12. Collaboration for digital transformation: so much more than just technology

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INTRODUCTION

Responsible governments across the world are constantly searching for new ways to create innovative services in the face of diverse and complex societal challenges and wicked issues. Technological innovations, especially digitalization and the use of different digital tools and components are promising because they can connect and integrate a large variety of services and contexts and improve the accessibility and quality of these services. Collaborating with a variety of stakeholders in this way may result in creative processes and new, improved, and innovative public services as knowledge, resources, and ideas are shared and connected with each other. However, technology is not enough by itself. Notably, governments need to bring actors together and establish know-how on *how to collaborate* to build the necessary digital infrastructure, create innovation, and develop new (digital) services.

The research presented in this book generates evidence from various European countries on the crucial role of collaboration in creating digital transformation and innovative public services. Bringing together government actors and involving external actors, both private sector organizations and users, in the collaboration process is important. When actors with diverse backgrounds collaborate, mutual learning is stimulated, and collective capacity is increased. In this process, new innovative digital solutions that enhance the value of public administrations for citizens, users, and communities can be developed, thereby enabling the public sector to achieve its specific aims.

The digitalization processes that governments currently undertake are transforming the way governments work and interact with citizens and other stakeholders. However, there is also significant heterogeneity in the state of adoption of digital technologies across countries. In many policy sectors,

digital transformation through technological innovation can often only be achieved through collaborative partnerships, as no individual government actor alone possesses all the required knowledge, resources, and capabilities to innovate. These partnerships are often public-private collaborations. The public sector or government organizations can direct political and financial incentives, regulatory powers, and public resources towards innovation, while private sector organizations possess specialized knowledge and capabilities to develop them.

Digital transformation is by no means straightforward, rather, it is a complex process of mutual shaping between different actors and technologies, institutions, and economic, political, and socio-cultural factors as described by Miriam Lips in Chapter 2. The political-institutional context within which the transformation happens influences the dynamics and outcomes. Digital transformation implies risks for political decision-makers – risks of failure, excessive cost, and efficiency loss. If successful, it is also linked to considerable efficiency and effectiveness gains. Achievements in digital transformation initiatives in the public sector are not determined by the technology per se, but by deep-seated social, institutional, legal, political, economic, and cultural processes and structures, leading to fragmented and evolutionary outcomes. Digital technology capabilities and socio-cultural, economic, political, institutional, and organizational factors work together.

Collaboration is an essential form of modern governance, especially when addressing the process of government digitalization and reform. It is also a key feature of digital-era governance. Service transformation towards customer-centric ways of public service delivery, for example, often implies the integration of different public services via integrated online portals, the integration of services across different policy domains and government sectors, but also across different government levels. However, collaboration is hard, time-intensive, and requires high levels of administrative, project, and interpersonal skills on the part of leaders. It also requires that the stakeholders are willing and interested in engaging. Without it, collaborations run the risk of being more 'talk' than 'action'.

In this concluding chapter, reflection is given on the chapters and research provided so far. This is done by singling out three main themes: the role of leadership (third section), the conditions for good collaborations (fourth section), and the importance of stakeholder and user involvement (fifth section). Before that, we reflect on the challenges of collaborating for digital transformation (next section). We finish with a section on lessons for practitioners (sixth section) and avenues for further research (seventh section).

CHALLENGES OF COLLABORATION FOR DIGITAL TRANSFORMATION

Undertaking digital projects and transformation initiatives involves substantial challenges and risks. The risk of failure, unclear outcomes, and the significant costs and resources involved are common for such large-scale projects and limit their attractiveness for political leadership. Academic literature points to complexity, risk, and power inequalities as factors that pose challenges to the dynamics and success of collaborative governance, as well as how this is affected by different national politico-administrative contexts (Huxham and Vangen, 2005; Ansell and Gash, 2008; Crosby and Bryson, 2010; Osborne and Brown, 2011; Torfing, 2019). Smartly combining well-designed structures, on the one hand, with matching leadership styles brings the solution to these challenges but is a challenge that we sketch in this section. Strategies for such matching are discussed in the third, fourth, and fifth sections.

Complexity, Risk, and Power Inequalities in Digital Transformation

Complexity is multidimensional and encompasses the specific collaboration process as well as the wider administrative structure, and is frequently differentiated into substantive, strategy, and institutional complexity (Klijn and Koppenjan, 2016). Substantive complexity arises from differences in the perceptions of problems, goals, and envisioned solutions among the various actors involved in a collaboration project. Strategic complexity refers to the varying strategies adopted by different actors within a collaboration to handle tensions and conflicts, whereas institutional complexity reflects the institutional context of formal and informal traditions, policies, laws, and regulations wherein the collaboration is embedded. For digitalization projects issues such as technological complexity or the lack of digital skills and information asymmetries and technological dependencies and legacies add to these complexities (Neumann et al., 2019).

The perception of the risks associated with digital projects (risk of failure, working in unregulated new territories, high financial investments, or unclear accountability arrangements) also substantially affects collaborative dynamics. Risk aversion tends to be higher in public sector organizations, but risk perception is also contingent on the organization's legacy of previous reforms and its capacities to manage risk. Engaging in collaborative projects also might imply the perception of risks such as losing control and autonomy, legitimacy, and resources. Finally, power imbalances within a collaborative relationship can also hamper the collaborative process. Together, these challenges are argued to have an important and oscillating influence on collaborative outcomes.

National Context Matters for Digital Transformation

The relevance of national political-institutional contexts in shaping public management practices and reform trajectories is a central finding of comparative public administration research (Verhoest, 2010; Hammerschmid et al., 2016; Pollitt and Bouckaert, 2017). This can also be observed in the digital transformation of European national governments: The European Commission with its Digital Economy and Society Index[1] and eGovernment Benchmark[2] shows that there are substantial national differences in how digital public services are progressing. For collaborative approaches, the broader national context in which the collaboration takes place similarly plays an essential role in shaping the challenges, dynamics, and solutions that emerge, and the outcome and success of such efforts (Dawes and Pardo, 2002; Emerson, Nabatchi, and Balogh, 2012; Lewis, Ricard, and Klijn, 2018).

