Questioning Hierarchies:

Senior Leaders' Views on How Global Civil Services Changed During the Pandemic

Aisha J. Ali¹, Luis Álvaro Álvarez Calderón², Pedro Arcain Riccetto¹, Paola del Carpio², Elise El Nouchi¹, Javier Fuenzalida¹, Margarita Gómez¹, Aung Hein¹, Oswaldo Molina^{2,3}, Martin J. Williams¹

Abstract

How did governments' emergency response to the Covid-19 pandemic change their civil services, and how have these transformations shaped their future reform agendas? We address these questions by interviewing heads of civil service and similarly senior officials from 14 countries across six continents. Interviewees perceived the central challenge of managing the pandemic crises as balancing two distinct imperatives: 1) the need for greater speed, flexibility, and decentralization of decision-making; and 2) the need for greater coordination and collaboration across teams and sectors. This required leaders to question and remake many of the traditionally hierarchical coordination structures and norms of their institutions. Contrary to much commentary, senior leaders viewed these changes as an acceleration of pre-existing trends rather than a new direction, and saw digital tools as enablers rather than drivers of change. Looking forward, leaders are using various combinations of legal, managerial, and cultural reforms to institutionalize these crisis-induced changes.

Keywords: People management, crisis management, coordination, agile government, Covid-19 pandemic, leadership

Acknowledgements: ¹ Blavatnik School of Government, University of Oxford, UK ² REDES, Universidad Peru del Pacifico, Peru. Corresponding author email: martin.williams@bsg.ox.ac.uk The authors would like to extend our deepest gratitude to the senior public leaders and their organizations around the world who generously shared their time and insights with us, and to many colleagues, far too numerous to name, for helping us to make connections, discussing ideas with us, and providing feedback and guidance. We acknowledge funding from BRAVA Foundation, Lemann Foundation, República.org, and Humanise Institute. Except where otherwise indicated, all opinions expressed in this report are those of the authors and are not necessarily shared by our interviewees or the institutions listed above. This research was approved by the Blavatnik School of Government's ethical review committee. Any errors are ours alone.

The Covid-19 pandemic triggered a rapid set of transformations in civil services around the world, as government bureaucracies had to adapt their structures, processes, and cultures almost overnight. Dozens of studies have examined the immediate impact of the Covid-19 pandemic on public servants and organizations (e.g., OECD 2021; Gómez et al. 2022) and their initial policy and public health responses to the pandemic (e.g., Kunicova 2020; Brauner et al. 2021; Mizrahi et al. 2021; Robinson et al. 2021; Jugl 2022). But there has been less research on how these emergency-induced changes related to pre-existing reform directions, and how the experience of adapting to the pandemic has shaped governments' thinking about post-pandemic reform agendas.

We address this gap by conducting a set of semi-structured interviews with difficult-to-access individuals: the heads of civil service (or other officials in similarly senior leadership positions) of fourteen countries across six continents. By virtue of their positions at the apex of their governments' bureaucracies, these individuals are uniquely placed to reflect on how their civil services had to adapt during the pandemic. Similarly, understanding their interpretation of what they learned from this experience is intrinsically important since their subjective views drive their decisions about future reform agendas. Three key insights emerge from these interviews.

First, the pandemic forced bureaucracies both to act more quickly and to greatly increase the intensity and scope of horizontal collaboration and coordination across institutions and sectors. The tension between these *dual imperatives* – greater speed and flexibility on the one hand and greater but effective coordination on the other – required bureaucracies to question and rethink their internal processes and how their hierarchies function internally. There was a push to decentralize some types of decisions to act quickly, but this placed an even higher premium on communication and collaboration, all of which sat uneasily with traditional bureaucratic modes

of operation. This entailed a great reliance on learning by doing, increasing agile modes of decision-making and supervision, giving civil servants more autonomy, and making communication routines more inclusive. While these changes typically emerged through a process of muddling through (Lindblom, 1959) rather than grand reform design, they have nonetheless required – and begun the long process of – reshaping organizational culture and managers' understandings of bureaucratic leadership.

Second, senior leaders were unanimous in perceiving technology and digital tools primarily as facilitators and mediators – not drivers – of the transformations governments experienced during the pandemic. This perspective provides a different nuance to the focus on the role of technology in much writing about civil services' changes due to pandemic and pre-pandemic emergency management (e.g., Pizarro et al. 2022; Roseth et al. 2021; Jennings et al. 2017), as well as in shaping more general public management reforms (e.g., Dunleavy et al. 2006; Pollitt 2010). While digitalization has, of course, played a crucial role in these transformations and much of this writing has also emphasized the role of personnel management issues in how technology is adopted and used, our interviewees clearly viewed the most fundamental transformations as revolving around the management of people and organizational processes. Our findings contribute to this literature by showing how senior leaders' narratives of crisis adaptation and future reform directions feature the use of technology and digital tools as enablers, not drivers or goals in themselves.

Third, senior leaders viewed the pandemic-induced adaptations more as an acceleration of preexisting reform directions than as something entirely new, and they view most of these changes as positive and are seeking to institutionalize many of them. Taken together, these changes amount to a profound questioning of the structure and functioning of bureaucratic hierarchies, with new technologies (both digital and organizational) and cultural changes seen as necessary to enabling a permanent transition from hierarchical ways of working to more "agile" approaches (c.f Mergel et al. 2020; OECD 2021). Tangibly, senior leaders are mainly trying to institutionalize these changes through reforms to various aspects of people management, from training to personnel evaluation and career management. In contrast to leaders' relative unanimity about the "what" of these changes, we note significant differences across countries in terms of the "how", with some focusing more on pushing through legal and structural reforms and others focusing more on making managerial and cultural changes. While leaders' visions for the future are thus closely linked to their interpretations of the past several years, there remain many challenges and unresolved tensions, and it is an open question how many of the steps taken as emergency responses to the pandemic will become long-term changes to ways of working.

Methodologically, investigating these questions via interviews with a relatively small number of senior leaders from a wide range of countries has both strengths and limitations. We collect and analyze our interview data with a focus on the subjective perceptions and experiences of heads of civil services (although we also triangulate our interview data against secondary sources and existing literature where possible) which are not necessarily representative of all public servants within their countries. Still, the perspectives of senior leaders like heads of civil services are important not because they are statistically representative but because they are the views of one of the most important decision-makers within each country's civil service. In this sense, our paper is an example of the type of interpretative, phenomenological research that Ospina et al. (2018) note is comparatively rare in public administration. We thus view our article as complementary to studies based on large-scale surveys of public employees (e.g., Schuster et al. 2020) and on reviews of public documents (e.g., Scognamiglio et al. 2022) about

how civil services changed during the pandemic, with each providing different perspectives and having different methodological strengths and limitations. To our knowledge, ours is the first paper to interview such a large number of apex civil servants across multiple countries and continents about the impact of the pandemic on reform trajectories, and we are aware of few other studies on any topic in public administration that have managed to conduct in-depth interviews with such senior and difficult-to-access bureaucratic leaders.

