



Digitalization as a policy response to social acceleration: Comparing democratic problem solving in Denmark and the Netherlands

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ABSTRACT

Social acceleration – the progressively faster rate of technological, social and life-pace change – poses a dilemma for democratic problem solving: It increases the amount of new social problems emerging on the political agenda and hence amplifies the demand for rapid and effective policy solutions. Democratic politics is, however, slow. So either the political system speeds up decision making at the cost of democracy, or it holds on to democracy at the cost of problem solving. Obviously, neither option is desirable. How do governments try to solve this dilemma and provide positive-sum solutions that are both effective and democratic? We present two so-called paradigm cases of governments, in Denmark and the Netherlands, that have developed a remarkably quick and effective digitalization response to social acceleration. By focusing on four markers – (1) awareness and timing; (2) motivation; (3) new strategic goals; and (4) goal-directed strategic policy action – we theorize how governments aim to solve the dilemma for democratic problem solving under conditions of social acceleration.

1. Introduction

Social acceleration – defined as the progressively faster rate of technological, social and life-pace change (Rosa, 2005, 2015) – continuously introduces new social problems on the political agenda and amplifies the demand for rapid and effective policy solutions. However, democratic politics is notoriously slow and always at risk of taking decisions that are already outdated once they are introduced. We live in a high-speed society that is governed by a slow-motion democracy. Out of this condition has emerged a qualitatively new and worrying dilemma for democratic problem solving, i.e., democracies' ability to identify problems, put them on the political agenda, and address them by means of public policy. Either the political system speeds up decision making at the cost of (slow) democracy (option 1), or it holds on to slow democracy at the cost of problem solving (option 2). The bleak state of affairs is that whichever option dominates, public disenchantment with the democratic political system will likely escalate. This is obviously undesirable.

Governments all over the world have taken initiatives to adapt to social acceleration, especially by digitalizing government services. *Digitalization* – as distinct from “digitization” and “digital transformation” (Mergel, Edelmann, & Haug, 2019) – is the attempt to exploit

new information and communication technologies (predominantly) to improve public service delivery and (occasionally) to speed up policy making (Bertelsmann Stiftung, 2019; McGinnis, 2013; OECD, 2017). However, we know that there is great variation in governments' ability to pursue digitalization strategies to adapt successfully to social acceleration and that, in fact, most governments do not seem to be able to keep up with accelerating change at all (Van Kersbergen & Vis, 2020; Wauters et al., 2014). This raises a number of questions that are potentially relevant for understanding adaptive governance (Wang, Medaglia, & Zheng, 2018): How do governments try to solve this dilemma? Do they succeed in providing positive-sum solutions that are both effective and democratic? Why are some governments more successful than others in solving the dilemma?

The “grand theory” of social acceleration has so far only inspired scarce comparative empirical research on the actual digitalization strategies governments are employing to respond to social acceleration and the dilemma for democratic problem solving, let alone on the conditions under which such responses are successful (see our review section 2).¹ By contrast, the digital government literature has yielded a plethora of potential implementation and adoption factors that can determine digital government success (for an excellent comprehensive

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¹ We acknowledge but discard for now the paradoxical and interesting option that digitalization response policies may themselves reinforce social acceleration.

review of the vast literature as well as an integrative attempt, we refer to Gil-Garcia & Flores-Zúñigac, 2020). However, this latter body of literature pays relatively little attention to the external pressures that generate the *demand* for such policies. In this paper, we present a comparative analysis of two cases, Denmark and the Netherlands, which – following Mills, Durepos, and Wiebe (2010) and Gerring and Seawright (2022) – can be considered to be *paradigm cases* of a successful digitalization response – as evidenced by major international rankings, see section 5 for details – to social acceleration and the dilemma for democratic problem solving.² The methodological rationale is to select prominent examples of the phenomenon of successful digitalization strategy to reveal and theorize its key features. Paradigm cases are instrumental in elucidating a phenomenon because – as prominent cases – they have a plethora of (potentially) defining features. And this is precisely what we need for theorizing purposes, given that there is no theory yet of how governments adapt to social acceleration via digitalization strategies.

To theorize how the Danish and Dutch governments have done so, we formulate a simple working question: What digitalization strategies did governments in these countries employ? Answering this question by means of comparative paradigm case studies will enable us to achieve our (modest) primary goals: (1) make progress in theorizing how governments strategically attempt to solve the dilemma for democratic problem solving under conditions of social acceleration and (2) identify conditions that explain variation in the success of digitalization responses for further comparative policy research.

The paper proceeds as follows. Section 2 presents a succinct review of the state-of-the-art in social acceleration research. In section 3 we present conceptual clarifications and further theoretical reflections. Section 4 discusses operational challenges (How can we research how governments respond to the dilemma?) and explains the study's design and approach. Section 5 presents the case analyses and the comparative conclusions. Section 6 summarizes our findings, presents theoretical propositions for further comparative empirical research, and discusses the study's findings for the functioning of liberal democracy.

2. Social acceleration: a succinct literature review

Our review of the literature on social acceleration has been guided by two main questions: (1) How is social acceleration and its effect conceptualized in different areas of study?; (2) to what extent is social acceleration theorized as a cause of the dilemma for democratic problem solving?³ These questions also delineate our theoretically informed empirical research reported in section 5.

Let us start by noting that there are a number of captivating, but

² Note that we focus on these countries' digitalization strategy as an *overall policy response* to social acceleration. "Success" thus refers to this response. This implies, first, that we do not focus on the success or failure of concrete, smaller-scale digitalization projects. Second, we do not pay attention to the possibility that the digitalization strategies may include elements that are "unsuccessful" judged from a different perspective (e.g., accountability or responsiveness, see König & Wenzelburger, 2020).

