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Daniel Toll, Ida Lindgren, Ulf Melin

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# Process Automation as Enabler of Prioritized Values in Local Government – A Stakeholder Analysis

Daniel Toll\*<sup>[0000-0001-5656-5236]</sup>, Ida Lindgren<sup>[0000-0002-4735-8697]</sup>, and Ulf Melin<sup>[0000-0002-2784-863X]</sup>

Department of Management and Engineering, Information Systems and Digitalization,  
Linköping University, 581 83 Linköping, Sweden  
{daniel.toll, ida.lindgren, ulf.melin}@liu.se

**Abstract.** Local government organizations (municipalities) in Sweden are encouraged to pursue process automation to face upcoming challenges. In this paper we focus on a case where these recommendations are put into practice and explore the views on process automation held by different stakeholder groups, related to which values they prioritize in their respective area of work. We do this by applying stakeholder theory and the model of value ideals by [1] as a combined theoretical lens. Our results show that different stakeholder groups prioritize different value ideals in their areas of work and that their views on process automation as able to enable these value ideals vary from optimistic, to hesitant to pessimistic. In the studied case, the achievement of process automation is in part reliant on workers themselves seeking it out, meaning that the pessimistic view on process automation poses a problem in that it becomes an obstacle for this to function. We discuss the possible reasons for the differently held prioritized value ideals as well as the differently held views on process automation. We conclude that the studied case shows that implementing process automation includes establishing new structures, roles and responsibilities and comes with certain issues, as those highlighted by our analysis. We found the combination of value ideals and stakeholder theory useful in studying e-government initiatives and make some further recommendations on possible future, related, streams of research.

**Keywords:** Automation, Public sector, Municipality, Stakeholder theory, Public values.

## 1 Introduction

Process automation has become a topic of attention within the e-government research, policies, and practice sphere in Sweden during the last few years. There are several reasons behind this, the most frequently stated one being that process automation is *needed* to face an ageing population and related demographic and economic challenges in local and regional government [2]. Process automation is expected to bring efficiency gains that are required to keep the welfare system operational when faced with

insufficient budgets for the increasing workload (*ibid.*). The advancement and availability of process automation technologies has also been crucial in enabling the possibility to pursue process automation. For Swedish local government organizations (municipalities), process automation of case handling processes and administrative processes is presented as a new era of digitalization, reflected in the many publications and inquiries published by SALAR and the Swedish Government Offices [2–10].

Much of the current focus on process automation stems from a success story of a particular Swedish municipality automating a case handling process, cutting down lead times and efforts required, as well as increasing the availability and service quality for the citizen [3]. This success story has been highlighted and heavily promoted in policies by the Swedish Association for Local Government and Regions (SALAR). SALAR coordinates, inspires, and guides local governments and regions in Sweden on multiple topics, e.g., digitalization. Despite the encouragements by SALAR and the Swedish government to pursue process automation, neither SALAR, nor any other public authority, has offered more detailed guidance on how to implement process automation, nor provided any indications as to what processes should be automated. This has left the 290 municipalities to find their own way, and many municipalities are struggling to do so. A report published in 2019 found that only 2.5% of Swedish municipalities had, at that time, implemented a process automation solution. However, the report also noted that several municipalities had planned to implement such a solution, meaning that by the end of the same year this figure was expected to rise to 4.5% [11]; this is still a low number. The report highlights that process automation require much more effort than simply installing a new software, and that the development is hindered by lack of knowledge and experience [11, 12], as well as by technological, organizational and legal obstacles typically seen in digital government initiatives (*cf.*, [13]).

As stated above there is a gap between how process automation is presented in influential policy documents, and how local government organizations proceed and succeed in implementing this type of technology. Implementing process automation in local government is not only challenging in practice; the very idea of process automation being the savior of the welfare system should also be considered with some caution. Previous research illustrate that process automation technologies may be associated with overly optimistic expectations [14, 15], and thus be driven by techno-optimism [16]. This can lead to unexpected or even unwanted consequences in practice [17]. For instance, process automation holds great potential to increase efficiency [18, 19], but can at the same time bring unrealistic expectations of its promised business value. It is also likely that different stakeholders in local government perceive process automation differently, and that conflicting interests can impede the development and implementation of process automation.