The remainder of the article proceeds as follows. We first situate our study with respect to the existing bodies of literature on coordination during emergencies, agile processes, and the role of digital technology during the pandemic. After laying out our empirical methodology, we present our findings in three main empirical sections: on the dual imperative of greater coordination and the need for speed and flexibility in the context of the pandemic; on the role of technology and digital tools in these changes; and on senior leaders' views on the future agenda for reform. We conclude with brief reflections on the implications of our findings for scholars and practitioners.

Coordination, Agility, and Technology in Emergencies

Although coordination is widely recognized to take on heighten importance during emergency situations, the literature in public administration distinguishes two very different mechanisms for achieving it: hierarchy, and collaborative network structures (Drabek and McEntire 2003; Verhoest et al. 2007; Moynihan 2009; Christensen et al. 2015).

Coordination through hierarchies involves political and administrative leaders using instrumental authority to direct and control goal formulation and achievement, allocate tasks,

and establish clear lines of accountability (Verhoest et al. 2007; Lie 2011). Crises and the sense of urgency trigger a demand for clear leadership and centralization, clear-cut responsibilities and chains of command and control (Moynihan, 2009). Various pre-pandemic emergency management cases relied on existing mandated hierarchical coordination structures for emergency preparedness, response and recovery (e.g., Caruson & MacManus, 2006), and some studies highlight the important role public sector hierarchies played in coordinating some aspects of the Covid-19 response (e.g. Bouckaert, 2022).

In contrast, achieving coordination through networks entails mutual interdependence and trust among actors rather than clear lines of control and accountability (Peters 1998; Lie 2011). Collaborative networks may emerge spontaneously among organizations or be developed by governments through institutional or administrative structures and managerial practices such as formal partnerships, information sharing systems, staff exchanges, collective planning decision-making and planning (Verhoest et al. 2007). This coordination approach may be especially important when dealing with cross-cutting policies that transcend traditional sectors and policy areas, requiring actors to increase and intensify contingent coordination and interactions (Rittel and Webber 1973; Kettl 2003; Ansell et al. 2010). Existing studies have shown that network-based coordination approaches have been important for responding to prepandemic emergencies (Kapucu & Garayev, 2012) as well as in governments' pandemic responses (Schomaker and Bauer 2020; Grizzle et al. 2020; Bel et al. 2021; OECD 2021).

While existing scholarship has thus identified both hierarchy- and network-driven forms of collaboration and coordination as important for emergency responses in general and the Covid-19 pandemic in particular, there is less research on the coexistence of such coordination mechanisms, how governments dynamically need to transit from one to another in emergency

management scenarios (c.f. Christensen et al. 2015; Moynihan, 2009), or how senior leaders think about whether and how to sustain such emergency-induced practices in non-emergency times.

Our article also connects to the literature on agility and agile processes in government, the increased adoption of which was a goal of many civil services prior to the pandemic. Much of the literature on agility conceptualizes it as an organizational strategy to cope with a volatile, uncertain, and unpredictable environments (e.g., Moon 2020; Janssen and van der Voort 2020), while other studies focus on the use of specific forms of organizational agility in the public sector, in particular flexible project- and team-based management (e.g., Mergel et al. 2020; OECD 2021), and some studies have highlighted agile ways of working as especially important during emergencies (Van der Wal 2020; Janssen and van der Voort 2020). However, there has been less research on the connections between agile practices as a pre-pandemic goal and their use in emergency response during the pandemic, or on how these experiences have shaped governments' thinking about the role of agile approaches post-pandemic.

A third related area of literature is on the role of technology in emergency management and public sector reform. Digital technology featured most prominently in governments' pandemic responses in the near-overnight shift to remote work in many civil services (OECD 2021; Roseth et al. 2021; Gomez et. al 2022) and the rapid digitalization of (some) public services (Eom and Lee 2022; Pizarro et al. 2022). These crucial roles have also been underscored in some pre-pandemic literature emergency management (e.g. Kapucu, 2006; Jennings et al. 2017). Much of the existing literature has emphasized the pandemic's role in driving digital transformation in government and sparking the adoption of new technologies (e.g., Agostino et al. 2021; Eom and Lee 2022), and the adoption of information technology in general has

widely been considered a driver for organizational and managerial changes inside governments and for the need for new skills (OECD 2021; Roseth et al. 2021). Our article complements this literature by exploring how senior leaders interpret the role of digital technology and its relationship to organizational transformations before, during, and after the pandemic.

Methods and Interview Sample

Interview Recruitment Methodology and Sample Details

This paper mainly uses primary data collected through semi-structured interviews with heads of civil services or similarly senior leaders around the world. We do our best to report their testimonies and perceptions faithfully but also discuss them with a critical eye. In parallel, we draw on secondary data from extensive desk research on grey literature and governmental reports to inform and complement the analysis of our primary data collection. Our research design, data collection, and analysis integrate many of the good practices for conducting qualitative research in public administration proposed by Ospina et al. (2018).

The recruitment method used to reach out to government officials included three stages. First, we used direct targeting to identify the heads of civil services (or equivalently, senior officers responsible for system-wide administration, leadership and people management) from different countries, aiming for a diverse sample representing low-, middle-, and high-income countries across all continents. For this purpose, we mainly relied on our own academic and professional networks, as well as those of our institutions. Second, we sent 18 heads of civil services an official invitation via email, introducing the study and asking for their participation. In cases in which the head of civil service or equivalent was not available, we used snowball sampling and/or asked them to connect us with their direct subordinate or the person they considered

would be better able to answer our questions. Third, we provided those who accepted to participate with an interview protocol as well as a consent form prior to conducting the interview via videocall. Interviews are all reported anonymously and were conducted between August 2021 and March 2022. Appendix A provides further details about the sampling and selection process.

The final sample of interviewees is constituted of 14 heads of civil services or other senior leaders from countries on the six continents (Table 1). Figure 2 highlights in red the countries of provenance of our interviewees. They are Ghana and Uganda on the African continent; Uruguay, Argentina, Brazil, Peru, Colombia and Chile in South America; the United States in North America; Singapore and Qatar in Asia; the United Kingdom and Spain in Europe; and Australia.