³ We used the Web of Science application to search for literature by using the key word string "social AND acceleration". We limited our search by "articles", "review articles", and "early access" and by the research areas "social science interdisciplinary", "economics", "management", "sociology", "political science", "philosophy", and "public administration". We then selected English language publications and filtered out clearly irrelevant articles. We used the review articles to identify key books (including popular science and journalistic books) in the field. We also used the Cited Reference Search function of the Web of Science to find articles that quote Hartmut Rosa's work on social acceleration to find additional literature not yet spotted by the keyword string search. We updated our search in January 2022. We decided to subsume the review of literature that explicitly develops the theory under the section (3.1) that clarifies the concept of social acceleration.

usually untested theses on social acceleration presented in *popular science* and *journalistic writings* (Colville, 2016; Friedman, 2017; Gleick, 1999), which potentially have an impact on political decision-makers.⁴ The increasing pace of social change is portrayed as affecting all aspects of life. Azhar (2021: 9) has typified well the general thrust of what he calls the "exponential view": 'First, new technologies are being invented and scaled at an ever-faster pace, all while decreasing rapidly in price (...). Second, our institutions – from our political norms, to our systems of economic organisation, to the ways we forge relationship – are changing more slowly (...).' In other words, exponential change gets a linear and incremental reaction, culminating in an "exponential gap". Social acceleration has also been a major theme and focus in *management consultancy*, as illustrated by major publications by world-leading consultancy firms on the theme (Deloitte, 2017; Dobbs, Manyika, & Woetzel, 2016; EY, 2014; McKinsey and Company, 2017).

Such popular science, journalistic and consultancy opinion-making finds its counterpart in the thought-provoking reasoning that characterizes *social theorizing*, where the theme of social acceleration has acquired some prominence, for instance in the form of a critical analysis of capitalism and late modernity (Scheuerman, 2004; Tomlinson, 2007; Rosa, 2015; Wajcman, 2015; Agger, 2016; Mason, 2016; Wajcman & Dodd, 2017; Fawcett, 2018b, 2018a). Much of the social theorizing on social acceleration is abstract, unempirical⁵ and, as a result, at times overly speculative. Hassan (2009: 6), for one, claims that 'liberal democracy does not now work, indeed cannot work in a neoliberal context that valorizes speed in the search for profit'. The transformation from the first "empire of speed" (industrial society, dominated by clock time) to the second empire of speed (postmodern society, dominated by network time) is interpreted as involving 'the death of the politics of liberal democracy – with nothing (or at least nothing democratic) to replace it' (Hassan, 2009: 8).

Such alarmism about the cultural and political costs of speed and the end of democracy is not uncommon in the *wider literature* (Agger, 2016; Bertman, 1998; Hofstetter, 2016), although there also is a clearly utopian sunniness-side in the debate on the ramifications of rapid technological, social and life-pace change, as in Rifkin (2014) "zero marginal cost society" (see also Mason, 2016).

Research in *political science* has focused on the political impact of rapid technological change on social media, political movements, mobilization, political campaigning, political protest and electoral behaviour (Bruns, Enli, Skogerbo, Larsson, & Christensen, 2015; Jost et al., 2018; Little, 2016; Margetts, John, Hale, & Yasseri, 2016; Woolley & Howard, 2019), the promotion of "digital citizenship" (e.g. Hintz, Dencik, & Wahl-Jorgensen, 2019), "e-democracy" (e.g. Fisher, 2012), "digital political parties" (e.g. Gerbaudo, 2019) and the consequences of the internet for politics (Farrell, 2012; Jungherr, 2017). Political science almost exclusively focuses on the input-side of the political system and there is as of yet no established, empirically oriented research agenda on the consequences of social acceleration for policy-making.

In *law* and *public administration*, social acceleration has inspired a new temporal look at constitutionalization (e.g. Prandini, 2013) and at law as a facilitator of better policy making and public administration

⁴ An example is Thomas L. Friedman who addressed the Danish government's Disruption Council (see section 5) on the accelerating pace of technological change and the difficulty of society to keep up (Politiken, 2018).

⁵ To our knowledge, there are only very few studies that operationalize and measure empirically the concept of social acceleration. These include Ulferts, Korunka, and Kubicek (2013) survey of acceleration perception among employees, Schöneck (2018) study of the negative impact of social acceleration on Europeans' work-life balance, Lorenz-Spreen et al. (2019) analysis of accelerating ups and downs of popular content in smartphone and social media data, and Bergener and Santarius (2021) attempt to develop a general acceleration scale and validate this against data from a German self-report online survey. In contrast, empirical studies of time use in sociology have been plentiful (we refer to Cornwell et al., 2019 for an extensive review of the literature).

under conditions of rapid social change (e.g. McGinnis, 2011). *Management science* has studied social acceleration induced “disruption” and the dilemmas this creates for business leaders, managers – including those employed in the public sector – and policy makers (Gans, 2016).

Research in *economics* on the (potential) social and economic consequences of the increasing pace and scope of technological advances strongly focuses on how these affect production, consumption, employment and the workplace (Acemoglu & Restrepo, 2017; Brynjolfsson & McAfee, 2014; Cascio & Monteleone, 2016; McAfee & Brynjolfsson, 2017). Most recently, *political and social scientists* have followed the economists’ lead in studying the impact of rapid technological change (digitalization, artificial intelligence, big data) on public decision-making and policy-making (Busemeyer, Kemmerling, Marx, & van Kersbergen, 2022b; Janssen & Helbig, 2018; Starke & Lünich, 2020; Van der Voort, Klievink, Arnaboldi, & Meijer, 2019).

The debate among technical, management, law and economic experts is thriving, but the *political and policy* consequences of social acceleration so far remain under-researched. Surely, political scientists and public administration researchers have paid attention to the destabilization of the traditional political mechanisms and the advancement of new arrangements of governance (Van Kersbergen & Van Waarden, 2001, 2004), the rise of network and multi-level governance (Benz, 2016; Curry, 2015; Piattoni, 2010) and the clashing relationship between “responsive” and “responsible” government (Mair, 2014). However, with some notable exceptions as to theory (Chesneaux, 2000; Levy, 2006; Scheuerman, 2004), the impact of social acceleration on liberal democracy’s capacity to solve urgent societal problems has until now hardly been studied empirically and is hence poorly understood.