National Context Affects How Challenges Are Perceived and Handled

We are able to show how administrative traditions and collaborative history impact the challenges perceived in intergovernmental collaboration in government-wide platforms for digital services. The national institutional environment played an important role in how the relevance of collaboration challenges was perceived and how decisions were made. In the UK stronger power imbalances were found. There were substantial similarities between the German and the Belgium case regarding the complexity challenge, exemplifying a Continental tradition. Another similarity was found between Estonia and Denmark where a combination of higher professionalization, pragmatism, and informality led to a lower perception of complexity. In contrast, the silozation and decentralization present in Germany and Belgium resulted in power games as well as perceptions of strategic complexity and goal conflicts among the stakeholders. The connection between administrative traditions and risks perceived as collaboration challenges were more ambiguous, but also quite similar in the UK, Danish and Estonian case. Interestingly, the impact of administrative traditions on the perception of challenges did not directly lead to the emergence of similar ways to manage and govern the projects. Chapters 5 and 6 show how the project dynamics were contingent on pre-existing structural ties, referred to as the collaborative history that dictated how challenges were established and addressed, making them not only context- but also path-dependent. The structure also reflects system context, as laws, regulations, and previous collaborative management experience often determine joint project design. Thus, project structure and dynamics are highly contextual, making the organizational environment of projects critical when structuring collaboration for digital transformation.

Hence, the relevance of national institutional environments and cultures remains a prominent factor in shaping the way challenges are perceived and handled, and in shaping the dynamics of intergovernmental and public-private collaboration. This also points to the need for further research and research designs that more explicitly test this relationship.

The Challenge of Coordinating Necessary Collaboration by Smartly Combining Design and Leadership

The most common approach to address the challenges that digital platforms face is the establishment of a central coordinating body managing the projects and relationships among the various actors involved. In the smart city collaboration efforts studied in this book, the findings reveal variations in the intensity of challenges and in management interventions over time. The initial formation phase and the early phases of partnerships are characterized by a higher salience of such complexities, interdependencies, and conflicting interests, and require more intense and resource-intensive collaboration. However, they are also superseded by periods of lower intensity. Collaboration efforts can therefore be very resource-intensive and difficult to sustain over a long period.

Structure helps to address these collaboration challenges. Clearly, articulated rules, legitimized communication channels, and established protocols can reduce partners' negative risk perceptions when uncertainty is great and unfavourable strategic turns are likely, especially in opportunistic or conflict-laden settings. Structure can balance power inequalities by assigning clear responsibilities and empowering the weaker side or can mitigate complexity by dividing the project into manageable steps as shown in Chapters 3 and 5. Structure underlying collaboration can be vital to successful digital project execution, but only when implemented by strong leadership. Structures can constrain leadership, but leadership styles can shape structures if they produce undesired outcomes, prove ineffective, or stall project progress (Chapter 3). Chapter 7 notes that flat and informal structures are associated with more collaborative leadership styles, and highly bureaucratic structures require elements of transactional leadership, especially when promoting stability, standardization, and compliance with those structures.

The chapters on intergovernmental collaboration underlined that adaptive and hybrid structures are required to accommodate the unique conditions of intergovernmental collaboration for digital transformation. Chapters 5 and 6 discuss a mix of more traditional, top-down modes and more networked governance approaches, such as in the form of centralized coordination and decentralized management and operations. Given the complexity of the projects, many intergovernmental collaborations maintained a vertical hierarchy. Both in the national platform and smart city cases, the dynamics and challenges

were handled primarily through a central coordinating body that held most of the steering power of the projects. They must align with targeted leadership actions and the context in which they are embedded. With these insights, governments can create effective structures for cross-cutting collaboration to deftly ride the wave of public sector digital reform, ultimately fostering synergies and generating public value for governments.

The findings also point to both challenges of public-private collaboration and to its potential for collaborative innovation. The inherent tension between creative ideation and collaborative ability, and inefficiencies and transaction costs surrounding collaboration, is important. Managing the complexities of partnerships implies the investment of substantial time and resources into network activities, resulting in a lowering of performance compared to other organizational arrangements. Successful collaborations require a delicate balance of controlling and managing the collaborative innovation process, while at the same time allowing variance and creativity.

MIXING LEADERSHIP STYLES? LOOKING AT DIGITAL TRANSFORMATION FROM A LEADERSHIP PERSPECTIVE

In the research project TROPICO[3], which was the base for this book, leadership was one of the core perspectives used to look at the collaboration in these digitalization processes. As Lips shows in Chapter 2, research and literature on digital transformation in the public sector, so far, underlines the importance of strong leadership support, both from the political and top civil service levels. Effective leaders of digital government initiatives are described as collaborative or facilitative leaders, bringing people, organizations, and stakeholders together and facilitating collaboration. So, what does research in this book teach us about leadership and how does it relate to the available literature on leadership? This section tries to answer that question by first shortly reviewing the leadership literature and then confronting this with the main findings in the TROPICO research and the findings of this book.

From Top-Down and Transactional Leadership to Facilitation and Collaborative Leadership

The literature on leadership is vast, and the number of leadership styles that have been conceptualized and empirically measured over time is enormous (van Wart, 2012; Zehndorfer, 2014). Over the last decades, the leadership literature has been strongly dominated by the distinction between transformational and transactional leadership (Bass, 1985; Avolio, Waldman, and Yammarino, 1991; van Wart, 2012). In this literature, leadership is not only

top-down but also transactional in nature, emphasizing the reward structure in the relationship between the leader and the employee/follower (van Wart, 2012). Leaders motivate people in organizations by payments and other forms of reward systems (Zehndorfer, 2014). Monitoring the performance of employees is therefore important. Parts of the literature argue that transactional leadership is most suited for what they call 'normal performance' (Avolio, Waldman, and Yammarino, 1991; Howell and Avolio, 1993). Here, transactional leadership is something of a 'baseline' to which every other form of leadership is contrasted and compared and a form of leadership that must be complemented by other forms, especially when aimed at innovation (Avolio, Waldman, and Yammarino, 1991; van Wart, 2013). To formulate it more boldly: Transactional leadership is good for taking care of business, but not for achieving innovation. From that understanding, we should see very different styles of leadership in our empirical material than transactional leadership.