Table 1: Respondents by role type

Respondents' role type	Number of respondents
Heads of Civil Service (e.g. Minister, Secretary,	9
Chief Officer)	
Directors of sub-units within the civil service	2
Senior officials responsible for people management	2
Head of national public administration school	1

Source: Authors



Figure 2: Countries included in sample

Source: Authors

This is the first study to interview senior leadership-level public servants across multiple countries and continents about the mid to long term impacts of the Covid-19 pandemic on bureaucracies and their reforms. Our choice of methodological approach responds to two main gaps in the academic and policy literature. First, by targeting high-level public officials, we obtain valuable and unique primary data. It is rare for studies to be able to interview this many highly placed officials, particularly including respondents from low- and middle-income countries that are traditionally underrepresented in public administration research (Bertelli et al. 2020). While our sample of countries we cover is not globally representative, it nonetheless represents the largest and most diverse collection of countries for which such interviews have been conducted, and thus the closest picture to date of global thinking on pandemic-related reform thinking. Second, our study's focus on the medium- to long-term time horizon (rather than on the immediate reaction to the initial phase of the pandemic) complements other research conducted on how the pandemic has affected civil services worldwide (e.g., Schuster

et al. 2020) by giving leaders time to reflect on which aspects of these emergency responses were most important and are likely to persist. It also allows us to draw on newly released secondary data and government documents to contextualize officials' interview responses and complement the qualitative results of the primary data collection.

While examining the perceptions of senior leaders thus has its advantages, it also entails obvious limitations. The first is the relatively small sample of very senior leaders it is possible for any one study to reach, and the risk that our network-driven convenience sample of countries may not be fully representative of the whole world. While our study includes a larger number of such senior officials from a broader range of countries than we are aware of in existing studies, this is nonetheless a limitation. A second key challenge of relying on senior leaders' perceptions is that leaders themselves may have biased or inaccurate views or may omit certain information in order to paint a more positive picture of their civil services. We can address this to some extent by analyzing interview responses with a critical lens and triangulating them against other secondary literature, but our ability to do so is obviously limited. That said, the perspectives of the senior leadership of countries' civil services matter not because it is objective or statistically representative of the rest of the civil service, but because they are the views of the most important decision-maker within it. We therefore treat our interview data mainly as potentially subjective perceptions rather than unbiased facts while emphasizing that these perceptions and interpretations themselves are meaningful because they guide the actions of the influential individuals who hold them.

Structure, Conduct, and Analysis of Interviews

Interviews were approximately one hour long, conducted by two or three interviewers and semi-structured with an interview protocol indicating the main themes and topics sent to the participants in advance. The two main themes/sections of the protocol were: 1) challenges that civil services were tackling due to Covid-19 and how governments were responding to them, including questions on technological adoption, workplace rearrangement, and management practices; and 2) issues and opportunities of the mainstreaming of Covid-19-related changes and the implications for civil services in the mid-to-long-term term future (i.e., approximately the next five years). Appendix B exhibits the full interview protocol.

We used multiple coding to help us analyze, interpret and systematize the qualitative data, following a conventional content analysis (Barbour 2001; Hsieh and Shannon 2005) – see Appendix C for further detail. Codes were then iteratively updated as analysis and writing progressed. Our coding was a starting point for our identification of major patterns and trends in the interview data, but our subsequent analysis, reporting, and discussion uses the content of these interviews in a qualitative fashion that allows us to take greater advantage of the nuances and depth of this data than would be permitted by a rigid reliance on our coding and categorization alone. This is consistent with our primarily interpretative approach to our analysis (c.f. Ospina et al. 2018). Our reporting and analysis below are thus based on our synthesis of these interviews, with selected quotations and examples included for illustrative and expository purposes.

The Dual Imperative: Speed and Flexibility, and Effective Coordination and Collaboration

Interviewees unanimously perceived that the Covid-19 pandemic required their bureaucracies to dramatically increase the intensity and scope of collaborations. Across all countries, senior leaders emphasized that this was achieved mainly by transitioning from hierarchy-based

coordination mechanisms to network-based ones, entailing a vast expansion of connections both among public organizations and with their private and civic counterparts. The number and diversity of actors involved in these networks entailed new challenges and required new mechanisms for coordination and management. Countries thus adopted a variety of institutional mechanisms to strengthen network coordination at the operational and strategic levels, including: setting up ad hoc cross-sectoral taskforces and advisory boards; alignment of information-related processes across organizations, particularly via IT and data sharing and use; and the intensification of whole-of-government approaches to inform coordination efforts. In Australia and Colombia, for instance, consultative processes that linked a range of civil servants and political leaders more closely, such as transversal teams, were put in place to determine policy trajectories, especially related to remote work. While similar mechanisms already existed to some extent in all countries, the pandemic saw a dramatic expansion and intensification of their use. "One of the good things of the pandemic is that it forced us to do things that always were very hard to implement, such as database interoperability, sharing information between the different agencies and working in a collaborative manner, when the organizational tradition usually leads to jurisdictions solely looking at themselves." (Argentina interview). A key challenge civil services encountered in doing this was the ambiguity and misalignment of goals across different stakeholders and information management processes (Bouckaert et al. 2016; Peters 2018), which had to be addressed head-on for these structures and processes to function effectively.

At the same time, the response to the pandemic required an unprecedented level of speed and responsiveness to changing circumstances, and bureaucracies responded to this by decentralizing and delegating an increasing number of decisions internally. This also led senior leaders to question and move away from traditional hierarchical modes of coordination and

decision-making. "It is really important that we think carefully about where decisions need to be made within organizations. What sorts of things need to be made kind of in a whole of government, standardized way; versus where can we allow flexibility and allow decisions to be made at a lower level in the organization?" (US interview). This decentralization of decision-making was often implemented through informal staff empowerment initiatives, such as joint brainstorming for solutions, within existing structures and procedural frameworks. In Ghana, for instance: "I have encouraged my colleagues to do the same thing [write their ideas for change]. So every three months, we ask what new have you produced here? And we need to formalize some of these things." (Ghana interview).

Interviewees perceived that managing these two simultaneous imperatives — effective coordination and collaboration on the one hand and speed and decentralization on the other — proved the central challenge of the pandemic for senior civil servants. As one interviewee explained, "Our public service over the past 20 months had to orchestrate and put together many multi-agency operations. We had to, almost overnight, get agencies to pull resources, irrespective of organizational boundaries and some of the protocols we have in place. We have to override many of these things just to quickly respond to the crisis." (Singapore interview). Leaders were thus confronted with a difficult trade-off: whether to prioritize time-intensive consultation and coordination across teams and organizations at the expense of speed and responsiveness to local information or vice versa.

Civil services tried to surmount this trade-off by adopting agile or agile-like approaches, as previous single case studies suggest (Moon 2020; Capano and Toth 2022). Although the term was not always used explicitly by our interviewees, we follow Mergel et al. (2020) in defining agile methods as "a new package of routines and processes embedded within formal work

groups and structures... a mindset that initiates a cultural change in bureaucratic command and control organizations. Agile administrations are open to reforms, adaptation to the changing environment, public values, and public needs." (Mergel et al. 2020, 161, 163) These approaches focus on change and adaptation rather than stable processes and prioritize individual-level discretion over rigidly following bureaucratic procedures (Mergel et al. 2020). Many bureaucracies that had previously started to consider agility began to experiment with them tentatively by placing a higher premium on rapid communication, enhancing feedback mechanisms, and broadening the scope of individual jobs and working routines.