Looking at the existing studies, one observes a similar division between optimists and pessimists as in the debate on the impact of rapid technological change on employment and work (Busemeyer, Kemmerling, Marx, & van Kersbergen, 2022a). In essence, these are the opposed positions. Social acceleration optimists argue that we may be in for some rough times in the short- and medium-term, but over the longer haul there is slow-motion democracy will pick up the pace of change and adapt to high-speed society (Baldwin-Philippi, 2015; Gainous & Wagner, 2014; Mayer-Schönberger & Viktor Kenneth, 2013; McGinnis, 2013; Mokyr, Vickers, & Ziebarth, 2015; OECD, 2017; Shapiro, 2001). In fact, optimists point to various options and strategies that are already available and some that can be creatively envisioned as solutions to the democratic and governance predicament (Connolly, 2009; McIvor, 2011; Noveck, 2021; Susskind, 2018). Pessimists, in contrast, see no reason to be confident that slow-motion democracy can expedite and catch up with high-speed society and uphold its problem-solving capacity (Allcott & Gentzkow, 2017; Baumgartner & Jones, 2015; Bruns et al., 2015; Danaher, 2016; Esser & Strömbäck, 2014; Jost et al., 2018; Kaun, 2016; Laux, 2011; Little, 2016; Luke, 2015; Margetts et al., 2016; Pasquale, 2015; Richey & Zhu, 2015; Scheuerman, 2004; Schillemans & Pierre, 2016; Walgrave & Dejaeghere, 2017; Woolley & Howard, 2019; Zuboff, 2019).

We think the optimists have a point by pointing out that democracy is enormously adaptive as well as equipped with vital self-correcting mechanisms. Still, social acceleration is already negatively affecting liberal democracy as a problem-solving political system and the pessimists stress that adaptations tend to be lagging behind the increasing pace of change. Like the pessimists, we worry about what social acceleration implies for democracy, but like the optimists, we expect governments to actively respond to the adverse impact of social acceleration on liberal democracy. Our thesis is that governments adopt digitalization as a response to social acceleration and we set out to show empirically how they do this. Before we turn to our study’s research design, approach and empirical case analyses, we first clarify the key theoretical terms.

3. Theory: social acceleration and liberal democracy

3.1. Social acceleration: a conceptual clarification

Building on the analytically strongest and empirically most useful approaches currently available in social, political and legal theory (Chesneaux, 2000; Fawcett, 2018a, 2018b; Laux, 2011; McIvor, 2011; Rosa, 2005, 2015; Rosa & Scheuerman, 2009; Saward, 2017; Scheuerman, 2004; Vostal, 2014, 2021; Wajcman, 2015; Wajcman & Dodd, 2017; Zandvoort, 2017), we take social acceleration to refer to the progressively faster reduction of the amount of time necessary for a social activity or experience, where social action and experience broadly include production, consumption, communication, travel, jobs, relationships, etc. According to these theories, social acceleration’s progressively faster rate of change occurs along three dimensions: (1) technological, (2) social and (3) life-pace.⁶

Technological acceleration refers to the ever faster changes in transportation, information, communication, and production. The increasing speed in transportation, say from the first steamship and automobile to the modern jet aircraft, has caused a compression of space because experienced distances shrink when the speed of the means of travel accelerates. Similarly, information now literally travels at the speed of light and the amount of information that can be transmitted at an instance has multiplied immensely. Moreover, in interpersonal communication (e.g. Skype, Zoom, Teams), location and time zones are becoming increasingly irrelevant (Rosa, 2015: 73). Finally, also the production and distribution of goods and services have accelerated. Key here is not technological change as such but exponential innovation and an increasing rate of adoption of new technologies.

Acceleration of social change refers to the gradually faster change in the forms and organization of production, sectors of production, division of labor, occupational patterns, and family structures. It captures the experience of the increasing rate at which social structures, institutions, organizations, traditions, conventions, life styles, routines, and habits are destabilizing and being replaced by new forms of social interaction. One major empirical development concerns the shift in the pace of social change from inter-generational to intra-generational. The social institutions of sexual relationships, for instance, have become less stable within one generation both in terms of duration (rising divorce rates, remarriage, re-partnering, serial monogamy, etc.) and form (cohabitation, religious and ethnic diversity, varying gender composition, single parenthood, etc.). Similarly, the revolution of women’s roles (Esping-Andersen, 2009) occurred within one generation.

A prominent example of the acceleration of social change concerns the increase in the speed and number of times workers and employees change jobs in their lifetime and the retraining requirements that come along with this. At an accelerating rate of change, it seems very difficult for public education policy to keep up. In theory, the lifelong learning approach could be an answer to a more dynamic labour market. There is, however, likely substantial variation in the degree to which individuals are able to obtain the capacities that a lifelong learning approach requires, namely having ‘communication skills in both native and foreign languages, use technology effectively, be open to learn, be social, be active, be entrepreneurial and (...) have cultural awareness’ (Kaplan, 2016: 47). Another example of the acceleration of social change is the “constancy” of organizational change, change of management styles and the rapid replacement of familiar occupations by new ones. A major consequence is rising insecurity about what today’s society will look like tomorrow. Social and political expectations and ambitions constantly

⁶ There is no doubt that Hartmut Rosa, whose work we follow here, is the key theorist in the field. His work on social acceleration (in numerous articles and books and in many different languages) has received well over 10,000 citations (computed using Harzing’s Publish or Perish software, <https://harzing.com/sources/publish-or-perish>, 27 January 2022).

need recalibration under conditions of accelerating social change, upsetting social integration and cultural reproduction, and leading to disorientation in social, cultural, and political life.

The *acceleration of life pace* refers to the ‘objectively measurable intensification of experiences and activities that we engage in during a given period of time’ (Scheuerman, 2004: 13). The speed of social activities increases objectively: The majority of people do things progressively faster, do more things continuously with fewer and fewer breaks, increasingly multitask, and connect with ever more others (via email, social media, the Internet of Things) all the time; professionally, socially, and privately. Subjectively, the increasing speed of social activities leads to a qualitative change in the experience of time and expresses itself as the feeling of having no time for oneself, lagging behind, being behind the times. Being pressed for time all the time, in turn, can cause a fear of missing out, produce a compulsion to adapt (Bertman, 1998; Eriksen, 2001; Nowotny, 1989; Rosa, 2015; St. Clair, 2011; Wajcman, 2015), and cause (or at least add to the already existing) work–life imbalance (Schöneck, 2018). Rosa (2015: 134) identified the “slipping slope syndrome”; the existential feeling of standing on slipping slopes caused by the realization that ‘in a dynamic society almost all of one’s stock of knowledge and property is constantly threatened with obsolescence’. This syndrome reinforces the feeling of lagging behind and the compulsion to adapt, especially by even further increasing connectivity (Korunka & Hoonakker, 2014; Wajcman, 2015).

