

# Consortium of Municipalities Co-tailoring a Governmental e-Service Platform: What could go wrong?

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Governments and public sector organizations are digitalizing their service provisions to cut costs, improve public administration efficiency, provide better services to citizens and companies, or increase transparency of expenditure and decision-making. Often these attempts are local where each agency, city, municipality, or even a single department develops its own solutions. However, it is difficult to scale these up to broader contexts, e.g., governmental or regional level since they are designed for local needs. From this perspective, top-down initiatives, such as the use of common platforms, may result in more benefits. In this paper, we study a government-initiated platform for citizen-civil servant messaging in eight municipalities, each autonomously making decisions related to their service provision. The municipalities got a shared grant to co-tailor the platform to save resources and to learn together how to make best out of it and avoid possible problems. We study why this joint endeavor turned out to be difficult by utilizing the windows of opportunity theory as a research lens. We identify different challenges in service co-tailoring, including dissimilar practices, processes, skills and competencies, and attitudes and goals, and argue that co-tailoring and co-experimentation necessitates careful planning and consideration of these differences.

CCS Concepts: • **Information systems** → **Enterprise applications; Computing platforms**; • **Applied computing** → **E-government**;

Additional Key Words and Phrases: Public sector transformation, information systems development, top-down approach, case study

## ACM Reference format:

Samuli Pekkola, Maija Ylinen, and Nicholas Mavengere. 2022. Consortium of Municipalities Co-tailoring a Governmental e-Service Platform: What could go wrong? *Digit. Gov. Res. Pract.* 3, 1, Article 6 (March 2022), 16 pages.  
<https://doi.org/10.1145/3511889>

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## 1 INTRODUCTION

Public sector organizations are increasingly digitalizing their services. They aim at improving service provision processes and providing citizens better ways to contact public authorities in a cost-efficient manner [20, 40]. These initiatives are often local, where each agency or even its single department independently develops its own

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2639-0175/2022/03-ART6

<https://doi.org/10.1145/3511889>

systems and solutions (e.g., [21]). This in turn has resulted in local benefits and improvements [39, 41]. Original digitalization goals, for example cost savings, improved and more efficient processes, increased employee or citizen satisfaction, new services, and more transparent decision-making (e.g., [16]) have remained local and agency and department-specific. This locality has resulted in inconsistent and unequal services for citizens and has led governments, ministries, and cities, i.e., larger entities than individual units, to develop and promote ideas, methods, systems, and platforms for their subdivisions, often by utilizing the top-down approach. These include legislation, enterprise architecture, common platforms and portals, and different services, systems, and infrastructures [1, 4, 6, 11, 25, 26, 55].

Municipalities, like any public sector organization, try to grasp the benefits of digitalization. However, the municipalities may be small, having only limited resources, and skills and competences for digitalization. Thus, they carefully assess what they want to reach with digitalization, and whether they can actually reach it [24]. The municipalities consequently try to learn from other municipalities and their mistakes (e.g., [11, 18, 30]) or they form larger consortiums [27].

To promote digitalization and its benefits, the governments try to steer the digitalization initiatives and provide common solutions. Yet the municipalities are often independent, each responsible for their own services, service provision, and digitalization [5]. This evidently makes the government-driven top-down approach difficult. The top-down development also holds other challenges, for example, design-reality gaps, missing focus, regulatory issues [5], and institutional and political issues [43]. Yet the studies focus on individual projects [15] and not on the way public sector organizations implement the government-driven initiatives together. We thus have insufficient understanding of the utility of cooperation between municipalities, or other local governments [48], in public sector digitalization and the challenges related to it.

In this paper, we explore what are the local challenges when a group of municipalities co-tailors a government-provided e-service platform and why these challenges emerge. We define co-tailoring as several individuals' concurrent but disconnected activities towards a common goal. This means the individuals (person, organization) tailor and configure their own copy of the platform, software, or other technology independently in their own context, aiming to similar but not necessarily identical outcomes. The purpose of these concurrent activities is to learn from the others.

In Finland, the municipalities can autonomously and independently decide how to implement and provide public services. The government may suggest a solution, but the municipalities are free to choose their own service provision model; with or without the suggested solution. They thus try to benefit from the common e-services in their own ways and for their own purposes, and not just jointly implement its identical versions. Although co-tailoring is not a common concept, in our case it conceptualizes the situation where the municipalities were not just asked to implement the e-service but also to find out the best ways to utilize a new platform. This emphasizes the purpose of co-tailoring: tailoring and configuring the same technology for their own needs while simultaneously learning from the others.

We conducted a qualitative single case study in Finland, where the government promotes and provides a web-portal platform for different e-services. The Suomi.fi platform consolidates separate services and for example, provides identification and messaging services to all public sector operators. In this paper, our focus is on the implementation of the Suomi.fi messaging service to eight neighboring municipalities. The messaging service aims to improve information security and provides a standardized, and approachable communication service to citizens so that they can better reach the public authorities. We chose the case as the group of municipalities were among the first to take service into use. This allowed us to focus on the way they worked and learned together, instead of learning from other municipalities. The municipalities had also received shared funding for the messaging service implementation.