Many of these changes were taking place in the context of remote work, which both enabled previously unthinkable practices but were also constrained by existing culture. For example, one interviewee explained the adoption of more agile approaches: "I think that is powerful as a new way of working [across silos and rigid routines] (...) it has always been there, but until virtual became the default kind of way of working, it didn't nearly take the potential that I think it's going to hold going forward." (US interview). At the same time, one interviewee lamented how organizational culture and the lack of trust impeded the realization of potential gains: "This has to do with a cultural theme, this harmful culture in which, when you go home on time, you are suspected not to work or produce enough. So, not having this direct control of people made continuing remote work really challenging in some institutions because there is a lack of trust." (Peru interview). In several countries, particularly low- and middle-income ones, basic connectivity and IT infrastructure issues also hampered effective operations and the adoption of agile methods in the context of remote work.

Managing these changes and challenges also required managers and leaders to adapt and perceive their roles in new ways. In general, leaders had to rely more on transformative rather

than transactional leadership styles (Kuhnert and Lewis 1987), both because of the new demands for agility as well as because remote work imposed practical limitations on their ability to monitor staff. "Rather than a controlling leadership that focuses on whether the person is sitting [at their desk] or not, we need more seductive and motivating leaders, especially since we have a new generation that has different objectives." (Chile interview). This new leadership style also has to encompass a greater concern for individual welfare, which came under greater stress than ever: "The head of civil service himself is asking every leader to adopt a system of prioritizing and looking into the workload of our public officers. We are at this point even convening what we call learning circles where senior leaders at the Permanent Secretary and CEO levels come together to share personal experiences about coping with their own mental health, about how they think about self-care or how they are supporting the mental health of our own workforce." (Singapore Interview).

Leaders also increasingly embraced an approach of joint learning-by-doing in balancing the dual imperatives of coordination and speed: "I remember we had to write from the hotel rooms, work on circulars where we started these flexible working hours, deciding quickly. It was like doing and learning at the same time because we had never had anything like that." (Ghana interview). While this was partly driven by necessity, for many leaders, it was also a strategic choice because it encouraged the creation of more inclusive communications routines, greater decision-making autonomy, and moving away from rigid pre-pandemic personnel evaluation metrics. Our interviewees thus perceived that not only did the pandemic induce changes in work routines and processes but also in the meaning of good leadership within the public service.

Technology as Enabler, not Driver

The senior leaders we interviewed also discussed, and in many cases enthused, about the ways in which making new use of digital tools had allowed their civil services to maintain service continuity and take advantage of operational efficiencies. Some of these were fairly obvious and unsurprising, such as the role that the rapid increase in videoconferencing played in enabling more and cheaper meetings, interview panels, and training opportunities, and the benefits of digitizing records and processes (e.g., Spain, Ghana, Chile, Argentina, Qatar, US interviews). And conversely, some governments – particularly in low- and middle-income countries – were constrained in their adoption of new modes of communication and working by basic infrastructure deficits such as the lack of computers or poor connectivity (e.g., Ghana, Uganda, Argentina interviews), and interviewees across the board emphasized the need to ensure digital literacy for all employees. Some interviewees also identified positive side-effects to the shift to virtual modes of training, with one remarking that their training processes had become more effective because they enabled "a surprising level of participation from the regions because the costs of plugging the screen are zero." (Chile interview)

But while our interviewees all agreed that digital tools had played an essential role in how their bureaucracies adapted to the pandemic, they also viewed technology as *enabling* rather than *driving* change. Instead, the most fundamental transformations in their eyes were the changes to organizational processes (mainly related to coordination), people management, and leadership discussed in the previous section. For example, one interviewee remarked: "I do think this ability to partner with different groups is really a potentially transformational change that is enabled more going forward. I think the need to get together physically has been such a limiting factor in whom we partner with and how we work, that if we move to a more virtual way of working it creates huge opportunities for how we work with different partner

organizations." (US interview) Another reflected: "If you would have told me that I had to assemble a new unit with six new senior team leaders of 300 people, and I had to have done that virtually, I would have said no, that is not possible because of everything I know about leadership: you know, we need to be in the same space, we need to do this, we need to do that. But I did do it." (United Kingdom interview)

This represents an important nuance to narratives about digital transformation in civil services worldwide: rather than the availability and advancement of digital tools themselves driving change, senior leaders perceive the fundamental impetus for change as coming from the changing environment in which they operate. Interviewees also emphasized that most of these enabling digital changes (e-recruitment, online public service delivery, online training) were already envisioned in their governments' public service transformation agenda before the pandemic, with the acute demands of the pandemic acting as a catalyst for change – but not necessarily the primary or long-term reason for them. This perspective on digital tools thus contributes not only to our understanding of bureaucratic transformations during the pandemic but also to the role of digital tools in enabling innovation and collaborative processes (Kattel et al. 2020), strengthening public service delivery (Whitford et al. 2020), improving procurement and human resource management systems (OECD 2021; Porrúa et al. 2021), and in civil service transformations more broadly (e.g., Dunleavy et al. 2006; Pollitt 2010). This understanding of how senior leaders have viewed the recent past of interlocking changes both in operational and personnel management and in the use of digital tools is also important because this experience looms large in shaping their thinking about whether and how to institutionalize these changes, as well as the agenda for future reform.

Impacts on Future Reform Agendas

What, then, do senior civil service leaders see as key elements of the reform agenda after their countries' responses to the most acute phase of the pandemic crisis? While there is naturally a significant amount of idiosyncratic variation across countries in the specific changes and tools envisioned, two main patterns emerge from our interviews: first, a keen interest in sustaining, deepening, and institutionalizing the perceived improvements in network coordination and flexibility; and second, updating personnel management policies to respond to the demands of these new approaches. The remainder of this section discusses these two threads.