Against this background, the aim of this paper is: (1) to explore stakeholder views on process automation in local government and (2) relate these views to prioritized values linked to the different stakeholders' area of work. There is typically a large number of stakeholders involved in e-government initiatives (e.g. [20]), and process automation in municipalities is no exception. Process automation involves a large number of stakeholders which contribute and interact in different ways, e.g., policy makers, promoters, managers, developers, and end users. How different stakeholders affect and

are affected by e-government initiatives is central to our understanding of e-government [20, 21], and is important to explore also in the context of process automation. The academic community plays an important role in educating and extracting lessons from empirical cases on process automation [22]. There are some examples of e-government studies on the consequences of increased process automation in the public sector (e.g. [23–26]), but much remains to be done in order to gain a better understanding of how process automation affects these organizations in particular and society at large in general [27]. We wish to contribute to this stream of research.

The paper is organized as follows: first we present the case along with details about our method for data collection, we then proceed to present the theoretical framework, our motivations for our choices and our approach during analysis. We then present our findings and describe the identified stakeholders, their roles, and their respective views on process automation. This is followed by a discussion of insights gained from our findings. We end by concluding our findings and provide some thoughts for future research.

## 2 Case Introduction and Data Collection

Our paper is based on a qualitative and interpretative case study [28], conducted as part of a larger research project where one of the goals is to map current developments of how digital technologies are implemented and used to automate case handling in local government of case handling processes [39]. The case is centered around an initiative to implement process automation in case handling and administration in a Swedish municipality; hereafter referred to as the Municipality. The Municipality is one of the larger municipalities in Sweden with approximately 160 000 citizens. The Municipality is organized into seven departments, each focused on a certain subset of services, e.g., education and labor market, environment and city planning or elderly- and childcare. There is also a city council department that includes internal support functions such as HRM and IT. In order to effectively strategize and coordinate its digitalization efforts, the Municipality has recently (2019-2020) formed a Digitalization Group under the City Council Committee. This Digitalization Group consists of five roles: A Director of Digital Transformation, an Automation Leader, a Project Management Office Leader, an Innovation Leader, and an IT-governance and IT-architect Leader. Concerning process automation, the Automation Leader is tasked with establishing what they themselves refer to as *automation capacity*, here understood as the name of a structure of processes that aim to enable co-workers within the Municipality to identify *automation ideas*, which then can be developed into *automation solutions*. The automation solution could be a simple script or a more advanced robotic case handling solution that executes a process instead of a caser worker. An important aspect of this automation capacity structure is that it is planned to function bottom-up, stemming from individual employee’s ideas and wishes.

Between February 2020 and January 2021, we conducted 21 interviews with 18 different informants. The first of these interviews was conducted in person and the subsequent ones through video calls (Zoom and Microsoft Teams) due to the covid-19

pandemic. We used the Automation Leader as our point of departure, who recommended a first set of people to be interviewed, after which additional informants were identified through snowball sampling [29]. The Automation Leader was interviewed on three occasions, and one other informant was interviewed on two occasions. The informants are predominantly business developers or managers working in six of the seven departments. The interviews were semi-structured and focused on discussing the informant's role in general as well as their view on process automation and the initiative to establish automation capacity. Each interview had a duration of approximately 90 minutes and was recorded. The interviews were transcribed prior to analysis. In this paper, we focused on questions from the interviews concerning the role of process automation in the informants' current and future work situation.