This study shows that although the co-tailoring municipalities are willing to cooperate, have a common history in collaboration, and have similar governmental support, the differences in their practices, processes, skills and competencies, and attitudes and goals, open their windows of opportunity [50] in different times and cycles,

hindering co-tailoring, learning from and with others, and the adoption of the platform. This makes the digital transformation of the public sector organizations slow and unharmonized.

In the next section, background literature and research lens are presented. This is followed by research setting and method descriptions, and the presentation of the findings. The paper ends with discussion and concluding chapters.

## 2 BACKGROUND

Lately, governments and public sector organizations have become interested in new technologies, such as cloud computing, blockchain, and different platforms, to improve their service delivery (e.g., [55]). However, a significant number of IT projects where governmental systems are implemented have failed [5, 44]. Therefore, different IT adoption approaches, such as enterprise architecture [11, 25], iterative and participative top-down approach [26] and co-creation approach [46] have been explored to manage the risks and avoid potential failures. This paper studies one alternative, co-tailoring of a common government provided e-service platform.

Both the top-down development, driven by the government, and the centralizing systems have been studied earlier. For instance, Jensen and Thorseng [26] emphasize that the highly regarded Danish e-healthcare system, Sundhed.dk, went through several iterative improvement phases after its original nation-level initiation, enabling learning from others and own experiences. The Sundhed.dk case demonstrates that the top-down developed government-driven and promoted system can indeed be successful. Yet simply mimicking others could lead to failures [18]. Jensen and Thorseng [26] thus asked for more research on national differences, such as regulation, communication standards, systems, and organizational structures. Although the Sundhed.dk was successful, the Danish healthcare context most likely significantly differs from the others. From this perspective, the analysis of the Suomi.fi platform extends the understanding of platform adoption in the public sector context.

The implementation of e-government services initiates changes in the service provision, organizational practices, and information systems [3, 31]. This is difficult since for instance differences between technologies and social contexts, unclear objectives, the absence of needs, project scope, change management, shifting requirements, technical complexity, lack of skills, unrealistic schedule and misinformation, inappropriate or missing legal frameworks, policies and standards, and the project mismatch with users' expectations can emerge [5]. Also, skepticism and cynicism towards the government, poor communication, undefined ownership, rigid bureaucracy, and established illogical routines, have been identified as sources of problems [13, 51]. Another source emerges when new services are integrated into existing infrastructures to ensure that they and the data they use are usable elsewhere. Sarikas et al. [42] for instance, argue that the integration offers significant benefits but increases technological and organizational complexity. The main challenges in service integration include a lack of technical skills from both citizens and governments, lack of organizational skills from the governments, resistance to change, and high implementation and training costs [42].

In IT projects, the organizations work together to gain various benefits [27]. For example, in our case, the municipalities were cooperating to save resources and learn from the others, i.e., to gain advantages that would be difficult or impossible to realize individually. The value of cooperation is often immersive [9]. Juell-Skielse et al. [27] proposed different "modes of collaboration" and their benefits for governmental organizations. These modes range from autonomous, standardized, and framework agreement-driven collaborations to consortium-driven and central service organization-driven collaboration. Each mode has evolved as a solution to a certain need and pressures (see also [12, 38, 47]). Each has different drawbacks and limitations, including local competence requirements and lack of economy of scale; a need to adopt standards; call-off competences and resources and limited requirements; less autonomy, conflicting goals, power imbalance, and less local knowledge; and unclear rules and regulation, and high initial costs [27].

To implement new technologies and services, an organization needs appropriate capabilities [33]. Dynamic capabilities are "abilities to integrate, build, and reconfigure internal and external competences to address rapidly

changing environments” [49:516]. Dynamic capabilities emerge in activities that aim to create new resources, reconfigure resources and improve effectiveness [14] – issues that are evident when the governmental e-service platform is implemented. Three types of capabilities (1) coordination and integration, (2) learning, and (3) reconfiguring and transformation have been identified [49:518].

Dynamic capabilities have been studied in information systems project contexts, for example in team settings, [23]. The projects are knowledge intensive processes that require diverse expertise for good project performance, consequently emphasizing the team’s and the organization’s dynamic capabilities. The teams operating in a dynamic environment need to have the ability to scan the environment, absorb external knowledge, and coordinate their activities with each other to form a collective mind [37].

In the context of the public sector, individual organizations develop capabilities by building complementarities or partnerships with other social and economic actors [34]. Although Klievink and Janssen [29] identified that public organizations adapt their assets and resources in a dynamic environment, dynamic capabilities have been less used in the context of e-government. Pablo et al. [35] noted that public organizations try to maximize organizational performance. Cha et al. [10] emphasized the need for successful resource reconfigurations when striving for organizational improvements in both managing projects and managing the context of dynamic capabilities. In fact, Kattel and Mazzucato [28] urged for the investigations of dynamic capabilities in the public sector. As our municipality consortium attempts to learn and develop dynamic capabilities that will allow them to improve service provision, our study responds to this need.