The senior leaders we interviewed were broadly positive about their civil services' emergency response to the pandemic and the impact of the new management practices that accompanied it. While they recognized obvious limitations as well as negative stress and welfare impacts, they report their overriding priority emerging from the pandemic as being how to sustain both the increased scope of horizontal network coordination and collaboration and the greater degree of internal speed and agility that emerged. For example, one interviewee explained: "I think one of the things that this pandemic has taught us is that the likelihood that you are going to get it right the first time is low. You need to acknowledge that it is a fluid situation, that we are learning new things all the time, and that we are going to be committed to iterating and adapting and adjusting our policies and our routines based on how things are playing out on the ground." (US interview) Similarly, another interviewee commented: "Things change very fast and not only due to Covid-19. Even three-year plans don't work anymore. You can only plan annually, and you focus on outcomes and then you rebase yourself, adapt, change and move. And this responsiveness is not given as civil services normally are not very nimble and agile by design. It is basically how to ensure that whatever civil services structure you have, or systems you have, could become an agile and nimble tab of systems and operators and workers in order for

them to be able to move fast? That is the design principles that we are working on currently to re-engineer our civil services." (Qatar interview) Yet achieving this perceived imperative is far from straightforward: "But it's also a deeper question of do we need to more fundamentally look at our governance structures? How do you look at decision rights, and you know, how do we organize ourselves to be ready for the future?" (Singapore interview)

While some countries are focusing on making changes to formal structures and legal frameworks in order to institutionalize civil services' changes due to government emergency responses, others are focusing more on less formal practices and culture. For example, the interviewee from Spain discussed developing new regulatory instruments to "establish this new form of work that has come to stay" (Spain interview), while the civil service of Colombia has enacted a "disconnecting law" to address the stress and overwork issues that emerged during the pandemic (Colombia interview). In contrast, other interviewees view the key challenge as being changing de facto rather than de jure practices: "It is all difficult and it is all interlinked actually. In the end, it is about changing culture, which is really hard to do. Even if you have the leadership to make these changes, once you get down into the middle layers, you have a lot of civil servants, public servants articulated in similar blocks inside each organization, and they are very comfortable with the way they are doing things." (Australia interview). This emphasis on culture also sits alongside a stronger focus on iterative methods and learning-by-doing, itself perhaps carried over from the pandemic. For example, the US federal civil service has increased its use of rapid "pulse surveys" as a critical mechanism being put in place to "regularly adjust and adapt policies based on feedback", particularly with respect to the transition into more stable and longer-term forms of remote or hybrid working (US interview).

The reform of personnel management policies, which represents the second main thread of future reform thinking that is consistent across countries, is a reflection of their complementarities with the operationally focused policies discussed above. One dimension of this is a near-universal desire expressed by senior leaders for the intensification of skills training and institutionalization of the ideal of continuous learning. For example, one interview stated "do we provide continuous learning and continuous upgrading of skills that allow public services staff to stay capable? That's one of the things that we are very focused on" (Australia interview).

Interviewees all included digital skills (both basic and advanced) within the set of competencies that urgently need to be better integrated into training curricula, but many also spoke about soft skills. This dual focus was perhaps best encapsulated by our interviewee from Singapore, who explained that: "We have set up what we call a digital academy. This was a work in progress, but the pandemic accelerated things. A lot of the courses that the digital academy has developed and co-created with many of the leaders are because we really want to harness the best in class in terms of the latest knowledge and skills in AI, in data science, in digital, in data analytics and bring it back and adapt it for the context. At the basic level, there are mandatory data literacy, and cybersecurity courses that every single public officer has to go for. Then, we are also looking at tiering, and thinking about how to build up a tier of future leaders who would be our digital leaders of tomorrow." (Singapore interview). At the same time, the perceived new needs extend far beyond specifically digital skills: "the challenge is that technology and the operating context is changing so fast, many jobs are evolving, are being made obsolete. The question is how, as an employer, do we establish a good system of soft skills, identification skills, development and also institute a sort of mental agility in our workforce? One where you can have a long public service career, but you might not stay in one organization for like 1020 years counting. You can have a long career in public service in different jobs and gaining different sort of experiences and skills and pivoting along the way." (Singapore interview). This focus on the combination of flexibility, new modes of leadership, and digital skills echoes the transformations of the pandemic era described above, which many leaders have taken as a lesson for the future.

Finally, many senior leaders also highlighted the processes of career management, strategic personnel planning, and staff evaluation as key areas for change in the coming years. For instance, one interviewee stated that: "We need to do a lot more deliberate planning so that everyone has the benefit of the skills, the knowledge, the networks to be effective in situations like that; a lot of our work on apprenticeships, on induction, on the fast stream, on leadership development, is informed by that sort of crisis response; and intervening much earlier in career pathways so that you're not having to remedially give people procedural knowledge and domain knowledge." (United Kingdom interview). Another expressed the view that: "HR needs to dedicate itself to new edges, that are consequences of the pandemic, for instance creating [a] manual of different functions at new levels of competencies (...) Understand that there are new skills in the working world, that there are new careers, that we need to change the manuals of functions because now we need to have an expert in data reading. This is not contemplated in the current manuals of functions, such as the experts in cybersecurity, and the expert in blockchain. So necessarily, entities need to revoke the old manuals, revoke their human resources structures." (Colombia Interview). Several interviewees also remarked that the agility they sought to create during their pandemic responses – and now seek to sustain and deepen – sat uneasily with rigid staff evaluation processes, with evaluation processes that are more focused on identifying development opportunities and new competence areas seen by some as a potential solution (e.g., Brazil, Chile, Uruguay interviews).

Conclusion

In this article, we have detailed how senior leaders of civil services worldwide adapted to the dual imperative imposed by governments' emergency response to the pandemic: greater speed, flexibility, and decentralization of decision-making on the one hand, and greater coordination and collaboration on the other. This led them to make a range of changes, many of which revolved around the common theme of questioning and remaking the traditionally hierarchical coordination structures and norms of their institutions in order to move towards more collaborative network-based and agile practices. However, senior leaders perceived this more as a continuation or acceleration of pre-pandemic reform ideas rather than as something totally new, and digital technologies were seen as crucial enablers rather than drivers of these changes. Institutionalizing and deepening these changes is now at the top of the agenda for each of the senior leaders we interviewed.

Of course, the degree to which civil services are successful at implementing these envisioned reforms and achieving the desired changes is an open question. Our interviews took place between August 2021 and March 2022, when the transition from the acute phase of the pandemic crisis had only just begun or, in some countries, was only in the planning stage. Similarly, the specific reforms pursued and prioritized by different countries will doubtless be different. But what the perspectives of the senior leaders we interviewed emphasize is the sense of urgency that the response to the pandemic crisis imbued for transforming operational and personnel management in civil services worldwide. While many (if not most) of the envisioned reforms are not new *per se*, leaders all drew a direct line between the lessons they learned from

responding to the emergency and their approach to envisioning the future of their institutions in a post-crisis world.

To the best of our knowledge, this is the first academic study to investigate the experiences, perceptions, and interpretations of very senior civil servants across multiple countries and continents about the medium- and long-term impacts of the Covid-19 pandemic on their bureaucracies and their reform agendas. It thus builds on previous studies that have inquired public leaders' perspectives about the pandemic in single countries (Wilson, 2020), that are primarily based on secondary information such as administrative or survey data (Forster and Heinzel 2021; OECD 2021; Glenn et al. 2020), or that center on immediate responses to the early stages of the pandemic (e.g. Ross et al. 2021). While our sample of countries is not globally representative, it nonetheless represents the largest and most diverse collection of countries for which interviews with senior leaders have been conducted, and thus the closest picture to date of global thinking on mid-to long effects of the Covid-19 crisis on bureaucracies and future reforms.