3.2. Liberal democracy as a problem-solving system

Liberal democracy is a political system that by means of both deliberation and aggregation aims to solve collective problems and conflicts of interests (Warren, 2017). Such problem solving is liberal and democratic to the extent that it is in accordance with specific normative aspirations: Lawmaking occurs in deliberative and representative legislatures; the exercise of political power is subject to the rule of law; and constitutional law provides clarity and stability to lawmaking and the exercise of power (Scheuerman, 2004: 190; Chambers, 2012).

Defining democracy as a problem-solving political system that employs both deliberation and aggregation has the advantage of immediately highlighting the inherent temporal tension between deliberation, which demands preference-forming slowness, and aggregation, which requires action-enabling fleetness (Stoker, Hay, & Barr, 2016). Social acceleration increases this tension, and liberal democracy’s key institutions and powers seem ill adapted to the change speed of society.⁷ The issue is one of continually diminishing time resources available for political decision making (Palonen, 2008).

Democratic politics is constantly short of time in the face of rapid societal change that is social acceleration (MacKenzie & Warren, 2012; Rosa, 2015: 263). The increasing pace of change entails disruptive challenges to existing policies that no longer are effective (Siewert & König, 2019). It also continuously causes new social problems to appear on the political agenda and amplifies the demand for rapid and effective policy responses. However, democratic politics is notoriously slow and increasingly risks ‘making anachronistic decisions that have already been made obsolete by social reality at the time of their implementation’ (Rosa, 2015: 263), with fast advances in information technology, automation, artificial intelligence, robotization, stem cell research, cloning, and genome editing as some key examples (Scheuerman, 2004; Rosa, 2015: chapter 11). Moreover, because of the constant flow of new facts, demands and pressures produced by the fast pace of technological, social and life-pace change, the number of decisions to be made mounts and the time available per decision shrinks. In addition, the ever-shorter time horizon in high-speed society limits the possibility of governing

for the long term (Bardi, Bartolini, & Trechsel, 2014; Goetz, 2014; Jacobs, 2011, 2016), forces decision makers away from future-oriented policy design and hence increases ad hoc decision making for the short term.

In sum, technological acceleration, the acceleration of social change and the acceleration of the pace of life conspire to challenge the basic temporal conditions under which the problem-solving capacity of liberal democracy as a political system has been upheld. The problem is not easily solved, because liberal democracy’s traditional institutions are resilient and relatively indisposed to embrace new technical possibilities to speed up the process of government to match high-speed society. However, governments all over the world have taken initiatives to adapt to social acceleration, for instance, as we will show in this paper for the Dutch and Danish cases, by digitalization, i.e., attempting to exploit new information and communication technologies for policy-making and service delivery (Bertelsmann Stiftung, 2019; OECD, 2017). Digitalization can be a successful strategy to deal with social acceleration and the dilemma for democratic governance it poses.

4. Operational considerations, method, design and case selection

Governments need to try to solve the dilemma for democratic governance in such a way that both democracy and problem solving are secured. We already know much about the difficulties governments face in acquiring sufficient (but not too much) policy-relevant information, defining the correct policy problem, prioritizing among competing or conflicting policies, and solving problems in highly complex societies (Baumgartner & Jones, 2015; Hilbert, 2012). However, social acceleration intensifies these issues by causing increasing uncertainty and unpredictability that challenge the very possibility of problem solving (Rosenblum, 2014; Nowotny, 2016).

While a functional requirement – like social acceleration – is an impetus for change, it is an empirical question whether political actors actually respond to the threat and succeed in restoring the policy function (Vis & Van Kersbergen, 2013). So, how can and how do they do this? How can we research it? How and to what extent the dilemma for democratic problem solving is solved depends largely on when, how and with what effect governments respond to it, i.e., act on the functional requirement. For this to occur, governments must (a) recognize the problem in an early stage, (b) respond to it swiftly in a strategic way, and (c) find the necessary economic, social and political support and resources for their policy responses. By moving back and forth between the empirical material we gathered and our own theorizing, we developed a number of indicators or markers to identify and classify government responses to the functional pressure of social acceleration and the dilemma for democratic problem solving. The first marker concerns *awareness and timing*, to measure to what extent and when political actors become conscious of and attentive to the issues. While it is highly unlikely that we will find the social acceleration and slow democracy vocabulary as such in government statements (say policy documents), it is possible to find whether a government is aware of it. A second marker of what governments (intend to) do is to see what *motivation* is mentioned. A third marker indicates to what extent awareness is translated into *new strategic goals*, for instance in special reports, white papers or other strategic documents. A fourth marker of what governments do is to see to what extent such strategic goals are converted into *goal-directed strategic policy action*, for instance via the instalment of special committees and agencies and the assignment of concrete and specific tasks to ministries and ministers to deal with the (ramifications of) social acceleration. It is for signs of awareness and its chronology, motivation, new strategic goals, and goal directed strategic policy action we look for in the paradigm case studies.