Past literature highlights different problems in starting to use e-government systems and platforms. However, the studies mostly focus on individual organizations, not a group of organizations adopting and integrating services at the same time. This paper thus studies a group of organizations utilizing the same platform, answering to a research question: what are the local challenges in co-tailoring a government-provided e-service platform?

### 3 THE LENS

In order to understand co-tailoring in a group of public sector organizations, we utilize the Windows of Opportunity theory [50] as an analytical lens. We elaborate its appropriateness after presenting the theory first.

The windows of opportunity theory explains why different operators reach different results during the IT projects and IS implementations. The theory argues that the adaptation of new technology occurs in bursts, that is, contrary to common assumption, adoption is not gradual and continuous but takes place in short “windows” where the processes can be modified after the system’s initial implementation. This results from the routinization that occurs after the usage of the system is started [50]. The pattern of technological adaption and the windows of opportunity are thus discontinuous. Technology integration usually takes a long time while adaptation efforts are not consistently applied over the integration period. Tyre and Orlikowski [50] argue that four organizational forces influence the timing of the technological adaptation:

- Production pressure impeding adaptation. Once the technology is in use, there is no time to learn something new or to improve the system. Production activities become the center of focus so there are limited time and resources to identify and solve emerging problems. Often the focus is on short-term productivity performance.
- Patterns of use congeal and become constraining. When the users have developed routines, norms, and habits to use technology, the learning stops. The usage and efficiency are limited to the established routines. This reduces further exploration and adaption and is intensified by the resistance of change.
- Expectations adjust to experiences. The expectations towards new technologies change over time. Problems and opportunities disappear when the expectations get lower. The users’ expectations are adjusted to fit actual capabilities.
- Erosion of team membership and enthusiasm. At the time of problems, the team spirit is lowered and the momentum reduces. The teams tend to dissolve when they face significant problems.

The windows of opportunity theory is suitable for our purposes. The Finnish government provided extra funding to the municipalities to implement a new tailorable platform, thus *externally* opening the window for them. The municipalities opportunistically grasped the money and tried to make the best out of it. However, as we will argue later, they had different capabilities and unaligned *internal* windows of opportunities. Simply speaking, some municipalities were more prepared and ready to utilize the funding and the platform while the others were less ready. However, to get the funding for tailoring the platform and learning from the others, they had to experiment with pilots about the same time. The joint project and a common platform set a common schedule, tasks, and deadlines. Internal windows of opportunities in each municipality had to thus be adjusted at least to some extent. In other words, the municipalities could not decide *when* they implement the platform but whether they want to implement it. In this context, the windows of opportunity theory illustrates how different timeframes appear in the municipalities and influence their actions. In this sense, the theory was chosen because its good fit with the case settings.

Analyzing the organizational forces in a consortium of municipalities, concurrently configuring a government-provided platform for their processes and practices, provides insights into how they co-tailor the system and what kind of challenges emerge.

## 4 RESEARCH METHODS AND SETTINGS

### 4.1 The Case Description

In 2013, in line with government policy in Finland to create a shared infrastructure for digital services, a nationwide service architecture project was initiated. At the end of the project in 2018, it delivered a service platform, referred to as Suomi.fi (Finland.fi). The Suomi.fi platform consists of a data exchange layer and a service platform. Its services include e-identification, e-authorization, service catalog, maps, payments, messages, and a web portal. Even as the official project has ended, the development work of the Suomi.fi platform is still ongoing in 2021.

The messaging service is one of the Suomi.fi services. Its aims to improve communication among the governmental offices, officers, citizens, and private organizations in Finland and in the EU by transferring current communication, taking place for example in traditional mail, phone calls, emails, and personal visits to the municipal offices, into electronic form. This digitalization of the communication channel is expected to standardize the citizens' service experience and improve security. This is achieved by stronger user identification and the utilization of secure data exchange channel. Improved security and integration with other public services and systems enables more intimate information exchange between different stakeholders, for instance between teachers and parents, or between citizens and social workers.

Before the case study was conducted, the messaging service had just been published, but it has not been used widely. Consequently, to promote the messaging service, the Finnish government financially supported the case consortium to speed up its implementation. The motivation was to make it an exemplary case for other municipalities, potentially adopting the service.

We study a shared project of a municipal consortium located around one of Finland's largest city, Tampere. The consortium consists of eight municipalities having a long history of collaboration in IT acquisitions and development projects. In the past, they had experienced benefits from the economy of scale and by being able to learn from others.

We chose this case because these municipalities, varying in size and number of citizens, ranging from 4,500 inhabitants to over 30,000 inhabitants, were among the first ones to take the new messaging service into use. They had received a significant grant from the government to co-tailor the platform and to learn from each other about what is beneficial and how it can be achieved. This supported our aim of studying the challenges of co-tailoring in a situation where the participants did not have to compete over scarce resources but could focus their attention on finding solutions beneficial for both individually and collectively.