More broadly, we hope that our article illustrates the value of taking an interpretative approach to studying not just *what* happened during the pandemic or other emergency situations, but also *how* civil servants interpret and make meaning of these experiences. These interpretations are intrinsically important for scholars to understand because they shape retrospective learning and prospective thinking about future situations. They are thus a crucial part of modelling and predicting bureaucratic behavior, and – when the individuals in question sit at the apex of entire civil services – for understanding the frontier of reform efforts in countries around the world.

References

- Agostino, Deborah, Michela Arnaboldi, and Melisa Diaz Lema. "New development: COVID-19 as an accelerator of digital transformation in public service delivery." *Public Money & Management* 41, no. 1 (2021): 69-72.
- Ansell, Chris, Arjen Boin, and Ann Keller. "Managing transboundary crises: Identifying the building blocks of an effective response system." Journal of contingencies and crisis management 18, no. 4 (2010): 195-207.
- Barbour, Rosaline S. "Checklists for improving rigour in qualitative research: a case of the tail wagging the dog?." *BMJ* 322, no. 7294 (2001): 1115-1117.
- Bel, Germà, Óscar Gasulla, and Ferran A. Mazaira-Font. "The Effect of Health and Economic Costs on Governments' Policy Responses to COVID-19 Crisis under Incomplete Information." *Public Administration Review* 81, no. 6 (2021): 1131-1146.
- Bertelli, Anthony M., Mai Hassan, Dan Honig, Daniel Rogger, and Martin J. Williams. "An agenda for the study of public administration in developing countries." *Governance* 33, no. 4 (2020): 735-748.
- Bouckaert, Geert, B. Guy Peters, and Koen Verhoest. *Coordination of Public Sector Organizations*. London: Palgrave Macmillan, 2016.
- Bouckaert, Geert, Davide Galli, Sabine Kuhlmann, Renate Reiter, and Steven Van Hecke.

 "European Coronationalism? A Hot Spot Governing a Pandemic Crisis." Public administration review 80, no. 5 (2020): 765-773.
- Brattberg, Erik. "Coordinating for contingencies: Taking stock of post-9/11 homeland security reforms." Journal of Contingencies and Crisis Management 20, no. 2 (2012): 77-89.

- Brauner, Jan M., Sören Mindermann, Mrinank Sharma, David Johnston, John Salvatier, Tomáš Gavenčiak, Anna B. Stephenson et al. "Inferring the effectiveness of government interventions against COVID-19." *Science* 371, no. 6531 (2021): eabd9338.
- Capano, Giliberto, and Federico Toth. "Thinking Outside the Box, Improvisation, and Fast Learning: Designing Policy Robustness to Deal with what Cannot be Foreseen." *Public Administration*.
- Caruson, Kiki, and Susan A. MacManus. "Mandates and management challenges in the trenches: An intergovernmental perspective on homeland security." Public Administration Review 66, no. 4 (2006): 522-536.
- Christensen, Tom, and Per Lægreid. "Balancing governance capacity and legitimacy: how the Norwegian government handled the COVID-19 crisis as a high performer." *Public Administration Review* 80, no. 5 (2020): 774-779.
- Christensen, Tom, O. L. E. Andreas Danielsen, Per Laegreid, and L. I. S. E. H. RYKKJA. "Comparing coordination structures for crisis management in six countries." Public Administration 94, no. 2 (2016): 316-332.
- Comfort, Louise K., William L. Waugh, and Beverly A. Cigler. "Emergency management research and practice in public administration: Emergence, evolution, expansion, and future directions." Public Administration Review 72, no. 4 (2012): 539-547.
- Drabek, Thomas E., and David A. McEntire. "Emergent phenomena and the sociology of disaster: lessons, trends and opportunities from the research literature." Disaster Prevention and Management: An International Journal (2003).
- Dunleavy, Patrick, Helen Margetts, Simon Bastow, and Jane Tinkler. "New public management is dead—long live digital-era governance." *Journal of Public Administration Research and Theory* 16, no. 3 (2006): 467-494.

- Eggers, William D., John O'Leary, and Amrita Datar. *The future of work in government.*Navigating a shifting talent landscape. Deloitte Center for Government Insights, 2019.
- Eom, Seok-Jin, and Jooho Lee. "Digital government transformation in turbulent times: Responses, challenges, and future direction." *Government Information Quarterly* 39, no. 2 (2022): 101690.
- Forster, T., & Heinzel, M. (2021). Reacting, fast and slow: how world leaders shaped government responses to the COVID-19 pandemic. *Journal of European Public Policy*, 28(8), 1299-1320.
- Glenn, J., Chaumont, C., & Villalobos Dintrans, P. (2021). Public health leadership in the times of COVID-19: a comparative case study of three countries. *International Journal of Public Leadership*, 17(1), 81-94.
- Gómez, Margarita, Pedro Arcain Riccetto, Pía Iocco Barias, and Javier Fuenzalida. *Addressing Challenges to Remote and Hybrid Working in Public Organisations*. Oxford: Blavatnik School of Government, University of Oxford, 2022.
- Grizzle, David, Amy Goodin, and Scott E. Robinson. "Connecting with New Partners in COVID-19 Response." *Public Administration Review* 80, no. 4 (2020): 629-633.
- Hsieh, Hsiu-Fang, and Sarah E. Shannon. "Three Approaches to Qualitative Content Analysis." Qualitative Health Research 15, no. 9 (2005): 1277-1288.
- Janssen, Marijn, and Haiko Van der Voort. "Agile and adaptive governance in crisis response:

 Lessons from the COVID-19 pandemic." *International Journal of Information Management* 55 (2020): 102180.
- Jennings, Eliot A., Sudha Arlikatti, Simon A. Andrew, and KyungWoo Kim. "Adoption of information and communication technologies (ICTs) by local emergency management agencies in the United States." *International Review of Public Administration* 22, no. 2 (2017): 193-210.

- Kapucu, Naim, and Vener Garayev. "Structure and network performance: Horizontal and vertical networks in emergency management." Administration & Society 48, no. 8 (2016): 931-961.
- Kapucu, Naim, and Vener Garayev. "Designing, managing, and sustaining functionally collaborative emergency management networks." The American Review of Public Administration 43, no. 3 (2013): 312-330.
- Kapucu, Naim. "Interagency communication networks during emergencies: Boundary spanners in multiagency coordination." The American review of public administration 36, no. 2 (2006): 207-225.
- Kattel, Rainer, Veiko Lember, and Piret Tõnurist. "Collaborative innovation and human-machine networks." *Public Management Review* 22, no. 11 (2020): 1652-1673.
- Kettl, Donald F. "Contingent coordination: Practical and theoretical puzzles for homeland security." The American Review of Public Administration 33, no. 3 (2003): 253-277.
- Kuhnert, Karl W., and Philip Lewis. "Transactional and Transformational Leadership: A Constructive/Developmental Analysis." *Academy of Management Review* 12, no. 4 (1987): 648-657.
- Kunicova, Jana. Driving the COVID-19 Response from the Center: Institutional mechanisms to ensure whole-of-government coordination. Washington, D.C.: World Bank Group., 2020.
- Jugl, Marlene. "Administrative Characteristics and Timing of Governments' Crisis Respones:

 A Global Study of Early Reactions to Covid-19." *Public Administration* (2022).
- Lie, Amund. "Coordination processes and outcomes in the public service: the challenge of inter-organizational food safety coordination in Norway." Public Administration 89, no. 2 (2011): 401-417.

