

1. Introduction: collaborating for digital transformation in the public sector

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INTRODUCTION

Governments around the globe, international organizations, as well as the European Union, recognize the need for digital, open, and collaborative governments. Digital transformation promises a pathway forward for governments and organizations that aim to improve their policy design, services, and efficiency. At the same time, intergovernmental and public-private collaboration is actively, widely, and increasingly used to achieve such transformation. This book investigates both, specifically the interlinkages between digital transformation and collaboration, and how collaboration works – in practice – to support and/or promote the digital transformation our society and governments are going through.

Collaboration within governments and between public and private actors has always played a crucial role in policy development and implementation. Both themes have been covered a lot in research over the last two decades. For collaboration within governments, one can think of the classic work of Agranoff (1986) or Hanf and Scharpf (1978) on which a wide literature has been built. If it comes to collaboration between public and private organizations there is a wide tradition of collaborative and network governance that has dealt with this over the past two decades (see, e.g., Kickert et al., 1997; Huxham and Vangen, 2005; Ansell and Gash, 2008; Emerson et al., 2012). However, combining these traditions with the literature and practice of digital transformation is understudied.

Our book aims to contribute more specifically to understanding how governments move towards digital transformation and interact with others in this collaborative endeavour. It theoretically develops and empirically explores the interlinked aspects of digital transformation, intergovernmental collaboration, collaborative governance, and public sector innovation through dedicated and diverse chapters. It does so by connecting the long-standing literature on

collaboration, and collaborative and network governance with literature about digitalization and digital transformation and applying this to a large number of cases throughout European Union (EU) countries.

It thus provides a strategic perspective to the governance of digital transformation. This book explicitly explores the relevance of the digital transformation of government and the interplay between digital transformation and governance. It provides a brief introduction to the topic of intergovernmental and public-private collaboration to achieve digital transformation, addresses key challenges of collaboration, and more specifically looks at how institutional design and leadership can help overcome such challenges and foster collaborative dynamics to achieve digital transformation. The general aim is to provide significant insights to both academics and practitioners through a large variety of research methodologies and a comparative analysis of a diverse set of empirical cases across Europe.

The book is a result of intense collaboration and extensive research done in and related to an EU Horizon 2020 research project funded from 2017 to 2021: ‘TROPICO: Transforming into open, innovative, and collaborative government’.¹ TROPICO studied *internal collaboration* within the public sector looking at whether and under which conditions collaborative public management delivers innovative public services and advances digital government across levels and between organizations within government. The project furthermore devoted research to practices of *external collaboration*, studying different kinds of partnerships between government, private stakeholders, and users in the creation and delivery of innovative and digital public services.

Most of the chapters in this book draw directly from research within the project. An additional chapter from Miriam Lips puts this research into a broader context of international research findings on digital transformation in government.

DIGITAL TRANSFORMATION AND COLLABORATION

The concept of digital transformation has injected new vigour into both policy-making and conceptual and empirical research across the world. Governments see digital transformation as an opportunity to improve service delivery and policies, change or streamline public sector operations, processes, and design, and collaborate in new ways, creating more transparency, interoperability, or citizen satisfaction (Curtis, 2019; Mergel, Edelmann, and Haug, 2019). The European Commission recognizes the urgency and relevance of the ‘Digital Decade’,² as the COVID-19 pandemic has made the need for digitization in our governments and societies abundantly clear. Thanks to digital technologies, societies were able to mitigate many of the detrimental effects on the economy and society of the COVID-19 crisis. This would not have been

possible only a few decades ago. The European Commission (2021) prioritizes a strategic orientation towards digital transformation and has recently formulated a Digital Compass, which connects four cardinal points of digitalization: (1) A digitally skilled population and highly skilled digital professionals; (2) Secure and performant sustainable digital infrastructures; (3) Digital transformation of businesses; and (4) Digitalization of public services. For this book, particularly the fourth cardinal point is of interest, as it pertains to how governments in Europe can digitally transform their services.

There is a myriad of approaches to and definitions of digital transformation (Vial, 2019). Diverse initiatives to promote the digital transformation of public services have been launched widely in many countries and are used to initiate various strategizing and organizing activities. The European Commission, for example, has adopted a strategy aimed at ‘A Europe fit for the digital age’, aiming to empower people and businesses to make use of new technology.³ However, many authors point to the fact that a universal and comprehensive understanding of the concept is lacking (Gong and Ribiere, 2021). Mergel et al. (2019) focus on the transformational part of the concept, highlighting the involvement and outcomes of digital transformation and seeing it as a holistic effort to revise core processes and services of government, evolving along a continuum of transition from analogue to digital in the process of reviewing and revising current policies, processes, and services. Gong and Ribiere (2021, p. 12) seem to capture some of the essence in their unified definition of digital transformation as: ‘A fundamental change process, enabled by the innovative use of digital technologies accompanied by the strategic leverage of key resources and capabilities, aiming to radically improve an entity* and redefine its value proposition for its stakeholders.’ (*An entity could be: an organization, a business network, an industry, or society.) Similarly, Hinings, Gegenhuber, and Suddaby (2018, p. 52) from an institutional organization theory perspective understand digital transformation as ‘the combined effects of several digital innovations bringing about novel actors (and actor constellations), structures, practices, values, and beliefs that change, threaten, replace or complement existing rules of the game within organizations and fields’.

