Vol. 23 no. 1-2

Halduskultuur

The Estonian Journal of Administrative Culture and Digital Governance

Ragnar Nurkse Department of Innovation and Governance
Tallinn University of Technology
2025

Halduskultuur: The Estonian Journal of Administrative Culture and Digital Governance
Established in 1999

CONTACT:
Shobhit Shakya, Ragnar Nurkse Department of Innovation and Governance, Tallinn University of Technology, Akadeemia tee 3, 12618 Tallinn, Estonia, shobhit.shakya@taltech.ee

ELECTRONIC ACCESS:
www.halduskultuur.eu

SUBMISSIONS:
Submissions will be peer-reviewed anonymously. Manuscripts should be uploaded electronically via http://halduskultuur.eu/submit.html The journal follows the Harvard Manual of Style. For sample notes, see www.halduskultuur.eu

The journal is published twice per year. Full text available in EBSCO, Central and Eastern European online library and Google Books online databases. Abstracted in EBSCO Public Administration Abstracts, PA@BABEL (Public Administration's dataBase for Accessing academic puBlications in European languages), SCOPUS, Social Services Abstracts, Sociological Abstracts, and Worldwide Political Science Abstracts

Graphic design by Reiko Tamm
Cover illustration by Marco Laimre based on drawings by Franz Kafka

ISSN 1736-6089 (online)

Contents

Laudatio and Introduction: Prof. Dr. Dr.h.c.des. Caspar F. van den Berg

Professor Caspar van den Berg is one of the most important representatives of Dutch academics today, both generally and in Public Administration and Governance specifically. A full professor at the famous Groningen University and an adjunct one at his earlier academic home, Leiden, he was Dean of the Campus Fryslân of the former until 2024, when he became President of the Association of Dutch Universities. This makes him the representative of the universities in the Netherlands, an office he will hold for four years. Given the key role of Dutch academics – in Public Management, one of the three leading countries globally – this is an impactful position even beyond Europe.

In parallel, Professor van den Berg was elected as a Dutch Senator, i.e. a member of the First Chamber of the Dutch Parliament (*Eerste Kamer der Staten-Generaal*), for the Liberal Party in the parliamentary mandate of 2019-2023 and then re-elected in 2023. At the beginning of the 2024-25 parliamentary year, however, he voluntarily resigned from the Senate in order to dedicate more time, i.a., to the aforementioned presidency. Based on this function of Senator, he also served as the Head of the Dutch Delegation to the Parliamentary Assembly of the Council of Europe, since 2021. In this office, as is perhaps particularly mentionable in the Estonian context today, he has stood out in promoting from very early on European concrete support for Ukraine.

With these two stellar careers at an early age, both in academic administration and government, one would expect Professor van den Berg to go a little easy on scholarly production. This, however, is not the case at all; rather, this aspect of his life would be to about any full-time colleague's distinguished credit. His PhD, at the beginning of the journey, was awarded the well-known prize as the best one in all Dutch and Flemish universities, and he has certainly kept the promise of that accolade. Especially in his focus areas of local and regional governance and management and their reforms, he has authored articles in every single top global and national PA journal that exists, as well as written and edited a cornucopia of books. He has advised and is advising an enviable plethora of PhD students. And most recently, just last month actually, he won as co-PI an EUR 5.5 million grant from the Dutch Research Council for the project, "*Fertile soils for future generations: Integrated spatial strategies and effective governance for coherent rural regions.*"

I will refrain from calling him the perfect family man as well, so as not to attract the Gods' wrath as in the story of the Ring of Polycrates.

TalTech, the School of Business and Governance, and the Ragnar Nurkse Department especially are profoundly happy and honoured to have an unwavering and consistently committed friend in Professor van den Berg since many years. A decade ago exactly, he started to serve as a highly successful Visiting Professor of Public Management here (substituting a full professor during her sabbatical), just after having returned from a Visiting Research Fellow position at Princeton University. Even earlier, as the representative of Leiden University, in the EMPA

consortium in which we also participate – the main European integrated MPA – he became our key supporter early on, and he has remained so until he left his position there.

Since then, Professor van den Berg has been on numerous panels, in projects, and as a decisive reviewer and promotor of such research projects of ours in which he did not co-participate himself. He has served as the main opponent in our PhD defences, and – most important for the following publication – he has been on the advisory board of *Halduskultuur*, until he became one of the co-editors.

In light of all these merits, TalTech – Tallinn University of Technology, upon recommendation by the Ragnar Nurkse Department, therefore conveyed upon Professor van den Berg the *doctor honoris causa*, one of its highest academic honours, on 19 September 2024 in the context of the University Day celebrations.

The following lecture was delivered by Professor van den Berg one day earlier, on 18 September, at the Ragnar Nurkse Department in the form of an open departmental lecture, in anticipation of the award ceremony.

Wolfgang Drechsler

On universities and society: renewing the strained contract in times of societal polarization

CASPAR VAN DEN BERG, PROFESSOR OF PUBLIC INSTITUTIONS AND GOVERNANCE AT THE UNIVERSITY OF GRONINGEN AND PRESIDENT OF UNIVERSITIES OF THE NETHERLANDS

Dear Mr. Rector, dear Excellency, dear colleagues of the Ragnar Nurkse Department, what a great pleasure it is to be here in Tallinn for this wonderful occasion. I think you can imagine how incredibly honoured I am to be the recipient of an honorary doctorate from TalTech, a place of world-class research and teaching in my field, Public Administration. But for me personally it is also a place where academic curiosity, research excellence and friendship come together. When I was working on my doctoral thesis in the mid-2000s, I first came across Wolfgang Drechsler's by now classic critique of New Public Management, which made a huge impression because I had never seen the claims and practise of NPM seen be debunked with such lucidity and conviction as in that piece. Also during my time as a PhD researcher, I came across the great work by Tiina Randma, whose contribution to comparative public administration and comparative public management is known and highly reputed all around the world. In later years, I have come to learn from and to cite also the excellent work of other members of the Tallinn team, such as Kulli Sarapu 's work on small states, the seminal work of Rainer Kattel, Erkki Karo and Wolfgang Drechsler on How to Make an Entrepreneurial State and last but not least, Wolfgang Drechsler's pathbreaking work on Non-Western Public

Administration, where in particular his advances in understanding the value of both Confucian and Islamic PA have been major contributions to our disciplinary field.

And then to be here this week to receive an honorary doctorate, in a line of earlier recipients that are true giants in our field, really is a dream for me. And to my mind, receiving this doctorate is also a testimony of the strong bond between Dutch and Estonian scholarship in the administrative sciences, that has existed over multiple generations of academics now. My promotors professor Theo Toonen and professor Frits van der Meer have also collaborated with the Tallinn team from the mid-nineties onwards. And I strongly believe that as we see the world change societally, technologically and geopolitically, such cross-border academic ties are becoming more important now than ever.

So thank you for having me here, it truly means a huge deal to me.

***

In this lecture today, I want to touch on a few points that have kept me busy both in my roles as a public administration academic, as a member of the Dutch senate and as president of the Universities of the Netherlands, our country's Conference of Rectors.

The first point is to reflect critically on the notion and practice of the so-called Enabling state, a state conception that has been used and in some ways promoted strongly by the Leiden University Institute of Public Administration that I have been a part of for 20 years now (Van den Berg and De Vries 2024).

Then I want to share some thoughts on the place of the university in society and vis-à-vis politics, where do we stand and how do we move forward.

I will conclude that universities, at least in the Netherlands, are standing on the threshold of a new era in which they will have to close a new contract with society, if they want to maintain both their globally leading position in science and maintain a high degree of domestic societal legitimacy and support. Two domains that traditionally would not be contrary or competing, but have become so in recent years.

Let's start with the Enabling State. According to most scholars who use the concept, the enabling state is a type of state that is different from active and producing state, and also unlike the minimal or night watch state. It centres on a limited number of key tasks, notably on creating and providing the necessary preconditions for the optimal operation of the market economy and civil society (Page and Wright 2007). Intuitively, this involves a considerably smaller government than that of the welfare state, but a somewhat larger one than that of the night watch state. In Van der Meer's view, however, a specific size of government is not an essential characteristic of the enabling state, and the size of government should always be a function of (a) the types of tasks that the government takes on, (b) what a government needs in order to be reliable in terms of expertise and quality, and (c) what a government needs in order to operate effectively and efficiently and well within the framework of the rule

of law. According to Van der Meer, the enabling core tasks of the government in an enabling state focus on four broad areas: justice and administration, the economy, infrastructure and system responsibility (Van der Meer 2012).

First and foremost, the government must ensure a reliable and transparent legal and administrative system. In this way, citizens, the business community and foreign investors are assured that the legal system works predictably, effectively and efficiently. This includes a well-functioning constitutional state, a neutral and independent judiciary, free access to justice and clear laws regarding property rights and contracts. In addition, this requirement means that there must be (independent) supervisory bodies that monitor free competition and full market conditions.

Secondly, the government in the enabling state must also guarantee a reliable financial and monetary system. For the smooth running of economic transactions, and thus for the development of prosperity, the government must ensure a stable policy environment to guarantee legal certainty and enable the business community and civil society to plan for the longer term and to be able to assess the risks of obligations they enter into.

Thirdly, the government will perform tasks that relate to infrastructure, both on a physical and technical level (transport and mobility, energy and ICT infrastructure) and on a social level (a well-educated and productive workforce). Finally, within the philosophy of the enabling state, it is one of the core tasks of the government to bear system responsibility. This means that if vital parts of society and the economy fail, the government will intervene effectively.

The next question is how successful the enabling state has proven to be as a new type of state that was supposed to offer the golden mean between the completely free market and the classic welfare state. Cope et al. (1997) stated that there would be two conceivable scenarios with regard to the enabling state. If the balance were to shift from a government that is actively producing, to a government that mainly facilitates markets and networks, a scenario of either a hollowed-out or a filled-in state could occur. The hollowed-out state scenario assumes a withered and dismantled state that is decreasingly able to govern society, both in terms of the capacity to make decisions and in terms of the capacity to implement them. In contrast, the filled-in state scenario assumes a reinvented and rejuvenated state that is increasingly able to govern society, with both the capacity to make decisions and the capacity to implement them increasing.

Moreover, Cope et al. (1997) argue, in order to be enabling, a state must first be enabled itself. If the state is not enabled but disabled, then it will not be able to create the conditions for markets and networks to produce public goods and services. They theorize that only a state that is filled-in rather than hollowed-out will be able to facilitate others. And on top of that, they project an inherent improbability that an enabling state will emerge that actually empowers markets and networks. For, they argue, if the enabling state develops towards a hollowed-out state, it will indeed be forced to facilitate others, since it can no longer deliver itself, but it will prove unable to do so, and if the enabling state develops towards a filled-in state, it may well be able to facilitate markets and networks, but it will feel no urge to do so, since it is itself well able to deliver and has no interest in organising its own competition.

To my mind, these are useful to come back to towards the end, in assessing what the transition towards the enabling state has brought universities.

Then on the evolving relations between the state and academia, I want to start with some lyrics from King Crimson, *In the Court of the Crimson King* (Sinfield and McDonald 1969):

On soft grey mornings widows cry,
The wise men share a joke.
I run to grasp divining signs
To satisfy the hoax.
The yellow jester does not play
But gently pulls the strings
And smiles as the puppets dance
In the court of the Crimson King.

In these eight bars, Peter Sinfield, King Crimson's wordsmith, sketches an eerie picture that sadly echoes the state of the world we find ourselves in today - even though Sinfield wrote these lyrics in 1971. In good psychedelic tradition, the lyrics are open to interpretation, but it is not difficult to project them onto today's world.

It is not an optimistic view, I admit, and perhaps you will have expected something slightly more lighthearted for this talk. However, I am afraid you will have to agree with me that the situation we find our world in today is grim. Grim, but not hopeless.

The reality is – we are facing great unknowns. Climate change, the effects of information overload via social media, shifting power dynamics in the world, war on our continent – these are only some of major transitions society is facing. We all know that these major transitions are challenges that can be overcome, but that we will need to study, research and innovate to overcome them. We do not have the technology to overcome climate change – yet. We do not know how to deal with the effects of the overconnectedness and spread of misinformation via social media – yet. Our institutions – the universities – have a vital role to play in innovation and research in order to successfully adapt and thrive in a changing world.

However, these very same challenges pose a problem for our institutions as well. Increasingly, core academic values, and in particular academic freedom are threatened, either by direct interference from governments, such as we have seen in Hungary, or indirectly, for example because of increasingly hostile attitudes towards scientists from the public, such as in research in nitrogen disposition in the Netherlands.

More than ever, it is vitally important to protect these core values. But these same values oftentimes conflict with the most straightforward solution. For example, protests within our universities, as seen worldwide in response to the conflict in the Middle East, may be intimidating for staff and students. At the same time, we firmly stand in the Voltairian tradition that holds that we may deeply disprove of what someone has to say but will fiercely defend their right to say it (Hall 1906). So prohibiting protest and discussion conflicts with our core value of open exchange of ideas, and freedom of expression. Our present-day reality is full of such dilemmas. In this talk, I will explore these dilemmas further.

Let us first return to the Court of the Crimson King, as it is an interesting allegory to think about the role of academia in present day society. Obviously, the Crimson King is an allegory for the state. The crying widows and the prophesising storyteller are the general public. Which leaves the wise men and the court jester – either of which could represent academia, I would argue.

But before I answer the question whether our universities are indeed wise men (of any gender) of mere jesters, let us explore the other characters a bit further, starting with the general public.

Present-day Western societies are facing a set of wicked challenges. The rise of authoritarianism in the Western world is a topic of deep and wide concern. Not only core academic values, but core values of liberal democracy are not as self-evident as they were twenty years ago in our part of the world. One interesting approach to a deeper understanding of the appeal of authoritarianism comes from an emerging theory in brain science – the concept of "free energy." Very simply put, our brains are hardwired to reduce the amount of uncertainty or "free energy" in our environment. As organisms, we do not like uncertainty and unpredictability. Our actions – from basic reflexes to complex social behaviours – are all adapted to uncertainty reduction. According to some psychologists, this is what drives our innate curiosity. We strive to understand the unknown for the simple reason it reduces our uncertainty about the world. Humans strive to learn and understand, in order to get a grasp on an uncertain world.

If we now take this principle, and apply it to the present day, in some ways overconnected world, we see the issue: the world has become extremely complicated and unpredictable, while the sources of often conflicting information have grown exponentially. For the majority of citizens, it has become extremely difficult to satisfy the need for uncertainty reduction. Easy solutions – conspiracy theories, strong men – are ever-tempting. Hence the lure of divination for our storyteller in The Court of the Crimson King, even though he knows he is perpetrating in a hoax.

Obviously, this is at odds with the nature of academia. We are dealers in uncertainty in our quest for knowledge and breakthroughs. The scientific method, one of the most powerful tools in our arsenal for understanding the natural world, is deeply paradoxical in nature. We ask questions, and keep on asking questions, never finding a true answer, and when we do, we leave a lot of space for doubt and future refutation. Science itself is a perpetual question engine, that only produces intermediate answers, and always has new questions to ask. Of course, science leads to solutions and innovations, but the core of the academic enterprise is to keep on asking, to find new unknowns to satisfy our curiosity.

In an uncertain world craving for answers and reduce uncertainty *now*, this is very unsatisfying. The problems we have are urgent, the transitions are frightening, and thirst for uncertainty reduction is not satisfactorily quenched by more questions. Even though we know and have shown for centuries that asking more questions is – paradoxically – the best way to satisfy our curiosity in the long run. We need a new way to communicate this. But how? A question I will get back to later. For now, let us turn our attention back to the Court of the Crimson King.

What about the Crimson King himself? The State, and our thinking about the state, has significantly changed over the past decades. Firstly through the emergence of the neo-liberal state and its concurrent thinking about public administration in terms of New Public Management, and then by the concepts that emerged in response to it, such as the neo-Weberian and the Enabling state (Hood 1991, Drechsler 2005, Pollitt and Bouckaert 2017, Van der Meer et al. 2012). While both of the latter are very promising in themselves from the perspective of the "ordinary citizen," carry a perhaps unexpected potential to pose a threat to academic values in university governance at the same time. Classic bureaucracy was slow

and offered little room for individual initiative or diverse profiles but provided some safety from political interference by being able to "hide" behind a ministry. New Public Management offered much more room for new initiative, whilst limiting accountability to the numbers: if the finance was sound, the complaints were few and far between.

We are at a crossroads now. Do we enter a new paradigm with new rules? Or do we accumulate public perceptions and government interference? At this moment, universities – in the Netherlands at least – seem to get the worst of both worlds. A government that increasingly micro-manages the financial dimension of running a university by making funding temporary and conditional, which increases bureaucracy and limits flexibility. But at the same time the political debate – and as a result: more rules and legislation – is increasingly involved in policies within the university: is it OK to host a protest? Can we still work together with scientific colleagues in non-likeminded-countries and if so, under which conditions?

Dutch academic institutions therefore feel threatened. Threatened in their institutional autonomy, and in their legally given right and task to provide academic freedom to their employees. For most university boards, academic freedom is a given. Even discussing it is taboo, out of fear that the ministry or parliament might use the opportunity to alter the definitions or scope of academic freedom. This tactic works - but only so far. Both the general public and the academic community ask of their academic institutions that they take a political stance. The enabling state, despite all its advantages, offers little protection for the independent academy.

Interestingly, Weber himself engaged with the question of state-academia relations in the early 20th century, on the backdrop of the Great War: can a university or an academic be truly politically neutral? In Weber's view, institutions as well as individual academics have an obligation to be as neutral as possible. Even though in the end, particularly in the social sciences and humanities, absolute neutrality may prove to be unattainable, it is the responsibility of the scholar to always stretch themselves to approach the object of their study in the least biased and most objective way, and to report on their findings in the most neutral way (Weber 1905). In his 1905 paper, "*Objectivity in Social Science and Social Policy,*" Weber shares his experiences with an academic journal he edited, and in which he – as an editor – strived for political neutrality. However, because of the 'character' of the journal, it attracted mainly non-revolutionary economic progressives who submitted papers. As a result, the journal only solidified its particular character, and even though its policies were neutral, and its editors strived for neutrality, the journal was not. I think most of us would agree that to a large extent, this also applies to our universities. While at the institutional level, we are highly committed to neutrality, we also encourage a climate for societal engagement for the members of our academic community. And the success of our scholars and students in engaging with society and making an impact in the real world, is increasingly seen to go counter the notion of the "neutral" academy.

Despite this almost fundamental impossibility for institutions to be neutral, Weber felt strongly about the need for a strict segmentation between roles when operating in the academic arena – one's opinions as a person or a politician need to be separated from one's views as an academic. About colleagues who in Weber's eyes failed to make this distinction, he wrote:

> *An unprecedented situation exists when a large number of officially accredited prophets do not do their preaching on the streets, or in churches or other public places or in sectarian conventicles, but rather feel themselves competent to enunciate their evaluations on ultimate questions "in the name of science" in governmentally privileged lecture halls in which they are neither controlled, checked by discussion nor subject to contradiction.* (Weber 1905)

"In the name of science" – it is used as a seal of approval here. An endorsement by science or scientists is often seen and abused as a quality stamp, a claim to truth, a way to silence criticism. The potential weaponization of "the name of science" is one the reasons it is important to segregate our roles as academics from our personal views.

However, the pursuit of truth itself is also vulnerable for political interference. Science can be politicized to a surprising degree. This is obvious for a field like ours – the administrative sciences. However, quantum physics has been purged from German universities under the Nazi government as "Jewish physics," and several decades later, in the Chinese Cultural Revolution, from Chinese academic curricula because the probabilistic nature of quantum physics clashed with Maoist thought.

In our free European universities, we strive to be free of such government interference in academia. We do not want the Crimson King to tell us what to do and how to do it. But even within the EU, this is not a given, as we have seen, for example, in Hungary, or even in Denmark. As I argued before, the Enabling state paradigm does leave academia in particular in a vulnerable position.

At present, the guarding of this neutral quality of the truth is no small feat. The pressure to take position in all kinds of issues is enormous and yet still growing. Often times, internal and external pressure are in indirect conflict with each other, increasing the tension for university leadership. One only has to remember the hearing of the presidents of Harvard, MIT and Penn, about (among other things) antisemitism on university campuses. While being responsible for the governance of big institutions like universities brings with it many tensions and pressure, having to defend oneself to the population on prime time for allowing protests is a challenging experience. Even more so when the protesters demand much more action in exactly the opposite direction of what the politicians are asking you to do.

This same thing happened in my country this summer. A faction of students and staff deemed further academic cooperation with Israeli institutions unacceptable, at least as long as an armed conflict is going on in the region. At the same time, politicians are asking us to limit these protests, to invite law enforcement onto the campus and force a part of our academic community to keep quiet. Never mind the choice you end up making, you're not just disappointing someone – the normal cost of administration – you are bound to enrage all involved and risking the public credibility of your institution. It has been over 50 years since the famous Kalven report, officially named the *Report on the University's Role in Political and Social Action* was first published. The document affirms the University's commitment to the academic freedom of faculty and students in the face of suppression from internal and/or external entities while also insisting on institutional neutrality on political and social issues. Its contents have also become known as the Chicago Principles and is still so useful and topical that I'll quote a crucial passage from it:

> *A university faithful to its mission will provide enduring challenges to social values, policies, practices, and institutions. By design and by effect, it is the institution which creates discontent with the existing social arrangements and proposes new ones. In brief, a good university, like Socrates, will be upsetting. The instrument of dissent and criticism is the individual faculty member or the individual student. The university is the home and sponsor of critics; it is not itself the critic.* (Kalven Committee 1967)

In other words: for researchers, students and all other members of an academic community to speak up and speak out about all the things they deem wise – the university as an *institution* by definition needs to remain neutral. Enticing theory; who would object to it? However, universities like those in the Netherlands, but the aforementioned Ivy League members as well, have run into serious issues with public trust by maintaining this political neutrality. Which begs the question: is this a sort of short-term discomfort we just have to face, or endure? Or do we have to reconsider this principle and be a more active participant in the public debate – including the great risks involved?

The safeguarding of our freedom requires a renegotiation with the Crimson King. But to renegotiate, we need to know our position in the court.

It seems self-evident that the role of academia is that of the Wise Men. The wise men and women of old were advisors to their kings and queens in all matters of the state, or helped their countries with new inventions and new weapons. Leonardo da Vinci, for example, for all his genius, was at large a contracted arms inventor, selling his genius to the highest bidder.

In the present day, we see a very similar position of academia. Universities are expected to create societal impact with their research, and to directly to contribute to societal problems and rightly so. Over 65% of the general audience believes that the results of scientific research should directly benefit society. Moreover, the majority of university rectors agree to this position. Moreover, we see a long trend in increasing funding for thematic research at the expense of funding for curiosity-driven research.

Public universities are paid for by the tax-payer, as an often-heard argument goes, and should therefore work to the benefit of the tax-payer. It is easy to see how the "wise woman" or "wise man" persona fits this role. And let me be clear – the argument is a strong and justified. Our universities are in a unique position to contribute to the major societal transitions we face. With great power comes great responsibility, and therefore we do have an obligation to contribute to solving the many problems and challenges our societies are facing.

However, it gets more interesting when we delve on the question if this commitment to society in theory and in practice limits our academic freedom. In my view, the answer here strongly depends on the perspective one takes. On the one hand, one might argue that academia is a sanctuary for research, where no external steering whatsoever should take place. However, taking up the role of the Wise Men in the Court of the Crimson King is at odds with that particular view. Mission-driven research, research requiring a guaranteed and immediate societal impact: it involves an obvious transactional relation between academia and society. Society becomes our client, and the client is king. And such a role also requires academic freedom, but a different aspect of it than discussed before – we need academic freedom as

a safeguard for the quality of our research. Academic freedom also means freedom for the researcher to publish results, even if they do not suit the client.

The obvious problem is this model is that the object of the transaction is a very tangible one. Innovations, solutions, direct impact – they are all prone to be subjected to KPIs, with a risk of investments being withdrawn when project goals are not met. And this carries a risk. The wise man carefully weighs his words, advices his King, but is careful not to aggrieve his Majesty, lest he loses his client. The Wise Man is essentially unfree. It sounds disappointing. But moreover – it is also not how most academics would view themselves. At the core of academia is freedom and curiosity, not contracts. Could it be that our allegory is wrong?