- Lindblom, Charles E. "The Science of 'Muddling Through." *Public Administration Review* 19, no. 2 (1959): 79–88.
- Mergel, Ines, Sukumar Ganapati, and Andrew B. Whitford. "Agile: A New Way of Governing." *Public Administration Review* 81, no. 1 (2021): 161-165.
- Mizrahi, Shlomo, Eran Vigoda-Gadot, and Nissim Cohen. "How Well Do They Manage a Crisis? The Government's Effectiveness During the COVID-19 Pandemic." *Public Administration Review* 81(6): 1120-1130.
- Moon, M. Jae. "Fighting COVID-19 with Agility, Transparency, and Participation: Wicked Policy Problems and New Governance Challenges." *Public Administration Review* 80, no. 4 (2020): 651-656.
- Moynihan, Donald P. "The network governance of crisis response: Case studies of incident command systems." Journal of Public Administration Research and Theory 19, no. 4 (2009): 895-915.
- OECD. Public Employment and Management 2021: The Future of the Public Service. Paris: OECD, 2021.
- Ospina, Sonia M., Marc Esteve, and Seulki Lee. "Assessing Qualitative Studies in Public Administration Research." *Public Administration Review* 78, no. 4 (2018): 593-605.
- Peters, B. Guy. "Managing horizontal government." Public administration 76, no. 2 (1998): 295-311.
- Peters, B. Guy. "The challenge of policy coordination." Policy Design and Practice 1, no. 1 (2018): 1-11.
- Pizarro, Ximena, María Angélica Pavez, José Inostroza, Tomás Soto, and Javier Fuenzalida. Crisis sanitaria y servicios públicos de seguridad laboral: Recomendaciones para orientar políticas y prácticas de gestión. Santiago: Institute of Public Affairs, University of Chile, 2022.

- Plesner, Ursula, Lise Justesen, and Cecilie Glerup. "The transformation of work in digitized public sector organizations." *Journal of Organizational Change Management* 31, no. 5 (2018): 1176–1190
- Pollitt, Christopher. "Technological Change: A Central yet Neglected Feature of Public Administration.". *The NISPAcee Journal of Public Administration and Policy* 3, no. 2 (2010): 31-53
- Porrúa, Miguel, Mariano Lafuente, Edgardo Mosqueira, Benjamin, and Angela María Reyes, eds. *Digital Transformation and Public Employment: The Future of Government Work*. Washington, D.C.: Inter-American Development Bank, 2021.
- Rittel, Horst WJ, and Melvin M. Webber. "Dilemmas in a general theory of planning." Policy sciences 4, no. 2 (1973): 155-169.
- Robinson, Scott E., Joseph T. Ripberger, Kuhika Gupta, Jennifer A. Ross, Andrew S. Fox, Hank C. Jenkins-Smith, and Carol L. Silva. "The Relevance and Operations of Political Trust in the COVID-19 Pandemic." *Public Administration Review* 81, no. 6 (2021): 1110-1119.
- Roseth, Benjamin, Angela María Reyes, and Karla Yee Amézaga. *Public Services and Digital Government During the Pandemic: Perspectives of Citizens, Civil Servants, and Government Institutions*. Washington, D.C.: Inter-American Development Bank, 2021.
- Ross, S., Fenney, D., Thorstensen-Woll, C., & Buck, D. (2021). Directors of public health and the Covid-19 pandemic: "a year like no other." The King's Fund, < https://www.kingsfund.org.uk/sites/default/files/2021-09/A%20Year%20Like%20No%20Other%20online%20version_0.pdf>.
- Schomaker, Rahel M., and Michael W. Bauer. "What Drives Successful Administrative Performance During Crises? Lessons from Refugee Migration and the Covid-19 Pandemic." *Public Administration Review* 80, no. 5 (2020): 845-850.

- Schuster, Christian, Lauren Weitzman, Kim Sass Mikkelsen, Jan Meyer-Sahling, Katherine Bersch, Francis Fukuyama, Patricia Paskov, Daniel Rogger, Dinsha Mistree, and Kerenssa Kay. "Responding to COVID-19 through Surveys of Public Servants." *Public Administration Review* 80, no. 5 (2020): 792-796.
- Scognamiglio, Fulvio, Alessandro Sancino, Francesca Caló, Carol Jacklin-Jarvis, and James Rees. "The public sector and co-creation in turbulent times: A systematic literature review on robust governance in the COVID-19 emergency." *Public Administration* (2022).
- Steen, Trui, and Taco Brandsen. "Coproduction during and after the COVID-19 Pandemic: Will It Last?." *Public Administration Review* 80, no. 5 (2020): 851-855.
- Van der Wal, Zeger. "Being a Public Manager in Times of Crisis: The Art of Managing Stakeholders, Political Masters, and Collaborative Networks." *Public Administration Review* 80, no. 5 (2020): 759-764.
- Verhoest, Koen, Geert Bouckaert, and B. Guy Peters. "Janus-faced reorganization: specialization and coordination in four OECD countries in the period 1980—2005." International review of administrative sciences 73, no. 3 (2007): 325-348.
- Waugh Jr, William L., and Gregory Streib. "Collaboration and leadership for effective emergency management." Public administration review 66 (2006): 131-140.
- Weber, M. 1947. The Theory of Social and Economic Organization. New York: The Free Press.
- Whitford, Andrew B., Jeff Yates, Adam Burchfield, Jason L. Anastasopoulos, and Derrick M. Anderson. "The Adoption of Robotics by Government Agencies: Evidence from Crime Labs." *Public Administration Review* 80, no. 6 (2020): 976-988.
- Wilson, S. (2020). Pandemic leadership: Lessons from New Zealand's approach to COVID-19. *Leadership*, *16*(3), 279-293.

Appendix A Interviewee Recruitment

The selection of countries participating in the study followed an overarching criterion: Heads of Civil Service were targeted based on [the academic institution conducting the study]'s academic and professional networks. In order to obtain a more diverse sample of countries, three additional selection criteria were considered: 1) geographical representation, aiming to expand territorial coverage to developing and developed countries on all continents; 2) an intentional overrepresentation of developing countries to minimize the lack of data publicly available; 3) other additional diversity criteria such as cultural influences on bureaucracies, size of bureaucracies, and systems of government (federal vs. non-federal).