The concept of transformational leadership was dominant in the leadership literature from the 1980s (Bass, 1985), but more criticism and alternatives have arrived over the last decade. Transformational leadership emphasizes the charismatic characteristics of leaders. The baseline is that leaders need to change the organization, and the people in it, to achieve necessary (innovative) goals (Bass, 1985; Tichy and Devanna, 1990). The perspective strongly stresses that leaders must recognize the need for change and innovation. For that, they must formulate visions and motivate employees to implement them (Bass, 1985). Like the transactional perspective, the transformational leadership literature puts the leader at the centre of most development and interactions in the organization. But contrary to the transactional perspective there is also a supportive element (Bass, 1985; van Wart, 2012).

The transformational leadership conceptualization has recently been heavily criticized for having a flawed conceptualization and research (Knippenberg and Sitkin, 2013). This links to development over the last two decades, where leadership literature has witnessed two important changes (van Dierendonck, 2010; van Wart, 2012; Ricard et al., 2016). Alternative leadership theories have emerged, and there has been growing attention on interpersonal leadership theories that emphasize how leaders interact with or support employees. Especially theories that emphasize authenticity and stewardship have emerged. The leader is not the centre of the universe anymore, but someone who facilitates employees, builds relationships with them, and empowers them (van Dierendonck, 2010). Contrary to transformational leadership, which points to charisma, this type of leadership is more about building trust. Innovation then comes not so much from the charisma of the leader, but from the quality of the employees and how leaders are able to enhance that. This is also emphasized by leadership perspectives that focus strongly on the ethical character of leadership (see van Wart, 2012).

Another important development is the emergence of theories of collaborative and network leadership (Kickert, Klijn, and Koppenjan, 1997; Agranoff and McGuire, 2001; Ansell and Gash, 2008). There is a broad consensus in the contemporary governance literature that (network) management or collaborative leadership is essential. This type of leadership and/or management is necessary in networks and collaborative settings and is very different from classical images of organizational leadership (Gage and Mandell, 1990; Kickert, Klijn, and Koppenjan, 1997; Agranoff and McGuire, 2001; Huxham and Vangen, 2005). Ansell and Gash (2008) speak of facilitating leadership, where a leader's task is to mediate between actors and empower the collaboration process. Leadership and management strategies are suitable in network and partnership settings and are facilitating, activating actors, activating necessary resources, and enhancing collaboration (Gage and Mandell, 1990; Agranoff and McGuire, 2001; Huxham and Vangen, 2005). A leader in this perspective is a person who carefully examines the network of available actors, connects them to each other, facilitates the exploration of solutions to address problems, and engages the involved actors to deploy the resources needed for implementation (Klijn, Steijn, and Edelenbos, 2010). Consequently, they must build trust and cooperation among actors with different perceptions of the problems in question, different ideas about the most desirable solutions to them, and different interests (McGuire and Agranoff, 2011; Emerson and Nabatchi, 2015; Klijn and Koppenjan, 2016). Innovations, in this view, are achieved by collaborative leaders who connect actors and necessary information and can share their success with others (Torfing, 2019).

Back to Our Empirical Results

The empirical research presented in this book reveals interesting findings that fit well with the recent development of leadership literature discussed above. A main observation in all the chapters in this book is that all the intergovernmental and inter-departmental collaborations showed that effective leadership was key to the progress and success of the digital initiative. But the chapters also have in common that they show that more traditional transactional leadership styles were combined with more collaborative styles of leadership. Hammerschmid, Breaugh, and Racwitz, for instance (Chapter 3), argue that leadership in the context of collaborative digital initiatives is not about an either-or decision of the right leadership style, but instead requires a multifaceted approach that corresponds to changing and sometimes ambiguous project dynamics and needs. In the smart city initiatives, a collaborative leadership style emerged alongside a classical reliance on formal top-down structures and leadership forms, especially where matters were situated in the classical public bureaucracy. A form of layering emerges, where new forms of organi-

zation and leadership that rely more on interaction and horizontal relations are added to the classical more formal top-down bureaucratic (and transactional) forms. The same phenomena can be observed when leadership activities are analysed in the five countries we have included. The respondents emphasize contingent leadership, mixing various styles and combining actions that fit in a transactional leadership style with elements that fit in a collaborative style. The mix depends on a variety of project-related factors and differs between countries and contexts. The transactional leadership style is more common in Continental Europe, such as Belgium and Germany, and in the digital platform cases – where central government with a stronger prevalence of hierarchy and siloed structures plays a stronger role. In the smart city cases, collaborative leadership is more prevalent. Another finding relates to a temporal variation of leadership styles especially regarding project phases. In many cases, interpersonal aspects and collaborative leadership in the project initiation and the network-building phase were paramount, whereas in the later phases – which required technical scaling, project implementation, and compliance – transactional leadership styles gained in dominance.

Similar observations about the crucial role of leadership were made when it comes to public-private collaboration. In Chapter 8, Callens et al. point to different clusters of factors that are important for the success of health partnerships with management activities being a main one of them. Leadership/management emerges as a very important condition in the qualitative comparative analysis (QCA) by Callens and Klijn in Chapter 9. Another similar trend is the mixing of styles of leadership. The research presented in the second part of the book clearly emphasizes flexibility and leadership that encourages exploration but also emphasize focus on desired outcomes. In collaborative partnerships, variation (i.e., diversity of perspectives, skills, knowledge, etc.) is an important factor that stimulates learning processes and is crucial for creating innovation. Leadership that encourages the exploration and usage of this diversity, therefore, enhances the innovation process. However, variation also causes complexities as the presence of diverse actors makes the innovation process more difficult. Leadership capable of controlling these complexities and streamlining the innovation process towards desired outcomes is, therefore, essential. Our results show that a proper balance between leadership with an orientation on results and leadership which is flexible and can adapt to the complexity of these collaborative processes is important to create innovative services.