There is one character at the Crimson King's court we haven't explored. The court jester. The court jester might not be the first character we might think of when thinking of metaphors for academia. But I believe there might actually be a very good case to make for the comparison between academia and the classical court jester.

A court jester at the renaissance court was often the only person who could insult the King, who could freely speak his mind without any fear of repercussion. Court jesters were influential at the courts exactly because they could tell the King things the King's advisers did not dare to tell him. The court jester could make the King laugh, but more importantly, challenge existing views and make the King and the court think and rethink. In a sense, this is much closer to how academics view themselves. Universities play a broader role in society than that of innovation factories. The university has a role to play as court jester as well: society needs to have institutions that challenge existing views, where one can freely speak one's mind, where the freedom of thought is practically absolute and without repercussion. Society needs such places – not as a playground for an elite of academics, but because our culture, our thinking, and our philosophies also need innovation and rejuvenation.

Our role as court jesters provides just that. Academia plays a vital role in rejuvenating thought in a broader society, a counterweight to the king's thirst for easy solutions to difficult problems. Interestingly, although this might feel less transactional than the innovator-for-hire allegory of the Wise Men, I would still argue there is a transaction here. The kings of old recognized the value of a court jester and paid such men and women generously for their services. However, contrary to a solution or innovation-based service, the worth of being challenged to give a new insight can hardly be expressed in KPIs, let alone financial terms.

So there we are. In the Court of the Crimson King, academia plays two roles. Sometimes we are the wise men, but sometimes we are the court jester. I believe that this duality of roles is at the core of the oftentimes difficult relation we are in presently with our clients – politics and society. Both functions are vitally important for society, but in the present-day climate, our wise man-role is under pressure because we have to protect our academic freedom, and our jester role is under pressure because parts of society seem less and less willing to grant us this role.

In addition, the discrepancy between the two roles does presents us with a difficult dilemma. The Wise Man cannot speak the words of the Jester, because he will not be taken seriously. But the other way around, if the Jester speaks the words of the Wise Man, he will not be taken seriously either. Herein, I believe, lies one the great challenges for academia in our time. How can we be true to both our natures? How can we balance the responsibilities of the serious

Wise Man, the contractual nature of research that is supposed to solve practical problems and aid with transitions, with the playful, free and intentionally confronting attitude of the Court Jester?

How do we reconcile these? Interestingly, Weber may have already given us a solution in 1905. Weber already recognized that modernity requires segregation of roles. As academics, we need to clearly distinguish between our roles, and be transparent and clear on the two roles we play in society.

But what Weber did not foresee, was the tensions that universities in the Netherlands, but similarly in the UK and Denmark are currently facing. Since the 1990s, NPM-style reforms and incentives have put these universities on a path of competition with their fellow institutions in their country, a path of growth through attracting international students, and at least for the Netherlands, a path of Anglicizing taught programmes, thereby also attracting an increasing share of international scientific staff.

This approach worked great in terms of attracting global talent, increasing the quality of education, broadening and deepening the range of taught programmes and research areas, and greater success in international research grant competitions. It also enjoyed a broad societal and political support from left to right for about 25 years, as internationalization was rightfully seen as strengthening the modern knowledge economy, strengthening the innovation ecosystem and creating more prosperity. For society as well universities it was a no-brainer. Universities did not mind the competitive mechanisms, because more new students could always be found abroad and growing programmes meant increasing resources. Until, the societal and demographic wind turned. A large influx of international students is currently seen as part of the immigration problem, putting unjustifiable pressure on the already tight housing market and public services. The Anglicization of higher education is no longer interpreted as an opportunity to lead globally in the academic world, but as sacrificing Dutch as an academic language and undermining national heritage. And as the influx of international students is currently being capped, it turns out that competition becomes destructive for the universities, as the number of domestic pupils graduating from high school is slightly going down each year. So we are looking at competing institutions in a shrinking environment and strong restrictions to compensate this with foreign students.

We are already seeing what this means in the UK. Institutions are heavily reorganizing, consolidating, merger and some will go under. In the Netherlands, our challenge is to remain amongst the leading countries in the world of science, against a backdrop of politically enforced de-internationalization and a shrinking domestic market and a general political environment that looks unfavourably to academia and intellectualism as a whole. So next to resistance, sharp choices will have to be made. Universities will have to close a new contract with society, renew their societal proposition, while doubling down on their values and promise of academic freedom, excellence, and contribution to societal progress and economic growth. Steering a course where no institutions will go under, no scientific fields will disappear, and excellence will stay key. This will be our challenge for the years ahead. As universities, we must and we will do it, we've been around for 450 years in our country, we've been through worse and have always come out stronger. But we will need all the resources, knowledge and intellectual as well as communicative power to get there. And we need our friends and partnerships inside our country and abroad.

The friendship and academic partnership that has existed for over a generation between the Dutch and Estonian administrative sciences is strong and productive, and if there is one thing that I'm *not* concerned about, it is that that will stay that way.

Thank you very much.

References

Cope, S., F. Leishman, and P. Starie. 1997. "Globalization, New Public Management and the Enabling State: Futures for Police Management." *International Journal of Public Sector Management* 10(6), 440-460.

Dijkstra, G. S. A, J. C. M. Raadschelders, and C. F. van den Berg (eds.). *Geschriften over overheid en ambtelijk apparaat, als je begrijpt wat ik bedoel…: Liber amicorum Frits van der Meer*, The Hague: CAOP

Drechsler, W. 2005. "The Rise and Demise of the New Public Management." *Post-autistic Economics Review* 33(14).

Hall, E. B. 1906. *The Friends of Voltaire*. Smith Elder & Company.

Hood, C. 1991. "A Public Management for All Seasons?" *Public Administration* 69(1), 3-19. doi: https://doi.org/10.1111/j.1467-9299.1991.tb00779.x

Page, E. C. and V. Wright (eds.). 2007. *From the Active to the Enabling State: The Changing Role of Top Officials in European Nations*. London: Palgrave Macmillan

Pollitt, C. and G. Bouckaert. 2017. *Public Management Reform: A Comparative Analysis-Into the Age of Austerity*. 4th edn. Oxford: Oxford University Press.

Kalven Committee. 1967. *Report on the University's Role in Political and Social Action*, November 1967, https://provost.uchicago.edu/reports/report-universitys-role-political-and-social-action.

Shils, E. A. and H. A. Finch (eds.). *Max Weber on the Methodology of the Social Sciences*. Glencoe, IL: The Free Press, 50-112.

Sinfield, P. and I. McDonald. 1966. *The Court of Crimson King*. London: Island.

Van den Berg, C.F. and J. de Vries. 2024. "De enabling state in het werk van Van der Meer: De 'gulden middenweg' die het verval van de overheid niet voorkwam." In G.S.A Dijkstra, J. C. M. Raadschelders, and C. F. van den Berg (eds.). *Geschriften over overheid en ambtelijk apparaat, als je begrijpt wat ik bedoel…: Liber amicorum Frits van der Meer*. The Hague: CAOP, 71-88.

Van der Meer, F. M. 2012. *Voorwaarden, waarborgen en ambtenaren: De consequenties van de opkomst van de voorwaardenscheppende staat voor de publieke dienst bezien vanuit historisch en internationaal vergelijkend perspectief*. Oratie, Universiteit Leiden.

Van der Meer, F. M., C. F. Van den Berg, and G. S. A. Dijkstra. 2012. *De ambtenaar in het openbaar bestuur: De inhoudelijke en juridische herpositionering van ambtenaren vanuit internationaal-vergelijkend perspectief*. Leiden University Press.

Weber, M. 1905/1949. "'Objectivity' in Social Science and Social Policy." In E. A. Shils and H. A. Finch (eds.). *Max Weber on the Methodology of the Social Sciences*. Glencoe, IL: The Free Press, 50-112.

Lhawang Ugyel and Kinga Namgyel 2025 "The Institution of Zhung Dratshang of Bhutan: Setting the Stage for Future Research and Lacunae in Buddhist Governance and Public Administration"
Halduskultuur. The Estonian Journal of Administrative Culture and Digital Governance 23(1-2), 16-28

The Institution of Zhung Dratshang of Bhutan: Setting the Stage for Future Research and Lacunae in Buddhist Governance and Public Administration

LHAWANG UGYEL, CRAWFORD SCHOOL OF PUBLIC POLICY, AUSTRALIAN NATIONAL UNIVERSITY (ANU), AUSTRALIA

KINGA NAMGYEL, ZHUNG DRATSHANG, BHUTAN

Abstract

Many non-Western countries are facing challenges whilst implementing public sector reforms as most of these reforms are designed to suit public administrative systems based on Western models of governance and public administration. Based on the experiences of the Zhung Dratshang, which functions as the central monastic body of Bhutan, this study provides a basis to develop a research agenda on the relatively understudied area of Buddhist governance and public administration. Established in the 1600s, the Zhung Dratshang played a central role in Bhutan's governance for close to four centuries. By examining its organisational structure and the career pathways, we suggest three main approaches towards enhancing knowledge in the field of public administration based on the institution of Zhung Drathsang in Bhutan. These three approaches are: Buddhist values-based, sangha-based and dharma-raja (or dhammaraja)-based approaches. Such an analysis will provide an insight into the relevance of Buddhist values and principles of organisation to the field of Non-Western Public Administration.

Introduction

There is an increasing recognition that Western models of governance, particularly in the area of public administration (PA), are inadequate to solve the problems in countries with strong historical and traditional cultures. In fact, Drechsler et al. (2019, 4) attribute the "sad state of PA reform in non-Western countries" to the fact that these countries were and are not allowed to develop their systems based on their own traditions. As many non-Western countries, such as Bhutan, seek to improve their public administrative systems, they are grappling with the implementation of public sector reforms that are primarily designed to suit public administrative systems based on Western models of PA. Historical traditions in state, politics, government and administration are important and influence current developments (Kickert 2011, 802). Towards this end, and in the field of PA, there is work that focuses on Confucius and Islamic PA, but not enough that focuses on other non-Western PA, such as Buddhist PA and Oceanic (including Australia and New Zealand) PA.

Our research focuses on the PA systems that are still practised in the *Zhung Dratshang*. We examine the structure and the positions of the *Zhung Dratshang* and we analyse the appointment and promotion systems. As a way to provide an insight into Buddhist governance and PA in Bhutan, we analyse the *Zhung Dratshang*'s organizational structure and the career pathways within this organizational set up. This paper will serve as the basis for providing a platform for future research in Buddhist Governance and PA. We suggest three main approaches towards enhancing knowledge in the field of PA based on the institution of *Zhung Drathsang* in Bhutan: Buddhist values-based, *sangha*-based and *dharma-raja* (or *dhammaraja*)-based approaches.. Although each of these three themes have in their own rights been extensively studied since the inception of Buddhism, their integration within PA is not as closely examined as other non-Western PA topics, such as Islamic and Confucius PA. There are only a handful of studies that have attempted to integrate elements of any of these three approaches in PA (e.g., the role of *dhammaraja* in Buddhist Economy by Drechsler (2019) and the relationship of the sangha in Buddhist governance and PA by San (2024)).

Established in 1620, the *Zhung Dratshang* played a prominent role not only in consolidating the Vajrayana tradition of Buddhism in Bhutan but also in the unification of the country and the establishment of a dual system of governance. Principally, the *Zhung Dratshang* operates on the basis of meritocracy. Article Three of Bhutan's Constitution clearly specifies the appointment process of the Je Khenpo and the five *lopens*. The King of Bhutan makes the final appointment based on the recommendations of a committee a person who is learned and respected in accordance with the qualities of spiritual master and accomplished in *kye-rim dzogrim*, that is, stages of development (*kye-rim*) and completion (*dzogrim*) in Vajrayana practice. The identification of performers in the *Zhung Dratshang* is based on a combination of experience, seniority, qualifications and other qualities. For the post of *rabdey netens* and *shedra udzins*, a minimum qualification of an undergraduate degree in Buddhist philosophy is required and other qualities such as administrative and public relations competence are important, especially for *rabdey netens*. At a more practical level, findings from the study will offer suggestions to Bhutan's civil service in terms of how the appointment and the performance management systems can be tailored to suit Bhutan's context. And, in the wider context, this study will provide a greater insight into how Buddhist PA might be relevant to the field of PA.

Non-Western Public Administration

Research in PA has advanced with the prescription of characteristics based on various models and paradigms. The generally accepted paradigms in PA, such as traditional public administration (TPA) and new public management (NPM), are helpful in determining the dynamics of the field of PA's identity and the manner in which governments are shaped and function (Capano 2003, Henry 1975, Lovrich 1985). Each paradigm has been the dominant movement during a particular period, for example, the TPA during towards the end of the 19th and large part of the 20th centuries, and the NPM in two to three decades since the 1970s (Schedler et al. 2004). These experiences, mostly relevant to developed countries, have shaped the form and characteristics of public servants in their respective countries. Most of the Western developed countries, that is, from where these paradigms originated, were able to inculcate and implement public sector reform over a longer period of time. The

time lag allowed PA systems in these countries to shape and adjust their characteristics according to the dominant paradigm in a gradual and incremental manner. For developing countries, and most other non-Western countries, the transition in their public administrative systems occurred within a shorter span of time, that is mostly during the latter half of the 20th century. The implications of such dramatic changes are that, first, it did not give the developing countries sufficient time to try and test the different models and paradigms of PA. Second, there was little or no space provided within these new paradigms to incorporate more traditional and indigenous forms of PA. Traditional forms of PA are either ignored as non-existent or viewed negatively requiring change. In developing countries, many aspects of traditional systems steeped in strong historical and cultural influences are still prevalent and influence the way the PA operates (Ugyel 2014).

It is important to note that the extant debate on paradigms in the field of PA is mostly based on the Western world. However, there is an increasing number of researchers who argue that the Eastern world has its own set of paradigms. This discussion is important when we analyse the interaction of public sector reforms based on Western PA and applied in the Eastern world. Part of the reason for this hegemonic discussion, as Stout (2012, 391) explains, is that in the multiple ways of understanding reality modern Western culture is "marginalizing" others, leading to homogenization based on superficial attention to diversity. Drechsler (2013, 2), who has done extensive work on both Western and Eastern PA, also points out the assumption that "there is one good PA and that is global-Western PA," and that if countries do not adhere to or follow global-Western standards, then they are somehow remiss. He points out that there are two potential partners of global-Western PA as largely independent paradigms, Chinese and Islamic PA, and provides the following reasons for their selection: the large body of theoretical literature that is available, centuries of practice, strong relevance today, and a unique theory and governance background.

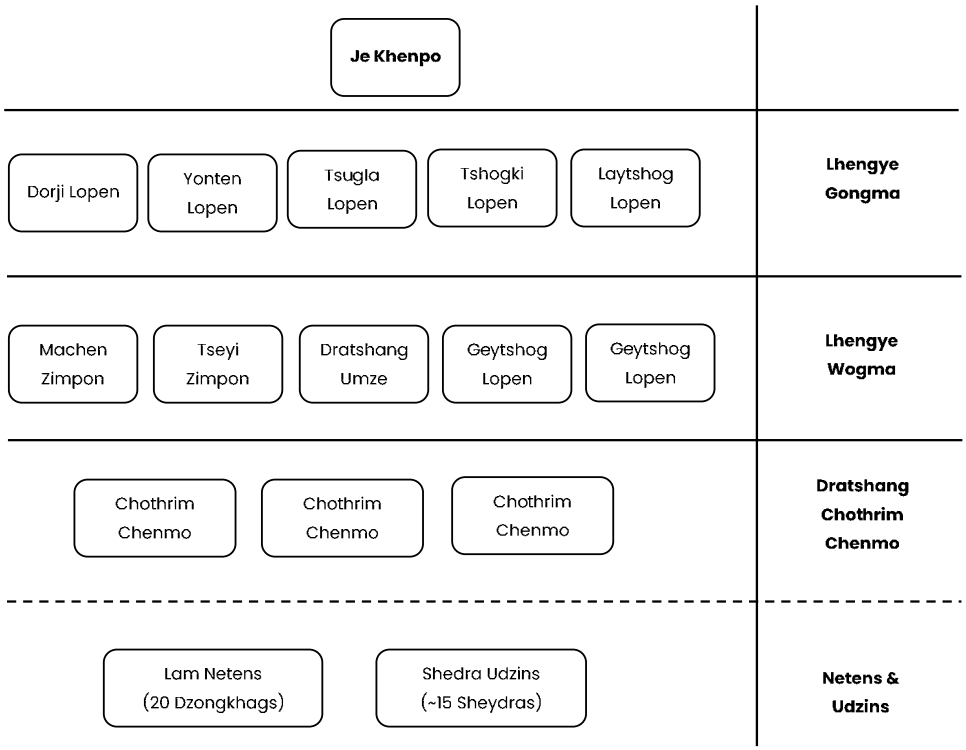
As such, there has been extensive work done on Islamic PA across various countries (see Drechsler et al. 2023). With Buddhist PA, there has not been any comprehensive study. Part of the reason, as Drechsler (2019) explains, could be attributed to the differences in form and complexity of the various denominations, countries and school of Buddhist teaching. In recent years, there has been increasing work focusing on specific countries with predominantly Buddhist populations. For instance, in Sri Lanka (e.g., Bandara et al. 2022), Thailand (e.g., Sutamchai et al. 2019) and a comparative study examining Cambodia and Nepal by San et al. (2023). However, there are no studies that examine Bhutan's PA in the context of Buddhism. Perhaps, a good starting point to examine the Buddhist PA system in Bhutan is through its Central Monastic Body, or the *Zhung Dratshang*, which was established in 1620 by *Zhabrdung* Nawang Namgyel. A Tibetan saint, who came to Bhutan in the early 1600s, *Zhabrdung* Nawang Namgyel established the dual system of the temporal and spiritual (*cho-sid*). This dual system was partially styled on Tibetan precedents of hereditary religious families (Phuntsho 2013). The *cho-sid* system played a predominant role in establishing Bhutan as a nation-state. For a large part of Bhutan's history, members of and people trained by the *Zhung Dratshang* were key players in both the *cho* and *sid* realms (Dorji 2015). Although the *sid* (temporal administration) changed considerably with the establishment of the monarchy in 1907, the *cho* (spiritual administration) has largely remained intact.

Zhung Dratshang and its Organization

The *Zhung Dratshang*, or the Central Monastic Body, was established in 1620 by *Zhabdrung* Nawang Namgyel. It functions as the main *sangha* (monastic community) in Bhutan. Normally, the monastic community in most Buddhist countries is governed by the *Vinaya Sutra* which enumerates the rules and procedures that govern the structure and functioning of the monastic community (Jayasuriya 2008). Initially, Cheri located in Thimphu served as the base for the sangha, and later in 1637, it was moved to Punakha. The state that *Zhabdrung* Nawang Namgyel built in Bhutan in the 1600s was inherently a religious state with the political and cultural ethos driven by strong Buddhist religious values, and almost all of the public officials were monks from the *Zhung Dratshang* (Phuntsho 2013). The office of the *Zhabdrung* was known as the *tse* and it was supported by the various branches of the inner ecclesiastical affairs and outer secular administration (Phuntsho 2013). After the passing away of *Zhabdrung* Nawang Namgyel, these administrative frameworks continued to exist and played a prominent role in the governance of the country, albeit with an almost absent or minimal role of future *Zhabrdungs*. Although the establishment of the monarchy in 1907 changed the dynamics of the secular administration of the country, the *Zhung Dratshang* continues its role as the main religious establishment in the country supported by state funds.

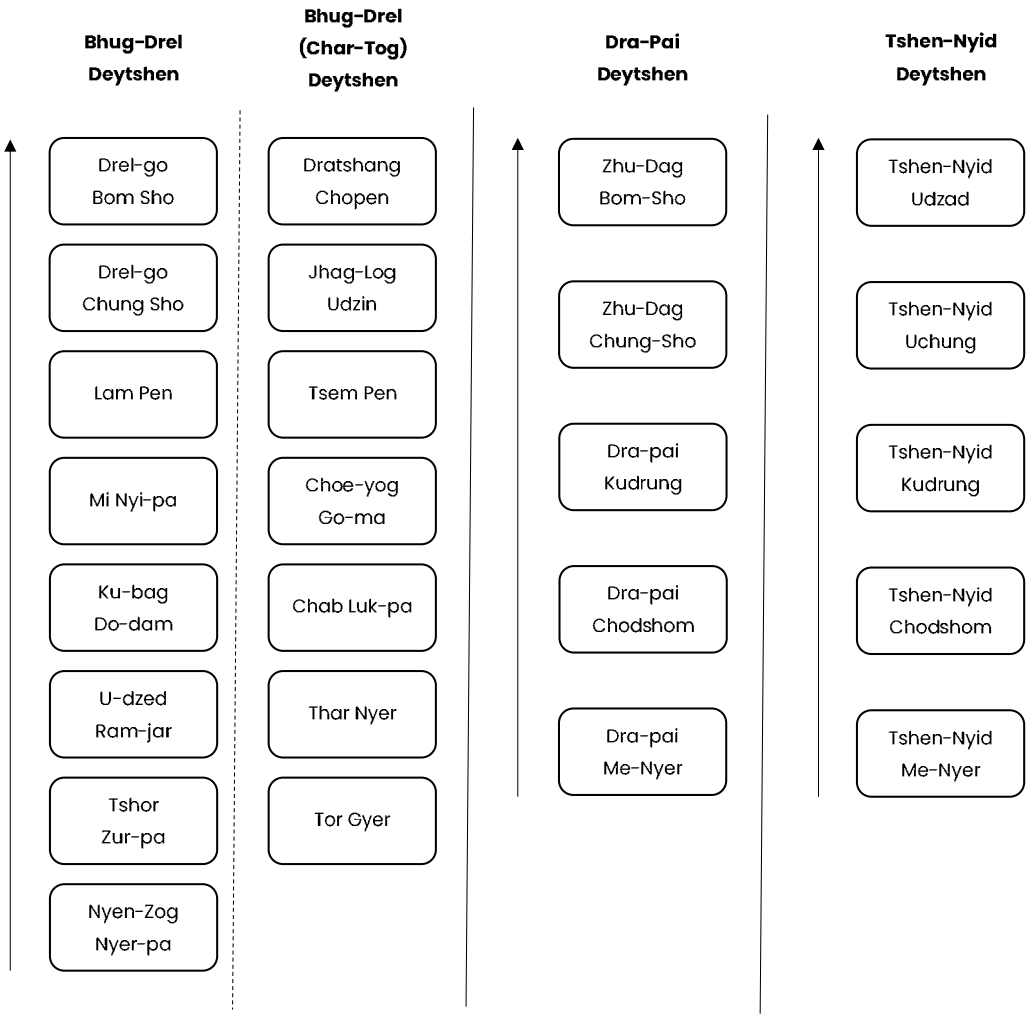
Figure 1 shows the present executive structure (*Zhung Dratshang Tey-wa*) of the *Zhung Dratshang*. At the top of the hierarchy is the *Je Khenpo*, a post that was established at the start of the *cho-sid* system in the 17th Century. Below him are the five *lopens* or masters of various disciplines. The *Je Khenpo* and the five *lopens* function as the executives within the *Zhung Dratshang* and are responsible for overseeing the responsibilities of the other posts. The *dorji lopen* heads the inner assemblage of the Sangha and oversees activities relating to the esoteric practices concerning the two Vajrayana stages of generation (*kye-rim*) and completion (*dzog-rim*). The *yonten lopen* is responsible for activities involving the practice and learning of all categories of Vajrayana rituals, mudras and sadhanas. The *tsugla lopen* is responsible for all activities pertaining to the study and contemplation of scriptural traditions along with the five sciences. The *tshogki lopen* handles the periodic religious services and ceremonies within and outside the dzongs pertaining to the welfare of both the living and deceased. *The laytshog lopen* is in charge of all of the sangha's service-related activities, including administration and development. These five *lopens* comprise the *Lhengye Gongma*. *Chakgon Tonpai Yodnang* published by the *Zhung Dratshang* in November 2023 describes the roles and responsibilities of the five *lopens* (accomplished master of meditation practice and study) and the monastic institutions under the purview of the *Zhung Dratshang* (Namgay 2023). Under the five *lopens* are the *Lhengye Wogmas* which includes the two *zimpons* (chamberlains), two *geytshog lopens* (masters of rites for accumulating merits) and *Dratshang umze chenmo* (the great chant master of the monk body). Below the *Lhengye Wogma* are the *Dratshang Chothrim Chenmo* (the great monastic laws of the monk body), which include the three *kudrungs* (disciplinarian) and *netens* and *udzins* based in the various dzongkhag *dratshangs*.