### 3 Analytical Framework

In the analysis we focus on process automation of administrative processes, typically related to case work. Automation is understood as “*the execution by a machine agent (usually a computer) of a function that was previously carried out by a human*” (Parasuraman & Riley, 1997, p.231). The focus on *process* automation specifies this definition somewhat, in that it focuses on processes as the things to be automated, but this definition is still very general. This general and inclusive definition means that process automation in practice can refer to the application of technologies that are contemporarily associated with process automation, such as robotic process automation (RPA) or different kinds of artificial intelligence (AI). Process automation however can also include older, more traditional methods, such as systems integration and application programming interfaces (API). As such, process automation as a concept and possibility is nothing new per se, but the more recent hype surrounding RPA and AI, combined with success stories of process automation in local government, has resulted in not-seen-before *explicit* initiatives focused to automate processes in the public sector. The scope of what is possible to automate has also widened [31], and AI now brings promises of being able to automate cognitive tasks, that before now have been impossible to automate due to their need of human discretion [32]. Throughout this paper we use this general and inclusive definition of process automation that includes several technologies, as it mirrors our empirical material, where no finer distinctions are made as to what process automation entails.

#### 3.1 Stakeholder Theory

Stakeholder theory supplies concrete tools for how to identify and manage important actors; several of these ideas have been successfully transferred to the public sector [21]. As an entity, a stakeholder is “[...] *any group or individual who can affect or is affected by the achievement of the organization's objectives*” ([33], p. 46), and can refer to individuals, groups, organizations, or even the environment [34]. The core of stakeholder theory is the idea of identifying and managing stakeholders in various ways; managing the organization's stakeholders is seen as a way to ensure effective and efficient management. Stakeholder theory is highly useful for discussing the large variety

of actors involved in e-government projects; visible in the successful transfers of stakeholder theory to the public sector and the e-government context (e.g., [20]).

### 3.2 Value Ideals

Government organizations are supposed to uphold public values [35], and digital technologies have the power to transform such public values [36]. There have been several contributions over the years to create inventories and models of public values to be used to study the transforming power of digital technologies, e.g. [37, 38]. In this paper we apply a theoretically grounded model that synthesizes previous research on value ideals [1]. This model has been applied in previous studies on automation technologies in a Swedish municipal context where it showed promise as an analytical tool [24]. The model categorizes public values into four value ideals. In table 1 these four value ideals are presented, along with their definition and key values.

**Table 1.** Model of value ideals, adapted from [1].

Value ideal	Definition and key values
Professionalism	<i>"The professionalism ideal is focused on providing an independent, robust and consistent administration, governed by a rule system based on law, resulting in the public record that is the basis of accountability. Key representative values are durability, equity, legality and accountability."</i> (pp. 539-540)
Service	<i>"The service ideal involves maximising the utility of government to civil society by providing services directed towards the public good. Key representative values are public service, citizen orientation and service level and quality."</i> (p.540)
Efficiency	<i>"The efficiency ideal concerns providing lean and efficient administration that minimises waste of public resources gathered from taxpayers. Key representative values are value for money, cost reduction, productivity and performance."</i> (p. 540)
Engagement	<i>"This ideal focuses on engaging with civil society to facilitate policy development in accordance with liberal democratic principles, thus articulating the public good. Key representative values are democracy, deliberation and participation."</i> (p. 541)

### 3.3 Applying the Analytical Framework

When applying a stakeholder lens to our empirical material, four stakeholder groups became salient in the material: *The Digitalization Group, IT Department, Support Functions, and Operational Staff*. These groups are based on the informants' roles in the organization, and their interests in the ongoing automation initiative in the Municipality. These four categories of stakeholders largely mirror the already existing organizational structure of the Municipality in its division of different functions, although somewhat generalized.