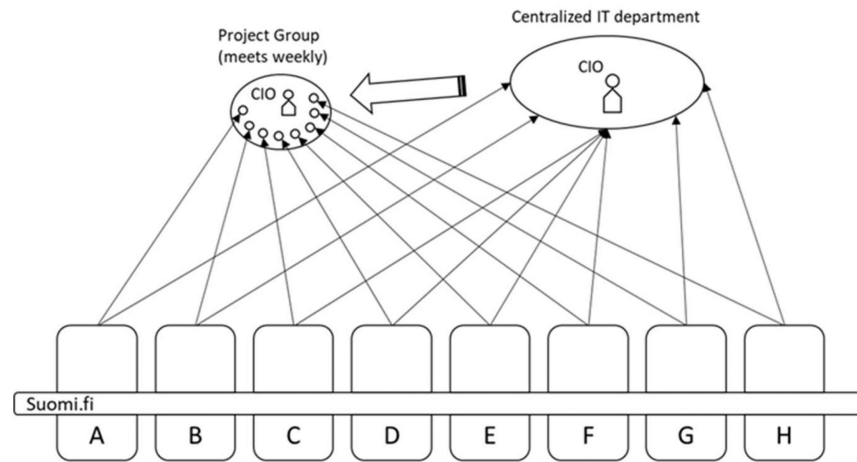


Fig. 1. A consortium of municipalities (A-H) co-tailoring Suomi.fi platform.

The tailoring project was led by the consortium's shared and centralized IT department (see Figure 1). This meant that the IT department collaborated with individual municipalities (letters A-H) and coped with their IT infrastructure differences. Each municipality appointed few of their employees to coordinate and be responsible for the project. This was because planning how the messaging service could be used and integrated into other processes was handed over to the civil servants providing the actual services.

To ensure consistent services throughout the country, the government was planning to make the platform compulsory for all public sector organizations through its parliamentary and legislative power. This, however, requires persuasion and rewards as each municipality is autonomous, with its own taxation rights and freedom to decide how to provide the services. As the Finnish municipalities vary in population size (the largest of the 309 municipalities has over 650,000 inhabitants while the smallest has 101 inhabitants) also their resources and capabilities to implement compulsory services vary.

The transition of utilizing the Suomi.fi platform requires significant changes in the municipalities and their operations and influences multiple stakeholders, such as public organizations, private organizations, citizens, decision-makers, and third-party developers. Altogether 17 groups of stakeholders have been identified [36], all having an interest to learn from the others due to the absence of success stories and clear instructions. Here, however, the focus is only on municipalities and their local integration teams.

#### 4.2 Data Collection and Analysis

At the end of the year 2018, we interviewed representatives from six of the eight participating municipalities, and the CIO of the shared IT project team. Two municipalities declined the interviews due to scheduling problems. In each municipality, we interviewed a group of non-technical civil servants assigned to their Suomi.fi project. The group had different experiences and backgrounds since the municipalities had allocated resources differently and targeted the Suomi.fi platform to support communication in different services. The CIO knew the project representatives in each municipality so he provided their contact information. These representatives then named the other key actors, i.e., the people with the best understanding of the project, for an interview. In smaller municipalities all project members were interviewed while in larger municipalities only the key individuals participating, for instance in the shared project meetings, were involved. In all cases, the group members were familiar with each other and were able to bring forward their opinions, which was also observed during the interviews. As the centralized IT department was responsible for technical negotiations with third-party

Table 1. List of the Interviewees

<b>Municipality</b>	<b>The interviewees' main responsibilities</b>
Municipality A (32 000 inhabitants)	1. Documenting the service processes and forms 2. Processing the building and land use applications 3. Processing the building and land use applications
Municipality B (23 000 inhabitants)	4. Service description creation 5. Providing IT services for education
Municipality C (32 000 inhabitants)	6. Management of IT 7. Management of emergency recovery planning
Municipality D (20 000 inhabitants)	8. Support and service provision for administration and communication units 9. Management of administration and finances of the municipality (Chief Financial and Administrative Officer) 10. Management of strategy and development processes
Municipality E (4 500 inhabitants)	11. Design of administration processes 12. Processing the building and land use applications 13. Coordinating IT in the department of education
Municipality F (33 000 inhabitants)	14. Management of administration processes 15. Management of the municipal administration and education units 16. Management of IT and coordination of the municipal collaboration
Shared IT department of the municipalities	17. Management of the consortium's IT team (CIO of the IT team)

operators, our interviewees were specialized in the actual processes with which the messaging service would be utilized. Their technical competencies thus varied significantly, which also directed the discussion towards non-technical items.

Each group was interviewed twice (in approximately 2-week intervals) by using a set of theme-based open questions (see Appendix). The first interview round focused on gaining a general understanding of the interviewees' attitudes and situation related to the messaging service. For example, the interviewees were asked to identify the service process and potential applications there, and how the new service could create benefits. The second interview round focused on details and potential challenges and solutions.