We examine both existing literature on digitalization in Denmark and the Netherlands and government documents to examine whether these markers are present in these paradigm cases. We systematically

⁷ For reasons of space and simplicity, we do not discuss at length emergency powers that temporarily discontinue the normal legal and constitutional order to accelerate decision-making.

analyze policy documents to capture how governments themselves understand the challenge of social acceleration they are responding to with their digitalization strategies. We pick this up empirically by tallying the references to social acceleration and digitalization in government policy documents, using a string of relevant keywords that capture these.⁸ For Denmark, we examined the policy documents published by the Danish Prime Minister's ministry between 2011 and 2019 ($n = 167$). In the period 2010–2019, the three consecutive Dutch Rutte governments – I (2010–2012), II (2012–2017) and III (2017–now) – published 21 documents that presented their general policies: government agreements ($n = 3$), speeches of the Crown ($n = 9$) and the so-called “million account”, which details the government's specific plans for the coming year and related revenues and expenses ($n = 9$). The substantially lower amount of documents in the Dutch case compared to the Danish case is not a reflection of the importance of this issue but rather of the way the two countries publish policy documents. We also collected other documents published by the Dutch government, specifically by the Ministry of Economic Affairs and Climate, which is most involved in digitalization ($n = 10$).⁹ In Appendix I, we present the data and visualizations of these analyses. While intended for descriptive purposes only, interestingly figs. A1–A3 demonstrate that the number of references to social acceleration or digitalization in these documents does not increase over time. Instead, what we see are some documents that pay relatively much attention to these issues, and that are published over the full period, and more documents that pay little attention to these issues.

We selected Denmark and the Netherlands as *paradigm cases* of a successful digitalization response. Recall that paradigm cases have a plethora of (potentially) defining features that are a good starting point for theorizing. There is no theory yet of how governments adapt to social acceleration via digitalization as a solution to the dilemma for democratic problem solving (but see Wang et al., 2018). This means that we need a good point of entry into the topic, and so we use these cases with a plethora of (potentially) defining features to help us theorize.

Denmark and the Netherlands are paradigm cases as evidenced by their high ranking in international digitalization indices. In the United Nations' *E-government Survey 2020* (UN, 2020, table 1.3), Denmark and the Netherlands are in the top of the world ranking of countries on the e-government development index (EGDI). EGDI is a normalized composite index of three components: the scope and quality of online services, the development of telecommunication infrastructure and human capital scores. Also in the European Digital Economy and Society Index (DESI) 2020 (European Commission, 2020) do these countries rank high. DESI measures connectivity, human capital/digital skills, citizens' internet use, integration of digital technology by businesses, digital public services, and ICT R&D.

Democracies differ in the degree to which institutions constrain central state government and, thus, the ease with which they can respond to problems. Factors like federalism or frequent referenda

reduce the central government's room for maneuverability (Armingeon, Engler, & Leemann, 2021), thereby inhibiting a government's ability to respond to the challenge of social acceleration. In line with our paradigm case approach, we thus need cases in which this room for maneuverability is comparatively high. Denmark and the Netherlands meet this criterion.

Our empirical analysis is meant to stimulate theorizing and to generate propositions. First, we describe how governments in two countries have pursued digitalization policies in response to social acceleration and the dilemma for democratic problem solving (section 5). Second, we theorize which factors facilitate or hinder a successful digitalization response (section 6).

5. Paradigm cases studies

5.1. Denmark

Political attention to e-government in Denmark goes back to the early 1980s (Ejersbo & Greve, 2016), and Danish governments have consciously pursued a consistent and persistent digitalization strategy since 2000 (Jæger & Löfgren, 2010; Schou & Hjelholt, 2018). In that year, the government installed a committee of representatives of local and regional governments and several ministries to advise on how digital governance could produce better and cheaper public services to the public and more *efficient* work processes in the public sector (marker 2). In May 2001, this committee produced the (to our knowledge) first strategic digitalization report titled *Digital Governance*. In August 2001, the government formalized the committee as the Digital Task Force to head the so-called Digital Governance Project (which became part of the Digitalization Agency in 2011, see below). The first official government digitalization strategy, *Towards the Digital Public Administration: Vision and Strategy for the Public Sector*, was published in January 2002.

The first strategic digitalization report presented digitalization of the public sector both as a distinctive aspect of the development of the *network society* and as a *solution to efficiency problems* (marker 2) in the public sector and a number of societal challenges (e.g., increasing service demand as a result of demographic ageing). Digitalization was seen as an opportunity to free resources from bureaucracy, use them to improve public services and reduce bureaucracy. The transition to digital governance was seen as an organizational problem (in addition to a technical one); the government was advised to develop a nation-wide and inclusive digitalization strategy. In addition, digitalization was to provide citizens and businesses better opportunities to follow and participate in political decision-making.

The overarching *strategic goals* were then systematically set out in the 2002 strategy. The very first sentence of the strategy revealed *awareness* (marker 1 for identifying government responses to the functional pressure of social acceleration and the dilemma for democratic problem solving) of social acceleration and *motivation* (marker 2) for the strategic goals, highlighting that Denmark was in the midst of the development of a digital society, which ‘will change conventional notions – in private life, business and the public sector’. The expectation was that ‘the digital network society will affect every aspect of society’ (p. 4). A sense of urgency characterizes the strategic document, and four strategic benchmarks for long-term goals were therefore set: (1) Digital governance must equip citizens and businesses for the network society. (2) The public sector must work and communicate digitally. (3) The services of the public sector must be provided coherently and citizen- and business-targeted. (4) Public-sector tasks must be carried out where they are handled best. An important feature is the conviction that digitalization has an enormous potential for the economy as well as for democracy and public administration, but that citizens, businesses and public employees must be activated to reap those potential fruits of digitalization.

This strategic document and the task force designed a model that was subsequently followed systematically by successive governments of

⁸ The following string of keywords was used for *Denmark*: Agil, Automat*, Cyber*, Big data, Deleøko*, Digita*, Disrupt*, Hastig*, ICT, Internet, IT, Innova*, Kunstig, Platform*, Robot*, Tekno*. For *the Netherlands*, we used a string of keywords as similar as possible to the Danish one: Agil; AI; automat*; cyber*; big data; datafic*; digita*; disrupt*; IC; ICT; snel*; haastig; Internet; innova*; kunstmatige int*; platform; robot*; techno*; KI. The words were marked in the documents, using the multiple words search option in Acrobat Pro. Then the researcher most familiar with the specific case read the results systematically in context, assessing to what extent they were indicative of one or more markers (timing and awareness, motivation, etc.). We removed hits obviously not referring to social acceleration and digitalization. For instance, the Danish word for speed (*hastighed*) was used in a social acceleration context, but also in the (for our purposes irrelevant) context of traffic speed limits. The authors discussed extensively how they related the “hits in context” to a specific marker. This discussion did not lead to conflicting views.