Related to the many definitions, digital transformation is achieved in many ways. A pure technological approach may provide some of the necessary tools and building blocks, but digital transformation is also about creating an environment for change to happen. Here, also managerial, organizational, and processual factors are crucial. Thus, digital transformation requires adequate governance structures, management, leadership, information sharing, cross-organizational collaboration, specific skills, expertise, and mindsets.

In the literature, the digital transformation of services goes beyond the simple development and implementation of information and communication technology (ICT)-enabled services. On a macro level, digital transformation

hence relates to the profound changes societies, industries, and governments undergo because of the introduction of digital technologies (Vial, 2019). On an organizational level, digital transformation corresponds to the organizational strategy or trajectory towards change and transformation by using digital technologies (Singh and Hess, 2017). Digital transformation at the macro level can act as a contextual feature, which necessitates the introduction of digital transformation strategies at an organizational level but also implies the ability to innovate and implement new digital solutions.

In the government's pursuit of digital transformation, its ability to achieve ICT-enabled services in collaboration with internal and external stakeholders, such as government agencies, market actors, third-sector organizations, civil society, citizens, and service users, is crucial. Both internal and external collaboration networks enable the connection between stakeholders' capabilities and help to align the problem-solving efforts of stakeholders, which stimulates technological innovation and increases the impact of digital transformation (Camarinha-Matos et al., 2019). This is also strongly linked to findings from research on collaborative public sector innovation (Torfing, 2019) which emphasizes both the (resource) dependency of actors and their availability of different information (and perspectives) as core elements for innovation.

Ansell and Gash (2008, p. 543) argue that collaboration has emerged as a new form of governance to replace adversarial and managerial modes of policymaking and implementation. This governance form typically brings public and private stakeholders together with public agencies, resulting in more consensus-oriented decision-making. The ensuing research has found that there exist a large variety of approaches to collaboration and that the term is used to describe a number of different practices, relating to participation, agency, inclusiveness, and scope – and based on different normative assumptions (Batory and Svensson, 2018). As society and governments face more complex cross-cutting policy challenges, calls for better coordination of government policies and more transboundary collaboration also within government, between multiple levels of government, and in public administration, in general, have become stronger (Lægreid et al., 2014; Molenveld et al., 2020; Molenveld, Verhoest, and Wynen, 2021; Lægreid and Rykkja, 2022). Collaborative frameworks, cutting across organizational boundaries, are frequently seen as challenging the traditional hierarchical 'silo' structures and closed top-down processes that characterize public organizations (Scott, 2020), resulting in more innovation (Bommert, 2010; Callens et al., 2022). A move away from New Public Management (NPM)-driven disaggregation towards reintegration and needs-based holism which imply whole-of-government solutions and collaboration is regarded as a key characteristic of a 'digital-era governance' (Dunleavy et al., 2006).

So, the literature suggests that multi-actor collaboration can spur public innovation and hence move digital transformation forward. Collaboration is essential because it brings actors with different world views, experiences, and innovation assets (like information and resources) together. This can potentially create productive destructions of existing mindsets and perceptions and trigger the formulation of new creative ideas, pool the resources and capacities needed to transform these ideas into innovative products, organizational designs, and procedures, and promote innovation diffusion to relevant audiences (Agger and Sørensen, 2018, p. 54). However, collaboration within and between governments, and between governments and external stakeholders (e.g., firms, non-profits, citizens) is far from obvious, as new challenges may arise in the form of network complexities, power imbalances, and increased risks (Huxham and Vangen, 2005; Klijn and Koppenjan, 2016; Torfing, 2019). Collaboration within digitalization projects is even more intricate because of the variety of stakeholders involved, as well as the content, resources, and (technical) knowledge required to be successful (Picazo-Vela et al., 2018; Callens, 2022; Dockx et al., 2022; Breugh, Rackwitz, and Hammerschmid, 2023).