Figure 1: Zhung Dratshang Tewa Organisational Structure



In addition to the executive structure of the *Zhung Dratshang*, there are three main *deytshen* or divisions, the *bhug-drel*, *dra-pai* and *tshen-nyid* (refer to Figure 2). The *bhug-drel due-tsuen* is further sub-divided into two categories, the *bhug-drel* (which includes seven positions) and *bhug-drel char-tog* (which includes six positions). The *dra-pai* and *tshen-nyid deytshens* comprise five positions each.

Figure 2: Zhung Dratshang Deytshens



In each *dzongkhag*, the *rabdey* is headed by the *lam neten* with a series of positions (mentioned in hierarchical order): *udzad*, *kudrung*, *drelgo* and followed by various *lopens* (such as *torma*, *kilkhor*, *tsipai*, *dung*, *jaling*, *dratshang chodpen*, *cham*, *zung*). It will also be important to include in the *Zhung Dratshang*'s overall structure the monastic schools. Overall, the monastic education system can be categorized into three levels: *zhirim* (primary), *dringrim* (secondary) and *thorim* (college) (Dorji 2015). At the *zhirim* levels, monks learn basic reading, writing and memorization of the texts. Parts of their education also include learning vocational arts and craft skills. At the *dringrim* levels, monks are taught Buddhist philosophies and subjects such as poetry, dialectics and debate. The *thorim* levels provide a deeper analysis of these Buddhist philosophies and subjects.

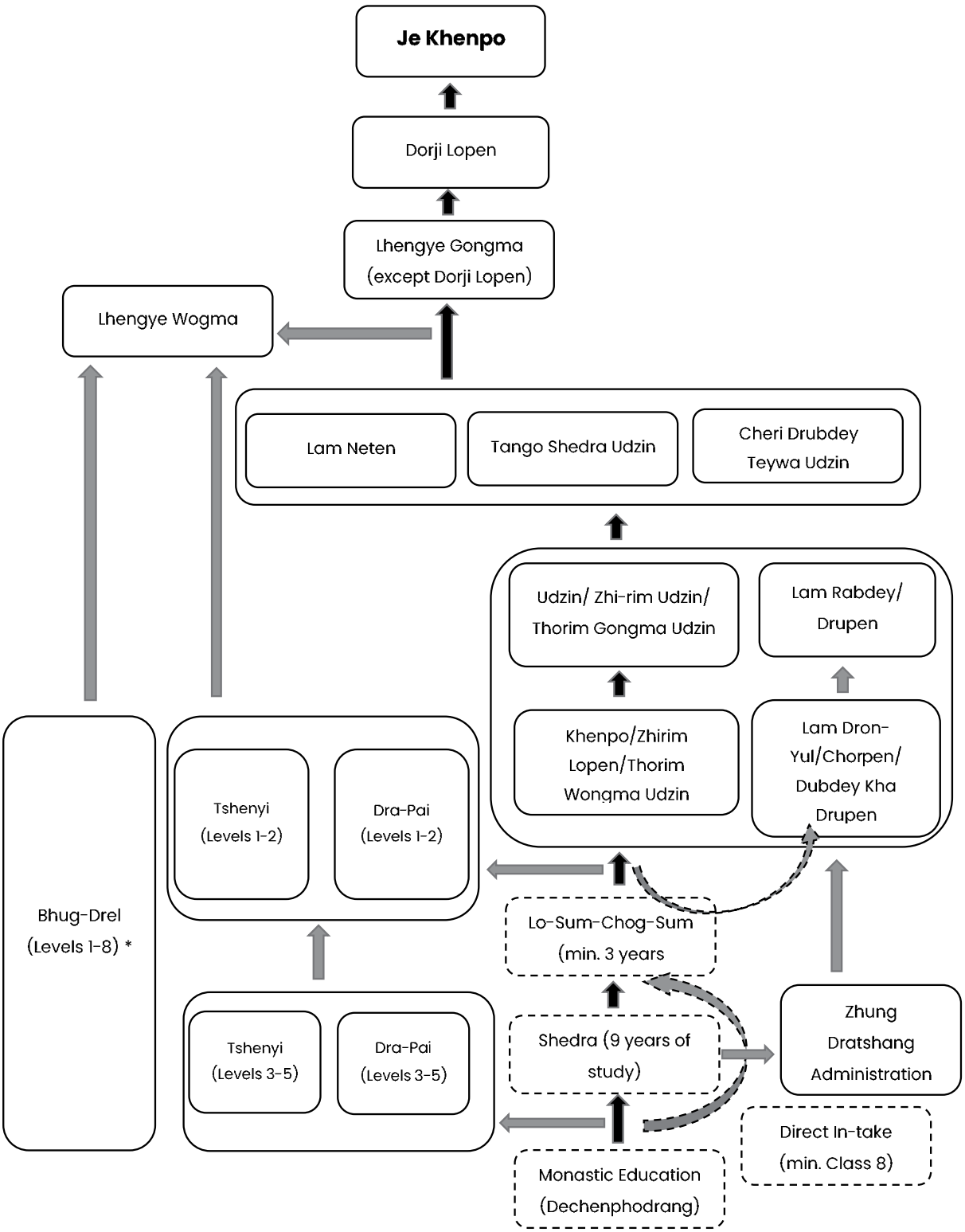
PA System of the Zhung Dratshang

As of 2015, there were 7,373 monks, 275 nuns and 461 *gomchens* (lay-monks) registered with the *Zhung Dratshang* (Dorji 2015). The total number has increased to approximately 17,000 monks and nuns (Namgay 2023). The *Zhung Dratshang* functions according to the *Vinaya Sutra*

where administrative and other decisions are made unanimously and in accordance with the culture of harmony and righteousness. Unlike most other Tibetan Buddhist establishments where the tradition of reincarnations determines the senior leadership positions, Bhutan's *Zhung Dratshang* operates based on meritocracy (Dorji 2015). It will be this form of meritocracy that will be important to analyse to get a glimpse of the Buddhist PA aspects of the *Zhung Dratshang*.

Figure 3 shows the career pathways in the *Zhung Dratshang*. The main pathway towards becoming a *Je Khenpo* is indicated in Figure 3 by the black arrows. Upon completion of their monastic education, they enrol into the *shedra* to complete their Buddhist studies. Levels 5-7 at the *shedra* are equivalent to an undergraduate degree studies and levels 8-9 are equivalent to that of postgraduate studies. Thereafter, monks have to complete the *lo-sum-cho-sum* (i.e., the minimum 3-year retreat). Upon completion of the retreat, they can be appointed to either of these two starting positions: *khenpo/zhirim lopen/thorim gongma udzin* or *lam drong-yul/chorpen/drubdeykha drupen*. The former cohort can then move on to positions such as *udzin/zhirim udzin/thorim gongma udzin* and the latter to *lam rabdey/drupen*. The next higher group of positions are *lam neten/Tango sheydra udzin/Cheri drubdey teywa udzin*. The next appointment is to become a member of the *Lhengye Gongma*.

Figure 3: Career Pathways and Trajectories in the Zhung Dratshang



Not all monks rise to the level of *Lhengye Gongma*. As such, there exist multiple lateral career pathways in the *Zhung Dratshang* (indicated in grey arrows in Figure 3). The *Lhengye Wogma* serves as the highest position for various career pathways. The first is if they are not appointed in any of the positions at the *Lhengye Gongma* level after working their way through the main career pathway outlined earlier. The other pathway to the *Lhengye Wogma* positions is through the *bhugdrel, tshenyi* and *drapai deytshen*. The selection into the *bhugdrel deytshen* is normally performed by members of the *Lhengye Gongma* where they select the top students who complete their monastic education at Dechenphodrang. Before the establishment of the *shedra* at Tango in 1987, the best and most capable monks from Dechenphodrang were selected as the *bhug-drel due-tsuen*. However, with the introduction of the *shedra* at Tango, and as we saw earlier, to be appointed as a *Lhengye Gongma*, one needs to undertake *lo-sum-choe-sum* and complete their education at Tango *Shedra*. As such, there are some issues with what is considered the traditional system of working their way through the ranks of the *deytshens* vis-à-vis the new system of monks having to graduate from the *shedra* and also complete their *lo-sum-chog-sum* (Penjor 2013). Although the selection into the *tshenyi* and *drapai deytshens* at the three lower levels or positions are selected after completion of their monastic education, the two higher levels or positions can also be after monks have completed their *shedra* and *lo-sum-chog-sum* (see Figure 3). There also exists another career option for those who are at various stages of their studies at *sheydra* and decide to join the *Zhung Dratshang* administration office. If this option is chosen, these monks can be appointed as *lam dronyul/chorpen/drubdekhai drubpen* and then as *lam rabdey/drubpen*. The same pathway is also available for those monks who have completed their *lo-sum-chog-sum* without enrolling into the *shedra* (the dotted grey arrows).

Platform for Future Research on Buddhist Governance and Public Administration

Rather than continuously looking towards the experiences of other nations for examples of best practices, combinations of what constitutes a "good PA" can also be based on traditions and practices within the country. For instance, Bhutan's civil service has adopted numerous best practices in the implementation of its performance management system, particularly since the turn of this century. However, there are fundamental challenges that impede the implementation of these reforms and distinguishing performers from non-performers continues to remain a major issue (Ugyel 2021). The most recent performance-related reforms, that is, the Leadership Assessment Exercise conducted in January 2022 by the Royal Civil Service Commission is even more drastic. Out of the 62 senior executives in the government, 47 of them were "managed out," or in more explicit terms, "fired" for failing to meet the high expectations required of executives holding these positions (RCSC 2022). Whether or not, these recent reforms under the guidance of experts from Singapore and with strong resemblance to individualistic NPM-related reforms will work in the future remains to be seen. However, one of the main reasons is that Bhutan is by and large a collectivist culture (Ugyel 2021). It is within such an administrative context that implementing a performance management system based on private sector principles can be problematic. Perhaps, an alternative to all the global best practices that Bhutan is trying hard to replicate is to learn from the meritocratic system that has been in operation for centuries within one of Bhutan's

oldest organizations, the *Zhung Dratshang*. Although the paths are different, that is, the spiritual and the worldly paths, there can be some balance (Bumden 2013). The Buddhist tradition, and particularly the *Zhung Dratshang*, based on the *Vinaya Sutra* advocates for decisions to be made based on righteousness, consensus, harmony and fraternity. In many ways, the motivation for public service includes altruistic purposes, as opposed to the private sector, and not only just profit. Therefore, one main approach to enhancing knowledge and connecting Buddhist principles in the field of PA is examining relevant Buddhist values.

Unlike most other Tibetan Buddhist establishments where the tradition of reincarnations determines the senior leadership positions, Bhutan's *Zhung Dratshang* operates based on meritocracy. We saw earlier that the Constitution stipulates the appointment process of the *Je Khenpo* by the King of Bhutan. The Constitution also lays out the provision for the appointments of the five *lopens*, where the *Je Khenpo* on the recommendation of the Dratshang Lhenthsog appoints monks with nine attributes of a learned person and accomplished in *ked-dzog*. The nine attributes of a learned person (*mkhas pa'i tshul dgu*), which are: (i) *khay-tsun-zang-sum* (*mkhas btsun bzang gsum*), which include learning (*mkhas*), discipline (*btsun*) and nobility (*bzang*); (ii) *chad-tsod-tsom-sum* (*'chad rtsod rtsom gsum*), which includes exposition (*chad*), debate (*rtsod*) and composition (rtsom); and (iii) *she-drub-lay-sum* (*bshad sgrub las gsum*), which are study (*bshad*), practice (*sgrub*) and activity (*las*) for the benefits of others.

These nine attributes of a learned person are acquired by the monks through their 8 years of monastic education followed by the 9 years of rigorous study of Buddhist philosophies in the *sheydra*. Another salient feature of the *Zhung Dratshang* is the requirement for monks to undertake the *lo-sum-chog-sum* (i.e., the 3-year solitary retreat). According to the *Drukpa Kargyupa* tradition of Tibetan Buddhism on which the *Zhung Dratshang* is premised, monks are trained in the six Y*ogas* of Naropa (*naro chodru*): *tumo* (inner heat), *jale* (illusory body)*, osel* (luminosity), *milam* (dream), *phowa* (ejection of consciousness) and *bardo* (intermediate state)). In addition, the monks are also trained in the meditation of the *mahamudra* (*chagja chenpo*). Monks of the *Zhung Dratshang* who complete the minimum *lo-sumochog-sum* are considered to possess the highest qualifications and given priority when it comes to appointments to senior positions (Bumden 2013). Upon fulfilling these minimum criteria in acquiring the Buddhist spiritual knowledge and values, other factors such as seniority, people skills (internal and external), performance history and capability are considered (Bumden 2013). Each of these Buddhist qualities deserve a deeper analysis which can then form the basis to develop a set of characteristics that will bridge the gap between Western PA and Buddhist PA.

The second and third approaches, that is, a *sangha*-based and *dhammaraja*-based approaches have been explored already by San (2024) and Drechsler (2019) to a certain extent. According to Drechsler (2019), some of the key characteristics of the role of a *dhammaraja* is that of a facilitator for the subjects to attain happiness, who as such, not only rules according to the *dhamma* but guides and enables their subjects to realize their *dhamma* (or roughly, the optimal goal of enlightenment). In fact, Drechsler (2019) discusses the role of *dhammaraja* in the context of Bhutan's leadership (in comparison to Thailand and Yogyakarta in Indonesia). Although not directly based on Bhutan, San (2024) discusses the integral roles that concepts of sangha and *dhammaraja* in shaping the social and political landscape in Cambodia. San

(2024) contends that the two concepts are interconnected and mutually reinforcing, and contributes to the establishment of just and compassionate governance based on Buddhist principles. As a research agenda, a *sangha*-based approach can include a comparison of Bhutan's *Zhung Dratshang* with the *sangha* in Cambodia (and of other Buddhist countries). And as a basis for comparison, focus could be on specific characteristics of the *sangha* community. For example, San (2024) highlights the decision-making process as a consensus-based approach, made collectively through open discussions, and where necessary, majority voting.

Conclusion

This paper sets out to set a stage for a comprehensive research agenda for the topic of Buddhist governance and PA within the wider topic of non-Western PA. The *Zhung Dratshang* played a prominent role in consolidating and establishing Bhutan as a nation-state. For over four centuries, *Zhung Dratshang* was at the centre of government administration until the establishment of the monarchy in the early 1900s. Although with some changes in its form, the *Zhung Dratshang* continues to exist as a key institution responsible for preserving Bhutan's rich cultural and religious heritage. As reported by Lamsang (2023), the *Zhung Dratshang* has 327 monasteries and religious centres that performed 9,037 total days of rituals throughout the year. The same report also highlights the assets owned by the *Zhung Dratshang* as one of the largest real estate and landowners in the country and holding shares in some of the major companies in Bhutan. Therefore, both as a historical and contemporary institution based on Buddhist religion and values, examining Bhutan's *Zhung Dratshang's* organizational structure and the career pathways provides an opportunity to further the research agenda on Buddhist governance and PA.

Three broad areas of research areas have been identified in this paper where the experiences of the *Zhung Dratshang* can contribute. Some work has already been done on two of them, that is, the *sangha*- and *dhammaraja*-based approaches, there is potential to dig deeper and/or integrate these studies closely with Bhutan's *Zhung Dratshang*. The third one is in how Buddhist values can be made relevant and fit within the existing public administrative system. A key challenge for Bhutan's civil service is in identifying top performers and appointment of such people to senior positions. Bhutan's civil service has been constantly implementing numerous performance management system reforms since the turn of the decade, with some of the prominent ones being led by McKinsey & Company and a group of Singaporeans. Although the forms and processes of these performance management systems are becoming more sophisticated and comprehensive, whether or not actual performance is improving remains to be seen. An analysis of the key values that are likely to cut across and crossover between the *Zhung Dratshang* and the Bhutanese civil service as Bhutanese institutions that are layered over a set of culture and traditions that influence and shape the organization's characteristics will be important. Such an analysis will provide greater insight into the relevance of Buddhist values and principles of organization to the field of non-Western PA.

References

Bandara, Y., A. S. Adikaram, and K. Dissanayake. 2022. "Indigenous Knowledge, Buddhist Philosophy and Post-colony: Revisiting the Values of Sri Lankan Public Administrative System." In *Managing the Post-Colony South Asia Focus: Ways of Organising, Managing and Living* (pp. 203-224): Springer. Singapore.

Bumden, S. 2013. *Interview on the Zhung Dratshang/Interviewer: L. Ugyel*. Thimphu. Interview date 11 June 2013.

Capano, G. 2003. "Administrative Traditions and Policy Change: When Policy Paradigms Matter. The Case of Italian Administrative Reform During the 1990s." *Public Administration* 81(4), 781-801. doi: https://doi.org/10.1111/j.0033-3298.2003.00371.x

Dorji, G. 2015. "Zhung Dratshang: The Central Monk Body of Bhutan." *The Druk Journal* 1(2), 67-73.

Drechsler, W. 2013. "Three Paradigms of Governance and Administration: Chinese, Western and Islamic." *Society and Economy* 35(3), 319-342. doi: https://doi.org/10.1556/SocEc.35.2013.3.3

Drechsler, W. 2019. "The Reality and Diversity of Buddhist Economics." *American Journal of Economics and Sociology* 78(2), 523-560. doi: https://doi.org/10.1111/ajes.12271

Henry, N. 1975. "Paradigms of Public Administration." *Public Administration Review* 35(4), 378-386. doi: https://doi.org/10.2307/974540

Kickert, W. 2011. "Distinctiveness of Administrative Reform in Greece, Italy, Portugal and Spain. Common Characteristics of Context, Administrations and Reforms." *Public Administration* 89(3), 801-818. doi: https://doi.org/10.1111/j.1467-9299.2010.01862.x

Lamsang, T. 2023. "Managing the Assets of the Zhung Dratshang." *The Bhutanese.* Thimphu. Retrieved from Managing the Assets of the Zhung Dratshang – The Bhutanese. Last accessed date 30 November 2023.

Lovrich, N. P. 1985. "Contending Paradigms in Public Administration: A Sign of Crisis or Intellectual Vitality?" *Administration and Society* 17(3), 307-330. doi: https://doi.org/10.1177/009539978501700304

Namgay, T. 2023. "Reform in Central Monastic Body Centuries after Zhabdrung." *Kuensel*. Retrieved from https://kuenselonline.com/reform-in-central-monastic-body-centuries-after-zhabdrung/ Last accessed date 30 November 2023.

Penjor, K. 2013. *Interview on the Zhung Dratshang/Interviewer: L. Ugyel*. Thimphu. Interview date 11 June 2013.

Phuntsho, K. 2013. *History of Bhutan*. India: Random House.

San, P. 2024. "Buddhist Governance: Navigating Today's Role of Saṅgha and Dhammarājā, with Special Reference to Cambodia." *Halduskultuur: The Estonian Journal of Administrative Culture and Digital Governance* 22(2), 26-4926. doi: https://doi.org/10.32994/hk.v22i2.320

San, P., W. Drechsler, and S. Shakya. 2023. "Buddhism, Wealth, and Privilege: Ambedkar and Habermas." *Religions* 14(1057), 1-11. doi: https://doi.org/10.3390/rel14081057

Schedler, K., L. R. Jones, and R. Mussari. 2004. "Assessment of Public Management Reform and Strategy." In *Research in Public Policy Analysis and Management* (Vol. 15): Emerald Group Publishing Limited. doi: https://doi.org/10.1016/S0723-1318(04)13001-6

Stout, M. 2012. "Competing Ontologies: A Primer for Public Administration." *Public Administration Review* 72(3), 388-398. doi: https://doi.org/10.1111/j.1540-6210.2011.02530.x

Sutamchai, K., K. E. Rowlands, and C. J. Rees. 2019. "The Use of Mindfulness to Promote Ethical Decision Making and Behavior: Empirical Evidence from the Public Sector in Thailand." *Public Administration and Development* 40, 156-167. doi: https://doi.org/10.1002/pad.1872

Ugyel, L. 2014. "Explaining Hybridity in Public Administration: An Empirical Case of Bhutan's Civil Service." *Public Administration and Development* 34(2), 109-122. doi: https://doi.org/10.1002/pad.1685

Ugyel, L. 2021. "Relationship Between Public Sector Reforms and Culture: The Implementation of NPM-Related Performance Management Reforms in a Collectivist and Risk Averse Culture." *Public Administration and Development* 41, 257-266. doi: https://doi.org/10.1002/pad.1962

Lhawang Ugyel is a Senior Lecturer at Crawford School of Public Policy, Australian National University (ANU). Prior to that he was a lecturer at UNSW Canberra and the Development Policy Centre, ANU. Lhawang also worked for the Bhutanese government with His Majesty's Secretariat and the Royal Civil Service Commission. He has PhD in public policy from ANU and a Masters in International Development from Cornell University. Email: Lhawang.Ugyel@anu.edu.au

Kinga Namgyel is currently on study leave in Australia undertaking an English language course. He served the Zhung Dratshang as a lecturer at Nangchoe Gomdri Lobjong and Druk Ralung Shedrup Choling Monastery. He was also the personal secretary to HE Karma Acharya of Zhung Dratshang. Khenpo Kinga has a Master of Arts in Sutra and Mantra of Mahayana and the Vajrayana from Tango University of Buddhist Studies and a two Bachelors degree (BA in International Buddhist Studies, Mahachulalongkornrajavidyalaya University, Thailand and Bachelor of Arts in Pitaka of Hinayana and Mahayana, Tango University of Buddhist Studies).

Historical Development of Japan's E-Government: A Comparison of its Characteristics with Global Trends

SUSUMU KAMIMURA, COLLEGE OF LAW, NIHON UNIVERSITY, JAPAN

Abstract

This study aimed to analyze the historical development of e-government in Japan in light of global trends, mainly with reference to the situation in the US and UK. The maturity models of the United Nations, European Union, and Organization for Economic Cooperation and Development (OECD) were used for time-series comparisons spanning from 1994 (when the first e-government promotion plan was made) to 2022. This study analyzed why the departments responsible for e-government control have varied and what the characteristics have been of Japan's guiding principles compared to Europe and the US. Finally, this study explored the reasons for the "delays" in Japan's e-government within their socioeconomic context.

Keywords: e-government; Japan; time-series comparison

1. Introduction

Dunleavy et al. (2006, 42) comprehensively described the historical development of Japan's e-government until 2006, stating that it lagged behind global trends. The present study mainly builds on their model—which has, thus far, reported the most extensive observations about e-government in Japan—and attempts to clarify the extent to which these problems have been addressed by describing subsequent measures.

The novelty of this paper lies not only in explaining the evolution of this system but also in comparing its development to that in other countries with reference to stages used by international bodies. This type of comparison has not been undertaken in other studies in this field.

The present study also attempts to expand the scope of investigation to the wider socio-political sphere to explain the characteristics of Japan's e-government. While Dunleavy et al. (2006, 53, 75) mainly adduced the monopoly of large IT companies as the reason, this paper presents a broader analysis.

Thus, the present study provides essential insights into why Japan's departments responsible for e-government control have varied and what the characteristics have been of its guiding principles in comparison with Europe and the US.[1] In addition, it explains the reasons for

1 This study mainly compared the Japanese model with the European and US models because the Japanese government has concentrated its study efforts on the experiences of these countries as advanced models. Korean experiences have not been referenced because there is extensive literature comparing them with Japan's e-government (Haruki 2023).

the delays in Japan's e-government, placing them in the context of contemporary social conditions and historical circumstances. Accordingly, the conclusions of the present study might help in formulating effective reforms to address Japan's e-government problems.