We then applied Rose et al.'s (2015) model of value ideals on the empirical material. This was done in order to explore and illustrate which value ideals the informants view as important within their own area of work, and whether they view process automation as an enabler of these values. In our analysis we determined which value ideals they

prioritize in their own area of work based on answers to questions about their role, their work content, what they see as important in their work, and what further developments they would like to see in their immediate work context. Which value ideals that are associated to process automation were determined by analyzing answers to questions regarding how they perceive process automation, how they define it, what potentials they see in process automation and their thoughts on the Municipality's move to develop process automation for administrative work. In order to convey the informants' dominant views on process automation as an enabler of the values they prioritize in their work, the following three views were created inductively:

- **Optimist:** Views process automation as able to enable the value ideals prioritized in the own area of work.
- **Hesitant:** Is unsure, or hesitant, about whether or not process automation is able to enable the value ideals prioritized in the own area of work.
- **Pessimist:** Does not view process automation as able to enable the value ideals prioritized in the own area of work.

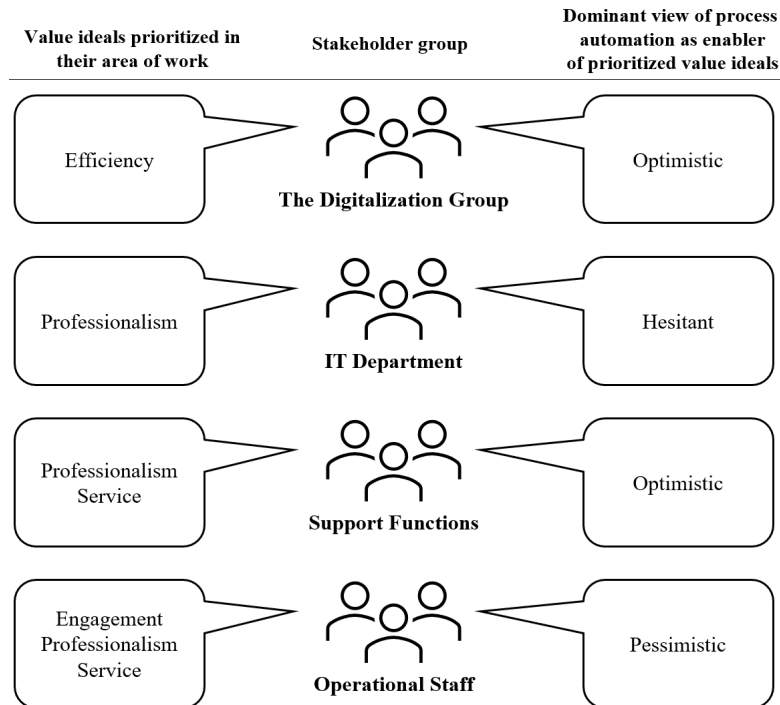
We have incorporated these three views into our analytical framework, and these are presented together with the rest of our findings in Figure 1 in the Findings section.

## 4 Findings

In Figure 1 we present an overview of our findings. The middle column shows the categorization of informants into stakeholder groups. The left column shows which value ideals that are prioritized in the stakeholder groups' respective areas of work. The right column shows the stakeholder group's dominant view on process automation as enabler of their prioritized value ideals.

Our analysis covers which of the value ideals that are *prioritized* and visible in the empirical data. These findings should not be interpreted as an indication that certain stakeholder groups do not care about the value ideals that are not presented as prioritized. Following Figure 1 we describe each row of the figure in turn according to stakeholder group and then summarize the Findings section.





**Fig. 1.** An overview of our findings. The stakeholder groups, which value ideals are prioritized in their respective areas of work, and their view on process automation as enabler of their prioritized value ideals.

**The Digitalization Group** consists of five informants that are explicitly working to further digitalization in the Municipality. The following quote illustrates this group’s aims: “*We have two general main objectives: one is to increase efficiency, or free up resources, by the aid of digitalization, and the other is to increase the digital maturity [in the organization].*” These are proponents of automation capacity, as they are the ones creating and promoting it. They are also the ones funding its development. The Digitalization Group is building the automation capacity upon the notion of co-workers seeking out process automation voluntarily, with the automation capacity structure and its processes being readily available for them to utilize when doing so. They motivate this approach by stating that the individual co-worker is the most qualified to assess what is suitable to automate within their area of work, as they are the foremost experts on their own processes. While noting that different kinds of values are of importance, they mainly prioritize *efficiency* in their work, also evident as part of their objective as seen in the quote above. They see efficiency gains as key to pursue other values, as efficiency means freeing up resources; meaning that process automation is seen as an indirect enabler of *all* value ideals. As this group consists of strategists that strategize not for their own sake but for the Municipality as a whole, this also indicates that they see efficiency as the most important value ideal to be enabled by the strategies and

