only done if really necessary. Members experience a different sense of urgency.

4.1. Variety in information need

The members of Midwaste are all similar while looking at the core activities. Each member is part of the logistic chain of waste management and is responsible for the collection of waste from households. Also, each member has the same sequence of activities for the waste collection such as communicating waste collection to citizens, supporting waste separation, planning route waste collection, maintaining 'milieu station', collecting waste, weighing waste and registering waste. However after comparing the information need of the waste collection organizations to each other differences are found. Topics in IT decision making that are mentioned during the interviews are logistics without paper, route optimization, going into the cloud, alternative communication channel and standardization of reporting. Every topic has its own sense of urgency. If Midwaste decides too early in the process upon the kind of IT decision making topic members will leave the collaboration initiative. An example is provided in the previous attempt by Midwaste to start collaborating in Logistics without Paper. Multiple organizations did not join the initiative, because they didn't see this as the right future for IT solutions in the waste sector. Because of the differences in information need it will be hard for a co-operative to find the right direction of collaborative IT decision making. Therefore, collaborative IT decision making should be established based upon process management not project management. In process management the focus lies upon how the organizations need to collaborate instead of on what the organizations need to collaborate. The information need is not a criteria in which the co-operative may start collaborative IT decision making.

4.2. Mutual dependencies of IT manager

It became clear that the IT manager has to deal with multiple dependencies. Figure 3 depicts all relationships. The three dependencies that are currently present for the IT manager are described in Paragraph 4.2. The dependencies that need to be established by the co-operative are described in Paragraph 4.3.

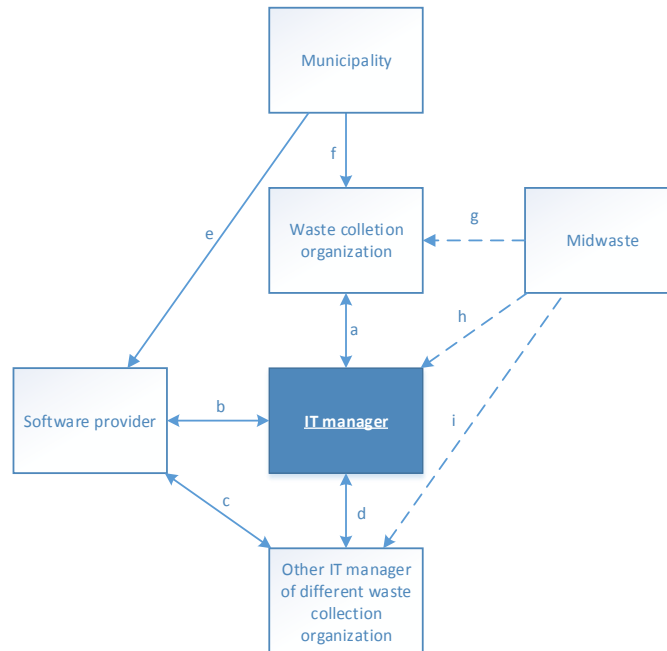


Figure 3: dependencies of IT manager

Political influence of municipality (see lines A, E and F in figure 3)

Municipalities are free to organize the collection of waste for households in the way they think is best. Either they do it themselves, do it together with other municipalities or hire a private waste collection company. In the latter it is not possible to influence waste collection processes for 5-15 years, depending on the contract in place. No real opportunity for inter-municipal collaboration exist. Members of Midwaste are all (semi) public waste collection organizations. Their organizational structure might vary between a department of the municipality to a municipal private company. Causing differences in IT decision making process between the members that makes IT managers to prefer individual IT decision making. The following three are identified. First, it causes a different speed of the IT decision making process. In some cases do the members only once a month need to report management issues to the municipality. Then, only the output to the IT solutions used will be measured. How, where, when and what IT solutions are used is individually decided upon by the IT manager. In other cases, the most extreme cases, do members share their IT infrastructure with the municipality. Then, IT solutions for waste collection must be approved by or purchased with other departments at the municipality. Second, it causes a different continuity of the IT decision making process. Mostly in the smaller organizations might the IT decision making stop, because of the possible take-over/merging into another (private) waste collection organization. In that case the deployment of resources such as employees, waste trucks and IT solutions will not become profitable for the size of the waste collection. Third and last, it causes differences in information need. Organizations differ in number of municipalities served by the waste collection organization, number of households included in the waste collection route and kind of activities. In bigger organizations the need for optimizing routes, digitalizing flows of invoices, communication methods, board computers and chips in underground containers is much higher. In that case the IT decision making process will receive much more attention than in the smaller organization.