1.1 Is Japan's e-government truly lagging?

Japan's e-government ranks high in the United Nations' (UN) ranking (14th in the UN E-Government Survey 2022) (UN 2022a) and the Organization for Economic Cooperation and Development's (OECD) Digital Government Index (OECD 2019); for some criteria, such as the UN e-Participation Index, Japan was in the top place (UN 2022b).

However, the perceptions of citizens, companies, and government officials differ greatly from the impressions made by these rankings. In particular, the inadequacy of e-government functions during the coronavirus disease 2019 (COVID-19) crisis, which has been called a "digital defeat" (Ministry of Internal Affairs and Communications (MIC) 2021, 111), has further heightened the awareness of the "delay."

Specifically, the government system had proven almost useless for disease prevention and tracking, statistical reporting, and the provision of subvention money. Many local authorities had to use traditional handwritten documents to report their situation to the central government because of the insufficient interconnectedness of the systems. Although Japanese governments have tried for many years to build the "world's most advanced e-government," the reality that they have failed to attain the standard global level has become starkly apparent (Kamimura 2021, 21).

1.2 Where does the perception gap come from?

There are many reasons for these failures, such as insufficient trust among the citizen customers, inconsistent local-central digital structures, a silo effect among different services, poor user experience (UX) design, and inadequate government information technology (IT) engineers. Specifically, nothing new happened with COVID-19. It would be accurate to say that the problems pointed out thus far erupted suddenly in these particular situations.

Dunleavy et al. (2006, 53, 75) pointed out that Japan's policies were already ineffective at that time and attributed the most basic cause to the harmful effects of giant IT companies' monopoly on government information systems. The Japanese government was also aware of this situation; since then, it has been developing various initiatives to build the "world's most advanced e-government." The question is: how effectively these measures have been implemented?

In addition, during COVID-19, it became clear that local governments themselves had been particularly slow to adopt the necessary IT and that the data collaboration between organizations and the central government was unfeasible. It could be said that this is a manifestation of the "2000 systems problem," which will be discussed later at 3.1.2. of this paper.

1.3 Materials and methods

The aim of this paper is to verify the so-called retardation of Japanese e-government and, if so, to identify the reasons for this delay. To this end, government websites like e-Gov (https://www.e-gov.go.jp/) were mainly used to determine the content and enactment years of the respective legislation. For government decisions and actions, documents provided by the concerned Ministries' websites were referenced. Techniques like time-series comparisons were used to analyze the delays in Japanese efforts, and to determine the reasons for such delays, a vast body of social-political research on the Japanese politico-administrative situation was referenced.

2. Diachronic Analysis (1994-2022)

This section discusses some of the issues that have emerged from the historical developments.

2.1 Evolution of the control tower organization

This subsection provides an overview of the changes in the control tower organization of the Japanese e-government and explains the significance of these changes.

2.1.1 From the management and coordination agency to the IT headquarters and government CIO

As mentioned in the Appendix, the Administrative Management Bureau (AMB) of the Management and Coordination Agency was responsible for the informatization of the central ministries until the pre-stage. However, in 2001, the IT Strategic Headquarters was established in the cabinet and began to play the role of a command tower.

In 2013, a government CIO (Chief Information Officer), a senior government official who was an IT expert, was appointed, and the General Strategy Bureau for ICT (Information and Communication Technologies) (ICT Bureau) in the Cabinet Secretariat was established as a practical organization to assist him/her. The ICT Bureau has contributed to the general coordination to enhance citizen benefits through ICT utilization.

This change can be seen as a shift to e-government as a part of the IT adoption policy for the society and industry from the perspective of administrative reform within the government, for which the former AMB was responsible as an expert organization for business-efficiency matters.

Within the government, there was a struggle for leadership over IT issues between the MIC—which also had jurisdiction over the telecommunications industry—and the Ministry of Economy, Trade, and Industry, which managed the IT equipment industry and industrial informatization. This situation explains the background of the headquarters being placed in the cabinet so that it can oversee each ministry and agency.

In addition, the transfer of functions from the MIC, which is merely one of the other ministries, to the cabinet is in line with the so-called *presidentialization* phenomenon of prime ministers in various countries (Poguntke and Webb 2005; Kamimura 2017). Therefore, without the 2001 reforms, which strengthened the Cabinet's functions and concentrated many operations in the Cabinet Secretariat, the establishment of the Cabinet of the IT Headquarters, the Government CIO, and the latest Digital Agency would have been unfeasible.

2.1.2 Foundation of the Digital Agency

In 2021, the ICT Bureau was reorganized into the Digital Agency as the control tower for the DX (Digital Transformation) in the central government. Prime Minister Suga Yoshihide prioritized this establishment for his administration. He especially expected its function to break down bureaucratic sectionalism and intended it to exert its power to implement bold regulatory reforms, whose necessity had become cruelly obvious through the stigma of digital defeat.

The agency recruits digitally talented staff from both the public and private sectors and takes the initiative to promote DX in the society (Okuda 2021). The main functions of the Digital Agency include: (i) single control over information system–related budgets and procurement, (ii) standardization and sharing of local government information systems, and (iii) infrastructure development, such as base registries.

In particular, the Digital Agency is different from previous organizations in that it is attempting to overcome the fact that the government's CIO thus far did not have its own affairs and was limited to the comprehensive coordination of the measures of each ministry.

In contrast to the past control towers, the Digital Agency currently has jurisdiction over the ID and authentication systems, such as My Number; furthermore, it maintains and manages important information systems and has the authority to allocate budgets to ministries. The Minister responsible for the Agency also has the power to make recommendations to other ministers, to secure comprehensive coordination authority (House of Councilors Cabinet Committee Statement by Minister of State Takuya Hirai on April 20, 2021).

2.1.3 The Digital Agency regarding international trends

The most notable of these characteristics is the significance of the Agency's budget allocation authority. This is extremely important for government IT implementations that require large budgets. Chung (2020, 65) stated that for the e-government's success, a powerful control tower is needed to direct various ministries and coordinate tasks among them. He stated that the most important component of the tower is the right to allocate the IT budget.

In the US (Dunleavy et al. 2006, 45-46), many organizations related to e-government existed before the NPR (National Performance Review under the Clinton administration); moreover, there was no central control organization to promote cross-agency services. However, the US government established the Government Information Technology Services Board in 1996 under the NPR. The current US e-government service is a part of the Office of Management and Budget (OMB); according to Chung (2020, 65), this ensures that the country's e-government remains sustainable and steady.

In the UK, the HM Treasury was once responsible for e-government; however, the central organization was later placed within the Cabinet Office. In 2011, the GDS (Government Digital Service) was established, working with the Treasury and convening private sector experts to operate e-government. It is believed that the style of operating the GDS by bringing together public and private sector experts has become a model for Japan's Digital Agency.

2.2 Paradigm change in Japan's e-government: When did the shift to the citizen-centered model happen?

2.2.1 Overview of historical trends

In previous works, Kamimura (2011; Kamimura et al. 2012) pointed out that a kind of paradigm shift has occurred in Japan's e-government, harnessing the OECD model. The remainder of this paper is organized as follows.

The transition of the various stages was confirmed through the development of Japanese e-government, as described in Appendix. The first stage was the supposed NeoWeberian (Pollitt and Bouckaert 2017) internal control and efficiency phase (Phase 1), followed by a reduction in the burden on citizens and companies (Phase 2). The subsequent stage focused on improving convenience and welfare (Phase 3). The current stage is to innovate society as a whole through data utilization (Phase 4).

As mentioned in Appendix, the user's viewpoint began to be emphasized in the third stage in Japan. Until the second stage, Japan's e-government was pursued for its own sake, without truly questioning its value from the standpoints of citizens and businesses (Kamimura 2021).

This explains, why—unlike in countries such as the UK or New Zealand, where new public management (NPM) thinking has strongly influenced public reform attempts—the Japanese version of the "user-centric" paradigm has not emerged until recently. This is similar to the situation described by Grönlund (2010, 13): "We find that development so far has overall been too narrowly guided by a technical focus and economic and administrative values and too little informed by public sector values."

2.2.2 An overview of the OECD's paradigm shift

The OECD (2009) noted the existence of a shift from a government- to a customer-centric paradigm in e-governments, noting that this trend is common to all countries that have experienced changes in e-government thinking.

The former reflects the situation in which government staff are exclusive beneficiaries, and the impact on customers is indirect and invisible. Here, the ICT was merely a tool contributing to formatting a "technology-centric" e-government where the notion of UX was extremely poor. Consequently, the utilization rate remained relatively low.

Contrarily, in the latter paradigm, e-government contributes to the improvement of broader public welfare. According to the OECD, public service provision must focus on the needs, wishes, and satisfaction of the users (customers). It must facilitate (1) personalized services, (2) the transformation into a holistic and consistent public sector on the customers' side, and (3) a whole-of-public sector approach (OECD 2009, 26, Table 1.1).

2.2.3 Positioning of the New Information Technology Strategy (2010)

When and what triggered this shift? In summary, the New Information Technology Strategy of 2010 can be considered a turning point where the basic policy on proceeding with e-government changed. Since then, in the various current strategies that have inherited it, an emphasis has been placed on aspects such as inclusion, leaving no one behind, and ease of use.

The 2010 strategy went far beyond the conventional concept of the "simplification and efficiency of administration." This represented an approach similar to the US's "open government." A major feature was that citizens were supposed to monitor, control, and use various types of information held by the government.

Therefore, it is clear that this strategy diverged from the administrative-reform-oriented e-government of the past. For the highly indebted Japanese government, the expectations for e-government have generally been primarily from the viewpoint of the "simplification and efficiency of administration," especially the reduction of budgets and staff numbers.

However, among the nine items listed as "concrete efforts" related to the e-government in the 2010 strategy (seven items related to "administrative renewal and visualization" and two open-government-related items), only one item explicitly states "administrative efficiency" as a goal. This proportion was much lower than that in earlier strategies. This decrease appears to mirror a customer-centric shift in the e-government paradigm.

2.2.4 Why would the strategy of 2010 have such a perspective?

The main reason for this might be the nature of the ruling party at that time, namely, the Democratic Party of Japan. This party promoted an anti-bureaucratic system and made many attempts to exclude bureaucrats from the policymaking scene. Although many parties' anti-bureaucratic attempts have failed, the impact of e-government has continued thus far. For example, the Basic Policy on Reform for the Formation of a Digital Society (2022) envisioned a digital society where citizens with diverse backgrounds and lifestyles could choose among the digital tools that serve their needs and achieve a higher quality of life, aiming at a society wherein "No one left behind" and "Human-centered digital transformation" are the core principles (Okuda 2021).

However, regarding timing, what had been analyzed as a global trend in the 2009 OECD report was only established as a plan by 2010 in Japan. There has been an obvious delay; at best, this idea has just begun to be incorporated into measures. This postponement seemed to have been clearly manifested in the malfunction of the Japanese COVID-19 measures in 2020.

2.3 Has e-governance been realized in Japan?

To the best of the author's knowledge, there are no Japanese government documents in which the terms *e-governance* or *digital governance* have been used to refer to a similar notion in other advanced e-government countries. What do these terms imply? While *IT governance*, also used in Japan, mainly refers to the methods for managing the effective use of the IT systems, *e-governance* entails the broader relationship between the government and the entire nation. According to previous researchers, their definitions are as follows:

Melitski (2018, 85) describes *e-governance* as the value and application used to encourage online citizen participation. It includes the notion of e-democracy (i.e., citizen participation in governance).

Grönlund (2004, 719) defines *e-governance* as the entire system involved in managing a society. The system includes activities undertaken by not only the government organizations but also companies, voluntary organizations, and citizens.

Chung (2020, 13-15) further developed this idea by presenting concepts beyond people's political participation (e-democracy, e-voting, and online political activities), stating that modern *digital governance* uses artificial intelligence and social networking services to simplify business and decision-making processes through citizen participation across both the public and private sectors. This includes solving public issues through collaboration with civil society, citizens, and companies.

Regarding the active participation of private actors, this way of thinking goes far beyond the fourth stage of the UN model ("Governments actively collect public opinions and information through their websites"). From this perspective, as previously mentioned, Japan's e-government has not yet reached this stage. As for e-democracy, only about 10 local governments have implemented e-voting; moreover, at the national level, even the necessary bills have not been adopted thus far (MIC 2006). Consequently, it must be said that Japan's *e-governance* has absolutely not emerged.

3. Comprehensive Analysis: The Reason Why Japan's e-Government is Lagging

This section presents the main reasons for Japan's e-government delays, as understood from the above background.

3.1 Silo effects

3.1.1 Breaking down the central government

According to Dunleavy et al. (2006, 218-224), e-government is lagging in NPM countries because of the decentralization of government management, downsizing of organizations, and outsourcing of IT experts. They emphasize that for proper operation of e-government, centralized control and retained technical resources within the government are required.

Thus, although Japan is not classified entirely as an NPM country (Oyama 2010, 82), government functions have been decentralized since before the Second World War, with each ministry acting independently. Focusing on this harmful effect, it was only after 2001 that the prime minister was granted the right to initiate cabinet meetings and the Cabinet Secretariat was given the function of policy planning. Therefore, Japan continued to have a system that was unsuitable for e-government for a long time.

Specifically, in Japan, because of traditional sectarianism rather than NPM, the IT knowledge of the government as a whole has not been concentrated; furthermore, it seems that this has led to a tendency to rely on the private sector. This has also caused a significant lack of uniformity and interoperability for the government as a whole due to differences in the IT standards and document forms among ministries. Similar cases are likely to occur in other countries as well (Homburg 2017, 364).

3.1.2 The "2000 systems problem" of the local governments

In Japan, each prefecture and municipality has its own business system, which makes data distribution among other organs extremely difficult. This insufficient interoperability is the so-called *2000 systems problem.* Hasegawa (2017) reveals this problem in the field of personal information protection. Generally, in Japan's administrative system, policies are often planned by the central government ministries and implemented by municipalities. Therefore, the impossibility of the mutual distribution of information during the implementation stage is a major problem in the construction of digital government. This problem leads to unnecessary expenditures on IT development and a lack of consideration of user interface and user experience (UI/UX) in their designs. This problem became apparent with *the digital defeat* during the COVID-19 pandemic mentioned at the beginning of this paper. Accordingly, appropriate measures not only for the whole government within the central administration but also for the local governments are necessary. As mentioned previously, the Digital Agency has begun unifying the core systems of the local governments. In the June 2021 ICT Bureau's "Draft on the Utilization of Government Cloud by Local Governments," the significance of unification and standardization of municipal information systems was explained by (1) reduction of maintenance and operation costs, (2) rapid construction and flexible expansion of the system, (3) saving residents the time and effort of entering information by "once-only" service, and (4) adopting the latest security measures. However, there have as yet been no concrete results. Undoubtedly, success or failure of these measures will be an important factor in predicting future trends in Japan's e-government.

3.2 The lag of IT adoption in the Japanese society as a whole

With insufficient IT literacy and willingness to use IT in the private sector, it is unthinkable that the provision of electronic services, such as electronic applications, will become widespread, even if the government advances IT alone.

Therefore, the MIC (2021), citing OECD statistics, noted that Japan's ICT investment (nominal) has been decreasing since peaking at 20.0 trillion yen in 1997, reaching 15.8 trillion yen in 2018.

Nonetheless, in the US, investment has continued to increase over the past 30 years by more than 4.7 times, as of 2018.

Furthermore, the MIC (2021) has stated that 80% of the ICT investment in Japan is devoted to the maintenance and operation of current businesses and that strategic utilization to create innovation is scarce. It has also indicated that the waterfall-type development method of the mainframe era has not been abandoned, and the introduction of agile development is delayed. Therefore, data utilization is not progressing owing to delays in openness, cloud systems, and standardization of operations and data.

In addition, neither government nor private companies often develop their own system departments, instead relying entirely on external companies for IT. This situation also signifies that a sufficient BPR and effective organizational restructuring cannot be expected because the necessary IT human resources have not yet been developed within these organizations.

3.3 Are there really social needs for an e-government?

According to a study of Dutch municipalities, Homburg et al. (2013) argued that citizens' expectations is the most important influencing factor in decisions regarding personalized e-government services. Do Japanese citizens have expectations of an e-government? Statistical verification is necessary for accurate statements; however, in Japan, the citizens do not seem to express great dissatisfaction (concerning slowness, inaccuracy/opaqueness, unkindness, corruption, etc.), especially at the local level.

Among the services for citizens, 24h/365J and push-type administrative services may be convenient. However, there is a strong possibility that citizens perform an unconscious benefit/cost analysis, through which they decide that there is no need to spend time and effort for procedures that are not repeated many times a year, such as obtaining My Number Cards and preparing devices (e.g., card reader/writer). If there is no such pressure from the public, it seems that government offices have almost no incentive to bear the huge cost (not only the financial cost and time but also the psychological price of changing the business model) of adopting IT services.

Another crucial point of contention is the public's distrust and concern about the e-government system. According to the Cabinet Office's 2018 poll, the reasons for not obtaining a My Number Card were, in descending order of the number of responses: "(1) they don't feel the need to get one, (2) they have other things that can be used as identification cards; therefore, many respondents did not feel the benefits of obtaining a My Number Card (57.657.6% and 42.2%, respectively). The third and fourth are (3) because they are worried about the leakage of personal information (26.9%), and (4) because they are worried about loss or theft (24.9%)," there is a deep-rooted sense of distrust among the public. Incidentally, the fifth most common answer was (5) that the application procedure was troublesome (21.3%) (Cabinet Office 2018). This shows that a significant portion of the public perceives the cost of time and effort involved in obtaining a card to be disproportionate to the merits of My Number Card.

3.4 Insufficient political leadership

Chung (2020, 64) emphasized the importance of the commitment of high-level government officials as a lesson learned for successful e-government. The success of such measures in the US seems to have been largely due to Vice President Gore's eight-year appointment as the person responsible for computerization. Francis Maude, the minister accountable for the establishment and operation of the British GDS, was similarly considered a major factor in its success.

In Japan, IT has often been positioned as a top policy priority since the beginning of the Mori administration. However, it cannot be said that there are many cases in which the key ministers demonstrate leadership with a strong personal commitment to e-government. As an exception, former Prime Minister Suga had a strong interest in improving the efficiency of the government through the use of IT even before he became the Chief Cabinet Secretary, which led to the establishment of the aforementioned Digital Agency under his administration. However, the head of the government has limited energy to spare for e-government.

Taro Kono, who has served as the Digital Minister since 2022, is famous as an exceptional politician with a strong reform mindset and has achieved results such as the abolition of seals in government procedures and deregulation of matters related to the digital economy. However, this ministerial post also covers consumer and food safety issues, the civil service system, and so on; therefore, it is unfeasible for Minister Kono to concentrate solely on e-government.

Nevertheless, in the local governments, when chiefs with specialized experience in the IT field are appointed, they become increasingly IT-oriented. For example, there are the cases of Governor Kumagaya of Chiba Prefecture (a former Nippon Telegraph and Telephone Corporation (NTT) Communications employee) and Governor Oigawa of Ibaraki Prefecture (a former executive officer of Microsoft, Japan). Because the prefectural governors in Japan are directly elected by the residents, they can exercise president-like leadership in their prefectures. This is also thought to be the reason for the difference with the central government.

3.5 Difficulties in transforming civil servants' mindsets

Chung (2020, 64) also stated that one of the most important factors in the transformation of a country to digital government is a change in the perceptions of civil servants and consequently in the business model within the government. Accordingly, Japanese civil servants, especially in local governments, tend to follow precedent; moreover, there is a strong culture of fear of challenge (e.g., Cabinet Secretariat 2001).

It is believed that the fact that Japan has adopted an extremely closed appointment system for public servants contributes to the existing mentality to fear challenges. Unlike in Western countries, it is extremely rare for outside personnel to be appointed high-level officials by the Japanese ministries through open recruitment. The low number of outside personnel appointed as executive-level officials can be easily confirmed by reference to the annual handbook of government officials, the *Seikan-Yoran* (*Political and Administrative Directory*). Thus, there is no environment in which the best practices of the private sector and foreign

countries can be reflected within the ministries or where external personnel challenge each other to achieve results in a relatively short term for their performance evaluation. This phenomenon also seems to be well-explained by the *social influence* factor, which is an element of the unified theory of acceptance and use of technology (Venkatesh et al. 2003) related to the acceptance of IT.

In addition, top-level reform intentions (e.g., those of former Prime Minister Suga) often do not permeate the implementation field because there are no political appointments of senior/mid-level officials in the Japanese ministries. The lack of a political interpreter connecting the top government management and the enforcement unit may explain the latter's feeble responsiveness.

3.6 Difficulties in escaping the oligopoly of the major IT companies

Although this problem was already recognized in the e-Japan Strategy 2001, this study positions the lack of competition among the major IT firms as the greatest problem. The strategy identified the "de facto monopoly of the telecommunications businesses" as the main cause of the delay in the introduction of ICT in Japan. Therefore, the priorities in this strategy were the development and competition policies (Kamimura 2021).

Dunlevy et al. (2006, 2) also pointed out the harmful effects of leaving the e-government in Japan's private sector, stating: "In Japan the market is also concentrated but almost entirely 'home-grown,' with Japanese IT corporations involved in long-term relationships with government ministries."

The Japanese government has taken various efforts since the second stage, such as separating from vendor lock-ins, opening up systems from dependence on legacy systems, and withdrawing from data communication service contracts (see the MIC 2006 Business and System Optimization Guidelines).

These efforts were expected to overcome the declining performance of government systems due to the oligopoly of giant companies such as Fujitsu, Toshiba, Hitachi, NEC, and NTT DATA. The government aimed to promote competition, reduce procurement prices, and introduce higher quality and more effective systems.

However, the problem was so deeply rooted in the behavior and operation of the government's IT that considerable effort was needed to solve it. As mentioned above, most of the government CIO's energy at the beginning was used to reduce the IT budget and the number of systems, and the cost-cutting aspect was pushed to the forefront. Therefore, customer-oriented system construction centered on citizens' perspectives became a secondary priority because of limited time resources.

Therefore, the continuation of IT systems that were difficult to utilize as well as useless to individuals and companies caused *the digital defeat*, while inexpensive and highly flexible CSS s (Client-Server Systems) and open software became widespread within the private sector.

The Digital Agency continues to make efforts to promote competition and has recently started a project to migrate the government's portal site "e-Gov" to the IT infrastructure "Government Cloud" shared by the national and local governments, for which NEC won the bid instead of Fujitsu—which, until then, had received most of the orders for projects related to e-government (Nikkei Cross Tech 2023). In Japan, it is extremely rare for the contractor of a large-scale system to be changed. Therefore, the agency's efforts have achieved some positive results.

However, this change in the procurement source is also the result of the highest priority proposition of "reducing the construction and operation cost of the IT infrastructure by 30%," and the system to be constructed is not promised to be truly user-friendly for the people, as this depends on whether the future design is based on a customer-centered approach.

4. Conclusion

This paper reported that e-government depends on the social conditions and historical circumstances in which the government finds itself; its degree of development has been determined by various social conditions. As observed in various international surveys, Japan's e-government has made significant progress in the development of systems and technological infrastructure; however, because of the factors mentioned above, the effect is not truly recognized by the public.

Thus, the central government reform of 2001 was a major step in changing the shape of the Japanese government, including weakening or eliminating the silo effect and introducing cabinet-led administrative management. The establishment of the Digital Agency was undoubtedly due to this reform. However, it is also true that many effective reforms need to be accomplished to address Japan's e-government problems.

In general, this study sought to explain the reasons for the delays in Japan's e-government, placing them in contemporary social conditions and historical circumstances. Accordingly, the conclusions might help in formulating effective reforms not only to address Japan's e-government problems but also to benefit society at large, especially in the field of public administration.

However, this study has certain limitations. For example, it could not thoroughly follow the proceeding of the Digital Agency's efforts because this agency began functioning rather recently and has yet to yield sufficient results. Therefore, this paper could not conduct a quantitative analysis due to the lack of relevant statistics in this field. Furthermore, recent changes in the definitions and policies of data collection have rendered numerical time-series comparison useless. Such studies would be needed in the future to corroborate this paper's findings.