Despite the growth and interest in collaborative innovation within the realm of digitalization, there are still many unanswered questions regarding how public organizations should govern and organize collaborative processes within digital projects (Lopes and Farias, 2020). To achieve digital transformation, collaboration networks need to be properly *designed* (in terms of their organizational arrangements, process agreements, formal regulations, the constellation of engaged stakeholders, etc.), and *led* (in terms of the type of leadership the coordinators use) (e.g., Torfing, 2019). User involvement and participation are also important topics, as well as assessing the impact of collaboration in terms of achieving expected outcomes related to, for example, more efficiency, better services, or improved policies.

This book addresses many of these aspects and examines intergovernmental collaboration networks as well as collaboration in public-private networks in the context of government digitalization. By connecting insights from digital transformation and collaborative governance, we aim to provide an integrated approach to the digital transformation of public services in a complex and interconnected government and society.

ABOUT THE BOOK

In the following chapters, we explore two major themes of collaborating for digital transformation. First, how do *intergovernmental collaboration* networks stimulate digital transformation in public services? The respective chapters consider the dynamics and challenges of intergovernmental collaboration

and study how the institutional design and leadership of intergovernmental networks can promote the development of digital government services and smart cities. Second, the book highlights the relevance of *external collaboration*, looking at how public-private collaboration networks promote the digital transformation of healthcare services. Here, the authors consider how various features of public-private healthcare collaborations – including their structure, management, leadership, and user involvement – stimulate the adoption of innovative eHealth technologies.

The book addresses the two themes through an analysis of empirical data from a total of eight countries within five European administrative traditions: a Nordic tradition (represented by Denmark), a Central and Eastern European tradition (represented by Estonia), a Continental tradition (represented by Germany and the Netherlands), a Napoleonic tradition (represented by Belgium, Italy, and Spain), and the Anglo-Saxon tradition (here, the United Kingdom) (Pollitt and Bouckaert, 2017). The different chapters draw on specific and comparative case studies in these eight countries, including studies of the digital transformation of administrative services of core governments (e.g., online service platforms), smart cities, and healthcare services (e.g., data-sharing platforms, eHealth apps).

Most of the chapters build on extensive and in-depth empirical research. In TROPICO, a total of 29 collaboration projects were studied between 2019 and 2020. Questionnaires and interviews were conducted with 192 practitioners, including project coordinators, senior government officials, executives from private companies, programme managers, representatives of user organizations, and individual users. The TROPICO cases were selected through rigorous case selection criteria. Each case of intergovernmental collaboration was either a key national project used to implement digital platforms in line with the EU Single Digital Gateway regulation or a city with a population of at least 50,000 that was considered a frontrunner in digitalization and was implementing a smart city strategy. Only cases where the main implementing actors could be assigned to the public sector were chosen. Furthermore, only cases that had moved beyond their planning phase were selected. The public-private collaboration networks were selected based on five criteria. First, all cases were established as a formal partnership between public and private actors. Second, each of the cases exhibited some level of user involvement. Third, only cases that implemented or at least thoroughly tested the created services were selected. Fourth, only partnerships that created eHealth services were selected. Fifth, the created eHealth services had to be relatively recent (created within the last five years).

Various methodologies were used to collect and analyse the data in a systematic and comparative form. Data from the intergovernmental collaboration networks was collected and analysed through qualitative case studies and inter-

view coding; 62 semi-structured interviews were carried out for the ten cases in five countries. Data from the public-private collaboration networks was collected and analysed through qualitative case studies, qualitative comparative analysis (QCA), and Q-methodology. A total of 130 interviews, 124 surveys, and 112 Q-sorts were conducted in 19 cases. Research teams from each of the seven European countries were involved in the data collection and analysis of the 29 cases in the book. Besides providing the raw data, the national research teams each also provided detailed case study descriptions of ‘their’ case, and which also can be found on the TROPICO online case repository.⁴

This systematic and standardized collection of data from many cases contributes to literature and practice, as it transcends the usual single country/single case study/single sector designs, and combines insights from both inter-governmental and public-private collaboration networks on digital transformation. The multi-method approach used in this book, which relies on a variety of data gathering and analysis methodologies, contributes to the empirical rigour and relevance of the results for both scholars and practitioners. The in-depth qualitative analyses also contribute to the formulation of rich insights that should be useful for both project coordinators and policymakers.

Our book aims to be both academic and practical in nature. By combining insights from collaborative governance and collaborative innovation literature with literature on digital transformation, key antecedents of digital transformation in government are suggested and tested. Tangible conditions of enhanced digital transformation related to institutional design, management, and leadership are systematically examined in chapters showcasing findings from in-depth research in two types of collaboration networks: intergovernmental collaborations and public-private collaborations. The integration of various fields of inquiry and the broad scope of types of collaboration networks is intended to contribute to the practical relevance of the book and generates insights that are not restricted to one specific case, service, country, or sector. This rigorous empirical analysis of many cases allows for the formulation of widely applicable lessons for project coordinators who are engaged in similar collaboration networks, and for policymakers that want to exploit the advantages of collaborative governance/innovation and digital transformation.