All interviews, lasting approximately 1.5 hours each, were conducted as group interviews. Depending on the municipality, the groups consisted of two to three persons (see Table 1). The same interviewees participated in both interview rounds. During the interviews, extensive notes were taken by the second author.

The data were analyzed with an interpretive approach [53], using the Windows of Opportunity theory as a lens. An example of the data-analysis process with illustrative details of one of the identified challenges, the unclear project objectives, is depicted in Table 2. In the analysis, our level of analysis was on the co-tailoring efforts at the municipality level. This provided an appropriate understanding of why co-tailoring among independent municipalities was challenging. We chose this level of analysis for two reasons. First, because each municipality was adapting to the Suomi.fi messages service independently, they did not do it in a similar manner or even tailor it to the same service process. Second, a more detailed analysis, for example a specific service process, would have resulted in an analysis of independent IT projects, not their union.

The challenges were identified from the interviewees' statements at the group interviews. The challenges varied between the municipalities as their objectives varied. In the data analysis, we focused only on the challenges relevant to co-tailoring. Consequently, although each challenge was not mentioned by every municipality, they

Table 2. Data Analysis Process

Extract	Identified challenges	Grouped challenges
“Communication is incoherent. There are people, with very different backgrounds, in charge. This influences the way work is done. [...] There are weekly meetings. But during those meetings we do not have time to discuss about everything interesting.” [Service process/form mapper, Municipality A]	Dissatisfaction towards project communication Collaboration problems Insufficient time to communicate.	Communication issues Unclear project objectives
“The main problem is the lack of instructions” [Service description specialist, Municipality B]	Poor understanding of what should be done	Unclear project objectives
“What is the point of these [new electronic services]? The situation as a whole, is very confusing. [...] What is the main thing that we are doing?” [Person in charge of the readiness planning, Municipality C]	Poor understanding of what is going on Poor understanding of potential benefits	Unclear project objectives
“Other municipalities [in the consortium] have already taken many of these electronic services into use and now they are thinking what is the point [in including them in this project too], although those would be exceptionally useful for us as we do not have them yet” [Official from Department of Education, Municipality E]	Municipalities are in different development phases. Municipalities have varying needs and expectations from the project	Different capabilities Unclear project objectives

influence co-tailoring in others due to interconnected shared tasks where one’s struggles may prevent the others from moving forward. These challenges were then iteratively grouped together to construct larger “core categories”. During the iterations, the challenges and the identified core categories were discussed and improved by all authors collaboratively, as the second and the third author participated in the data collection thus having a good overview while the first author provide more distant view.

After the analysis, we presented our interpretations to the municipality representatives (interviewees) and the Suomi.fi project team for their review and validation. Our interpretations were validated, and no major changes were proposed.

## 5 FINDINGS

The data analysis revealed several challenges when the municipalities were tailoring the Suomi.fi messaging service and taking it into use. These challenges resulted from the unsynchronized windows of opportunities between the municipalities. This hindered the service co-tailoring and learning, and caused the development paths to diverge.

Table 3 illustrates the factors influencing the consortium’s ability and willingness to co-tailor the messaging service. For example, the project team faced several communication issues, such as the absence of the municipal representatives’ communication besides the consortium meetings. The representatives often heard the others’ advancement via the third-party web pages, not from the project groups’ members themselves. The interviewees were also keen on learning from us (the researchers) about the other municipalities and their progresses.

These were not the only problems. Internal communication about the objectives and the end-users’ (civil servants’) needs was missing. This resulted in uncoordinated development activities as each municipality was



Table 3. Challenges in Co-Tailoring

<b>Windows of opportunity force</b>	<b>Factors affecting the windows of opportunity</b>	<b>Challenges of the co-tailoring</b>
Production pressure impedes adaptation	<p>Municipalities have different capabilities to allocate resources to the project.</p> <p>Communication is not considered as the main task in implementing the project.</p> <p>Private firms had little incentives in integrating their services to Suomi.fi.</p>	<p>Some municipalities could not allocate enough resources to finalize the included services.</p> <p>Resource-rich municipalities wanted to put their resources to more advanced features, such as knowledge sharing.</p> <p>Small municipalities had no resources to continue the development after the shared project ended.</p> <p>The participants do not know the project objectives.</p> <p>Project management do not understand the municipalities' decisions.</p> <p>Municipalities do not know what other municipalities are doing or how their decisions influence the co-tailoring at large.</p> <p>Numerous private-firm-provided technical services form a core of the public service provision. These were not connected to the Suomi.fi platform. While the consortium tried to collaborate with the service provider how to best utilize Suomi.fi, the municipalities were not in the loop and were coming up with their own ideas.</p>
Patterns of use become constraining	<p>The messaging service is not completely ready, so the municipalities are unable to implement their services in the most efficient way.</p> <p>Legal issues are not clear after the messaging service becomes compulsory.</p>	<p>Due to poor communication, municipalities do not know how other municipalities use the messaging service. Local solutions to cope with the system defects emerge.</p> <p>Municipalities have different plans to start to use the messaging service because of the absence of common guidelines.</p>
Expectations adjust to fit experience	<p>Government-provided systems are often considered as a hindrance.</p> <p>Collaboration objectives are not clear.</p> <p>Digital services are not expected to be beneficial.</p>	<p>The benefits from previously used systems are not clear, so co-tailoring is considered a waste of resources.</p> <p>Municipalities have different expectations, so they focus on local benefits.</p> <p>Especially in small municipalities, to benefit from the messaging service necessitates that other operations are also digital. This however is not the case.</p>
Erosion of team membership and enthusiasm	<p>The project team comprises people hired only for the project.</p>	<p>At the end of the project, the collaboration between the municipalities may end.</p> <p>Smaller municipalities have resources only during the project.</p> <p>Slow Suomi.fi service development reduces interests.</p>