policies they create, one of which is the automation capacity structure itself. The following quote illustrates this stance: *“I am convinced that there is much we can automate and increase efficiency for in the organization”*. As the automation capacity structure is initiated, developed, funded, and encouraged by this group it follows that this group are *optimists* in their attitude towards process automation as able to enable the value ideal they prioritize.

**The IT department** stakeholder group includes four informants from the IT department of the Municipality, whose daily work involve supporting and servicing the Municipality in matters involving IT. Concerning process automation, the IT department is the main supplier both of the different kinds of automation solutions as well as the underlying IT infrastructure. Representatives of this group also function as IT project managers for developing automation solutions within the automation capacity structure. The value ideal most prioritized for this group is professionalism, which is concerned with durability, robustness, legality, and security. Considering the role of the IT department as the governor of the infrastructure on which much of the daily operation of the municipality is built, this prioritization is understandable. They view process automation as something that is mostly concerned with efficiency gains and are *hesitant* towards process automation as an enabler of the value ideal they prioritize. While acknowledging that technologies such as RPA and AI have promising capabilities, they view them as volatile and unreliable, which is in direct conflict with the stability the professionalism ideal embodies. The following quote shows the view of RPA as a last-resort technology for process automation: *“There are some use cases where I don’t really see any other alternative, and in those cases, it is an exceptionally good solution. It is good that the alternative exists, but often there are, in my opinion, better solutions, and in those cases I think those should be used.”* As such, this group is in favor of traditional process automation technologies, e.g., systems integration using API, but are hesitant towards process automation technologies such as RPA and AI that are now becoming a part of the arsenal of process automation technologies. The following quote expresses one of the informant’s overall thoughts of RPA, based on experiences from using it: *“I am doubtful. There are many complications, and it is very sensitive as well. Suddenly... well, if you change something in one end then you might have to go and make alterations and changes for both the robot and the process.”* This quote shows how they view RPA as unstable, thus conflicting with the stability of the professionalism value ideal.

**The Support Functions** stakeholder group includes four informants from departments that provide internal services to the Municipality; HRM and the City Contact Center. The Support Functions are potential users of the automation capacity, as they are performers of processes that potentially can be automated by utilizing the automation capacity structure. This group is also very positive towards process automation and is therefore also seen as proponents of process automation. The following quote shows their optimistic view, within the context of discussing digitalization and process automation in general: *“My objective is to ensure the resources needed to deliver welfare services, and digitalization is one of the strategies we use to be able to do that, as our personnel-resources will not be enough.”* Like the IT Department, this groups’ daily work consists of supporting other parts of the Municipality. In doing so, they prioritize

providing services that are useful and of high quality, hence they prioritize the *service* value ideal. They are also concerned with *professionalism* as the robustness and legality of the services they provide are important. This group is optimistic in its attitude towards process automation as an enabler of the service and professionalism value ideals. They view process automation as both a direct and indirect enabler of these value ideals. Direct in that process automation does not suffer from human factor error, meaning that process automation can possibly lead to better and more correct service and record keeping, as well as faster service and increased availability. Indirect in that they acknowledge that the efficiency gains process automation provides would free up resources that can be reallocated to further pursue the professionalism and service value ideals in new ways, echoing the discourse of the Digitalization Group. The following quote shows how they view process automation as able to increase quality assurance: “*For us the purpose is, well part of it is to make it easier for our co-workers. We want the increased quality that comes with a well-executed process, which is in large part performed manually today...-...and automating [the process] so that it is performed the same every time becomes something that is quality-assuring.*”