THE STRUCTURE OF THE BOOK

The book is structured into three parts. The first part (Chapters 2–4) focuses on the conceptual understanding of digital transformation and a theoretical development of the relevance and conditions of intergovernmental and public-private collaboration for digital transformation.

Chapter 2 by Miriam Lips presents an overview of the literature on digital transformation in government and explores the conceptual background of

digital transformation. The chapter develops a theoretical perspective for studying digital transformation processes in the public sector, explores empirical research, and provides valuable insights into the conditions that stimulate and influence digital transformation in governments with a special look at digital transformation experiences in New Zealand.

Chapter 3 by Hammerschmid, Breugh, and Rackwitz presents a conceptual framework for studying intergovernmental collaboration for ICT-enabled services. Drawing on an in-depth literature review of the collaborative and digital governance literature it assesses crucial contextual starting conditions and identifies key collaborative challenges and governance interventions focusing on institutional design and leadership.

In Chapter 4, Callens and Verhoest focus on how collaborative arrangements between public and private actors develop digital service innovations. The chapter presents a theoretical framework that aims to unravel the importance of the partnerships design, structure, and leadership, as well as agency, connecting four types of conditions: (1) the features of the partnership, such as composition, governance structure, type, size, management, and leadership; (2) the agency-related and individual features of those involved, including the importance of trust, knowledge, expertise, and support; (3) the technological structures of the collaboration, especially ICT; and (4) the features related to the user's impact on the innovation process.

The following two parts of the book each consider a specific type of collaboration, showcasing in-depth empirical and original case-oriented analysis. Part II (Chapters 5–7) investigates intergovernmental collaboration for digital transformation, while Part III (Chapters 8–11) presents insights from several cases of public-private collaboration for digital transformation and innovation.

In Chapter 5, Breugh and Nömmik compare five case studies on collaborative management for government digitalization linked to the EU Single Digital Gateway legislation. The authors argue that system context to a large extent shapes the collaboration process and how both governance and leadership approaches unfold.

Chapter 6 by Rackwitz and van Doninck investigates two smart city initiatives in Belgium and Germany, both known as digital pioneers. The chapter explores the implementation and dynamic environments behind the collaboration in these initiatives, focusing on the who, the how, and the characteristics of collaboration and coordination in the two cases.

In Chapter 7, Rackwitz, Breugh, and Hammerschmid give a systematic analysis of the leadership literature within public management and broader management, highlighting the most dominant theories related to leading collaborations. The chapter further draws on extensive qualitative data from ten case studies on collaborative digitalization projects in five countries and

presents an in-depth study of key leadership strategies to handle collaborative complexity in intergovernmental collaborations.

In Chapter 8, Callens, Verhoest, Klijn, Brogaard, Lember, Pina, and van Doninck take on a practice-based view to analyse key success factors of 19 eHealth projects in five European countries. Through a qualitative analysis of more than 130 interviews with participants in these collaborations, the authors identify conditions that enable collaborative eHealth projects to succeed, and provide evidence of the salience of, for example, structural characteristics, agency-related features, the use of ICT, and user involvement.

Chapter 9 is about leading and managing complex innovation partnerships. Here, Callens and Klijn use a fuzzy-set QCA methodology to analyse 19 contract-based eHealth partnerships and investigate how contract conditions such as the presence of output specifications and contract flexibility work on the innovativeness of such services. The chapter also considers and tests the influence of network management strategies on the collaboration process on the innovativeness of these services.

In Chapter 10, García-Rayado and Callens analyse how public and private partners in eHealth innovation partnerships think that users should be involved. Using Q-methodology to analyse the perceptions of the partners, the authors look specifically at viewpoints concerning the motivations and activities of users, and viewpoints related to the support of the partnership for user involvement. Their findings show that multiple viewpoints exist, which has important implications for the design and leadership of such collaborations.

Chapter 11 by Langbroek and Verhoest looks more closely at the importance of interaction. By utilizing social network data from three different partnerships, it examines the extent to which the structure and interactions of collaborative partnerships in relation to the importance of actors can explain successful innovative outcomes.

The book ends with a reflective chapter, Chapter 12, by the editors, connecting the dots between the preceding conceptual, theoretical, and empirical chapters, and reflecting further on how we can use collaboration to enhance digital transformation.

NOTES

1. 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> (accessed 26 September 2023).
2. <https://digital-strategy.ec.europa.eu/en/policies/europes-digital-decade> (accessed 26 September 2023).
3. https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en (accessed 26 September 2023).

4. <https://tropico-project.eu/case-studies/> (accessed 26 September 2023).

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