References

Cabinet Office. 2018. *Public Opinion Survey on the My Number System.* https://survey.gov-online.go.jp/hutai/h30/h30-mainan.html (retrieved 28/12/23)

Cabinet Office. n.d.a. *Smart City*. https://www8.cao.go.jp/cstp/society5_0/smartcity/ (retrieved 10/04/23)

Cabinet Office. n.d.b. *Society 5.0*. https://www8.cao.go.jp/cstp/society5_0/ (retrieved 08/04/23)

Cabinet Office. n.d.c. *Super City Initiative.* https://www.chisou.go.jp/tiiki/kokusentoc/supercity/openlabo/supercitycontents.html (retrieved 10/04/23)

Cabinet Secretariat. n.d. *Digital Garden Cities Initiative*. https://www.cas.go.jp/jp/seisaku/digitaldenen/index.html (retrieved 09/04/23)

Cabinet Secretariat. 2001. *Outline of Civil Servant System Reform (Komu-in Seido Kaikaku no Oowaku*). Public Employee System Reform Promotion Office, Administrative Reform Promotion Bureau, Cabinet Secretariat

Chung, Choong-sik. 2020. *Developing Digital Governance: South Korea as a Global Digital Government Leader*. London and New York: Routledge

Digital Agency. 2021. Draft on the Utilization of Government Cloud by Local Governments.

https://www.soumu.go.jp/main_content/000757994.pdf (retrieved 28/12/23)

Dunleavy, Patrick, et al. 2006. *Digital Era Governance: IT Corporations, the State, and e-Government*. Oxford: Oxford University Press.

European Union. 2016. *European eGovernment Action Plan 2016-2020*. https://eurlex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016DC0179 (retrieved 01/04/23)

Grönlund, Åke. 2004. "Introducing e-Gov: History, Definitions, and Issues." *Communications of the Association for Information Systems* 15, 713-729. doi: https://doi.org/10.17705/1CAIS.01539

Grönlund, Åke. 2010. "Ten Years of E-Government: The 'End of History' and New Beginning." In Maria A. Wimmer, Jean-Loup Chappelet, Marijn Janssen, and Hans. J. Scholl (eds.). *Electronic Government. EGOV 2010. Lecture Notes in Computer Science*, vol 6228. Berlin, Heidelberg: Springer. doi: https://doi.org/10.1007/978-3-642-14799-9_2 (retrieved 10/04/23)

Hasegawa, Koichi. 2017. "Significance and Analysis of 2,000 personal information protection systems (P2K Problem)—Aiming to Adjust the Personal Information Protection System of Local Governments—" *Journal of Contemporary Society and Culture(Gendai Shakai Bunka Kenkyu)* 65, 105-121. https://niigata-u.repo.nii.ac.jp/records/7322 (retrieved 10/04/23)

Haruki, Ikumi. 2023. "The E-government in South Korea: The Background and Transformation of its Policies from the Perspective of Historical Institutionalism." *Doshisha shakaigaku-kenkyu* 25, 67-82. https://doshisha.repo.nii.ac.jp/records/28272 (retrieved 10/04/23)

Homburg, Vincent. 2017. "ICT, E-Government and E-Governance: Bits & Bytes for Public Administration." In Edoardo Ongaro and Sandra Van Thiel (eds.). *The Palgrave Handbook of Public Administration and Management in Europe.*" London: Palgrave, 347-361.

Homburg, Vincent, Andres Dijkshoorn, and Marcel Thaens. 2013. "Diffusion of Personalised Services among Dutch Municipalities: Evolving Channels of Persuasion." *Local Government Studies* 40(3), 429-450. doi: https://doi.org/10.1080/03003930.2013.795892

Honda, Masami. 2013. "International Comparison about the Emergence of the E-government Policy: Comparing the United States, the U.K., Australia, Canada and Japan." *Journal of Information Studies, Interfaculty Initiative in Information Studies* 85,147-162.https://www.iii.u-tokyo.ac.jp/manage/wp-content/uploads/2018/04/85_8.pdf (retrieved 10/04/23)

Kamimura, Susumu. 2011. "The History of Japanese e-Government." *Administrative Management Research Quarterly* 135, 45-68

Kamimura, Susumu, Takahashi Kuniaki and Doi Ryoichi. 2012. *On e-Government*. Tokyo: Sankei-sya Press.

Kamimura, Susumu. 2017. "Policy-Making Powers of the Japanese Prime Minister after the 2001 Reform-Strengthened Competences and their Exercise: Another 'Presidentialization' Case?" *Developments in Administration* 2(2), 2-26. doi: https://doi.org/10.46996/dina.v2i2.5189

Kamimura, Susumu. 2021. *History of e-Government Policy in Japan*: *Endeavors Prior to the Current Government Digital Transformation (DX).* Paper submitted for the IIAS 2021 Conference.

Kogure, Kentaro. 2021. "Building a Digital Society and its Issues—Toward the Digital First." *Quarterly Individual Finance* Autumn 2021, 2-11.

Kogure, Kentaro. 2019. "E-Government Survey by the United Nations and Challenges for Japan." *Kyorin Social Science Research* 35(1), 1-12.

Manoharan, Arun P. and James Melitski. 2018. "Introduction to e-Government." In Marc Holzer, Arun Manoharan and James Melitski (eds). *E-Government and Information Technology Management*: *Concepts and Best Practices*. Irvine: Melvin & Leigh, 1-14.

Melitski, James. 2018. "Digital Governance Services." In Marc Holzer, Arun Manoharan and James Melitski (eds). *E-Government and Information Technology Management*: *Concepts and Best Practices*. Irvine: Melvin & Leigh, 83-97.

Ministry of Internal Affairs and Communications (MIC). n.d. *On Electronic Voting.* https://www.soumu.go.jp/main_content/000547414.pdf (retrieved 001/04/23) Ministry of Internal Affairs and Communications (MIC). 2006. *Business and System Optimization Guidelines*.

Ministry of Internal Affairs and Communications (MIC). 2021. *White Paper on Information and Communications in Japan*.

Nikkei Cross Tech. 2023. *Background of NEC's Success in the Bid for e-Gov's Government*

OECD. 2009. *Rethinking e-Government Services*: *User-Centered Approaches*. Paris: OECD e-Government Studies.

OECD. 2019. *Digital Government Index.* https://goingdigital.oecd.org/en/indicator/58 (retrieved 04/01/23)

Okuda, Naohiko. 2021. *Recent Government Initiatives for Promotion of Digital Transformation*. Paper submitted for the IIAS 2021 Conference.

Oyama, Kosuke. 2010. *Public Governance.* Tokyo: Minerva Shobo.

Poguntke, Thomas and Paul Webb (eds). 2005. *The Presidentialization of Politics*: *A Comparative Study of Modern Democracies*. Oxford: Oxford University Press.

Pollitt, Christopher and Geert Bouckaert. 2017. *Public Management Reform.* 4th edition. Oxford: Oxford University Press.

Sikkut, Siim. 2022. *Digital Government Excellence*: *Lessons from Effective Digital Leaders*. Hoboken: Wiley.

United Nations. 2022a. *UN E-GOVERNMENT SURVEY 2022.* https://publicadministration.un.org/egovkb/en-us/reports/un-e-government-survey-2022 (retrieved 04/01/23)

United Nations. 2022b. *UN E-Government Knowledgebase.* https://publicadministration.un.org/egovkb/Data-Center (retrieved 04/01/23)

Venkatesh, Viswanath, et al. 2003. "User Acceptance of Information Technology: Toward a Unified View." *MIS Quarterly* 27(3), 425-478. doi: https://doi.org/10.2307/30036540

Wimmer, Janssen A. and Hans J. Scholl, 2007. *Electronic Government*: *Lecture Notes in Computer Science*. New York: Springer.

Appendix: An overview of the development of e-government in Japan

This appendix provides a historical overview of e-governance in Japan, divided into five stages, including a pre-stage, and evolution of the leading principles of e-government during each period. This periodization is based on the classification presented in the 2021 White Paper on Information and Communications (MIC 2021, 111).

A-1 Pre-stage (1994-1999)

A characteristic of this era was that e-government was regarded mainly as a tool of administrative reform.

A-1-1 Status of laws and government decisions

In this era, no laws on e-government were enacted or promulgated. The following government decisions were made:

Government Decisions

1994: Basic Plan for Promoting Administrative Informatization (BPPAI)

1996: Guidelines for Reviewing the Procedures for Applications and Notifications Corresponding to Digitization (revised)

Measures to reduce the burden of application

1997: BPPAI (revised)

1999: One-stop service plan

Millennium Project (e-Government Realization Project)

A-1-2 Specific measures taken in this period

In this phase, the government focused on infrastructure development. Thus, in 1997, the central government's Wide-Area Network (Kasumigaseki WAN) was launched. As of April 1999, there were 0.98 personal computers per employee in the bureaus of the central ministries (figures from a Management and Coordination Agency survey 1999).

Other efforts, such as the conversion from general-purpose mainframe computers to client-server systems (CSSs), adoption of the transmission control protocol/internet protocol (TCP/IP), and standardization of the document structure format (Standard Generalized Markup Language, SGML), were taken.

A-1-3 Characteristics of the pre-stage

The introduction of mainframe computers by the Japanese government began in the 1950s, among the earliest worldwide. However, each ministry had its own system until 1994, without any interoperability. Thus, in 1994, the BPPAI was formulated as a unified policy for the entire government, with the aim of sharing information within the government and realizing an interface between the public and private sectors. Consequently, the spread of staff PCs and the development of inter-ministerial local area networks (LANs) progressed rapidly. However, efforts were mainly focused on the hardware side. Consequently, unawareness of the importance of software caused a delay in realizing the potential of the new Internet era (Dunleavy et al. 2006, 52).

Additionally, the political focus was on improving the efficiency of administration. Consequently, in the revised BPPAI of 1997, the role of e-government was defined as "an important tool for implementing administrative reform" that aimed at the realization of efficient, comprehensive, and responsive administration through such measures as simplifying application procedures, digitization, paperless offices, and networking.

A-1-4 Comparison with the UN model (UN 2010)

During this period, the focus was solely on improving the technical infrastructure within the government, and no progress was observed from the citizens' perspective. Therefore, this period can be considered the preparatory stage for the first stage of the UN development stage model (Table 1).

Table 1. The United Nations model of the e-government stages

Emerging stage (first stage)	A stage where policy information, laws, administrative documents, service information, etc., are provided by the government website. There are links between the ministries and related government agencies, and users can easily obtain government information.
Enhanced stage (second stage)	Users can communicate in one direction (or simple twoway), such as by downloading application forms from the government websites. The government site has an audiovisual function and is multilingual. Some websites can be used to send non-electronic data by email.
Transactional stage (third stage)	Two-way communication with users is possible through the government website, which also has a policy advocacy function. Some procedures require personal authentication. Electronic voting, tax filing, application, and more are performed.
Connected stage (fourth stage)	Governments actively collect public opinions and information through their websites. Electronic services are seamless across the ministries and agencies. Various data and information are transferred from each institution to the integrated applications. There is a shift from a government-centric to a citizen-centric approach. Tailor-made services are provided according to the life events and segments of the residents. The government is fostering an environment that encourages people to participate in government decisionmaking.

Source: Kamimura (2021): Excerpt from the United Nations E-Government Survey 2010

A-1-5 Comparison with foreign e-governments

In the US, in 1994, the National Performance Review (NPR) took the initiative in measures led by Vice President Gore to establish a national information infrastructure and afford all citizens electronic access to the government by 2000 (Dunleavy et al. 2016, 46).

Japan's BPPAI was formulated in 1994, and the term "e-government" appeared in its revision (1997). Thus, the Japanese government was already aware of the notion of e-government. Nevertheless, the need for an interface between the citizens and the government remained unrecognized. The nationwide rollout of the Japanese version of broadband has been underway since 2000, more than five years after the US.

Regarding laws and regulations, in the US, the Paperwork Reduction Act regarding digitalization had already been enacted in 1980 (Manoharan and Melitski 2018, 7); thus, there was a 10-year gap or more from the time of the initial legal action for administrative information.

A-2 The first stage (2000-2002)

The e-government measures of this era focused on infrastructure development.

A-2-1 Status of laws and government decisions

Laws

In this period, three important laws were promulgated:

2000: Basic Act on the Formation of an Advanced Information and Telecommunications Network Society (hereafter "the Basic Act on IT")

2002: Administrative Procedure Online Act

Public Personal Authentication Act

Government Decisions

Following the articles of the Basic Act on IT, a policy was decided for the introduction of IT to various levels of government and the entire society.

2001: e-Japan Strategy

A-2-2 Specific measures taken in this period

In this phase, the first control tower for IT matters for the entire government was established by the Basic Act on IT (2000), which was the "Advanced Information and Communication Network Society Promotion Strategy Headquarters (hereafter "IT headquarters"), chaired by the prime minister and joined by all ministers and some private sector experts.

Subsequently, the legal basis for online filing and personal authentication was developed in 2002. Additionally, each ministry had a chief information officer (CIO); in 2002, their liaison council was established as a practical promotion body. Regarding the technical infrastructure, the construction of a government portal site (e-gov) and a local government wide-area network (LGWAN) to connect the local governments began in 2001. To meet the needs of industry and personal life, development began with an "ultrahigh-speed network infrastructure (broadband)."

A-2-3 Characteristics of the first stage

In a change from pre-stage policy, the e-Japan plan of 2001 moved away from the use of IT limited to the government and aimed at overcoming delays in its utilization in business so that it might spread throughout society as a whole. The government of this era created the "ICT revolution" flagship, and IT was expected to strengthen national industrial competitiveness.

The background to this change was the recognition during Prime Minister Mori's term (2000-2001) on the part of senior administration officials of the importance of the ICT revolution, who considered it a priority issue in national policy. Considering that insufficient understanding of IT at the highest levels of the government until that point had delayed the Internet age (Dunleavy et al. 2006, 52), this was an improvement; however, the enthusiasm at that time did not necessarily affect the executive branch. Moreover, it cannot be said that this mood was sustained at its highest levels after this period.

Additionally, e-government at this stage was regarded as a means of reducing staff numbers, which was a major theme of the 2001 central government reform and a part of the administrative reform.

A-2-4 Comparison with the UN and European Union models

This era aimed to provide a variety of information on websites and enable the public to submit opinions, requests, and inquiries online. Therefore, the citizen-government interface was considered to have advanced. Various information provisions by e-gov (the Japanese Government website) and the links between the ministries through Kasumigaseki WAN were established; hence, the definition of the first (Emerging) stage of the UN model may be considered to have been satisfied.

Simultaneously, it showed aspects of the UN's Enhanced stage (second stage), defined as a situation wherein users could communicate in one direction (or simply two-way), as by downloading application forms from government websites, as with the launch of e-gov technology, information became easier to obtain. However, at this stage, e-government was solely employed for the transmission of government information, was not especially citizen-oriented, and had not reached the third stage of two-way communication.

Regarding the European Union's (EU) service supply development model (Wimmer et al. 2007, 18), Japan's First stage can be compared to the (1) information and (2) one-way interaction levels.

A-2-5 Comparison with foreign e-governments

During this period, the influence of the Gore initiative in the US was crucial. Japan's rapid broadband development could be considered the Japanese version of the information superhighway concept. Although the 2001 "e-Japan Strategy" stated that online procedures by citizens would be possible by 2003, the realization of this was postponed until after 2003, thus lagging behind the developed countries.

In Japan, the CIO position was established in each ministry in 2002. However, in the US (Manoharan and Melitski 2018, 7), the Clinger–Cohen Act had been implemented in 1996; thus, Japan was about six years behind. In addition, while the Basic Act on IT of Japan in 2000 was not specific to e-government, the E-Government Act in the US was enacted in 2002 (thus far, Japan has not enacted a law solely on e-government). Nonetheless, the US government launched government websites in 2000, showing almost no difference from Japan's e-government, launched in 2001.

In the UK (Honda 2013, 150), efforts toward e-government were stated in the 1996 Green Paper "Government Direct"; furthermore, in 1997, the e-government initiative was declared a major government commitment of the Labor government (Dunleavy et al. 2006, 48). In addition, the "Modernizing Government White Paper" announced in 1999 set the goal of a 100% electronic operation of administrative procedures by 2008, thus surpassing Japan.

Furthermore, in 2001, a portal site called UK Online, as well as Government Gateway—an authentication platform used to register all government services—was built.

A-3 The second stage (2003-2008)

During this period, the emphasis was placed on improving convenience and services for people, and efforts were made to improve the utilization rate of IT services.

A-3-1 Status of laws and government decisions

In this era, laws related to e-government were not enacted or promulgated. The following government decisions were made:

Government Decisions

2003: e-Japan Strategy II

e-Government Construction Plan

Determination of the business/system optimization targets

2006: ICT New Reform Strategy

A-3-2 Specific measures taken in this period

In three ministries, online applications began in 2003. In 2004, electronic acceptance of national tax returns began in some areas, and online applications began full-scale operations. In 2003, local governments instituted the electronic network of basic resident registration records.

Business and system optimization influenced by enterprise architecture (EA) in the US began with the central government.

A-3-3 Characteristics of the second stage

A-3-3-1 Efforts for improved utilization

In response to the progress of infrastructure development (the original goal of the eJapan Strategy), the emphasis on e-Japan Strategy II shifted to IT utilization, and initiatives aimed at improving the utilization and convenience of IT for the people's sake were stipulated. E-government measures are particularly focused on promoting the use of online applications.

The ICT New Reform Strategy (2006) further developed this idea; it aimed at creating "the world's most convenient and efficient e-government" by reducing the number of attached documents and incentivizing users to increase the number of online applications, with a focus on improving the utilization rate by 50% or more by fiscal year 2010.

A-3-3-2 Re-engineering the government business process

Another characteristic of this era was the recognition of the harm caused by the monopoly of giant IT companies. Consequently, efforts to break their hold begun by introducing a kind of government business process re-engineering (BPR) or enterprise architecture (EA), that focuses on topics such as the standardization/unification of systems and business outsourcing. Particularly, legacy systems were targeted for complete revision by switching to general-purpose software packages, opening systems, unbundling hardware and software (separate procurement), transitioning from free contracts to competitive bidding, and reviewing data communication service contracts.

A-3-4 Comparison within the UN model

The UN's transactional stage (the third stage) began with online applications in Japan.

Its many elements, except electronic voting, which is sporadic in Japan, have been fulfilled.

A-3-5 Comparison with foreign e-governments

This era was marked by the introduction of EA and BPR, which originated in the US.

In Japan, the optimization of business and information systems follows the federal EA model. Additionally, the US-style business model reform movement was introduced to the Japanese government.

A-4 The third stage (2009-2016)

The characteristics of this era include the enhancement of e-government governance, the promotion of openness, and a shift to a citizen-centered model.

A-4-1 Status of laws and government decisions

In this era, several important laws were enacted. There were also some government decisions regarding the nature of epoch-making.

Laws

2012: Revision of the Cabinet Act (founding the Government CIO)

2013: Act on the Use of Numbers to Identify a Specific Individual in Administrative Procedures (My Number Act)

2015: Revision of the Personal Information Protection Act (introduction of Anonymized Personal Information)

Government Decisions

2009: i-Japan Strategy 2015

2010: New Information and Communication Technology Strategy

2011: Basic guidelines for promotion of e-administration

2012: E-Government Open Data Strategy

Declaration to Create the World's Most Advanced IT Nation

A-4-2 Specific measures taken in this period

This era marked the beginning of many important components of e-government. For example, in 2009, government-shared service systems such as document management systems, public employee common authentication platforms (Government Identity Management for Authentication, GIMA), and personnel and payroll systems were launched.

In 2013, a common government platform (Government Cloud) was implemented.

Furthermore, an open government emerged. Following the government's decision in 2012, a data catalogue (a government site) was implemented in 2014. Thus, the utilization of digital, governmental, and personal digitized data was planned.

Simultaneously, the Act on the Protection of Personal Information was revised (2015) to circulate and utilize anonymized personal data.

Regarding the Japanese version of the national identity (ID), the use of My Number began in 2016— although only in the fields of welfare, medicine, and tax administration.

The acquisition rate was initially low; however, as of March 2023, the application rate for the entire population had reached 75%. In the future, there are plans to integrate health insurance cards and driver's license functions into these cards.

A-4-3 Characteristics of the third stage

A-4-3-1 Shift to a Citizen-Centered Perspective

In the i-Japan Strategy (2009), it was stated that digital technology, which had been based on a "technology-first orientation" and "supplier-side logic," should be converted to a "human-centric" perspective, reflecting the fact that the inadequate user perspective was the reason for the delay in digitization.

This was further revealed in the 2010 New Information Technology Strategy. Because the government at that time was ruled by the Democratic Party, which was hostile to the bureaucratic leadership system, a citizen-centric consciousness was strongly expressed. For example, it situated "information disclosure/sharing" as a central feature of the e-government, which was completely different from previous decisions.

Furthermore, expressions such as a "society led by the people who are taxpayers/consumers" were observed in this decision. The aim was to make a shift from a "society led by the government/provider."

A-4-3-2 Strengthening the IT governance

The position of government CIO, nearly the highest-level official in Japan, was established in the Cabinet Secretariat (2012), to which a private sector expert was appointed. This measure aimed to undertake a review of silo-based systems, build a common sharing system, and create a platform using cloud computing from the standpoint of the unified supervision of each ministry and agency.

Consequently, IT governance was strengthened to ensure a more efficient use of the IT budget (with the target of a 30% reduction from the 2009 budget of 6340 million yen) and the elimination of system duplication (1485 systems in 2012 to 787 by 2018, a change of -53%). These targets were largely achieved by FY2021 (MIC, 2021). In addition, as mentioned above, the concept of an open government was introduced for the first time, and efforts to provide government data were initiated.

A-4-4 Comparison with the UN and EU models

In this era, Japan remained in the third stage of the UN model, in which its progress was promoted and its actual usage rate increased. This may correspond to the two-way interaction stage in the EU model.

A-4-5 Comparison with foreign e-governments

A-4-5-1 Open government

This initiative in Japan was influenced by the January 2009 memorandum (Transparency & Open Government) of US President Barack Obama and the "Open Government Directive" in December of the same year. However, while the US site, Data.gov, was launched in 2009, the Japanese data catalog was approximately four years behind.

In 2010, the UK announced its "transparency agenda," and data.gov.uk was launched at approximately the same time as in the US, three years earlier than Japan.

The Open Data Charter was adopted at the 2013 G8 Summit and Japan's efforts have been consistent with this trend.

A-4-5-2 IT governance

To improve IT investment management during this period, the US federal government's CIO launched Portfolio Stat, which aimed to identify duplicate IT investments and shift to a shared service model. It has become the model for efforts related to IT governance in Japan.

In the UK, according to Mike Bracken of the GDS, established in 2009, considerable efforts were needed to overcome the oligopoly of the IT companies, a problem that has been common in Japan (Sikkut 2022, 181).

In addition, the UK's Government Digital Strategy of 2012 stated the policy of a "Digital by default service standard"; however, this would not appear in Japan until 2017, during the subsequent stage.

Furthermore, the UK's Civil Service Reform Plan calls for the unification of government sites into a single website for the whole government, gov.uk; nevertheless, Japan still uses unique websites for each ministry and agency, and such unification has not been discussed or planned.

A-5 The fourth stage (2016-present)

Since 2016, efforts have been made to improve people's lives and welfare, transform society and the economy through the use of data, and review the nature of government administration itself from a digital government viewpoint. Thus, these efforts have continued.

A-5-1 Status of laws and government decisions

The Basic Act on IT (2001) was transformed into the Basic Act on the Formation of a Digital Society (2021), and the Administrative Procedure Online Act (2002) was revised to become the Digital Procedure Act (2019). These measures were taken to strengthen the existing legal provisions suitable for the digital age.

Similar measures were also observed in the formation of the related government decisions.