**The Operational Staff** stakeholder group includes six informants from departments within the Municipality that for the most part are concerned with providing external services to citizens. The informants span several different committees; the social and welfare committee, the environment and city planning committee, the education and labor market committee and operational services. This stakeholder group therefore represents the main bulk of the Municipality as well as being the group that most frequently interacts with citizens. These are potential users of automation capacity in a similar manner to the Support Functions group, as this group too are the performers of many processes that potentially can be automated by the automation capacity. This group prioritizes three value ideals: *service*, *professionalism*, and *engagement*. The reasons for prioritizing the service and professionalism value ideals are much the same as for the Support Functions group, i.e., providing useful and high-quality services and in doing so ensuring the robustness and legality of the municipality. This group is also particularly concerned with professionalism in regard to record keeping and accountability, as many interactions with citizens can involve legal appeals. This incentivizes the individual co-worker to keep extensive records for the sake of transparency and traceability in the event of such appeals. This group also prioritizes the *engagement* value ideal, as interacting with citizens is a large part of their area of work. They view the possibility to interact with citizens as important in order to be able to offer quality services and take into consideration individual cases and circumstances; something they view as especially important in areas of work that involves interacting with vulnerable groups of society. This group are *pessimists* in their attitude towards process automation as enabler of the value ideals they prioritize. They view process automation as something that purely increases efficiency of administrative processes, and while their area of work does include such processes, these are not something this group focuses on. The following quote illustrates this group’s stance, from the context of talking about the push within the Municipality to further digitalization and process automation: “*I almost feel that we focus too much on achieving digitalization, when I think about my [business developer] purpose, it concerns improving our work, work smarter, have*

*better meetings and create more value for our citizens, and it should be easier for our co-workers to do so. So, I can sometimes feel that digitalization becomes an aim in itself.”* As such, this group is critical towards digitalization in general and are pessimistic in their view of process automation as able to enable the value ideals they prioritize.

To summarize, the initiative covered above is the Municipality’s operationalization of SALAR’s encouragements to pursue process automation (as described in the introduction section). The analysis illustrates how one stakeholder group, the Digitalization Group, with a clear focus on *efficiency* is guiding the work to establish structures for promoting and realizing process automation in the organization. This work is founded on an *optimistic* stance towards both process automation as an enabler of efficiency, and an optimistic view on the organization’s ability to identify and realize automation ideas and implementation bottom-up. The effort of establishing ‘automation capacity’ in the organization is further fueled by the Support Functions stakeholder group. Although prioritizing different value ideals, they too hold an optimistic view on process automation as an enabler of prioritized values. In contrast, the two stakeholder groups on which much of the realization of process automation relies – the IT Department and Operational Staff – hold hesitant and pessimistic views on process automation as an enabler of the values ideals which they prioritize.

## **5 Discussion**

In this paper we applied stakeholder theory and the model of value ideals by [1] as a combined theoretical lens, which was combined with a set of inductively created views. We find value ideals useful to study process automation, in agreement with previous studies that have done so [24]. In addition, we find the combination of stakeholder theory and value ideals fruitful as it allowed to identify value ideals held by different groups to contrast and compare between them.

The case presented in this paper is an example of how the encouragements of SALAR (as described in the Introduction section) are put into action. This involves the creation of new structures, roles and responsibilities, and illustrates how process automation is a complex venture, as discussed by [11]. Our findings also show that the related issues are far from purely technological in nature, but instead shows that differentiating views becomes an important aspect to consider and manage, similar to those organizational obstacles discussed by e.g., [13].