focusing on its own priorities. Under the circumstances, having a consortium meeting once a week was not enough. Although the project teams had ideas about the progress, other people in the municipalities did not receive this information adequately. The pressure consequently impeded the co-tailoring of the messaging service. This was further shuffled by the private firms providing technical systems to the municipalities. Those systems were not integrated into the platform. The municipalities were unconfident about what to do together, so their development efforts diverted even more. They ignored collaboration and communication issues which would have helped them in creating common understanding and windows of opportunity. In fact, communication and its absence became a key issue in the municipalities, between them, within the project groups, and between the municipalities and the government.

Poor communication resulted in a situation where the expectations began to fit with the experiences. This hindered the co-tailoring efforts further. Simply saying, the understanding of the project objectives was inadequate. On one hand, this problem was a result of ill-defined and poorly communicated objectives of the messaging service and the Suomi.fi platform in general. The municipalities were thus questioning the benefits. The objectives were not clearly defined at the project level either. There the focus was the spending all the extra money that was available, not necessarily adequately co-tailoring the messaging service.

The municipalities had very different skills and capabilities and resources for the project. First, their starting points varied significantly. The frontrunner municipality was considering the implementation of business analytics – as they already had the basic features in use – when the least advanced municipality was planning a transition from a paper-based archive to an electric one. This disparity obviously caused tensions between the municipalities about how the project should advance and where the government funding should be targeted. This also perplexed the project objectives. Although the desire was to co-tailor and learn from and with the others, individual objectives varied too much to support it. This made the co-tailoring troublesome.

The co-tailoring efforts also suffered from the erosion of team membership and enthusiasm. The project team mainly consisted of individuals that were hired for the project. This obviously did not provide continuation for the service development, or resources and adequately skilled people for co-tailoring after the project. As the municipalities had divergent directions even during the project, the project members' resignations deteriorated co-tailoring efforts further.

## 6 DISCUSSIONS

### 6.1 Challenges of Co-tailoring

The government wanted to expand the Suomi.fi messaging service usage so it provided extra funding for the municipalities. The group of municipalities took the money and started to co-tailor the platform. They aimed at saving resources, learning together and from the others how to benefit the service, and how to avoid possible problems. In some sense, the municipalities succeeded (saving resources), in the other, they failed, as they were not learning from the others. The failure of learning has far-reaching consequences: like our consortium, other municipalities in Finland have to reinvent the wheel and make the same mistakes over again (c.f., [26]). In this sense, co-tailoring, i.e., not only learning from the others but also learning with them, is emphasized because the co-tailoring of a new technology is an activity where the actors reciprocally interact. The challenges can be explained by the Windows of Opportunity theory.

The municipalities had uneven capabilities and resources and unaligned goals and priorities. They wanted to gain benefits in their own contexts, meaning that consortium-wide communication and knowledge sharing were not their top priority. Individual production pressures thus severely impeded co-tailoring and service adaptation. This observation parallels with Anthopoulos et al. [5] that systems development is negatively influenced by unclear project objectives and scope, misinformation, and missing co-tailoring policies and standards. In this case, the number of stakeholders (see also [36]) in the autonomous municipalities made these issues even more evident and severe.

One may easily question why the government had not set a common policy or instructions. First, the government wanted to learn different alternatives where the platform could be exploited. Instructions and policies could have limited this experimentation significantly. Second, and more importantly, Finnish municipalities are autonomous so governmental IT policies would not have a major impact (c.f., [32]). The municipalities obey the law and legislation, but they may independently decide how to provide the services. Platforms, systems, and technologies are tools that may, or may not, be used.

At the time of the study, the Suomi.fi platform was under constant development. The municipalities were considered to be its first pilot users, expected to provide feedback and suggestions for improvements. The development schedule was however not aligned with the municipalities' needs. This delayed local implementations and increased uncertainty (see also [13]) about the status of the platform: whether it is a pilot or an obligatory platform for the future. Piloting turned out to be unsuccessful as necessary features were not efficiently implemented (see also [19]). Altogether, the patterns of individual tailoring attempts became constraining factors for the whole consortium.