Laws

2016: Basic Act on the Advancement of Public and Private Sector Data Utilization

Revision of Personal Information Protection Act

2017: Revision of Government Personal Information Protection Act

2019: The Digital Procedure Act

2021: The Basic Act on the Formation of a Digital Society

Government Decisions

2017: Digital Government Implementation Plan

Basic Plan for the Advancement of Public and Private Sector Data Utilization

Guidelines for promoting digital government

Basic guidelines for open data

2018: Digital Government Action Plan

2020: Digital Government Action Plan (revised)

Local governments' DX (Digital Transformation) promotion plans

2022: Basic Policy on Reform for the Formation of a Digital Society

A-5-2 Specific measures taken in this period

In addition to the many legislation and decisions pieces described above, the *Mynaportal* was implemented in 2017. This website is linked to the My Number, which allows users to search for notifications from the government, implementation of various procedures, and status of the My Number usage. It may be likened to a small version of Borger.dk and Eesti.ee in Denmark and Estonia, respectively.

Another important achievement was the establishment of the Digital Agency (2021) as the new control tower. These functions has been described in the previous sections.

Furthermore, initiatives related to the Society 5.0 concept, digital garden city concept, and smart cities/super cities projects have recently begun as initiatives that surpass the category of e-government (for the contents, see the websites of the Cabinet Office/Cabinet Secretariats in the References).

A-5-3 Characteristics of the fourth stage

The application/distribution of the My Number card, which began in 2016 as a nonmandatory scheme, was sluggish until 2020; the problem became conspicuous during the COVID-19 crisis (delays in identity verifications related to the payment of benefits, etc.). This indicates that in Japan, institutional and infrastructure development were at a high level; however, conditions related to the use of data were inadequate.

Reflecting on this, efforts toward the realization of a "digital government" with a focus on "user-centered services" and "creation of innovation through a public-private collaboration" based on utilizing public and private data were promoted. Accordingly, various laws and government decisions have been enacted.

Thus, the Digital Agency was established, and a substantial revision of the Basic Act on IT was performed to fundamentally strengthen government's efforts to digitize the entire society.

Under these circumstances, *inclusive digitalization* was promoted to leave no one behind out of concern about the digital divide.

A-5-4 Comparison with the UN and EU models

If all these measures had succeeded, this period would have been the connected stage (fourth stage) of the UN model. However, the requirement that "Governments actively collect public opinions and information through their websites" was only satisfied by the passive public comment procedure by e-Gov. Therefore, the efforts were insufficient at this stage.

Additionally, due to inconsistencies in formats and procedures among ministries, there was insufficient cooperation even at inter-agency online conferences during the COVID-19 pandemic. The Japanese government's electronic services have not been *seamless* across ministries, and the services for citizens are not *customized*, for which reason this can only be considered the fourth stage with qualification.

Additionally, with the exception of cities such as Kakogawa, which use Decidim in some cases, the citizens' participation in political decision-making has not yet been realized, and the situation remains at the entrance to the fourth stage.

Compared to the EU model, neither a full electronic case nor a "personalization" state has been reached.

A-5-5 Comparison with foreign e-governments

Regarding the foreign influences in this era, that of the EU is noteworthy. Although not detailed in this paper, the impact of the GDPR on the full revision of the Japanese Personal Information Protection Law was significant. Furthermore, in the fields of digital taxation and IT competition policy, the EU, as a rule setter, has been especially closely followed in Japan.

According to the MIC (2021) and Kogure (2019 and 2021), among the seven principles stated in the "EU e-Government Action Plan 2016–2020" (EU 2016), the four e-government-related

items are as follows: Digital by Default, Once-Only Principle, CrossBorder by Default, and Interoperability by Default, which are reflected in the three basic principles ("Digital First," "Once Only," and "Connected One Stop") of the Digital Procedure Act.

Among the seven EU principles, inclusiveness and accessibility were also reflected in the Digital Agency's mission of "digitalization that leaves no one behind."

In 2018, the government CIO published a practical guidebook on design thinking influenced by the works of the cross-administrative "Mind Lab" in Denmark.

Susumu Kamimura is Professor at the College of Law, Nihon University. He has worked in the Government of Japan for over 30 years, mainly in the field of Public Administration and e-Government. His last post was Director-General of the Administrative Management Bureau, Ministry of Internal Affairs and Communications (MIC). Email: kamimura.susumu@nihon-u.ac.jp

Nasrulhaq Nasrulhaq, Suhono Harso Supangkat, Arry Akhmad Arman and Lukman Anas 2025
"Smart Governance: The First Experience of the Two Metropolitan Cities in Indonesia"
Halduskultuur. The Estonian Journal of Administrative Culture and Digital Governance 23(1-2), 55-83

Smart Governance: The First Experience of the Two Metropolitan Cities in Indonesia

NASRULHAQ NASRULHAQ, DEPARTMENT OF PUBLIC ADMINISTRATION, MUHAMMADIYAH UNIVERSITY OF MAKASSAR, INDONESIA AND DEPARTMENT OF POLITICAL SCIENCES AND INTERNATIONAL RELATIONS, UNIVERSITY OF PALERMO, ITALY

SUHONO HARSO SUPANGKAT AND ARRY AKHMAD ARMAN, SCHOOL OF ELECTRICAL ENGINEERING AND INFORMATICS, BANDUNG INSTITUTE OF TECHNOLOGY, INDONESIA

LUKMAN ANAS, DEPARTMENT OF INFORMATICS, MUHAMMADIYAH UNIVERSITY OF MAKASSAR, INDONESIA

Abstract

Smart governance is one of the main dimensions of a smart city. Its implementation is realized in a variety of ways. This study continues to develop the concept and practice of smart governance based on the characteristics of the city. In Indonesia, Bandung and Makassar cities have prominent experiences compared to other cities. The experiences of the cities were studied using the classical qualitative methods for theory and empirical orientation. The statement is based on field data obtained through interviewing informants, expert discussions, direct observation, and review of relevant documents as well as articles. Data were analyzed in accordance with the study's focus theme. This study finds the main aspects of smart governance. They are policy arrangements, bureaucratic management, and public service. All the aspects are associated with the use of information and communication technology. Smart governance refers to enhancing the technological and human resources that drive cities.

Keywords: smart governance, metropolitan city

Research Background

In Indonesia, smart governance is one of the dimensions of smart city program formulated by the central government and implemented by local governments. The program is called "Moving Towards 100 Smart Cities." It was launched in 2017 and is still running up to 2023. Regarding the program design, it is similar to the national movement in India, which also declared 100 smart cities earlier on. India's smart city plans are, perhaps, unprecedented in scale and ambition worldwide (Bunnell 2015). Datta (2015) noted "100 smart cities, 100 utopias in India." In the case of Indonesia, it is worthwhile to take note of their argument. Indonesia's national movement towards 100 smart cities is between an ambition and a utopia. To understand it, a particular study is accomplished on the cities that claim smart governance in the smart city context. This study is essential because research related to smart cities improves and

develops modern urban management (Carvalho 2015; Glasmeier and Christopherson 2015). Practitioners and academics are required to know how smart governance is understood and implemented in cities.

Smart governance is a concern in this study because it is a key aspect (Bolívar and Meijer 2016; Scholl and AlAwadhi 2016), a key issue (Viale Pereira et al. 2017), and the core of smart city initiation (Chourabi et al. 2012). Smart governance can be positioned as a determinant factor in the smart city. Smart governance is, among others, participation in decision-making and public service (Giffinger et al. 2007; Kar et al. 2017). Camero and Alba (2019) emphasized further that smart governance is concerned with using information technology to improve public services (e-government) and to support decision-making. Nevertheless, smart governance is understood in many ways, both in practice and in concept. According to Meijer (2016), "there is no one-size-fits-all approach to smart city governance." The experience of smart governance in several Indonesian cities can, therefore, provide suitable arrangements for their urban environment. The analysis uses a local perspective. The best practice is a lesson for other cities. It can be a lesson learned for cities in Indonesia and cities in developing countries alike Indonesia.

This study specifically analyzes the smart governance experiences of two municipalities in Indonesia, namely Bandung City and Makassar City. Both are the 25 cities designated in the first phase of the Movement Towards 100 Smart Cities in 2017. The experiences of the two cities associated with the national movement towards smart cities are studied to answer two research questions. The first question is how smart governance is addressed in smart city practices in Indonesia. The national design and its implementation in the local governments of the cities of Bandung and Makassar were analyzed to find answers to the first question. This question means understanding smart governance based on an Indonesian perspective. The second question is how the two municipalities embed and work smart governance in structure as well as process towards a smart city. This question emphasizes the ways or approaches of smart governance based on the local perspective in Indonesia. Both questions are answered in an integrated manner as an interrelated part of this study.

Research Methodology

Selecting Research Object

This study was conducted in Bandung and Makassar City in 2021. The cities were selected as research locations based on certain considerations related to Indonesia's smart city national movement. A special emphasis is placed that there are four reasons for choosing the research object, namely (1) the two cities participated in the first stage of smart city national movement in 2017; (2) their improvement and performance index in smart city context were appreciated positively by the central government; (3) their geographical location is different, Bandung City in western Indonesia and Makassar City in eastern Indonesia; and (4) both cities have their own characteristics in smart governance before and after the national movement of smart city. Further description of the two cities can be seen in Table 1.

Table 1. Descriptions of Bandung City and Makassar City

Elements	Bandung City	Makassar City
Location	Java Island	Sulawesi Island
Total Population	2.461.000 people (2022)	1.427.000 people (2022)
Total Area	167,31 km^2	175,77 km^2
City Status	Capital city of West Java Province	Capital city of South Sulawesi Province
Municipality Status	Main city of a metropolitan area	Main city of a metropolitan area
Administrative Division	30 districts	15 districts
Smart City National Movement	Participated in 2017	Participated in 2017
Local Smart City Initiative	Started from 2013	Started from 2014
Smart Governance Principle	Based on local community and innovation	Based on local wisdom and useful technology

Source: Tabulated by authors from various sources as described in the text.

Apart from formal considerations through the documents of the smart city national movement and the documents of the two local governments, selection of the cities was also strengthened by tracing their achievements of smart city governance in local, national, and international news. We conducted a search on Google using English and Indonesian languages with the keywords "smart city," "smart governance," "Indonesia," "Bandung," "Makassar," "achievement," and "excellence." Researchers conclude that Bandung City and Makassar City are imperative and strategic cities in Indonesia with various achievements in smart city issues. More information can be accessed at https://www.bandung.go.id/ about Bandung City and at https://makassarkota.go.id/ about Makassar City. Integrated study in two different case cities provides reinforcement for data and information. The two cities were the subject of more extensive research, resulting in more data and information. From these experiences, the concept and practice framework of smart governance can be designed for the cities in developing countries that want to be smart. Especially the cities categorized as big cities or metropolitan areas.

Collecting Data and Its Analysis

Researchers collected data in parallel through empirical studies, tracking-related documents, and reviewing the literature. This step is called the data triangulation process. Triangulation importantly helps to ensure the reliability of data (Ahmmed 2022) and is used for cross-checking and cross-validating information for accuracy (Thomas 2021). Through empirical studies, researchers knew the real situations and conditions implemented in the cities of Bandung and Makassar. Tracking various print and online documents related to the smart city theme to provide a review. The documents add data resulting from empirical studies. Because of various smart city concepts and practices, researchers conducted literature research as part of data collection. It supports theme selection. The literature review process encompasses much more than just reviewing current research. It was done to complement the empirical studies and document sources. This study analyzed and synthesized a variety of

literature supporting the smart governance context in Indonesia. The diverse understanding of practitioners and academics about smart governance has encouraged researchers to strengthen the triangulation method in this study. To ensure the robustness of the data triangulation process, Table 2 delineates the research data and their sources.

Table 2. Research data and sources

Data	Source
Empirical Process	In-depth interviews with employees at local government agencies and partner organizations in Bandung City and Makassar City
	Observation of service innovations developed by the Bandung City and Makassar City Governments
	Focused expert discussion on smart governance related to Bandung City and Makassar City
Documentation Materials	Materials of the smart city presented by academics and practitioners at formal meetings
	Various books and activity reports on smart cities in Bandung and Makassar City
	Various news in online and print media related to smart cities in Bandung and Makassar City
	Regulations of the central government and the local government of Bandung and Makassar associated with smart cities
Reference Materials	Scientific articles from reputable international journals on the theme of smart governance
	Scientific articles from reputable international books that are relevant to the theme of smart governance
	Research reports published by reputable international institutions

Source: Author's tabulation

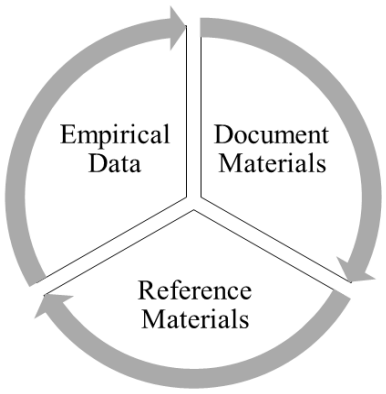
In the empirical process, there are five informants from civil servants in Bandung City and ten in Makassar City. In addition, there are two informants from the private sector in Makassar City. All the formal interviews were held in their office. More than formal meetings, informal interviews were conducted with several residents in both cities. The interviews were done in service offices, restaurants, and public transportation. The interviews were in Makassar, and next in Bandung. Likewise, with direct observation, researchers ran in Makassar City first and continued in Bandung City. Several public service points were visited directly in the two cities. Main visit was in Bandung Command Center (BCC) and Makassar City War Room (MCWR). Researchers established supplementary interviews and focused discussions with two experts in smart cities. They are from public and private universities. The experts have empirical experience in smart governance across several cities in Indonesia.

About print documents, the materials are presentation slides referring to smart city themes, program books of Movement Towards 100 Smart Cities published by the central government, and activity reports of smart cities published by the two local governments and other research institutions. Online documents sourced from the Ministry of Communication and Information official portal, various websites and official digital media belonging to the Bandung City Government, various websites and official digital media belonging to the Makassar City Government, and various online news portals. Other documents include laws, regulations,

and decisions on national development planning, spatial planning, electronic information and transactions, public information disclosure, public services, local government, regional apparatus, electronic government system, and e-government. Video recordings and posts on social media sourced from the Bandung and Makassar City Governments are an integral part of online documents.

Regarding reference materials, articles were downloaded from reputable journal databases and publishers, namely Scopus, Springer, Wiley Online Library, and Taylor & Francis. All articles themed on general smart cities and smart governance were traced serially or step by step. The keywords are smart city governance and smart governance. These articles were read directly by scanning and skimming procedures. Articles cited have similar keywords for smart city and smart governance practices in Indonesia, both in the form of literature reviews and field studies. Themes in the articles were related to the results of field research and documents. However, determining the themes as a research finding does not start or end with the literature review. Themes were identified through a round process that rotates, such as a wheel. The researchers called it a circular approach. The authors use the final theme as the findings after there is an appropriate synthesis between empirical results, relevant documents, and selected references. It has been necessary to conduct research and analysis in a circular manner to ensure that the data are accurate and reliable. The circular approach analysis is intended to solve empirical gap issues and the abstract concept of smart governance. Figure 1 below provides a concise description of the analysis process, as informed by the data delineated in Table 2.

Figure 1. Circular approach data analysis



Source: Authors' conceptualization

Smart Governance in Literature Review

In searching references, many experts often interchangeably use the terms smart governance and smart city governance. Occasionally, those words are used in conjunction with smart urban governance. Literature review and empirical analysis conducted by Bolívar and Meijer (2016), the term used is smart governance. In another literature review, Meijer and Bolívar (2016) use the term smart urban governance. Smart urban governance is used by Jiang (2021) in various writings about smart cities. A systematic literature review conducted by Ruhlandt

(2018) uses the term smart city governance. Other articles use smart city governance, for example, Hammad and Ludlow (2016) and Nesti (2020). The term smart governance is the most popular one based on the searches carried out, among others (Dameri and Benevolo 2016, Scholl and AlAwadhi 2016, Ranchod 2020). Various articles in the book chapter edited by Lopes (2020) and Estevez et al. (2022) use smart governance terms. One of the sources of writing about the smart governance concept and practice comes from Giffinger et al. (2007) who studied cities in Europe.

All articles that use the terms smart governance, smart city governance, and smart urban governance are included in this study. This research uses references that support smart governance cases in Makassar and Bandung City. References emphasize the aspects of governance in smart cities. Governance focuses on the interactions between various stakeholders in the smart city. Governance is not only the government but more than government organization. This study uses the term smart governance because the national program of smart cities in Indonesia uses smart governance as one of the dimensions. Dameri and Benevolo (2016) explain that smart city governance should be driven by both institutional and noninstitutional actors. Smart city governance is the same term for governing a smart city or governance of smart cities (Meijer and Bolívar 2016). According to Meijer and Bolívar (2016), smart city governance is a new form of human collaboration using ICTs to obtain better outcomes and more open governance processes. Castelnovo et al. (2016) said smart city governance is all smart city processes, from deciding to services. Smart city governance focuses on policymaking (Ehwi et al. 2022). Some authors indicate that smart city governance is about decision-making (Meijer et al. 2016). Smart city governance can also be understood as a governance model for smart cities (Meijer et al. 2016).

There are many articles that also provide specific limitations on the word smart governance. Smart governance refers to a style of the governing process (Dameri and Benevolo 2016). Conforming to Nesti (2020), smart governance entails adopting a new approach based on experimentation, collaboration with all local stakeholders, and reorganizing existing government structures. Smart governance aims to improve urban management through enhanced data-informed decision-making and civic actors' commensurate inclusion and participation (Ranchod 2020). Smart governance comprises aspects of political participation and services for citizens as well as the functioning of the administration (Muñoz et al. 2022). Smart governance is understood to include more than administrative efficacy and instrumental benefits derived from technology (Giuliodori et al. 2022). Smart governance is one of the smart city dimensions addressed by the initiatives from the research literature and EUROCITIES Network (Cortés-Cediel et al. 2021). Smart governance includes a three-step process: diagnosing the situation, developing a strategic plan, and acting (Jiang et al. 2020). Smart governance entails a closer, more efficient, and effective way for citizens to relate to government, for government to engage citizens and for how cities are governed (Ho 2017).

To define the concept of smart governance, this study provides a certain understanding as an insight base associated with various perceptions of smart governance and other related terms. The first is that smart governance is a public affairs process and structure involving the government and non-governmental organizations, including the community. The structure can be formal or non-formal form. It is formed by government or non-government organizations where the policy is implemented. The process starts from decision-making to performance

appraisal. The process includes feedback from performance appraisal to decision-making. Second, smart governance emphasizes innovation in public services effectively and efficiently. Innovation consists of the use of information systems and communication technology. Innovation also covers all solutive actions run by stakeholders to solve problems. The most important thing, smart governance depends on the intervention in society (Giuliodori et al. 2022), management of city infrastructures and human resources (Castelnovo et al. 2016).

Due to the necessity of analysing the themes of smart governance in practice, two literature reviews shown Table 3 are used to develop insight. The following article is considered to represent the pillars, components, dimensions, and other terms written by various authors regarding smart governance aspects.

Table 3. Relevant aspects of smart governance

Aspect	Sub-aspect	Author
Strategy for Implementing	- Ideas (integrated vision) - Action (legislation, policy, organizational transformation)	Bolívar and Meijer (2016)
Arrangement	- Connected organizational process (collaboration and participation, internal coordination, decision-making, e-administration) - Use of technology Innovation capacity	
Outcomes	- First outcomes - Second outcomes - Third outcomes	
Components	- Stakeholders - Structure and organization - Processes - Roles and responsibilities - Technology and data - Legislation and policies - Exchange arrangements	Ruhlandt (2018)
Contextual factor	- Degree of autonomy - Local conditions	
Measurements	- Aggregate-based measures - Component-based measures	
Outcomes	- Substantive outputs - Procedural changes	

Source: Authors' tabulation

Table 3 indicates that smart governance focuses on government processes and outcomes regularly. It includes policy actions, organizational processes, structural arrangements, and technologies. These issues are always relevant in formulating, evaluating, and implementing public policy. Moreover, these aspects and sub-aspects on the table are fundamentally related to public services. It is all related to the functions and affairs of local government. Therefore, smart governance is a general government process involving non-governmental organizations and individuals. This study considers smart governance within the smart city program. Smart governance within smart cities is easier to understand. It is at least related to the institutions involved in the smart city program and to the various innovations implemented

as a result. Aside from the context of the smart city program, the smart governance term is not included in this study. The scope of this limitation distinguishes government activities in general and specific programs of smart cities. Aspects and sub-aspects in Table 3 allow the author to differentiate between smart governance studies and non-smart governance studies.

Smart Governance in Indonesian Case

Overview of National Paradigm

The Movement Towards 100 Smart Cities program was initiated and controlled by the Ministry of Communication and Informatics. In its development, several relevant ministries fully support it, namely the Ministry of Home Affairs, Ministry of Public Works and Housing, Ministry of State Apparatus Utilization and Bureaucratic Reform, Ministry of National Development Planning, Ministry of Finance, Coordinating Ministry for Economic Affairs and Executive Office of the President. A total of 100 cities in city and regency governments have been involved in three stages. There were 25 cities in 2017, 50 in 2018, and 25 in 2019. In the following year, until 2023, the Ministry of Communication and Informatics and related parties conducted regular monitoring and evaluation in these 100 cities while continuing the initiation of cooperation with other cities. Currently, smart city has become an admirable national program. In the 2020–2024 National Medium-Term Development Plan, the smart city program is one of the strategic agendas for urban development. Its target, the city towards smart, increases every year.

Since the beginning of the national movement, all local governments have followed the national smart city guidelines developed for 100 smart cities, especially the 100 cities already part of the program. The 100 city and regency governments have signed a Memorandum of Understanding (MoU) with the central government for program implementation during the years 2017, 2018, and 2019. MoU is an action symbol and participative commitment. The central government and local governments have established and developed the six dimensions of smart cities as a national movement in various cities in Indonesia. Smart governance is addressed at the top of the list of the six dimensions developed. In practice, it acts as an engine to drive the entire dimensions. Implementing smart city dimensions is based on a national guidebook for smart city master plans. The guidebook was printed by the Ministry of Communication and Informatics. The dimensions and their sub-dimensions mentioned in the book are mentioned in Table 4.

Table 4. Smart city dimensions in Indonesia

Smart Governance	Smart Branding	Smart Economy	Smart Living	Smart Society	Smart Environment
▪ **Public Policy** ▪ **Bureaucracy** ▪ **Public Service**	▪ Tourism ▪ Business ▪ Appearance	▪ Industry ▪ Welfare ▪ Transaction	▪ Harmony ▪ Health ▪ Mobility	▪ Community ▪ Learning ▪ Security	▪ Protection ▪ Waste ▪ Energy

Source: Ministry of Communication and Informatics (2017).

There are six dimensions of a smart city as well as its subdimensions, which are developed by the central government as guidelines for local governments to follow. Among these dimensions, there are three subdimensions under each of them. Public policy, bureaucracy, and public service are all components of the smart governance sub-dimension. As stated in the 2017 Smart City National Guidebook, provided by the Citiasia Center for Smart Nation (CCSN), the concept of public policy leads to impact, leadership, and initiative. Bureaucracy is about fairness, accountability, and transparency. Furthermore, public service incorporates aspects of subdimensionality, administration, service, and goods. In practice, these three subdimensions are oriented towards the use of technology and information systems such as websites or apps. In the same way, things are the same for the subdimensions of any of the other dimensions, and all of these are directed towards the use of technology as well as the use of information systems as well. Generally, the smart city movement in Indonesia has been designed with a variety of concepts that have then been combined with information and communication technologies (ICTs).

Annually, the central government and local governments provide performance index and improvement index to measure achievement. The performance index describes the level of smart city development of each city. This index calculates the average baseline value, output, outcome, and impact. The improvement index describes the level of improvement that occurs after participating in the program. This index calculates the difference in values between the average output, outcome, and impact on the baseline. Each item in the baseline, output, outcome, and impact indicators is given a point to provide a mapping of performance achievements. The results of measuring the performance and improvement index are the basis for seeing progress towards smart cities. According to the characteristics and needs of each city, one or more of these dimensions may be given priority. As an example, there are some cities whose performance index in smart economy is high, but whose performance index in smart branding is low. For smart governance, optimal performance and continuous improvement are mandatory. Smart governance means smart in public policy, bureaucracy, and public service.