⁹ Note that in the Danish case, these kinds of documents were included among the set of 167 documents analyzed.

various political persuasions, each time (re-)postulating the strategic goals (*new strategic goals*, marker 3) and policy interventions for specified periods.¹⁰ In 2016, the new center-right Rasmussen III government moved the Digitalization Agency to the new Ministry for Public Innovation, indicating a further political prioritization of digitalization (*goal-directed strategic policy action*, marker 4).

The policy production of the Rasmussen III government was characterized by a high awareness of social acceleration and its challenges (*awareness*, marker 1) as well as by a commitment to try to exploit the new opportunities this offers for increasing welfare (*motivation*, marker 2). Various sections of the basic government program of 2016 explicitly refer to the increasing speed of technological change and the objective of the government's response, perhaps best summarized as follows: 'The government wants all Danes to be able to do well in a rapidly changing world' (p. 15).

Under the Rasmussen III government, a digital covenant was agreed between the government, Local Government Denmark (which represents the cooperation between 98 local governments) and the five Danish regions. The covenant is based on a report from 2019, *World-Class Digital Service*, which itself is an elaboration of the digitalization strategy 2016–2020.¹¹

The digitalization strategy 2016–2020 is the common strategy of the Danish government, local government and the regions and was published in English as "A Stronger and More Secure Digital Denmark: Digital Strategy 2016–2020" in May 2016 (Danish Government, 2016). Again, it is possible to deduce the government's *awareness* (marker 1) of social acceleration and its *motivation* (marker 2) from this document. As in 2002, the first sentence seems to capture the gist of the mood: 'Denmark and the world are facing fundamental changes. Rapid ongoing digital developments are already changing the way in which we live, the way we run our businesses and the way our public services and welfare services are delivered'. The report states that the disruption and new opportunities caused by new technologies are nothing new.¹²

We have seen it all before. However, the rate and evolutionary power of technological developments will accelerate in the years to come. Digital development will be so fast, profound and unpredictable that it will challenge and change society in ways we cannot even begin to imagine (p. 4).

Rapid technological change is portrayed as an irresistible force for which one must prepare and to which one must adapt, but if responded to well, it offers 'a multitude of opportunities' that do not necessarily disrupt the unique social trust for which Denmark is so well known (p. 4). *Social trust* emerges as an important concern in the strategy. The Danish welfare state depends on the public's trust in the public sector, and this trust needs to be safeguarded in the digitalized public sector. The public *efficiency* concern (marker 2, motivation), which was pronounced in the first digital strategy, is still prominently present but is now more explicitly coupled to the issue of public trust. This is because public sector efficiency ('simpler and more cohesive public sector', p. 7) requires more data on individual citizens and more sharing among authorities, with obvious repercussions for *security and privacy*.

In 2017, the Rasmussen III government installed a broadly composed "Disruption Council – Partnership for Denmark's Future", which indicates goal-directed strategic policy action (marker 4). The task of this council was to come up with proposals on how best to exploit the

opportunities technological development offers and at the same time guarantee a dynamic yet well-ordered labor market without social dumping. The introductory joint statement of the council and the government in the final report reads: 'We live in a time of great changes, which presents us with new opportunities as well as new challenges' (p. 6). Various statements refer to the *awareness* (marker 1) of accelerating change: 'Technology is advancing at a rate that will require rapid transformations in the labor market' (p. 41). The Minister for Industry, Business and Financial Affairs Rasmus Jarlov is quoted, saying 'As is the case in the rest of the world, Denmark faces a digital transition of its business community and society that is occurring at a faster-than-ever pace' (p. 27). The challenges concern (a) the risk that technological change is too fast and comes at the cost of prosperity because citizens and public services cannot successfully adapt; (b) rapid technological change creates a cleavage between winners and losers. The council asked McKinsey to assess the impact of rapid technological change on the Danish economy, especially the labor market. 40% of total hours worked were estimated to be automatable via current technologies up to the year 2055. Automation was considered to affect all professions and sectors so that the vast majority of workers and employees would have to learn new skills over the course of their working life (life-long learning).

5.2. The Netherlands

In the Netherlands, the contours for government policy on digitalization and e-government were already sketched between the mid-1980s and mid-1990s (Meijer, 2015), suggesting an early *awareness* (marker 1) and digitalization and e-government as a response to (rapid) societal changes (*motivation*, marker 2). There were some automatization and ICT projects prior to the mid-1980s, some of which were failures, but digitalization policy was for the first time named as something requiring political-substantive steering in a 1988-government document. Between 1995 and 2005, the Dutch government started to think about digitalization more systematically. It experimented with smaller projects, such as the development of a real-estate information desk and a knowledge system for the elderly and disabled. This later resulted in a bigger project, *Government Office 2000 (Overheidsloket 2000)*, a network of ICT offices covering the Netherlands with at least one office per municipality (Meijer, 2015). Another example is the launch of the website www.ov.erheid.nl, with among other things links to all government organizations. Expectations were high in the mid-1990s: the "digital highway" (Dutch Ministry of Economic Affairs, 1994) was expected to lead to a more efficient and effective government (Dutch Ministry of Internal Affairs and Kingdom Relationships, 1998). This provided a clear *motivation* (marker 2) for the Dutch government. In line with the notion of social acceleration, the ICT developments went very fast, and the government only partially succeeded in keeping up with them.

Between 2005 and 2015, the digital infrastructure of the Dutch government was defined and developed (Meijer, 2015). As the Netherlands Scientific Council for Government Policy (WRR) observed in a 2011 report, the confidence in technology was very high, and its prospects were considered bright, again underlining the *motivation*. "The 'techno confidence' of politics and policy translates into big ambitions with ICT, not just in the technical sense, but also in the policy substance sense" (WRR, 2011: 11, own translation). And technology was "rolled out", practices were "streamlined" and service were "updated" (WRR, 2011: 11). In terms of handling the government's large administrative challenges and, important for our argument, addressing urgent societal challenges such as terrorism, security, mobility and good and affordable care, the use of technology was almost self-evident in Dutch politics (WRR, 2011: 92).