Partnership software provider (see line B in figure 3)

Waste collection organizations create different types of IT managers by employing different kind of persons to the task of IT decision making. One signal for this was the function description given at the beginning of the interview, varying between “Manager Finance” to “Functional and Application Maintainer”. Another signal was the way they were answering the questions during the interviews, varying between very technical to very high level. Besides, in some organizations an interim IT manager was assigned because the previous IT manager had a burn out. This type of IT manager will decide upon IT solutions that are tailor made or standardized; developed internally or externally. IT managers in the waste sector are more and more seeking for a partnership with the software provider. During the procurement phase of IT solutions is searched for a pro-active software provider instead of a passive software provider. This is to limit the probability of dissatisfaction and to transfer the risk of failed IT solutions towards the software provider. In some cases the relationship between IT manager and software provider is very strong as they together developed an IT solution. Then, the IT manager provides the software provider with information about the processes of waste collection and the software provider brings IT expertise in the waste collection organization. Both parties will benefit from such a partnership. An IT manager will prefer this individual IT decision making as with a partnership it is possible to influence the development agenda of a IT solution. In that case the organization will get the opportunity to function as testing ground and adopt the newest IT solutions. For a smaller price than the IT solution will go to the market. Besides, IT decision making is a long term investment and once partnering up with a software provider will ensure the waste collection organization not to be making big IT decisions for a long period.

User groups (see line B, C, D in figure 3)

IT managers do have a lot of contact with other IT managers. This is mostly knowledge sharing. IT managers don't seem to withhold any information. The software provider tries to exploit this by bringing IT managers in contact with each other. Two mechanisms are identified. First, IT managers often base their final choice for a IT solution upon other references: if it works for them than it will also work for us. Therefore IT managers contact other IT managers that are recommended by the software provider to see how an IT solution works in practice. In this case a certain waste collection organization is appointed to be a showpiece to the others. This organization might be a showpiece, because of having the largest implementation of the IT solution. The organization will not have a totally objective view of how the IT solution works in practice. Maybe in another situation many defects had occurred. Second, IT managers are subject to a lock-in effect when they are actively being involved in the design and development process. In this case IT managers of similar organizations are involved in certain user groups. With these user groups the software providers attempt to better meet the requirements of their clients for their product. More standardized software products will emerge as requirements in user groups can be combined into one IT solution. In user groups, experiences will be exchanged between IT managers. Because the IT manager are part of this group they feel they belong and have actual influence on the development process. They don't want to leave the user group. So, through these two mechanisms the waste collection organization seem to turn to one or two software providers. As the waste sector is already very small other software providers will leave the market. The market will turn into a duopoly of IT solutions. It is unknown to what this will lead in the future. If there is nothing to choose from the organizations will not have any bargaining power anymore.

4.3. Closedness (see line G, H, I in figure 3)

Midwaste has an important facilitating role for collaboration initiatives in the waste sector for years. By aiming for economies of scales in bundling waste streams, purchasing containers to collect waste and other activities Midwaste delivers direct profits to its members. More and more members join the Midwaste co-operative and a lot of trust between the members is already present. It is a logical consequence that the members are increasingly interested in the possibilities for collaborative IT decision making. All members seemed to be willing for sharing knowledge in IT decision making. However, when talking about more extensive forms of collaborative IT decision making the opinions of the IT managers started to differ. The following types of attitude were identified. First, because of having no experience it is not clear to the IT Manager how the organization could benefit from collaborative IT decision making in Midwaste. In this case it will also be unclear to Midwaste what to expect from the behaviour of the IT manager. Second, because of a certain stubbornness the IT managers only

see differences between the members. Often they talk about being more advanced than others and already having a well-functioning IT solution. In most cases the organizations don't mind sharing the information to others. Third, because of seeing synergy effects to collaborative IT decision making a certain openness of the IT manager to Midwaste is encountered. In the first two types of attitude trust need to be regained. The collaborative IT decision making will have the highest chance of success when starting with the most willing members.

4.4. Willingness and readiness of IT managers

What is become clear is the fact that the IT manager all have a certain willingness and readiness to start collaborating. A difference is identified in dreams and real demand from management. Some IT managers have a real inspiration to think about collaborative IT decision making, but will not get the support from own management. The willingness and readiness of members are two different things and need to be considered separately as well. In Figure 4 are all the factors influencing the willingness and readiness of IT managers presented.