Nevertheless, the performance index and improvement index are only determined in the context of innovation in each dimension of the smart city. Judging smart governance and other dimensions (smart branding, economy, living, society, and environment) focuses on its innovation processes, specifically the use of technology and information systems. The innovation created is called quick wins. The quick wins intend an easy and quick initiative that starts a big program. It is a simple way and solution. At least, the information system as quick wins can be accessed directly through a web browser and or can be downloaded and installed on smartphones. It leads to the strengthening of government affairs and public services. Associated with determining the score of the index, most government practitioners in Indonesia understand smart governance as a technology and information system development in bureaucratic management and public services. Nonetheless, a few interpret smart governance as a formal policy process, including institutions, budgeting, and its publication. These views are based on empirical studies and the annual reports of the smart city national movement in 2017, 2018, and 2019. The reports provide a detailed description of the development of various cities. Generally, the smart city indexes of a city are still limited to the results of a quick wins assessment that emphasizes information system-based innovation.

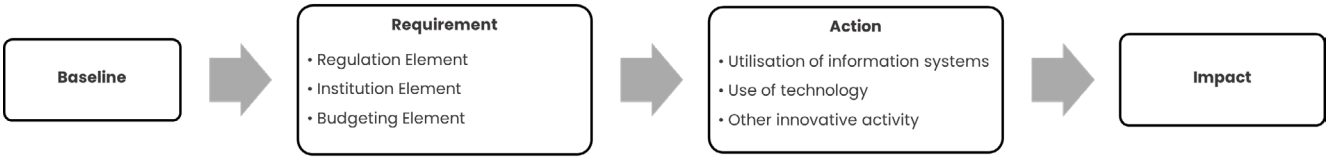
The smart city indexes, which are based solely on information system-based innovation or quick wins, indicate that smart governance in all cities in Indonesia is at the initiation stage of smart capacity. Information systems are one part of the initial process in the effort towards smart governance. Technology and information systems support various government tasks and functions. Furthermore, assessment of performance output is limited to answering the question of whether it is implemented or not. The question expresses a stage of initiation. The most important question in smart governance is whether the community participates or not. If the community participates, the next question is about the participation form. The question of participation has not been emphasized in the implementation of the "quick wins", even though smart governance substance is related to aspects of participation. Participation in the smart governance concept is part of the implementation process. Participation is an activator. Participation is an activity that drives something to happen. Participation is not the impact of a process. Other substantial aspects of smart governance have not been the main concern in determining the index score, among them leadership, impact, initiative, accountability, and transparency.

Legitimately, the smart city national guidebook and regulations explain many aspects of public policy, bureaucratic management, and public services towards smart cities. Aspects that are considered as other assessments should not be limited to the use of ICTs. The policy process focuses on efficiency, transparency, and cooperation. Bureaucratic management is about accountability and integrity. The public service includes accessibility and easiness. Furthermore, there are other things that have not been maximized in the planning and implementation of the assessment. The number of keywords explained in the aspect of smart governance makes it unclear between smart governance and other smarts in the smart city program. To reduce overlap in implementation, the central government encourages local governments to divide local apparatus organizations or local government agencies in each smart city dimension relevant to their main tasks and functions. The categorization of smart governance was determined based on the tasks and functions of local government agencies. The policy process is associated with the planning, research, and development agencies. Bureaucratic is associated with finance, staffing, education, training, control, and secretariat agencies. Subsequently, public service is associated with communication and informatics, population and civil registration, and investment permit agencies.

The national planning book was well-designed for smart cities, particularly smart governance. The assessment, however, does not cover all the information presented in the planning book. In the end, smart governance appears ideal in its design, whereas performance evaluations focus solely on technical and administrative issues. An assessment of smart governance that is based solely on practice innovations and summarized in the quick wins program needs to be upgraded into a more substantive assessment. For example, the main assessment of the policy design aspect is based on cooperation and participation. Bureaucratic is based on integrity, and public service is based on accessibility. In principle, it is necessary to have keywords that are clear in substance, administrative, and technical. The planning and assessment guidebook is integrated item by item. There must be a clear synergy between the smart city planning book and the smart city assessment book. It is not enough to say that a city has successful smart governance if the foundation is only on technical innovations developed by the local government. Certainly, the distinction between smart governance and other smarts needs to be clarified. Smart governance should have a few keywords

associated with it, clear and measurable. As such, assessing and monitoring the progress of smart governance will be easy to learn. Figure 2 below depicts the interrelationships among the various stages of the assessment process.

Figure 2. The Logic of Smart City Assessment



Source: Author's elaboration

The components assessed on smart governance and all other smart city dimensions are in the action box. The logic of smart cities in Indonesia places smart governance as one of the dimensions of a smart city, making it equal to other dimensions in the assessment. In a broad view, the items in the requirements box are the substance of smart governance. These three components are attached to the public policy process. In the smart city planning document, public policy is a part of smart governance. In a broader view, all of the boxes above are part of smart governance if the understanding is governance in a smart city. In conclusion, based on various sources, this study understands that the requirements box is a part that needs to be considered in the concept of smart governance. That is the essence of the public policy process. Smart governance is not only an action but also a requirement in a smart city.

Review of Local Government

Smart Governance in Bandung City (SGBC)

The Bandung City Government has established a smart city as the main agenda in the 2013-2018 Regional Medium-Term Development Plan, led by Mochamad Ridwan Kamil's Mayor and Oded Muhammad Danial's Vice Mayor. As a serious step for the government, the Bandung City Government established the Bandung Smart City Development Council through a Mayor's Decree in 2014. The Smart City Development Council involves local government agencies, state-owned enterprises, regional-owned enterprises, privately owned enterprises, universities, public associations, media, communities, academics, and practitioners. The main tasks and functions of the smart city council are (1) directing the development of smart city Bandung; (2) monitoring the development of smart city Bandung; (3) controlling all processes related to the development of smart city Bandung; (4) carry out coordination in the development of smart city Bandung with related regional apparatus; and (5) submit activity reports periodically or at any time if requested to the Mayor of Bandung through the Regional Secretary of the City of Bandung.

In 2017, as a term and condition of the Movement Towards 100 Smart Cities, the Bandung City Government formed a Smart City Implementor Team that only involved local

government agencies. Non-local government agency organizations were not involved in the implementation team. The smart city implementor team has the main tasks of (1) make a schedule and teamwork plan; (2) coordinate with the Bandung Smart City Development Council; (3) follow the technical guidance for the preparation of the Bandung City Smart City Masterplan; (3) follow the technical guidance on the preparation of a quick win; (4) follow the technical guidance for the preparation of the I Road Map; (5) carry out data exchange and Legal Software using Free and Open Source Software (FOSS); (6) participate in the socialization and Focus Group Discussion (FGD) of the Bandung City Smart City Movement; (7) implement data integration between regional apparatuses; (8) play an active role in increasing small and medium-sized businesses by using electronic systems, especially digital marketing; (9) monitor and evaluate the implementation of the Bandung City Smart City Movement; and (10) submit reports periodically and/or at any time if requested to the Mayor of Bandung through the Regional Secretary.

Currently, the Bandung City Government also has a Bandung Smart City Forum. It is an online platform that can be accessed at https://badami.bandung.go.id/. Badami is an acronym for "Bandung Discussion and Innovation Monitoring." The forum encourages the community to be involved in the development of a smart city in Bandung. Bandung City's people can provide comments and information sharing anytime and anywhere. This forum provides an open space for individuals while still prioritizing ethical and moral values. The forum is for collaboration, socialization, and monitoring of innovation by using technology. The forum supports various communities to participate actively in urban development. The forum maintains the relationship with all stakeholders in the smart city context. Ideas or innovations that are created by the community are accommodated and facilitated by the local government. The number of local innovations that have not been integrated is also the reason for the initiation of the online participation forum. All communities that have ideas and innovations are expected to submit them to the forum. Likewise, proposed solutions to various urban problems can be submitted in the online forum.

From 2013 to 2022, bureaucratic management and public service innovations in Bandung were developed and managed with the following approaches:

- **Interactive Services**
  The leading information technology-based service in Bandung is called the BCC. BCC is an innovation based on supervision and control by using communication and information technology. The driving forces are the Internet of Things (IoT) and Artificial Intelligence (AI). BCC is in the form of an integrated room with modern facilities. In order to monitor urban conditions, hardware is supported by software and other infrastructure. Many Closed-Circuit Television (CCTV) are installed at various points. The footage from the CCTV can be analyzed in more detail to bring up notifications as needed. BCC is integrated with emergency 112 calls for criminal, health, natural disasters, riots, fire, violence, accidents and security or order services. BCC also provides information services such as weather data, maps, video feeds, and special vehicle locations. This room is also a centre for government information and coordination with related institutions. In its operation, several operators manage BCC. Its operation is for 24 hours and is connected to various government agencies. The BCC's main functions include a policy support system, monitoring the urban situation and access to fast services.

- **Integrated Services**
  Integrated public services in the city of Bandung are called Public Service Outlets, such as a shopping centre. The Bandung City Government provides special building services in partnership with the private sector. The goal is to facilitate and expand access to services. Local government organizations that have the task and authority to provide licensing, administration, and consulting services open service rooms in the public service outlets. Other government organizations, such as the police and the prosecutor's office, also provide services free of charge. Service rooms are provided for other public service organizations in partnership with the Bandung City Government. In the building, there are several types of services provided. People can manage many services at one time. The service combines online and offline approaches. The public can register online for an appointment. The service time will be informed by the operator through the information system. Furthermore, the public can come to the location or communicate by telephone.

- **Website or Mobile Application based Services**
  In this case, information system-based public services are those that utilize websites or applications as means of providing public services. The service can be accessed through a web browser (Google Chrome and Mozilla Firefox) and can be accessed through an application that can be downloaded on the Play Store or App Store. All local apparatus organizations widely use this information system-based public service as an innovation. An information system is also developed in terms of internal service in the government bureaucracy. Information system-based public service innovations made by the Bandung City Government are categorized as smart governance, including e-planning, e-budgeting, e-reporting, e-procurement, tax service information system, personnel management information system, and administration service system. Some of these information systems are developed and integrated by relevant ministries and agencies within the central government. Bandung City Government only acts as an admin and operator on information systems controlled by the central government. In the end, the Bandung City Government can no longer innovate some service items. Previously, services such as e-planning, e-budgeting, and licensing services were developed independently.

Smart Governance in Makassar City (SGMC)

The Makassar City Government, led by Mayor of Mohammad Ramdhan Pomanto and Vice Mayor of Syamsu Rizal Marzuki Ibrahim, carried out the *sombere* and smart city development agenda in the 2014-2019 Regional Medium-Term Development Plan. In Indonesia, the general targets in the planning documents are always based on the Mayor's and 'Vice Mayor's vision and mission as elected local leaders. For Makassar City, the periodization of the Mayor and Vice Mayor who was elected at that time started from 2014 to 2019. The smart city became the development vision of the Makassar City Government from 2014 to 2019. Local government organizations are encouraged to carry out smart city-based annual work programs, ranging from sectoral to regional organizations. All local government organizations work together to create public service innovations as a smart city identity. Each local agency carries

out the procurement of communication and information technology equipment and its supporting facilities based on their respective budget allocations set out in the local revenue and expenditure budgets. Nevertheless, the largest portion of the budget remains with the Communications and Informatics Agency, which is responsible for procuring the main equipment needed, such as servers, internet networks, and maintenance of communication network systems.

In 2017, the Makassar City Government formed the Makassar *Sombere* and Smart City Council and the Makassar City Implementors towards *Sombere* and Smart City Makassar. *Sombere* is local wisdom that is also used as a development vision attached to the smart city concept. *Sombere* means humble. All public services must always be humble to everyone. Humble is always present in the interactions between government and government and non-government interactions. Kindness and interest are emphasized as a view in every public service and public space. The board and the implementing team have a synergy of duties and responsibilities. In the same manner, as a company, the council is similar to the role of commissioners, and the implementor team is similar to the duties of directors. The two new institutions were formed when Makassar City became a part of the first phase of the Movement Towards 100 Smart Cities. The Makassar Smart City Council involves local government organizations, state-owned enterprises, regional-owned enterprises, privately owned enterprises, universities, public associations, media, communities, academics, and practitioners. The Smart City Implementator Team, in addition to involving local government agencies in general, particularly central government and public organizations, as well as several academics and practitioners, are also appropriate to be part of the team. In Makassar, both the council structure and the implementor team involve non-governmental organizations.

The Council has the duties and responsibilities of (1) compiling, discussing, and refining the initial draft of the Makassar smart city development plan and agreeing it to be a development plan that must remain in synergy with regional development plans; (2) agreeing on the division of roles and implementation commitments between the government, academia, the community, and the business sector, to achieve the goals of developing Makassar's *sombere* and smart city; (3) monitoring and evaluating the achievement of performance for the purpose of improvement in the next planning and implementation cycle; and (4) providing advice to the government and other parties to improve the quality of planning and implementation of the Smart City Development Plan. The implementation team is tasked and responsible for (1) formulating policies related to realising Makassar towards *sombere* and smart city; (2) providing direction, recommendations and integrating the concept of development and transfer of knowledge of Communication and Information Technology between local government agencies and other related elements by considering the principles of effectiveness, efficiency, transparency, and accountability; and (3) reporting and coordinating the implementation of tasks, monitoring and evaluation results on a regular basis to the smart city council.

Makassar City does not have an active online platform specifically designed by the government to develop a smart city agenda. During 2021, the online forum was developing but was not running maximally. Individual community involvement is carried out using official social media such as Facebook, Instagram, and Twitter. In general, these social media were created

by each local apparatus to respond to suggestions and complaints from the public based on their respective duties and responsibilities. Each local apparatus that provides public services responds to suggestions and complaints from the public. Technical errors or administrative affairs are corrected immediately. Strategic issues are used as input for planning activities for the following year. The pattern of active citizen involvement carried out by the Makassar City Government is similar to the e-government-based development movement that began to develop in 2003. Citizen involvement is not specifically designed for active interaction in general and integrated smart city development. Apart from using social media, residents still have space for interaction in various interactive activities in the form of annual formal dialogues held by the government.

From 2014 to 2022, bureaucratic management and public service innovations in Makassar were developed and managed with the following approaches:

- **Interactive Services**
  Makassar City has an operation room called the War Room. The War Room is a place for controlling various kinds of problems and monitoring public services in the city. The room is integrated with emergency services or call centre 112, which can be contacted free of charge for 24 hours. The call centre serves security, fire, health, and other emergency matters. The work system relates to relevant government agencies such as hospital service units, firefighters, and police. The system is connected to several non-government agencies in partnership with the local government. The facilities available in the room include a widescreen, data centre, computer equipment, as well as other information and communication technologies. The screen is connected to CCTV which is installed at various locations to display real-time shows. There is also a modern CCTV installed at one location with a certain height and can move 36° to reach the city area up to 4 km. The War Room integrates and manages not only security, but also population data, weather data, GPS tracking of government vehicles, and other data. Skilled personnel manage these interactive services specially recruited by the Makassar City Government.

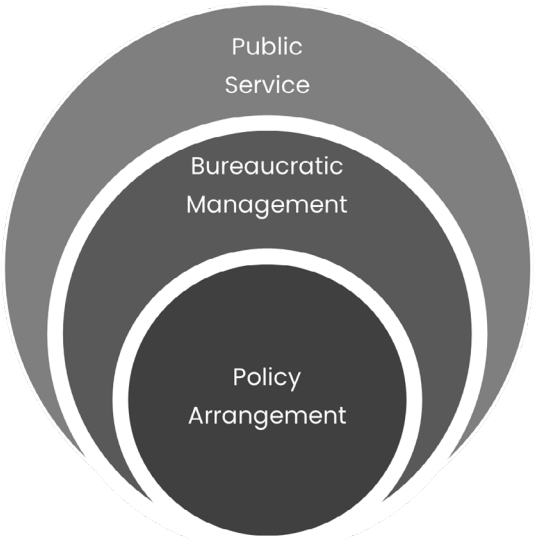
- **Alley-based Administrative Services**
  There are thousands of alleys in Makassar. In each alley, many communities are established. The Makassar City Government has a special team that provides administrative support directly to those communities. The public may not visit government service offices, both sectoral and regional services. The sectoral services include issuing business licenses by the Local Office of Investment and OneDoor Integrated Service in Makassar City. A team was formed in the alley that went directly to the community. This effort is taken to maximize the licensing of all businesses owned by the community. The regional services in question are sub-districts or urban villages. Certain sub-districts or urban villages visit the community in the hallway to produce various population documents. This pattern is devoted to administrative services to strengthen public data regarding licensing and population. In Makassar City, alleys have become local wisdom and public spaces for residents. There is a lot of interaction between residents in this place every day. Some alleys even become alternative tourist areas. The purpose of alley-based services is to bring public services closer to the community. It does not require the residents to visit an official government office to receive service.

- **Website or Mobile Application-based Services**
  To create a smart city, this service is often provided by all local government agencies. There are website-based services and self-developed applications. The central government also develops those, and the Makassar City Government acts as an operator. For services such as planning, budgeting, reporting, procurement, population administration, and certain administration, use a system developed by the central government. The latest administrative service created by the central government and operated by the Makassar city government according to its authority is called Online Single Submission (OSS). Thousands of types of services are recorded through the system, dozens of website-based service information systems, and smartphone applications have been developed. Well-known services include electronic-based population reports and electronic-based local tax checks and payments. All government staffing services are based on information systems, from daily attendance to payroll. In general, almost all service types use information systems. Some of these may be in the form of a website that can be accessed through a web browser. Others may be in the form of an application that can be downloaded from the Play Store or App Store.

Findings and Discussion

Based on the findings of the research, three themes are identified that address the concept of smart governance in Indonesia. Policy arrangement, bureaucratic management, and public services are the three themes. These three themes are elaborated from formal documents on smart cities and empirical studies. This theme is supported by various experts in smart governance studies. According to Bolívar and Meijer (2016) and Ruhlandt (2018), smart governance explains policies and legislation. In addition, they considered organizational structure and processes as aspects of smart governance. In this study, organizational issues are addressed in the context of bureaucratic management. Government organizations at the local level play an important role in the practice of smart governance. Giffinger et al. (2007) and Kar et al. (2017) explained that smart governance is related to public services. The three themes of policy arrangements, bureaucratic management, and public services are important elements of smart governance, but they hold unequal positions within it. In this position, policy arrangements play a major role. This aspect is a condition for the other two aspects. In other words, a policy arrangement is essential to achieving the goals of smart governance in terms of bureaucratic management and public services. The next stage is to complete bureaucratic management before addressing public service issues. Bureaucratic management supports public services. The relationship between three themes or aspects of smart governance can be seen in Figure 3.

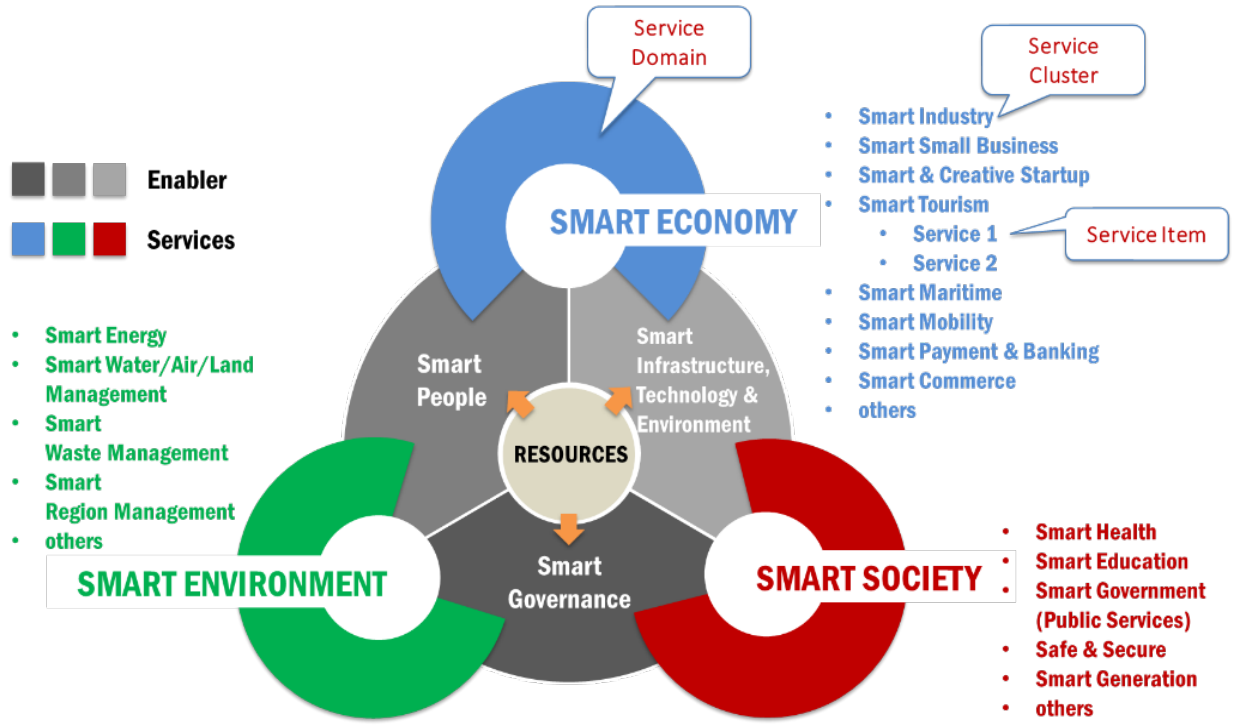
Figure 3. Correlation Between Aspects in Smart Governance (Author's conceptualization)



It is important to note that the aspect of policy arrangement is based on the understanding that the main foundation of a smart city program is its supporting policies or regulations, its management organization, and its budget. This is at least a condition for action. To accomplish all of these things, it is necessary to set them. If these conditions are met, bureaucratic management and public services can be implemented. This process is interpreted as a policy arrangement. Particularly in bureaucratic management, this aspect serves as an intermediary between policy arrangements and public service. Local government needs to strengthen its public service function and mission through bureaucratic management. The government cannot provide maximum public services if it does not have good internal bureaucratic management. Bureaucratic management includes planning, budgeting, monitoring, reporting, and staffing. This process can be categorized as government-to-government (G2G) and government-to-employee (G2E). Goods, services, and administration are all included in public services. There are multiple stakeholders involved in the service process. It is part of both government-to-citizen (G2C) and government-to-business (G2B). Bureaucratic management focuses primarily on internal government affairs. Public services contribute to local government affairs from an external perspective.

The correlation between various aspects of smart governance depicted in Figure 3 is pertinent to the Garuda Smart City Model (GSCM) developed by Smart City and Community Innovation Center (SCCIC) Bandung Institute of Technology. The GSCM model can be seen Figure 4.

Figure 4. Garuda Smart City Model (GSCM)



Source: SCCIC ITB (https://citylab.itb.ac.id/sccic2/)

GSCM explains that smart governance, smart people, and smart infrastructure-technology-environment are enablers. All three are enablers of all government services, which can be divided into three service domains: smart environment, smart economy, and smart society. Furthermore, each service domain is developed into a service cluster comprising several service items. Between service domains, service clusters and service items are adjusted according to their relationship. Services and innovations are carried out optimally if smart governance, smart people, and smart infrastructure-technology-environment have been maximized. The enabler needs to be supported by various related resources. Smart governance includes policies and regulations. Smart people include the behaviour and skills of human resources. Smart infrastructure, technology, and environment are part of all business processes in a city that turn data and information into action. Smart innovation and creativity in the service domain cannot be implemented without policies and regulations as the basis. Efforts cannot be made without human resources. Everything can be carried out effectively and efficiently if there is attention and a support system that includes infrastructure, technology, and environment.