The municipalities focused on their own objectives and local benefits and tried out how the messaging service could work. This resulted from ill-defined common objectives and insufficient communication, downgrading initial expectations so that they fit with low-quality experiences. Unclear objectives and the absence of needs, lack of skills, differences between the contexts, and the mismatch with the expectations (c.f., [5]) emerged in some single municipalities. They were severe there and spread out to the whole consortium, lessening its general outcomes.

The consortium was loose also by its individual memberships. The employees were either hired for the project, or they were assigned from their daily jobs within the municipalities. This meant there was no long-term sustainability since the relationships at the grass-root level were not established. Once the project ended, knowledge sharing also ended (see also [2, 17]).

## 6.2 Analysis of the Challenges: What did go Wrong?

These problems result from the municipalities' different levels of digitalization maturity, i.e., their experiences and what they have done earlier, and their dissimilar capabilities of advancing digitalization. The dynamic capabilities model [49] explains how organizations are capable of exploiting their resource base. It thus provides a vocabulary to articulate why our municipality consortium was not capable of utilizing its resources beneficially and of learning together. Sheng [45] combines the dynamic capabilities approach with the resource-based view [52] and argues that the organization's innovation capabilities depend on its ability to reconfigure the resource adequately. This analysis is presented next.

First, an organization needs to have adequate resources and sensemaking capabilities. As the government provided the platform and financially supported the municipalities, which assigned dedicated project managers, they basically had enough resources. However, their social and technical infrastructures and organizational culture were not adequate for supporting the adoption of new technologies and practices. This means the resources at large were not appropriate. Similarly, their sensemaking capabilities were not adequate as the project managers were separated from their daily routines and isolated from the other employees. This created severe communication gaps, as illustrated in Table 3 earlier.

Second, several combinative capabilities utilize the organization's current knowledge and skills, needed for innovation and learning [7, 45]. System capabilities refer to different policies and instructions, which existed neither on the government level or the municipality consortium level. Instead, the project groups developed their own conventions, which, however, remained distinct from the daily practices at the municipalities. Socialization capabilities are about developing a shared ideology and common understanding, but, again, communication problems indicate the absence of such ability, resulting in a lack of common understanding and identity. Abilities to connect and incorporate diverse resources and interpersonal relationships are referred as coordination capabilities. In our case, the municipalities attempted to incorporate others' experiences and resources by forming a

consortium. Poor implementation of other combinative capabilities and the municipalities' unaligned objectives however did not make the best out of coordination capabilities.

All this resulted in the outcome: learning from others, failing. The municipalities nevertheless succeeded in implementing the platform, although everyone had to figure out their own way of implementation. Co-tailoring and reciprocal learning did not factually take place.

This failure of learning results partly from the autonomy of Finnish municipalities, weak informal ties between them, and the government's, and other municipalities', inability to enforce and govern the platform implementation. Neither informal networks (in a form of a centralized project group) nor contracts (in the form of centralized IT department) were adequate as the actual tailoring activities took place inside the municipality (c.f., [48]). The autonomy resulted in that if the municipality perceives an initiative somehow beneficial either in the short term or in the long term, the initiative will be implemented. Otherwise, there is very little the government or other actors can do. This characteristic had significant effects. While more mature municipalities were aiming for exploiting some advanced features of the Suomi.fi platform, the others were just digitalizing their basic processes. The only incentive to co-operate was the government grant, given exclusively to a municipality consortium. Not acknowledging the municipalities' different maturities and their evolution, the grant resulted in local, municipal-specific development efforts and benefits – despite they had previous positive experiences on smaller scale IT projects and procurements. Naïve idea of learning together never concretized.

Also, the government wanted to learn on how the platform could be used. The experiences were aimed to reach through piloting, where possible features and bugs, and ways of making the best out of the system are studied in real-world settings [22]. From the government perspective, the looseness of individual project objectives was thus tendentious as the piloting provides undefined and unexpected results about how the system is used. On the other hand, individual municipalities enjoyed the same freedom as they were able to pilot the platform wherever they found it most appropriate. Yet the consortium was struggling because of the funding schema – the government grant given to a consortium. This approach provides, in theory, more versatile experiences and learning. The municipalities and especially the project groups faced a paradoxical situation where they were piloting the system in various contexts to gain a broad set of experiences, and at the same time failing to learn from the others due to a too broad set of contexts and objectives.

Following Juell-Skielse et al. [27], it seems that the mode of collaboration was far from optimal. The problems related to the consortium-driven mode of collaboration: conflicting goals, power imbalance, and less local knowledge, were indeed evident. At the same time the mode was not a pure consortium: the municipalities were autonomous in deciding where and how they implement the service, the platform was standardized, a centralized IT development team steered the development, and the government grant set some (very loose) restrictions. It seems that there were not one but many concurrent modes of collaboration. This mess obviously made co-tailoring very difficult. It also put the blame on the government, which just handed out the platform and provided money so that the municipalities can explore possible services, but without explicitly defining what to expect and how the platform should be used.