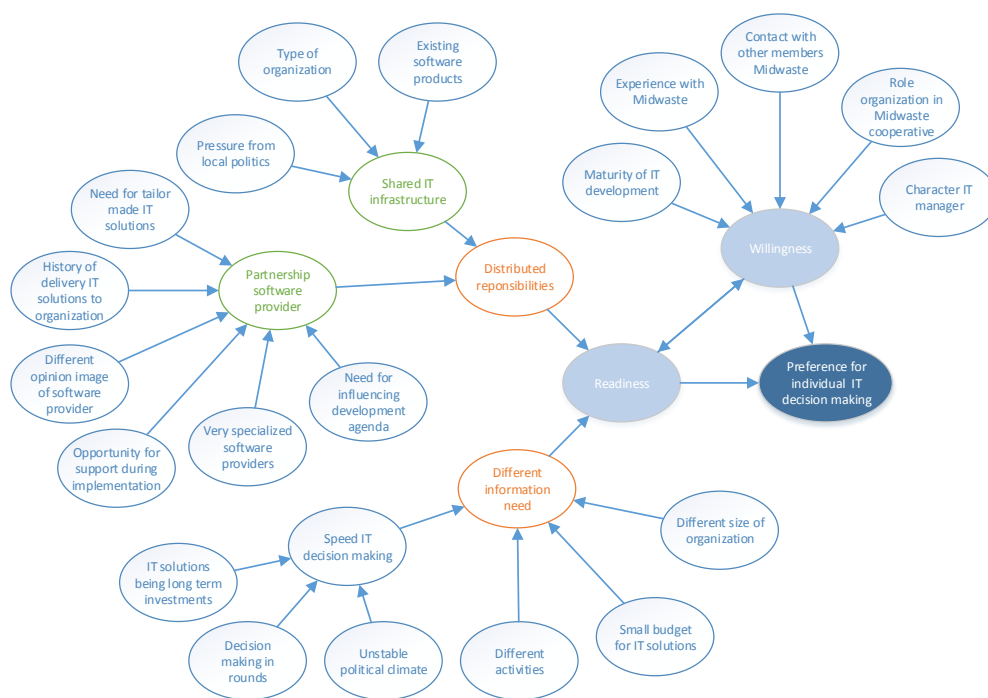


Figure 4: factors for pursuing IT managers in collaborative IT decision making

For facilitating collaborative IT decision making the following propositions are made. First, by choosing the organization that are most suitable to start the collaboration with, collaborative IT decision making becoming a success is the highest. Not all members to the co-operative need to be incorporated. A small collaborative initiative may be pursued. When the initiative starts small and in phases it is easy to keep the overview; learn and adapt from mistakes without having a high impact; there is always the possibility other organizations will join the collaboration later on in the process as the unity increases. The co-operative chooses to either start with one member, cluster members based upon characteristics or listen/act for all members at the same time. An effective strategy would be to start small with the members that are most willing and ready towards a collaboration in IT decision making, see Figure 5. Second, by aiming for a long term duration the IT decision making process will be synchronized at the end. Some members have a very strong relationship with the software provider or municipality and they have no intentions in switching to another software provider. Perhaps on a long term when the collaborative initiative promises to be successful the other members will join. Third and last, by starting with a multi issue agenda it will be possible to create a shared IT vision. If there are too many different direction in IT decision making it would be difficult to actively involve the members in the co-operative. There are different types of involvement in the co-operative: affectively involved (instinctively), involved based on calculation

(economic benefit), imperative involved (no alternative) and normative involved (norms and values) (Bosma & De Jonge, 2014). type will influence the demand and commitment to the process of collaboration. A strategy will be to involve the IT managers in an open discussion with a low threshold about overall IT decision making process.

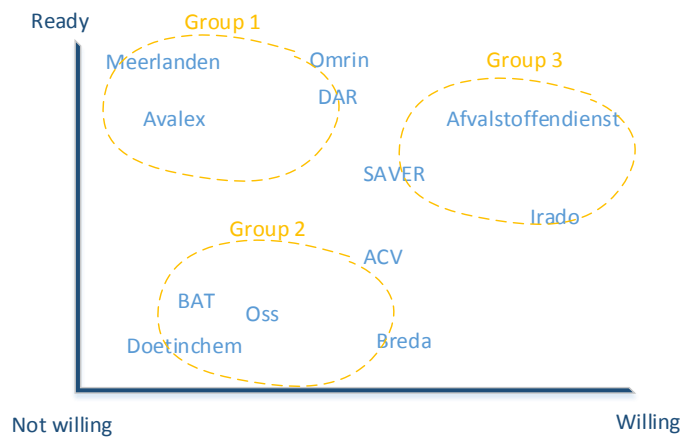


Figure 5: Willingness and readiness of Members to start collaborating

5. Discussion and Conclusion

In the theoretical framework is defined that it is still unknown how a facilitative leader can create a shared understanding in collaborative IT decision making. The co-operative is well-known for its bottom up mechanism for achieving inter-organizational collaboration. The members together are responsible for the direction of collaboration efforts. Collaboration will only exist if the members agree upon the direction. Investigating the role of a co-operative in a real life context made it possible to develop a theory on how to persuade members in collaborative IT decision making. Network theory was used to do so. Freedom of IT decision making influences the members to have differences in information need and sense of urgency; an history of IT decision making causes the members to depend on relationships with municipality or software provider; limited experience with the co-operative causes closedness towards opportunities for synergy effects. Considering this it was possible to develop a strategy for the role of the co-operative. This is to start with the most willing and ready members, to aim for long duration of collaboration and to design a multi issue agenda. A limitation to case study research is the opportunity for statistical generalization (Gomm, Hammersley, & Foster, 2000). For this more quantitative research is needed. However, it is possible to look for analytical generalization. One of the most interesting findings was the shared IT infrastructure of the waste collection organization to the municipality. This restricted organizational structure seems to influence the effectiveness of IT decision making in public organizations. By disseminating a survey between multiple public organizations it might be possible to investigate this phenomenon and find statistical proof.

6. Literature

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