Overall, especially since 1995, many steps were taken towards further digitalization of Dutch government and society. The increasing salience is illustrated by an increase in the number of important government documents over time: three between 1985 and 1995, eight

¹⁰ At the time of writing (December 2020), the new social-democratic government Frederiksen had not published its strategy yet.

¹¹ The social-democratic minority government (Frederiksen) (2019-) has confirmed this pact and thereby underwrites and reinforces strategic continuity in digitalization policy.

¹² "Evolutionary power" is a translation of "*forandringskraften*" in the Danish version of the report, which literally translates as "change power", i.e., the power to change things.

between 1995 and 2005, and 12 between 2005 and 2015 (Meijer, 2015). This is an indication of *new strategic goals* (marker 3). The initiatives for further digitalization were taken by separate departments or in separate domains (e.g., health care or agriculture and food) and were not, or hardly, coordinated (Van Os, 2015). Only in 2018 did the Dutch cabinet publish its first joint digitalization strategy (Ministry of Economic Affairs and Climate, 2018). A joint strategy was considered necessary because the digital transformation has ‘an impact on almost all policy domains – from e-health to smart mobility, from education to safety and public governance’ (p. 12, own translation). An overall strategy would result in a joint agenda to utilize the societal and economic opportunities of digitalization (Nederlandse Rijksoverheid, 2019). The 2018 strategy was a first step towards implementing the Rutte III government’s coalition agreement (Rutte-III, 2017), which announced investments in digitalization (p. 2). The coalition agreement also indicated that ‘a well-functioning public administration should be able to adapt to societal and technological developments. Adjusting to the digital society is not just necessary, it also offers possibilities for a better public service’ (Rutte-III, 2017: 7, own translation). The digitalization agenda is ‘ambitious’ and ‘broad’, increasing digitalization of public governance at different levels’ (Rutte-III, 2017: 7, own translation). The 2018 strategy reflects the high ambitions of the Dutch government: ‘If the Netherlands want to use the opportunities of digitalization optimally and effectively address it problems, than we should renew and accelerate. In line with the coalition agreement, the government therefore wants the Netherlands to be digital front runner of Europe’ (Ministry of Economic Affairs and Climate, 2018: 11, own translation). Its three ambitions are: (1) become *digital frontrunner* and utilize opportunities; (2) everyone participates, and we work together; and (3) *trust* in the digital future (p. 12).

In line with the notion of social acceleration, indicating *awareness*, the 2018 strategy explicitly states that digital developments substantially accelerate the pace at which tasks and professions change (Ministry of Economic Affairs and Climate, 2018: 29). It also underlines the need for flexibility: ‘If necessary, the government will introduce new rules, scrap rules or adjust rules to safeguard important public values and fundamental rights. This flexibility is required in face of rapid developments: today’s ideas can be outdated tomorrow’ (Ministry of Economic Affairs and Climate, 2018: 14, own translation). The Dutch cabinet also demonstrates *awareness* of a problem of slow democratic procedures and proposes a solution to it: ‘it takes time to make or change rules. The cabinet will therefore more often initiate strategic explorations to assess, at an early stage, the legal, technological and ethical consequences of new developments’ (Ministry of Economic Affairs and Climate, 2018: 27, own translation). Recognizing social acceleration, specifically the phenomenon that digital developments are exponential, the cabinet planned to develop the national digitalization strategy further on a yearly basis. In 2019, this meant moving to digitalization strategy 2.0 (Nederlandse Rijksoverheid, 2019). As in Denmark, digitalization is seen as ‘offering opportunities for welfare and wellbeing’ (Nederlandse Rijksoverheid, 2019: 7). Overall, the cabinet’s *ambition* is threefold: (1) becoming digital frontrunner in Europe to profit maximally from the opportunities that digitalization offers for economic growth and addressing societal challenges. (2) Everyone should be able to participate. (3) As in the Danish case, the cabinet stresses the importance of *trust* for the digital economy, government and society (p. 7). To achieve these aims, the cabinet identified six priorities: (1) accelerate AI-development; (2) use data for societal issues and economic growth; (3) digital inclusion and skills, for instance strengthen the skills and capabilities of pupils and teachers in primary and secondary education and develop an action plan for life-long development; (4) digital government, aimed to make the Dutch digital government more accessible, understandable and personal; (5) connectivity, especially introduction of 5G; and (6) digital tenability, which aims to make the Netherlands digitally safer and enable citizens and organizations to use digital technologies and services safely and reliably. In addition to this overall digitalization strategy, a substantial number of sub-strategies

were developed, for instance on connectivity and cyber security.

In 2019, the Netherlands Scientific Council for Government Policy (WRR) published an advisory report entitled *Preparing for the Digital Disruption* (Prins et al., 2019), which indicated that an increasing number of processes in society depend on information streams, so-called datafication (see also WRR, 2011). Datafication increases the risk of digital disruption, which the WRR defined as a serious disruption or withdrawal of digital processes, which are a consequence of the growing interconnectedness of the digital world, the physical and the social world. According to the report, existing government policy primarily aimed to *avoid* incidents, but it did not explain what to do once an incident occurs. This indicates that there was no integral action from the Dutch government in face of the huge changes and in spite of awareness.

5.3. Case study findings

Table 1 summarizes the findings of the case studies in terms of the markers we developed to identify government responses to the functional pressure of social acceleration. As to *awareness and timing* (marker 1), both countries were early movers. Already in the 1980s, policy-makers became aware of opportunities and challenges that new technological developments offered. We expected it to be highly unlikely to find the social acceleration vocabulary as such in policy documents, so we were quite surprised that we actually found precisely that, especially in the later period (say since the mid-2000s). This indicates that digitalization was a response to (rapid) societal changes.

The *motivation* (marker 2) for government action was strongly molded by efficiency concerns in both countries, with respect to both the economy and (especially in Denmark) the public sector. The issue of trust, including trust in the public sector, was also recorded to be present in both countries. Special for Denmark is attention to (social and digital) equality; for the Netherlands, it is attention to terrorism, security, mobility and care.