The importance of leadership legitimacy in the empirical chapters is also interesting. This is taken for granted both in the classical transactional, but also transformational leadership literature, where it usually is seen to result from clear authority lines in public bureaucratic organizations. However, the observation of the importance of the legitimacy of leadership in the empirical findings clearly fits more with interpersonal and ethical perspectives on leadership

and even more in collaborative forms of leadership that have emerged more recently. New intra-organizational leadership styles, like servant leadership and ethical forms of leadership, also emphasize legitimacy within the organization and of the employees as crucial. Furthermore, network management or collaborative leadership is rooted in the acceptance of the other involved actors in the network of the network manager/collaborative leader (Emerson and Nabatchi, 2015; Klijn and Koppenjan, 2016).

Thus, our empirical material demonstrates both the development towards more interpersonal/ethical styles of leadership and towards more collaborative leadership, as emphasized in the leadership literature. It also illustrates what we can call 'decentralizing leadership'. The leader is no longer the charismatic central person in all innovation processes but more a facilitator, working to enable people and organizations to work together.

Thus, further research should focus less on one type of leadership and should look more into how leadership styles are combined and under what conditions leaders change their styles.

DESIGNING AND STRUCTURING PARTNERSHIPS: THE ART OF COLLABORATION

This book points to several important conditions when looking at the functioning of partnerships that could inform designing and running collaborative partnerships for digital transformation and innovation. Five important conditions can be highlighted:

a. Diversity and size, and how the governance structure should be aligned with these two aspects
b. The interaction patterns of the partnerships
c. Structuring intergovernmental collaboration
d. Combining contractual and network management
e. The role of information and communication technology (ICT) to structure the collaboration

These five conditions seem to be dependent upon the main orientation of the innovation project, being either an open search for an innovative solution which is then implemented or a more focused development and implementation of a pre-chosen solution. We elaborate on each of the five conditions below.

Diversity and Size

The synergy between actors with different knowledge, experiences, perspectives, and resources is considered a crucial advantage of collaborative innovation (Sørensen and Torfing, 2017). There is also a limitation to this: too much diversity can cause fragmentation and tensions. Therefore, actively balancing diversity among the partners to stimulate creative processes, on the one hand, and alignment of perspectives to generate synergy, on the other, is crucial (Nissen, Evald, and Clarke, 2014).

The question of partnership size is very much related to this issue of diversity. The chosen governance structure should be contingent on both size and diversity. In Chapter 8, Callens et al. find that the size and governance structure determine and facilitate the involvement of crucial actors in the collaboration. Governance structures play a crucial role in managing and controlling partnerships, as well as facilitating interaction among stakeholders. These structures define the various responsibilities and roles of the partners and establish practices for decision-making and communication among the different participants. According to the existing literature on network governance modes (Provan and Kenis, 2008), the size of a partnership is typically associated with the type of governance structure employed. Larger partnerships tend to benefit from more formal and centralized governance structures, such as network-administrative organizations or partnerships governed by a lead organization. However, our research on collaborative innovation partnerships reveals a different perspective. In the case of small government-coordinated partnerships with contractual arrangements (e.g., when private partners have been selected through a procurement process), centralized governance by a lead organization proves advantageous. On the other hand, we found that large contractual partnerships for collaborative innovation, which are coordinated by societal actors, benefited from the implementation of distributed governance. This approach emphasizes joint decision-making and equal responsibilities among all partners involved.

The Structure of Interaction Patterns

A second key factor in the effectiveness of partnerships lies in the way interactions between actors are structured. The governance structure plays a critical role in shaping these interactions within the partnership. When communication is lacking between different parts of the governance structure, it can lead to difficulties and even parallel decision-making processes. This lack of communication can also erode confidence in the decisions made within the partnership.

The importance of structured interactions among actors for collaborative innovation dynamics is demonstrated in Chapter 11 by Langbroek and

Verhoest. Previous research has shown that well-connected key actors, such as coordinators, contribute to more effective outcomes. Studies by Raab, Mannak, and Cambré (2015) and Cristofoli et al. (2021) support this notion. Additionally, actor importance has been linked to innovative outcomes, as highlighted by Stevens (2018). In terms of information flow within collaborative arrangements, clique overlap is considered the most effective way. Provan and Sebastian (1998) have observed this pattern.

However, the case studies presented in Chapter 11 challenge the notion that a well-integrated network with important actors connected through clique overlap is always the driving force behind collaborative innovation development. This finding suggests that extensive discussions and idea generation during broad general meetings may not be as crucial for successful cases. Instead, successful actors tend to connect and work out details outside of formal meetings, involving only essential actors. Nonetheless, the results also indicate that a certain level of dispersion of important actors is necessary. In one of the cases, the lack of success can be attributed, at least in part, to an influential in-group that fails to establish connections with other actors in the network. These findings refine the argument that information flow is critical for innovative outcomes, as proposed by Koliba et al. (2017). Therefore, the results in Chapter 11 validate existing theories and empirical findings regarding the importance of information flow, while also adding the insight that clique overlap is not always essential.

Network and Contract Management

The choice of managerial activity holds significant importance, particularly when considering partnerships, collaborative governance, and network governance. Existing literature presents two key ideas regarding this matter. The first idea, rooted in economic-oriented literature, highlights the risk of opportunistic behaviour. It emphasizes the contract as a crucial instrument for managing such projects (Jensen and Meckling, 1976). Accordingly, contract management focuses on monitoring performance based on agreed-upon criteria, adhering to the project timeline, and utilizing budget penalties and sanction mechanisms to ensure collaboration, achieve outcomes, and foster innovation. Consequently, innovation should be explicitly specified in the contract.

In contrast, collaborative-oriented perspectives found in the literature on network and collaborative governance stress that these projects primarily entail collaboration and should be viewed as such. These perspectives underscore the importance of collaborative or network management structures (Agranoff and McGuire, 2001; Huxham and Vangen, 2005; Steijn, Klijn, and Edelenbos, 2011; Emerson and Nabatchi, 2015). They argue that contracts cannot account for all unforeseen events and partner behaviours. In other words, contracts

can never be comprehensive. Even extensive information gathering would not suffice to handle unforeseen dynamics and changes over time. Therefore, achieving desired outcomes and innovative results necessitates extensive interaction between partners, along with effective management of these interactions, as emphasized in this book. Various terms are used to describe these management activities (e.g., collaborative governance, network management), but they generally encompass similar strategies.