### 6.3 Limitations

There are several limitations. This is a single case study, so the case setting; culture, context, work practices, organizational chart, etc. had impacts for sure. Second, there were two cross-sectional sets of group interviews. The methodological limitations, such as narrow views, possible bias with few informants, and lack of long-term understanding, may have limited the results. However, six organizations were providing quite concordant information. Third, our successful application of the windows of opportunity theory might be dependent on our research settings and the nature of co-operation. If the partners are tightly collaborating, their activities get unnoticedly synchronized. Under the circumstances the theory may not provide appropriate understanding. Nevertheless, these limitations urge for more research in other settings and with other methods.

## 7 CONCLUSIONS AND CONTRIBUTIONS

There were several challenges in jointly configuring or co-tailoring a common platform, in this case, the Suomi.fi messaging services. The problems seem to emerge on several levels: ill-defined objectives and expectations by the government, unaligned internal windows of opportunity, conflicting objectives, priorities, and development practices and the lack of resources in the municipalities, and uncertainties and discontinuation at the employee level. The main source of the problems, however, seems to be poor communication among all stakeholders, in and between all levels of governmental hierarchy. Yet blaming poor communication is nothing new (e.g., [8, 54]). The case demonstrates that poor communication has much larger implications than just a failing project. As the windows of opportunity theory shows, communication problems have implications beyond an individual development project: to other projects, to knowledge and experience transfer between the projects and learning from others, to the system adoption and use, to its users and their attitudes and enthusiasm, and ultimately to the citizens as the participants of the service process.

The governmental service platform has the potential to improve the service provision by providing similar services and uniform service experience no matter where the citizen is located. Yet simply developing a technical solution is not enough. Instead, more focus should be given to setting and communicating the objectives of the system, and the way it is supposed to be used not only locally but also with neighboring projects and technology partners so that learning from others' experiences becomes possible. This would then keep the windows of opportunity open long enough for the users, no matter whether they are public sector employees or citizens, to adopt the new service process adequately, and for their needs. The role of private firms as the public sector technology providers is crucial. In the Suomi.fi context they were lacking incentives to integrate their technologies as there were not enough users and services there.

We argue that providing just a common platform for piloting is not adequate. With a platform or a service, one needs to know how and where it should be used, and what kind of service improvements or benefits it should deliver. This puts pressure on the top-down development and its communication and coordination across different parties both in the public and the private sector. At the same time, such an approach alone is insufficient. Particularly in situations where several organizations concurrently implement a technology and tailor it to their processes, learning from others necessitates tight coordination and explicitly defined objectives. Gaining both national and municipality level benefits obligates that each organization and its characteristics, capabilities, priorities, technologies, and technology providers are considered.

This also emphasizes the problems with government-driven approaches. The Finnish government pursued the platform adoption by trying to *externally* open the windows of opportunity in the municipalities. The municipalities were not ready for it. As their *internal* windows of opportunities were not open due to dissimilar capabilities and unaligned objectives, the government's financial incentive did not result in satisfactory outcomes and benefits. This notion illustrates the external agency's need to consider an individual organization's capabilities and chances of utilizing new technologies and practices. In other words, the agency needs to consider the concepts of the windows of opportunity theory. This is emphasized in joint endeavors where internal windows need to be open at the same time in each and every organization. We thus show that the windows of opportunity theory work beyond individual organizations to their alliances.

The case has shown several failures in the incentive. One can question whether a consortium-driven co-tailoring of platforms is possible. Despite the problems, we argue that co-tailoring has its place for learning from others if the constraints: explicit and aligned objectives, active communication, coordination, and collaboration, adjusted schedules to keep all windows of opportunities open at the same time, and appropriate resources are acknowledged and considered. If any of these issues is ignored, co-tailoring will most likely fail. This would then reduce the expected benefits, which, due to the broader piloting environment, would reciprocally be broader.

This leads to contributions. In addition to applying the windows of opportunity theory in the consortium settings, we argue that researchers benefit from the study because the case provides a new understanding of a

little-studied phenomenon: how a government-driven platform is tailored by a group of autonomous and local public sector organizations where policies and regulations cannot be set or used. The importance of communication and coordination within and between the organizations cannot be underestimated. For practitioners, this study illustrates what kind of issues could go wrong. Understanding them makes learning from others' mistakes possible.

## APPENDIX

### A INTERVIEW THEMES

- Identification of the messages service
- How can the municipalities get these services to real beneficial use for themselves, to the citizens, and companies of the municipality? Does this require changes, for example, in their business processes?
- What other possibilities can Suomi.fi offer to the municipality?
- How can centralized, top-down driven, IT solutions be practically implemented, and what kind of changes do they necessitate?

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Received February 2021; revised November 2021; accepted January 2022