The different stakeholder groups prioritize different value ideals in their different areas of work, which is a consequence of the type of work included in those different areas of work, as well as adhering to the objectives these different groups are responsible for. Concerning their views on process automation, the different groups hold different views, where The Digitalization Group and The Support Functions are optimistic, but the IT Department is hesitant, and the Operational Staff are pessimistic. Considering how process automation is being established in this particular case, reliant on co-workers themselves initiating automation ideas, this becomes a problematic paradox for the automation capacity structure to function as planned. As [31] points out, the scope of what is automatable has widened, but as can be seen in the view expressed by

the Operational Staff group, this is not inherently clear to them, as they do not see process automation as applicable for their processes. This group values the *engagement* value ideal and the ability to consider individual circumstances when interacting with citizens, indicating that discretion [32] is important to this group and might be a reason for their pessimistic view, not believing technology capable of replacing how humans apply discretion.

All of the stakeholder groups we have identified are needed to play their part for the automation capacity to bear fruit, however the IT Department in particular holds a vital role in this, as they both supply the underlying infrastructure and act as project managers in the development of automation solutions. This means that the IT Department holds a position of great influence in the chain of events of achieving automation solutions. If they allow their hesitant view to affect what is automated and in what way, it may influence the effectiveness of the automation solutions. This shows that defining clear roles and responsibilities as well as creating alignment between the IT function and the goals of process automation is important, as discussed by [22].

The optimistic groups expresses that increases in efficiency frees up resources, which is a motivation for process automation that can be seen both in the marketing of e.g. RPA [15] as well as in the discourse of SALAR [2, 5]. As noted in the Introduction, not much detailed guidance has been given by SALAR or any other public authority on how to implement process automation. It is clear from the studied case that the encouragements of SALAR have been taken to heart and that the implementation of process automation is not without its related issues. In light of this, there is a gap between the policy and practice of process automation where both scholars and public authorities can play a role in providing insight and guidance on how to approach this type of e-government initiatives.

## **6 Conclusions, Limitations, and Future Research**

In this paper we have presented a study focused on a case of a Swedish municipality establishing process automation (‘automation capacity’) as a way to face upcoming challenges. Our aim was to explore how different stakeholder groups view process automation as able to enable the value ideals they prioritize in their respective area of work. We have achieved this aim by illustrating a contemporary case study as one example of how policy and encouragements of pursuing process automation is put into practice within a municipality. In this case we have identified that the pursuit of process automation entails the creation of new structures, roles, and responsibilities. The study also illustrates that different stakeholder groups within local government prioritize different values depending on their area of work. This prioritization affects their views on process automation, and they hold different dominant views on process automation. These conclusions were made possible applying the model of value ideals [1], which we found useful in agreement with previous studies [24]. The empirical illustrations together with the theoretical lens applied in this paper can serve as inspirations for further research in the e-government domain focusing process automation and beyond. The results also present practical implications: within the particular case studied, but also for other local

government organizations, policy making organizations (like SALAR) and national governance of process automation. In a decentralized governance model, like the Swedish one, we have identified that many municipalities are on separate, often non-coordinated, journeys to establish process automation. Here organizations like SALAR could play a larger, and more evident, role in providing more detailed guidance on how to approach such ventures, and still be sensitive towards local contexts and needs.

Doing a single case study, on one hand, makes a deep analysis possible, but on the other hand one limitation of this research is that case studied is one of 290 municipalities in Sweden, and more studies on process automation in other municipalities are needed in order to contrast and compare the findings. International comparisons could also be beneficial in order to contextualize the case-based results, and to explore other governance models (e.g., more centralized models) and other levels of government beyond the local. Comparisons to private organizations could also be made to further shed light on similarities and differences between these types of organizations. The stakeholder analysis in this paper categorizes the informants into stakeholder groups. Stakeholder theory can however be applied to make deeper, more detailed analyses in order to explore more fine-grained nuances and how this affects their views on process automation, as more conditions than area of work are likely to play a role. Studies that use more specific definitions of process automation, e.g., focused on specific technologies, could also be fruitful in exploring differences between different types of technologies. We also identify further research avenues exploring how the inductively generated views (optimist, hesitant, and pessimist) can be mirrored in previous research on organizational change in general and e.g., change management in particular.

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