Consequently, both contract management and network management can coexist within the same partnership. Contract management primarily focuses on the input and output aspects of the collaborative innovation process. For instance, it involves engaging innovation-oriented contractors, incentivizing innovation through contract provisions, and specifying output requirements. A contract-like agreement facilitates the transparent allocation of responsibilities, accountability, resources, and risks. Conversely, network management centres around process-related aspects, such as exploring ideas and perspectives, and facilitating interactions between actors. Recent empirical research supports the combination of different strategies (Warsen, Klijn, and Koppenjan, 2019; Callens, Verhoest, and Boon, 2022).

This trend is also evident in this book, which highlights the significance of contract management for digital transformation projects, particularly due to their complexity, cost, and risk. In the examined collaborative innovation cases, contracts were employed for various purposes, including clarifying interdependencies and partner roles, integrating additional knowledge into the partnership, and preventing conflicts by defining accountability relationships. Contracts also help mitigate the risks associated with participating in a partnership. Our research reveals that collaboration coordinators need to strike a balance between contract rigidity (clear goals and incentives) and contractual flexibility (room for experimentation and adjustments after contract conclusion). Additional process rules, incorporated as part of network management, can aid in achieving this balance.

The research presented in this book emphasizes the crucial role of network management in collaborations for digital transformation, both at governmental levels and between public and private actors. Different strategies of network management, such as connecting, exploring, arranging, and issuing process rules (Klijn, Steijn, and Edelenbos, 2010), are combined in varying ways across different projects. This underscores that effective network management is more of a craft than a set of mere techniques.

The combination of contract management and network management proves beneficial when seeking innovative solutions, including in the context of digital transformation. Specifically, specific combinations of contract management (particularly clear output specifications) and network management (specifically the exploring strategy) yield highly innovative eHealth services.

Our findings reinforce the relevance of integrating relational management strategies with contractual foundations for successful and innovative collaborations (Warsen, Klijn, and Koppenjan, 2019; Callens, Verhoest, and Boon, 2022). Although these findings may relate to the specific context of eHealth innovations, the discovery that a blend of contractual elements and exploring elements generates highly innovative digitalization projects is surprising.

The Use of ICT (Tools) to Structure Collaboration in Partnerships

ICT played a crucial role in the eHealth innovation projects examined in this book. However, its significance extended beyond merely being a technological component. ICT served as a facilitator for effective collaboration among partners in the pursuit of solutions. It played a pivotal role in the collaborative process itself, enabling partners to interact with users through tools like mock-ups and testing platforms. Communication technologies such as Skype, MS Teams, online interaction platforms, and cloud databases like SharePoint and Dropbox were extensively employed to connect diverse partners and coordinate their efforts. Furthermore, certain ICT tools possessed analytical capabilities that supported decision-making. The existing ICT infrastructure also held significant importance.

ICT tools are indispensable for fostering collaboration between partners. They improve interactions and help overcome practical communication barriers. Our research highlighted the vital role of ICT as an enabler of user involvement. Through digital environments created by ICT tools, users can test ideas (e.g., simulations, eHealth tool demonstrations). ICT aids in visualizing and structuring innovative concepts, generating support, and understanding. It facilitates data sharing and enables mutual learning by combining and connecting information and knowledge through databases. These findings suggest that ICT stimulates innovation creation in contexts characterized by high levels of trust between partners. One possible explanation is that ICT reduces the necessity for face-to-face interactions, which are typically required to build trust. Therefore, trust must already be present for ICT to exert positive effects on innovation creation.

The Orientation of the Partnership: Innovative Search or Focused Development?

The optimal design choices for size, diversity, governance structure, and the integration of contract management and network management should be considered as being contingent upon the nature of the innovation project. Specifically, it is important to consider whether the project involves an open

search for innovative solutions followed by implementation or a focused development and implementation of a predetermined set of solutions.

Based on our findings, we suggest that in projects characterized by an 'open search' approach, success is more likely to be achieved through large networks comprising diverse actors. These networks should adopt a distributed governance structure with a predominant focus on network management strategies. On the other hand, in projects that involve a narrower range of preselected solutions, it may be more functional to establish smaller collaborations with reduced diversity. These collaborations should be governed in a more centralized manner, employing formal contracts with clear stipulations, incentives, and a combination of network management strategies.

Similarly, in digitalization projects aiming for radical innovations, it is crucial to maintain stability in governance structure, network size, diversity, and management over time, particularly when transitioning from an open search for alternative solutions. Practitioners and project coordinators should be mindful of the project phase in order to determine the extent to which integration through clique overlap is necessary. They should also consider when it is most appropriate for the key actors to interact more intensively with each other and/or with other actors, whether during or outside formal meetings. Exploring these temporal dynamics requires further research.

POSSIBILITIES AND PITFALLS OF INVOLVING STAKEHOLDERS AND USERS

Expertise, Position, and Drivers of Private Partners and Stakeholders Matter

As shown in Chapter 9, the expertise, positions, and drivers of the individuals and organizations shape the partnerships and their outcomes. The individuals and organizations from the private and non-profit sectors involved in the collaborative innovation partnerships bring specific expertise and skills. These include ICT expertise, legal expertise, sector-specific expertise, and technical expertise. ICT knowledge is particularly important, while legal expertise is necessary for contract drafting and dealing with data protection. Technical expertise is required for addressing specific issues related to the innovation process. Also, the positions of the actors in the policy sector influence the partnerships. Some actors have access to resources through their positions, such as relevant service users or political support. Actors responsible for ICT infrastructure are involved to ensure interoperability. Their influence is significant, as they control essential data exchange infrastructure. Moreover, various drivers motivate the actors to participate. Some seek innovation to reduce costs or improve services. Others aim to solve urgent problems affect-

ing them directly or indirectly. Opportunities to develop existing services or access economic benefits also drive participation from private actors. Private actors see the projects as opportunities to expand their market shares and gain new knowledge and user experiences. Our research shows it is crucial to select partners purposefully on their expertise, sector position, and their drivers to foster collaboration for digital transformation.