The *strategic goals* (marker 3) in both countries concerned the need to reap the (potential) fruits of digitalization. Denmark specifically stressed the need to prepare its citizens, businesses and public employees for digital society, while the Netherlands formulated as its strategic goal to become Europe’s digital frontrunner.

We noticed an interesting difference between the two countries regarding *goal-directed strategic policy action* (marker 4). Denmark was characterized early on by highly coordinated action and a broad consensual approach, resulting in coordinated digitalization action of central government, local government and the regions. The Dutch approach could best be described as national, regional, local and, especially, departmental compartmentalization until 2018 when coordinated action was initiated.

Table 1
Summary of case studies findings.

Country markers	Denmark	The Netherlands
1. Awareness and timing of awareness	Early; social acceleration; network society	Early; social acceleration; slow democracy
2. Motivation	Economic and public sector efficiency; prosperity; social trust; equality	Efficiency; terrorism; security; mobility; care; trust
3. New strategic goals	Reap potential fruits of digitalization; prepare and activate citizens, businesses and public employees for digital society	Reap potential fruits of digitalization; become Europe’s frontrunner
4. Goal-directed strategic policy action	Early coordinated action based on very broad consensus and cooperation, including central government, local government and regions	National, regional, local and departmental compartmentalization; only late (2018) coordinated action

An overall finding is that awareness of social acceleration was high in both countries, although the precise identification of the problem differed between the countries and changes over time. In both countries, the digitalization strategy was clearly conceived as an adaptive response to social acceleration, and in the Dutch case – also explicitly as an attempt to speed up slow democracy.

6. Conclusion: theoretical propositions and hypotheses for further comparative empirical research

How do governments respond to the functional pressure of social acceleration and try to solve the dilemma for democratic problem solving it induces? As a first step in answering this question, we examined two paradigm cases – Denmark and the Netherlands – whose governments have developed a remarkably quick and effective digitalization response to social acceleration. Our findings, especially regarding markers 1 (awareness and timing of awareness) and 2 (motivation), suggest that these governments understand digitalization as an adaptive and functional response (Meijer & Bekkers, 2015; Wang et al., 2018) to the challenges of social acceleration and the dilemma for democratic problem solving. Digitalization was presented as the only way to continue (and expand) as highly prosperous, cohesive and dynamic societies (cf. markers 3, new strategic goals, and 4, goal-directed strategic policy action). The paradigm case analyses also taught us that governments consider digitalization to be a particularly attractive option for addressing the social acceleration-induced dilemma for democratic problem solving.

We selected the Netherlands and Denmark as so-called paradigm cases because they represent successful responses to social acceleration and the dilemma for democratic problem solving. With this case selection and our empirical approach we hoped to make headway towards a better theoretical understanding of how and under what conditions governments attempt to solve the dilemma for democratic problem solving produced by social acceleration. We now take the opportunity to use our findings as input for a next theoretical step. We therefore end this paper by formulating three theoretical propositions to inspire further empirical research.

Because we found that the Danish and Dutch governments were early movers and based on our theoretical considerations on liberal democracy in section 3.2, we conjecture that the timely setting of strategic goals and prompt strategic action are most likely key factors explaining successful responses. Our first theoretical proposition is therefore the following: The earlier governments start employing digitalization strategically, the more capable they are of trumping the relative resilience and indisposition of liberal democracy's traditional institutions to adapt swiftly to social acceleration. We add to this the supposition that a timely start is probably only a feasible option for highly integrated and well-organized countries that already have reached a high level of technological sophistication. Only when this condition is met can governments at an early stage and in a profound manner attempt to find positive-sum solutions by exploiting new technological possibilities to speed up the process of government to match high-speed society.

Our second theoretical proposition is inspired by deep insights from comparative politics studies of the importance of state capacity for successful democratic problem solving (Hanson & Sigman, 2021) and the realization that our paradigm cases are characterized by a very high level of the ability of their state institutions to effectively implement official goals (Sikkink, 1991). From this we conjecture that a high level of state capacity is a key factor explaining successful responses. In line with recent progress in the field (Gil-García & Flores-Zúñiga, 2020), we hypothesize that the higher the relative preparedness, inclination and flexibility of the administrative system to embrace change, the more successful the digitalization response will be. In addition, the greater the capacity to relocate available resources and to mobilize new resources, the more successful the digitalization response will be. The degree of coordination and centralization does not seem to be a critical variable

here, as we learn from the Dutch case that even (initial) national, regional, local and, especially, departmental compartmentalization does not hinder or block successful digitalization.

Underscoring extant propositions in the literature (see Alzahrani, Al-Karaghoul, & Weerakkody, 2017), we also learned from the case studies that governments worry that rapid technological change, slow democracy and inadequate public-sector reactions undermine public trust and, ultimately, democratic and governance capacity and stability. Policy elites seem to need a paradoxical “we-need-to-change-fast-to-remain-ahead” sense of urgency and mentality to initiate action, in combination with an idea of what this action should strategically look like. We conjecture that the implementation of the actions most likely depends on the presence of a high level of public trust. Our third and final theoretical proposition is therefore that the higher the level of public trust, the higher the relative preparedness, inclination and flexibility of the public will be to embrace the policy elites' proposed changes and hence the higher the chances of successful digitalization will be.

In sum, based on the analysis of paradigm cases, we have formulated empirically informed theoretical propositions to guide further comparative policy research in how and under what conditions governments can successfully employ digitalization strategies to solve the social acceleration-induced dilemma for democratic problem solving. Recall that we defined this dilemma in terms of a zero-sum game: Either the political system speeds up decision making at the cost of (slow) democracy (option 1), or it holds on to slow democracy at the cost of problem solving (option 2). The good news for democracy is that our comparative paradigm case analysis shows that positive-sum solutions are feasible. However, on a more pessimistic note, we also theorized the timing of strategic government action, the level of state capacity and the degree of public trust as key but also extremely demanding conditions of success. This makes it unlikely that other countries that score lower on these key features can successfully import the models adopted in Denmark and the Netherlands.

Author statement

All authors have contributed equally to the research for and writing of this paper.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.giq.2022.101707>.

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