Once the countries were selected, 18 countries were contacted. The research team first sent formal invites for an interview via email to the 8 Heads of Civil Service we were able to contact without the support of intermediaries. Subsequently, the research team sent formal invites for another 10 Heads of Civil Service with the support of intermediaries at the [academic institution conducting the study] (faculty, researchers, and doctoral students). In cases in which Heads of Civil Service were not available, we used snowball sampling for targeting and asked them to connect us with their direct subordinate or the person they considered would be better able to answer our questions. With a formal acceptance from the Head of Civil Service or other officials, the research team sent an interview protocol and a consent form to be signed by the interviewee prior to the interview via videocall.

A total of 14 interviews were conducted between August 2021 and March 2022. When interviews were held in languages other than English, the University of Oxford's Language Centre translated the transcript into English. Some quotations were lightly edited for clarity or

grammar in order to improve readability, just in cases where this could be done without affecting meaning.

Appendix B Semi-Structured Interview Protocol

The general interview guidelines that were sent to interviewees prior to the interviews are available below:

Thank you for taking the time to participate in this interview. This interview is part of a multicountry study being conducted by the [academic institution] on how civil services are responding to the challenges posed by the COVID-19 pandemic. The study aims to understand the needs, challenges, and responses of civil services around the world in this crucial period, and the findings will be used for research and policy recommendations to governments in facing novel challenges to the public sector in the future.

Topic 1: Challenges and Responses to the COVID-19 pandemic

Objective: Explore the challenges civil services are facing due to the Covid-19 pandemic; how they are responding to them via technological adoptions, workplace rearrangements, and management practices; and how their responses are affecting employee learning, well-being, and performance.

- 1. Main lessons learned so far in responding to the challenges posed by COVID-19 to the civil service.
- 2. Major challenges posed by COVID-19 on civil service's functions and performance
- 3. COVID-19 effects on public employees' wellbeing, motivation, performance and organizational learning.
- 4. Changes on technology adoption, workplace rearrangements, and management practices.

Topic 2: People management challenges in the mid-term

Objective: Explore the issues concerning the mainstreaming of COVID-19 related reforms and the mid-term challenges facing civil services.

- From changes adopted as a response to COVID-19 challenges, the most likely to be mainstreamed.
- 2. Main challenges on people management for the next five years.

Appendix C Coding Process

Coding took place in two main stages:

- 1. Multiple coding of all over 50% of the qualitative data, meaning two team members coded one transcript independently and then compared their codes and the coding frames. One member of the authorship team first coded all the interviews, while seven others participated coding one transcript. Thus, the codes and the coding frames were adjusted as a result of the seven bilateral meetings held.
- 2. The codes and the coding frames were presented and discussed with the research team in two subsequent meetings.

The analysis of the data took place in a collaborative way through discussion groups and team meetings to discuss the coding system and the data available. The main criteria used to determine the themes and subthemes were:

- The number of mentions in the interviews. To minimize coding bias and harmonize interpretations, the same data was shared among the team members and then discussed.
 This technique helped to reduce the interpretation bias of each team member by trying to find a common ground.
- Juxtaposing interview data against the extant theoretical and empirical literature on relevant topics in public administration and related fields, in order to ground the discussions in existing literature while also identifying points of novelty or disjuncture.

The extended coding frame extracted from the first coding exercise available below provides examples of the themes and sub-themes that were coded from the data. Among the main themes were government collaboration and collaboration, digitalization and leadership and new management practices.

This coding process guided the identification of key themes, which were later used to elaborate the analysis of each theme and structure the article.

Figure C1 Coding Frame

Code Name	Files	References
Digitalization and remote work benefits (unintended)	14	148
Engagement & Collaboration	11	28
Decentralization	12	25
Inclusivity	11	25
Concrete well-being measures	8	21
Working arrangements	4	6
Training and evaluating more people	7	18
Cost reduction	7	14

Better service delivery	6	11
Time-management	4	8
Mobility	5	8
Better information management	3	6
Reducing corruption	1	2
Government collaboration with different sectors	11	36
Intersectorial collaboration	9	23
Public-private partnership	5	9
Contractors and IT professionals	2	2
Intrasectorial collaboration	5	12
Associations and syndicates	6	8
Performance & Productivity	6	8
Continuity	5	6
Output reduction	3	4
Higher performance	1	3
Unproductive work	2	2
Changes to be maintained in the future	1	3

Hybrid-flexible work	13	63
Technology prevalence and digitalization	14	53
Better management practices	11	47
Feedback mechanisms	8	24
Incentive-motivation structures	8	17
Duty	11	24
Communications	12	23
Money	4	6
Purpose	3	3
Safety	2	2
Employees' well-being policies	12	28
New workers profiles	9	26
Reshaping traditional working methods	13	49
New recruitment processes	12	22
New skills	6	19
Democratization of the tasks	6	18
New evaluation processes	6	15

Shorter work contracts	3	5
Higher education	3	4
Workplace and departments	9	17
rearrangement		
Ressources management	5	11
New Leadership	7	10
Leaders' supervision importance	13	55
Transmit and create trust	11	23
Receive clear orientations and training	4	8
Focus on mission	4	7
Future challenges of public sector	1	1
Adapting to change-innovation	12	72
Training	13	43
Attract and retain talent, motivation	11	34
Mindsdet (cultural) change	11	27
New rules and regulations	5	11
Resilience	1	1
Regular Communication with employees	10	27

and stakeholders		
Flexible working	5	22
Finding new evaluation methods	4	16
Need for IT investment	9	16
Aligning service delivery to citizens' need	3	9
Balancing Ambition Business and Covid (ABC)	2	7
Need for clearer responsibilities	4	6
Key lessons	0	0
Developing adaptability and agility	14	75
Leadership and HR importance	14	70
Integrating well-being programs	4	7
Trust and transparency importance	14	66
Transparent communication	12	36
Cooperation	12	60
Modernization and reshaping needed	10	60
Developing efficiency and speed	13	52
Whole of government approach possible	10	46

Acceleration of existing dynamics-	12	38
Need for new regulations	5	36
Need for inclusivity & empathy	9	32
Institutional learning crucial	11	27
Technological learning	14	42
Online Training	5	7
E-reporting	2	2
Online evaluation processes	2	2
Tax adjustments to allow more IT use	1	1
Autonomy needed	4	8
Difficulties related to COVID-19	0	0
Well-being	10	26
Health and safety	11	26
Isolation	8	15
Personal and worklife balance	11	22
Alignment between different agencies	9	22
Ill-defined roles and responsibilities	9	20

Communications issues	11	19
Lack of regulations	6	17
Lack of infrastructures	6	16
Transforming tradi knowledge	5	14
Discrepancy between policymaking and realities on the ground	5	11
Financial costs	4	11
Cultural habits clashes	6	11
Multidimensionality	7	11
Reduction of workforce	8	9
Measuring productivity	3	4