The Extent, Timing, and Perspectives of Involving Users Matter

The research presented in this book highlights also the importance of engaging end users in digitalization projects. Service users play a crucial role as key stakeholders in collaborative innovation processes for digital transformation. They possess valuable insights into the effectiveness and relevance of digital tools and services. Involving them is widely recognized in the literature as a major catalyst for successful innovations (Cinar, Trott, and Simms, 2019).

In Chapter 4, Callens and Verhoest identify several reasons for involving users. Firstly, users can provide legitimacy to the innovation process and its outcomes. They bring valuable information about their expectations and demands, which shapes the development of innovations (Sørensen and Torfing, 2017). Secondly, involving users allows partnerships to access 'sticky information' related to service experiences and local implementation contacts (von Hippel, 1994; Simmons and Brennan, 2017). This information can be used to customize the service to meet the diverse needs of users. Importantly, users do not have strategic motives to keep innovations hidden from competitors, making them more open to participation (Roszkowska-Menkes, 2017).

While existing literature has extensively explored user participation in policy and service creation (e.g., Pestoff, 2014; Brandsen and Honingh, 2016; Nabatchi, Sancino, and Sicilia, 2017), and scholars suggest that user involvement in collaborative partnerships stimulates innovation processes (e.g., 'coproduction for innovation' by Nesti, 2018; 'quadruple helix' innovation by Carayannis and Campbell, 2009), there is still much to learn about the specific conditions under which user involvement leads to collaborative service innovation (though, see Callens, 2022). Some chapters in this book provide more insights into some of these conditions.

To maximize the potential of user involvement in digital innovation projects, three dimensions of user involvement are crucial: timing, intensity, and alignment among partners on how users should be involved and supported by the partnerships.

In the case studies discussed, the timing of user involvement played a crucial role (Alam, 2002). Users can contribute valuable insights throughout various stages of the innovation process, including problem definition, idea generation, testing, implementation, and evaluation. Their involvement can occur in

one or more of these stages. When users are engaged early in the innovation process, there are greater opportunities to integrate their input into the final innovation, as observed in partnerships that resulted in highly innovative services. Additionally, incorporating users' perspectives during the ideation phase ensures that ideas directly address their concerns.

Another key aspect of successful user engagement relates to the intensity of their involvement, which refers to the extent to which their input is considered in decision-making processes (Alam, 2002). Users can contribute in different ways, such as providing advice, co-producing with the partnership, or even leading certain aspects of the innovation process (Arnkil et al., 2010; Holgersson and Karlsson, 2014). Empowering users by involving them intensively has been associated with improved service quality, while the absence of empowered users is seen as a significant barrier to public service innovation (Voorberg, Bekkers, and Tummers, 2015; Cinar, Trott, and Simms, 2019). In partnerships where users play a crucial role in decision-making, their intensive involvement becomes particularly important during the conceptual, testing, and implementation phases of the innovation process. The cases examined in this book highlight the need to go beyond mere user information provision and instead include user input in decision-making or grant users decision-making authority. Establishing a governance structure that assigns users a specific role can facilitate extensive user involvement. Moreover, collaboration partners should create a learning environment that enables the open sharing of feedback and experiences with users.

Our research indicated that collaboration partners may have different viewpoints on how to involve users in the innovation process in terms of their motivations, timing, intensity, and the way the partnership can support their involvement. In Chapter 11, we examine the partners' viewpoints on user involvement in collaborative innovation projects. Specifically, we explore four roles of user involvement: users as legitimators, customers, partners, and self-organizers. To gather these perspectives, we employ Q-methodology, surveying 50 partners engaged in eHealth collaborations for service innovation.

The findings reveal that the partners' views on user involvement lie somewhere between perceiving users as 'customers' within a New Public Management paradigm and as partners within a network collaboration and co-production perspective associated with New Public Governance. Two distinct empirical profiles of user involvement emerge from the analysis. The first profile is output-oriented, where user involvement is seen as a means to achieve a satisfactory end product. The second profile is process-oriented, considering users as active participants in the collaborative dynamics of the innovation process. However, our study shows also that partners in collaborative innovation partnerships generally do not view users as initiators or leaders of the innovation process. This limitation suggests a reluctance to incorporate

self-governance structures in user involvement. This hesitance may stem from the advanced knowledge requirements in ICT and health necessary for the development of eHealth innovations, as well as the complexity of the healthcare sector. Additionally, it is important to acknowledge that users themselves may hold different expectations and visions regarding their involvement and the partnership's role, which can differ from the partners' expectations (see Callens et al., 2023).

Managing these differences in expectations is crucial to effectively facilitate user involvement. Variances in partners' viewpoints on user involvement can lead to role-related conflicts, both among partners and between partners and users. Consensus-building becomes more challenging in such cases and may require strong project leaders. Therefore, when assembling the partnership, the project coordinator should consider the diverse users needed based on the partners' vision to ensure alignment and avoid any miscommunication regarding user involvement.

LESSONS FOR POLICY AND PRACTICE

There are numerous recommendations to be drawn from the insights in this book, both for policymakers seeking to enhance policies for digital transformation, and for those directly involved in public-private collaborations engaging in the digital transformation of government and society. Overall, public sector actors that are ready to embrace collaboration and ensure that both rhetoric and practice go hand in hand can make a considerable contribution towards the digital transformation of governments. Technology is often seen as an innovation goal per se, and in the context of digitalization, governments often focus on mobilizing IT/digital skills and expertise. However, as highlighted in this book, one should also pay close attention to the development of collaboration, and related skills and competencies, and one should keep in mind that government officials are often motivated less by the innovative technology itself than by the associated public value.

Collaboration means sharing and connecting knowledge, resources, and ideas. The public sector's collaboration with other stakeholders, that is, private sector organizations and users, can, as our research has shown, result in mutual learning, creative processes, and new, improved, and innovative public services. Selecting actors with the needed knowledge, skills, resources, drivers, and incentives is essential. Identifying the appropriate stakeholders and including the right mix of actors can, furthermore, prevent distrust and conflict, enhance creative ideation processes, and secure support for newly created services. A diversity of perspectives, skills, and knowledge tends to stimulate learning processes, and different types of expertise on ICT, technical issues, and legal knowledge can drive the innovation process forward. Actor

diversity allows for diversification, synergies, and creativity in the innovation process. New associations between distinct ideas and perspectives are formed when individuals recombine ideas and build on each other's knowledge.

Processes that stimulate the exchange of ideas and knowledge facilitate mutual learning and can increase the collective capacity to develop new solutions. Conscious consensus-building between the collaborating partners helps to select desirable ideas and stimulates convergence towards a shared solution. Furthermore, actively building commitment towards implementing the solution ensures that the partners mobilize resources towards this end. Providing sufficient incentives, visualizing past achievements and opportunities, and continuously communicating the benefits that collaboration brings in the context of government digitalization will further cultivate a motivation to work together. At the same time, collaborating in the digital era means working in a constantly evolving context, shaped by new technologies, complex projects, and high risks regarding budget and project outcomes.

Designing an appropriate governance structure, fitting both the size and type of collaboration, and encouraging creative processes as well as goal alignment, is crucial. Collaboration often needs a fundamental agreement between the involved partners and is more likely when a shared vision and an agreement on central goals have been reached. At least some degree of formal rules on how to act in the collaborative arrangement is helpful here. Formalization may enhance the predictability of collaboration and increase the actors' willingness to engage in the process beyond the initial stages. Specifying the demands, mutual expectations, costs, and risks related to the collaboration is likely to enhance performance. Identifying clearly the desired outcome helps to align potentially diverse goals and objectives. Paying attention to the development of collaboration and networking skills within the collaboration can strengthen the capacity to communicate, create shared meaning, resolve conflicts, and overcome resistance to change.

Contract management can help to connect partners and tighten engagement and commitment to the project. However, formal agreements should also aim to avoid stifling creativity and flexibility. They can reduce risks and uncertainties and increase accountability between partners, but sufficient design freedom should also be preserved by limiting restrictions on creative solutions. Size is an important factor in this context. In small government-coordinated and contractual partnerships, governance by a lead organization is advantageous. Large contractual partnerships coordinated by societal actors, however, will benefit more from governance arrangements with a focus on joint decision-making and equal responsibilities among the partners.

Thus, proper management ensures that the collaboration benefits from the full added value of each individual partner. Managing the interactions between the partners ensures goal alignment, trust, mutual learning, and transparent

communication. As seen in many of our case studies, combining different management strategies and leadership styles can be beneficial. Hence, the coordinator or leader should make sure to explore the ideas and perspectives of all partners, connect their resources and interests, introduce governance structures that stimulate interactions, and apply process rules that clarify how the collaboration will operate. Leadership that encourages the exploration and usage of diversity may enhance the innovation process. However, diversity also causes complexities. Collaboration between actors from diverse backgrounds generates innovative ideas but might also cause tensions. Effective network and conflict management are therefore important. Incentives and drivers related to the content of the project, as well as economic interests, are important motivators. Leadership capable of controlling these complexities and streamlining the innovation process towards the desired outcomes is essential.

Encouraging the collaborating actors to be open to the ideas of others and building a learning environment where new knowledge and ideas can emerge facilitates the innovation process. This is stimulated by feedback processes concerning ideas and perspectives, experimentation, trial-and-error behaviour, and by introducing new (external) knowledge in the partnership. Partners' capacity to connect with others, connect ideas, learn, think creatively, and be consensus-oriented is valuable. Strong organizational support (e.g., a clear mandate, dedicated time, and specialized training) will furthermore increase commitment to the project but should also provide freedom and autonomy to encourage interactions and out-of-the-box thinking.

Trust is a key condition for successful collaboration. It emerges from interpersonal connections and repeated interactions over time and can be built via formal meetings but also through informal interactions. Encouraging open and transparent two-way communication between the partners and ensuring feedback about the partners' ideas and perspectives stimulates such trust. Together with conscious consensus-building, it helps manage conflicts, increases goal alignment, and in the end, ensures that the actors are willing to spend resources to adopt the innovation.

Actively seeking and securing both internal and external support is important. The collaborating partners need a clear mandate as organizational representatives in the partnership from the higher management. Many of the cases we investigated show that projects that successfully created highly innovative services had secured external support from collaborating organizations, such as elected politicians, the media, and the broader policy sector, before or during the project.

The users of innovative tools and services are crucial assets. Their involvement is most successful when their viewpoints are aligned with the viewpoints of the collaboration partners. Users should therefore be consciously and

actively engaged in the innovation process and should be given the possibility to influence both processes and outcomes, for example, through co-creation or co-leadership. Adopting a governance structure in which the users have a specific role is especially helpful. Ideally, they should be involved in all phases of the innovation process – problem definition, idea generation, testing, implementation, and evaluation. Eliminating barriers to their active involvement, for example, removing rules and procedures that hinder collaboration, ensuring reliable information, and avoiding unbalanced representation will help towards this end. Digital tools can also enhance interactions and help overcome communication barriers. Creating digital environments where ideas can be tested (e.g., through simulations or demonstrations) can enable more user involvement. Generating such user feedback stimulates interactions between partners and can be used to improve usability. Digital tools can also help visualize and structure new ideas, thereby generating mutual learning, support, and commitment to new solutions.

Therefore, leadership and process-related conditions are essential for overcoming barriers to interaction and innovation, the empirical results in this book show. The successful leader sets the ground rules, builds trust by upholding these rules, facilitates dialogue, and helps to identify areas of mutual gains. Leaders also play an important role in handling project complexities, navigating power imbalances, and tracking processes and performance. Collaborative leadership focuses on the ability of leaders to engage and collaborate with a heterogeneous team of actors with a diversity of opinions and ideas, building strategies towards common goals. The protagonists of collaboration for digital transformation should make sure to build a shared vision and manage the relational capital of the collaboration, encourage open and transparent communication between the partners, create communication and networking opportunities, stay connected to all relevant project stakeholders in the governance structure, and take the time to build relationships and trust. This type of leadership is important in many collaborations.

However, the changing nature and dynamics of collaboration projects and the multifaceted nature of digitalization projects also imply that we cannot assume this is always the most effective leadership style. Our research also shows that traditional hierarchical, or transactional, leadership remains highly relevant in many cases. This is especially true within the context of large, resource-intensive, and complex digitalization projects. Especially leaders within large, hierarchically organized government organizations need to find the right balance between a transactional leadership style focusing on goals, monitoring, and incentive structures, and a collaborative style aiming at bringing new and different actors together, motivating, developing trust, and facilitating communication. Therefore, the leader of a collaboration should adopt a leadership style that works for the context and stage of the

collaboration. More specifically, when aiming at building trust and legitimacy, and developing a shared understanding, a collaborative style focusing on interpersonal relations, facilitating dialogue, bringing actors together, and supporting learning and out-of-the-box thinking should be adopted. However, when aiming at achieving results, gaining stability, and compliance, and in the phase of innovation exploitation and scaling, a transactional leadership style, emphasizing objectives, accountability, monitoring success, and pushing for more time and energy, will be useful.

AVENUES FOR FUTURE RESEARCH

This book has given considerable new insights on many topics related to digital transformation and collaboration. Nevertheless, there is no doubt that there are still many questions that deserve more research attention.

Our research has been more focused on the presence of, and interplay between, conditions, structures, leadership, management and innovation, and digital transformation itself, and less on the mechanisms that resulted in these observations. Future research should therefore examine more – through qualitative research such as process tracing – the actual mechanisms involved in these processes.

It is clear from the findings that different factors, such as complexity, risk, and power imbalance interact with one another and may serve to compensate for or intensify collaborative problems. This also has an impact on the potential for and effects of digital transformation. In Chapters 3 and 7, Hammerschmid, Breaugh, and Rackwitz point out that future research should dig deeper into the dynamics of these challenges in the context of intergovernmental collaboration. Apart from Klijn and Koppenjan's (2016) work on understanding collaborative complexities, few researchers have dug deeper into the different types of risk and power that emerge in collaboration projects. These can, for example, be related to reputation, financial, and/or political issues. If and how they impact collaboration behaviours differently is one area where more knowledge is needed and would provide a more nuanced understanding of collaboration conditions.

Future research should therefore further investigate how and to what degree interactions take place to address these challenges. In doing so, it may be possible to use certain structural arrangements to combat a variety of different challenges and better understand how each unique dynamic (e.g., power and trust) may influence each other. Additional research could also study the impacts that individual system challenges can have on one another, on top of their anticipated impact on the overall outcome.

The chapters for the most part have a within-country or within-case outlook. An examination of how the forces outside a single country impact both the

collaborative and digital approaches undertaken in other countries should be conducted. A future research avenue could thus examine the extent to which policy diffusion and policy transfer are occurring across different countries. There are examples of radical openness, for example, through the sharing of open-source digital tools across countries. Whether or not this leads to cross-country adoption of specific systems, or if it is better to develop more grassroot, bespoke solutions would be interesting. Such research can also be tied to the work and influence of international organizations and supranational governing bodies, such as the EU, in encouraging (or mandating) digital transformation.

Callens and Klijn (Chapter 9) emphasize that future research might look beyond the assumptions of economic and governance theory and explore other conditions than contract characteristics and management. The characteristics of the partners, the different phases of the innovation process, or the characteristics connected to the nature of the innovation (e.g., technological sophistication of ICT-enabled service innovations) are likely important. More research into these factors might further unravel the core dynamics of cross-sectoral collaboration for innovation.

The conceptualization of innovation that our approach builds on is more context-dependent and based on the perceptions of the involved actors. However, innovation is also generated through the development of more advanced technologies. Future research could therefore consider extending the concept of innovation to a more context-independent understanding and include elements of technological sophistication. One could analyse the extent of technological sophistication in terms of certain advanced technological components being present/combined or not in collaboration. Our preliminary analyses indicate that conditions that stimulate perceived innovativeness might also affect technological sophistication. An in-depth analysis of which conditions can lead to technologically sophisticated innovations would be another avenue for further research.

Our research also highlights the essential role that politics and political actors play in the implementation of the projects. For many, a lack of political will became a hindrance, even if the goals were admirable. In other cases, too much political backing disrupted the ability for genuine collaborative arrangements to emerge due to power imbalances. In this regard, future research could examine the role and importance of political leadership at different levels of government and how they may become a help or hindrance to the collaborative process.

Another area of research could be to examine the notion of collaborative resistance, and why, when given the choice, some actors or organizations choose not to participate in collaboration projects. It could be related to collaboration dynamics such as risk, power, and complexity, but also to a lack of

skills or understanding of digital processes, a lack of motivation due to fear of change, or a lack of people able to engage with the process.

Long-term project maintenance is also an area where we lack knowledge. Potential research questions include aspects such as the dependency of the project managers on the digitalization project, if and how a handover may occur, if and how collaboration changes in the maintenance rather than the set-up phase of a project, the role of collaboration inertia in the long-term sustainability of collaboration networks, and how the challenges and dynamics may change as projects become more mature.

Future studies should also examine the evolutionary aspects of project implementation. Studying projects in their more mature stages would give deeper insight into what skill sets are needed after the initial necessary network structures have been established. More transactional styles of interaction, technical scaling, and compliance might be more important in later stages. This kind of research could contribute to a better understanding of how leadership can help digital transformation succeed in the long term, hopefully yielding improved service provision and public value increase.

NOTES

1. https://digital-strategy.ec.europa.eu/en/policies/desi-digital-public-services
2. https://digital-strategy.ec.europa.eu/en/library/egovernment-benchmark-2022
3. The TROPICO project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 726840. For more information: https://cordis.europa.eu/project/id/726840

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