All dimensions are not in the same position as smart cities, as the GSCM emphasizes. Some smart city dimensions become enablers, and some become service domains. This division is based on the understanding that, basically, local government duties and functions are public services. There are many types of public services because these services cover all government affairs. The most significant thing is that public services must be supported by various resources and powers. These resources and powers are called enablers. Based on the empirical facts of the national smart city movement and the GSCM model, this study concludes that smart governance is both an enabler and a service domain. However, the

service domain is restricted to certain clusters, namely administration, communication, and information services. Smart governance does not encompass all types of public services provided by local governments. There are a wide variety of public services available. This domain service limitation is based on the division of local government agencies' main tasks and functions, which are always associated with quick wins in smart governance. In this way, the policy arrangement is an enabler. Bureaucratic management is a linker. Bureaucratic management links enablers and domain services. Domain services are limited to administration, communication, and information matters.

Policy Arrangement

Public policy is a smart governance aspect developed nationally and locally in Bandung City and Makassar City. Policies for promoting smart city initiatives and projects are seen as crucial to smart city implementation (Bolívar and Meijer 2016). In this context, policy design or policy arrangement becomes the main discussion. There are three determinants, namely regulation, institution, and budget. In this study, the analysis focuses on regulations and institutions. Budget is a sensitive issue that is not specifically explained in this study. Data on planning and use of the budget is difficult to obtain. Regulation is a new variable in smart governance (Madakam et al. 2019). Regulations are addressed to policy products in the form of laws and decrees made by the central government and the governments of Bandung and Makassar. Institutions are related to organizational structures and processes in the smart city program. Structure, process, and mechanism are important to recognize that it is contingent upon a variety of sometimes conflicting internal and external factors in IT governance (Grembergen and Haes 2008). According to Nesti (2020), smart cities are, in fact, managed with new structures and tools that are usually placed outside the politico-administrative system without being part of ordinary urban governance. Especially, in the city of Bandung, a community participation forum is formally formed through an online platform that can be accessed at any time. In Makassar City, community participation forums are still carried out non-formally with the use of social media such as Facebook, Instagram, and YouTube.

Furthermore, Table 5 below delineates the key components of the policy arrangement found in this study.

Table 5. Policy arrangement

Determinant	Actors	Note
Regulation	Central Government	Ministry of Communication and Informatics, a leading sector of the central government, has a decree about the smart city in Indonesia. In action, there is a Memorandum of Understanding (MoU) with the local governments of Bandung and Makassar.
	Local Government	The local government of Bandung and Makassar has decreed all aspects of smart governance. There is local regulation for agreement and tendering about goods and services that support smart governance.
Institution	Smart City Council	Smart city council consists of local government agencies, non-governmental organizations, private sector, and university
	Smart City Implementor	Smart city implementor is all local government agency
	Smart City Forum	Smart city forum is a public sphere formed online for society to participate in decision-making and public service feedback.
Budget	Central Government	The Ministry of Communication and Informatics allocates a budget for mentoring and performance appraisal
	Local Government	The local government allocates a budget for the implementation of activities and supporting equipment

Source: Author's tabulation

Few national governments have thus far issued laws or regulations regarding a national policy for smart cities (Dameri and Benevolo 2016). Unfortunately, the laws made by the central and local governments, government bodies, and legislatures, specifically about smart cities, do not yet exist. The rules are still in the form of decrees. Smart cities are only based on central government laws that are relevant to smart cities, namely regulations on (1) national development planning; (2) spatial arrangement; (3) information and electronic transactions; (4) public information disclosure; (5) public services; (6) local government; (7) regional apparatus; (8) electronic government system; and (9) e-government. The provincial government has no regional regulations, even though the provincial government supervises the city government. Sources of regulation are only from the central government and local governments. In the city governments of Bandung and Makassar, there is no local law as a special legal basis for smart cities. Smart cities are only listed in the annual work and plan of the local government agencies. Smart city plans, councils, and implementers are based on the local government decrees. The decrees do not involve the local legislature. This is different from local laws, which must be made by the executive and legislature as a policy product. Ideally, the governments of the cities of Bandung and Makassar have local laws regarding smart cities so that their status is stronger. This is very important because a policy, a vision, use of ICTs, and collaboration are needed to successfully implement smart governance (Bolívar and Meijer 2016).

The cities of Bandung and Makassar have smart city councils and smart city implementors. The council oversees creation of regulations and supervision. Meanwhile, smart city implementors focus on operational management. Non-government parties are involved in the structure of smart city councils and community forums. In smart city institutions, local

government agencies play the main role. A smart city government should include not only government institutions but also other stakeholders. For this reason, a governance framework is essential (Dameri and Benevolo 2016). Government and non-government (individuals and organizations) are expected to be active in many ways, in particular decision-making process (Castelnovo et al. 2016). In accord with Giuliodori et al. (2022), smart governance seeks a balanced interrelation of the state, civil society, and the market to achieve stable economic, social, and institutional development. The collaborative work leads to easier planning and constitution of new urban spaces (Madakam et al. 2019). In fact, smart city councils in Bandung and Makassar are less active in communicating. Various matters are more on technical decisions. Smart city implementors tend to be the most active in smart city institutions. The city opted in favour of a comprehensive institutional architecture that encompassed most city departments and agencies (Scholl and AlAwadhi 2016). The action of cross-sectoral coordination of local government agencies is more dominant than cross-sectoral collaboration with stakeholders in decision-making. The citizen forum is more of a decision supporter in making improvements in accordance with suggestions and input.

Smart governance is dominantly controlled by government organizations according to the direction of the Mayor and Vice Mayor. Smart city projects are often promoted by political leaders for electoral purposes (Nesti 2020). The most important parties in smart governance are the Mayors and Vice Mayors as politicians and city government leaders. Mayor and Vice Mayor tend to set of underlying, multiscalar, and contingent motivations that influence both the desire to become smart and the mechanisms of becoming smart (Dowling et al. 2021). The motivation is part of the previous political promise. They can be referred to as a priori drivers (Dowling et al. 2021). Politics in the context of smart governance in the cities of Bandung and Makassar is addressed to the local leaders. The governance approaches a city adopts are determined by the goals set by political actors (Nesti 2020). Government structures are more dominant in the process of smart governance. It is an approach to maximizing implementation in Bandung and Makassar. It is the success of new governance arrangements relatively (Nesti 2020). Some authors focus on strengthening the legitimacy of policies, whereas others focus on the strengthening of citizen participation and open forms of collaboration (Meijer and Bolívar 2016). Based on the experiences of Bandung and Makassar, the government remains the main driver of smart governance, both in regulations and institutions. Collaboration, coordination, and participation of non-government parties are a complement. At least, the classification of smart city governance studies is related to politics, policy, public–private partnerships, and city–citizen relationships (Nesti 2020).

Bureaucracy Management

Bureaucracy management in this context is understood as the implementation of electronic administration processes within the internal local government, including electronic planning, budgeting, staffing, monitoring and evaluation, and research and development. Smart governance in Bandung and Makassar emphasizes attention to some of these management functions that are related to technology. Governance related to technology also focuses on internal bureaucracy (Bloomfield and Hayes 2009). The administrative process of planning, budgeting, staffing, monitoring, and evaluation, as well as research and development in

Bandung and Makassar, uses an information system that facilitates various bureaucratic affairs. Bureaucracy includes the written file and the material implements of civil servants (Kornberger et al. 2017). In simple terms, it can be understood as electronic organization refers to the integration of technologies for horizontal and vertical communication between agencies and departments via the Internet (Carrizales 2008). The use of technology is very helpful for local governments in internal organization. Data and information are stored in a system that is easy to measure and manage. According to Ranchod (2020), data and technology were important in supporting city operations and the challenges of bureaucratic management. In the end, it is easy for drivers to produce their own products.

Furthermore, Table 6 below delineates the key components of the bureaucracy management found in this study.

Table 6. Bureaucracy management

Determinant	Driver	Product	Parameter
Planning	Local Government Agency for Development Planning	Annual Work Plan	Information system of development planning forum is available and can be accessed by both government and society admin.
Budgeting	Local Government Agency for Asset and Financial Management	Annual Budget Plan	Information system of local annual budget is open access for all stakeholders
Staffing	Local Government Agency for Employee Affairs and Development of Human Resource	Performance Report	Information system of all public servants is effective and efficient.
Monitoring dan Evaluation	Local Government Agency for Inspectorate	Accountability Report	Information system of government control is accountable.
Research and Development	Local Government Agency for Research and Development	Innovation Study	Information systems support innovation and development.

Source: Author's tabulation

The community is involved in the process of planning and budgeting. Bureaucrats carry out other processes in accordance with their respective duties. The community is involved in the community consultation process for local development planning. The results of the community deliberation process become input for the next stage to produce an annual work plan for the sub-district or urban village. The local agencies for development planning, research and development, asset and financial management are the government agencies that control it. Planning (Madakam et al. 2019), public budgeting, and spending (Scholl and AlAwadhi 2016) require a form of collaboration. Meijer and Bolívar (2016) confirm that smart governance is about implementing these in an effective and efficient manner. According to them, good administration may result in strong interactions at the urban level. Smart governance comprises aspects of functioning of the administration (Muñoz et al. 2022). ICTs support bureaucratic administration functions (Cordella 2007). All the determinants in bureaucracy management are part of the instruments and processes of governance. The exercise of governance requires not only subjects and actors but also mechanisms, instruments, and processes (Dameri and Benevolo 2016). They add that administrative bodies

also manage technical and economic management in the urban context. Smart governance is very dependent on administrative bodies in Bandung and Makassar as the main driver in moving local activities towards smart cities.

In Law Number 23 of 2014 concerning local government, the processes, among them planning, budgeting, staffing, monitoring and evaluation, research, and development, are called the supporting functions of government affairs. Local government agencies that perform these functions are responsible for delivering non-sectoral public services. It means they are not included in the category of basic and optional public service affairs. Basic and optional public service affairs consist of education, health, housing, transportation, etc. Drivers or local government agencies support all processes in Bandung and Makassar governments. Some authors said local government bodies are the core components of smart city government (Dameri and Benevolo 2016). This is intended to facilitate the assessment of institutional settings (Castelnovo et al. 2016). Support functions in the bureaucracy are technocratic stream. Practice shows that many technologies are implemented via government policies in which governments consider "smart" ways of governing cities as just a management issue that can be handled in technological and technocratic ways (Jiang et al. 2020). Through technology, the process after the technocratic process becomes easy. Technological development and its relation to bureaucratization play a significant role (Kornberger et al. 2017). Brown (2005) stated several years ago that networking has also given a new emphasis to working group collaboration and information sharing, typically cutting across the vertical division of labor that is characteristic of classic bureaucracy. Technology provides a space for collaboration between government bodies in Bandung and Makassar. The implementation of government support functions is greatly assisted by the use of information and communication technologies (ICTs).

Public Service

Public service is the essential context of smart governance based on the experiences of Bandung and Makassar. Government bodies developed dozens of mobile apps and websites. Lee et al. (2015) suggested that the aim of web services in the public sector is to provide benefits to government agencies and citizens. The range of government web services and their innovation are indicators of some cities in smart city (Giuliodori et al. 2022). Information system development is carried out because public services are those provided by local governments to people living in the cities (Sánchez-Corcuera et al. 2019). Public service is a basic responsibility of any democratic nation that is equitable, transparent, and efficient to its citizens (Malhotra et al. 2020). The main task and functions of the local government provide public services. Service one of the assessments on the local government (Castelnovo et al. 2016), among others, e-administration (Bolívar and Meijer 2016), emergency help (Madakam et al. 2019), online procurement (Scholl and AlAwadhi 2016), and tax efficiency (Lee et al. 2015). In the classification of smart city-based services in both Bandung and Makassar, smart governance focuses on procurement, taxing, administration, and emergency services. Especially in administrative services, the drivers are in several related government institutions. Administrative services are categorized into three affairs, namely licensing or permits, population registration, and national certificate.

Furthermore, Table 7 below delineates the key components of the public service found in this study.

Table 7. Public service

Determinant	Driver	Product	Parameter
Procurement	Regional Agency for Procurement	Service Activity	Information system of procurement is easy to use by the public
Taxing	Regional Agency of Regional Revenue	Service Activity	Information system of taxing is easy to use by the public
Administration	Regional Agency for National Unity and Politics	Service Activity	Information system of administration is easily accessible to the public
	Regional Office of Investment and One-Door Integrated Service	Service Activity	
	Regional Office of Citizenship and Civil Registration	Service Activity	
Emergency	Regional Office of Communication and Information	Service Activity	Information system of administration is easily called by the public

Source: Author's elaboration

All service activities are carried out online by using communication and information technology devices. Sánchez-Corcuera et al. (2019) said ICTs are crucial for the development of a smart city. According to Sánchez-Corcuera et al. (2019), e-government era describes the use of electronic communications devices, computers, and the Internet to provide public services to citizens and other people in a country or a region. The fact that the use of information technology helps governments to provide public sector services (Bolívar and Meijer 2016). One of the questions of smart connectivity is application and service technologies (de Falco et al. 2019). de Falco et al. (2019) added that local government targeted the strengthening of citizenship services through innovative technologies. Using technology improves the provision of service (Cortés-Cediel et al. 2021). The community, as most service users, feel helped by the online service facilities provided. Service information and complaints are also openly available. By Zhang et al. (2022), open data for citizens is better access to government services. Although, in general, the service is done online, offline service still exists in both cities. Electronic public services do not have the interpersonal immediacy of face-to-face contact between the service provider and the service user (Osborne et al. 2013). Some of the checks of certain files and their retrieval are still in the form of face-to-face. The combination of online and offline is part of a strategy for existing situations and conditions. This is done because of complex service in the metropolitan cities of Bandung and Makassar. Singh (2020) has confirmed that providing for the daily needs and service requirements becomes a challenge for metropolitan areas. Therefore, a process through which cities are becoming smart is through ad hoc initiatives (Dowling et al. 2021).

The good quality of service to the community reflects the level of smart governance in local governments. Smart governance comprises aspects of services for citizens (Muñoz et al. 2022). Most services classified as part of smart governance place the public only

as users. All initiatives and innovations come from government bodies as their products. Local government bodies are service providers. However, the technologies and information systems are developed by individual consultants or companies as a third party. Governance of public services is not merely being distributed to cross-sector actors such as think tanks, policy labs, and innovation intermediaries, but dispersed among a wider set of technical actors, including databases, algorithms, and software (Williamson 2014). The residents only participate in complaint services. Their suggestions and inputs are used for improvement and service delivery by the government and third parties. Even though the development of new services and technologies needs to co-evolve with public engagement, according to Baykurt and Raetzsch (2020), citizens must be at the nuclei, the start point and the endpoint of all public services (Malhotra et al. 2020). Public services must involve many parties in their creation and development, including the community as users. The quality of all services that use communication and information technology tools is determined by the community as the main user. An in-depth and ongoing study that has been carried out for a long time by Osborne et al. (2013) said the performance of public service is not (solely) about its effectual design in relation to its purpose. However, it is, at least, equally about the subjective experience of that service by its users. In conclusion, community participation needs to be involved in making an information system with certain strategies and tactics. Residents and communities are not only users but also providers. They are driven to serve themselves in the digital age.

Conclusion and Implication

Based on the theoretical views, smart governance is a strategic concept but diverse. Generally, the emphasis is on managing communication, information technology use, and stakeholder interaction in public affairs. Specifically in the Indonesian context, smart governance includes policy arrangement, bureaucratic management, and public service. In practice, all of them are integrated with the use of technology and information systems. The position of the three aspects of smart governance is different from each other. The roles are not the same, so they need to be interpreted differently. Nonetheless, they are an integrated whole in terms of smart governance. Policy arrangement is an enabler. Bureaucratic management is a linker between policy arrangement and public service. Public service is a service category. In terms of smart governance, public service includes administration, communication, and information service. Further research is needed to review related to smart governance as an enabler of service and service activities. The two are different but difficult to separate. Service activity encompasses innovation practice, whether technology or not. Meanwhile, enabler of service describes participation and collaboration in decision-making. It is important to emphasize that smart governance is an enabler, or at the same time, a service domain.

In the cases of Bandung and Makassar city, the policy arrangement consists of regulations, institutions, and budgeting. Regulation becomes the formal basis for actions. Regulations can strengthen the existence of community involvement and non-governmental organizations, and vice versa. Institutions are related to the existing structure of the program. Institutions have structural form and minus interactions. It is more symbolic, not substantive. The budget is about supporting factors that determine if an action can be carried out. The policy arrangement is highly dependent on the political will of the Mayor and Deputy Mayor.

Bureaucratic management is understood as the implementation of administrative functions in the internal local government organization. These functions include planning, budgeting, staffing, monitoring and evaluation, research, and development. This function is the driving force for the government process as service provider. Public services cover specifically administration, emergency, taxing, and procurement affairs. Utilization of communication and information technology in bureaucratic management and public service uses both hardware and software. Innovation activities are more on information systems in the form of websites and mobile apps developed by third parties. There are parameters to say smart or not. Smart governance assessment is still based on technical and administrative aspects related to ICTs-based innovations rather than processes and interactions between parties to these innovations. Smart governance should emphasize the assessment of coordination, participation, and collaboration issues.

This study implies that the use of ICTs in smart city governance encourages government information systems to look centralized. The central government developed many information systems that are centralized in the sense of data integration on the same system. The local government only acts as an admin on the system being developed. The national movement towards smart cities held by the central government makes local governments unable to be creative in smart governance. The technical guidelines and regulations have the central government set all. In the end, the local government can be creative in a few services. From the experience of Bandung and Makassar, smart governance should be understood as a comprehensive process that continues. Smart governance solves many problems and supports the existence of local government innovations. It is essential to place the values forward at every stage of the decision-making process and in public services as well.

References

Ahmmed, F. 2022. "Ethnographic Method." In M. R. Islam, N. A. Khan, and R. Baikady (eds.), *Principles of Social Research Methodology* (pp. 323-336). Singapore: Springer.

Baykurt, B. and C. Raetzsch. 2020. "What Smartness Does in the Smart City: From Visions to Policy." *Convergence* 26(4), 775-789. DOI: 10.1177/1354856520913405

Bloomfield, B. P. and N. Hayes. 2009. "Power and Organizational Transformation Through Technology: Hybrids of Electronic Government." *Organization Studies* 30(5), 461-487. DOI: https://doi.org/10.1177/0170840609104394

Bolívar, M. P. R. and A. J. Meijer. 2016. "Smart Governance: Using a Literature Review and Empirical Analysis to Build a Research Model." *Social Science Computer Review* 34(6), 673-692. DOI: https://doi.org/10.1177/0894439315611088

Brown, D. 2005. "Electronic Government and Public Administration." *International Review of Administrative Sciences* 71(2), 241-254. DOI: https://doi.org/10.1177/0020852305053883

Bunnell, T. 2015. "Smart City Returns." *Dialogues in Human Geography* 5(1), 45-48. DOI: https://doi.org/10.1177/2043820614565870

Camero, A. and E. Alba. 2019. "Smart City and Information Technology: A Review." *Cities* 93, 84-94. DOI: https://doi.org/10.1016/j.cities.2019.04.014

Carrizales, T. 2008. "Functions of E-Government: A Study of Municipal Practices Defining E-Government." *State and Local Government Review* 40(1), 12-26. DOI: https://doi.org/10.1177/0160323X0804000

Carvalho, L. 2015. "Smart Cities from Scratch? A Socio-technical Perspective." *Cambridge Journal of Regions, Economy and Society* 8(1), 43-60. DOI: https://doi.org/10.1093/cjres/rsu010

Castelnovo, W., G. Misuraca, and A. Savoldelli. 2016. "Smart Cities Governance: The Need for a Holistic Approach to Assessing Urban Participatory Policy Making." *Social Science Computer Review* 34(6), 724-739. DOI: https://doi.org/10.1177/0894439315611103

Chourabi, H., et al. 2012. "Understanding Smart Cities: An Integrative Framework." *Proceedings of the Annual Hawaii International Conference on System Sciences*, pp. 2289-2297. DOI: https://doi.org/10.1109/HICSS.2012.615

Cordella, A. 2007. "E-government: Towards the e-bureaucratic Form?" *Journal of Information Technology* 22(3), 265-274. DOI: https://doi.org/10.1057/palgrave.jit.2000105

Cortés-Cediel, M. E., I. Cantador, and M. P. R. Bolívar. 2021. "Analyzing Citizen Participation and Engagement in European Smart Cities." *Social Science Computer Review* 39(4), 592-626. DOI: https://doi.org/10.1177/0894439319877478

Dameri, R. P. and C. Benevolo. 2016. "Governing Smart Cities: An Empirical Analysis." *Social Science Computer Review* 34(6), 693-707. DOI: https://doi.org/10.1177/0894439315611093

Datta, A. 2015. "A 100 Smart Cities, A 100 Utopias." *Dialogues in Human Geography* 5(1), 49-53. DOI: https://doi.org/10.1177/2043820614565750

de Falco, S., M. Angelidou, and J. P. D. Addie. 2019. "From the "Smart City" to the "Smart Metropolis"? Building Resilience in the Urban Periphery." *European Urban and Regional Studies* 26(2), 205-223. DOI: https://doi.org/10.1177/0969776418783813

Dowling, R., et al. 2021. "How Smart Cities Are Made: A Priori, Ad Hoc and Post Hoc Drivers of Smart City Implementation in Sydney, Australia." *Urban Studies* 58(16), 3299-3315. DOI: https://doi.org/10.1177/0042098020986292

Ehwi, R. J., et al. 2022. "The Ethical Underpinnings of Smart City Governance: Decision-Making in the Smart Cambridge Programme, UK." *Urban Studies* 59(14), 2968-2984. DOI: https://doi.org/10.1177/00420980211064983

Estevez, E., T. A. Pardo, and H. J. Scholl. 2022. In E. Estevez, T. A. Pardo, & H. J. Scholl (eds). *Smart Cities and Smart Governance* : *Towards the 22nd Century Sustainable City* (Vol. 37). Cham : Springer. http://www.springer.com/series/10796

Giffinger, R., et al. 2007. *Smart Cities. Ranking of European Medium-Sized Cities. Final report*. DOI: https://doi.org/10.34726/3565

Giuliodori, A., P. Berrone, and J. E. Ricart. 2022. "Where Smart Meets Sustainability: The Role of Smart Governance in Achieving the Sustainable Development Goals in Cities." *BRQ Business Research Quarterly* 26(1), 27-44. DOI: https://doi.org/10.1177/23409444221091281

Glasmeier, A. and S. Christopherson. 2015. "Thinking About Smart Cities." *Cambridge Journal of Regions, Economy and Society* 8(1), 3-12. DOI: https://doi.org/10.1093/cjres/rsu034

Grembergen, W. van and S. de Haes. 2008. *Implementing Information Technology Governance*. IGI Publishing.

Hammad, R. and D. Ludlow. 2016. Towards a smart learning environment for smart city governance. *Proceedings of the 9th International Conference on Utility and Cloud Computing - UCC '16*, pp. 185-190. DOI: https://doi.org/10.1145/2996890.3007859

Ho, E. 2017. "Smart Subjects for a Smart Nation? Governing (smart)mentalities in Singapore." *Urban Studies* 54(13), 3101-3118. DOI: https://doi.org/10.1177/0042098016664305

Jiang, H. 2021. "Smart Urban Governance in the 'Smart' Era: Why Is It Urgently Needed?" *Cities* 111, 1-6. DOI: https://doi.org/10.1016/j.cities.2020.103004

Jiang, H., S. Geertman, and P. Witte. 2020. "Avoiding the Planning Support System Pitfalls? What Smart Governance Can Learn from the Planning Support System Implementation Gap." *Environment and Planning B: Urban Analytics and City Science* 47(8), 1343-1360. DOI: https://doi.org/10.1177/2399808320934824

Kar, A. K., Mustafa, S. Z., Gupta, M. P., Ilavarasan, P. V., & Dwivedi, O. K. 2017. Understanding Smart Cities: Inputs for Research and Practice. In A. K. Kar, M. P. Gupta, P. V. Ilavarasan, & Y. K. Dwivedi (Eds.), *Advances in Smart Cities: Smarter People, Governance, and Solutions*. Boca Raton:Chapman and Hall/CRC, 1–7.

Kominfo. (2017). *Buku Panduan Penyusunan Master Plan Smart City 2017*. Kementerian Komunikasi dan Informatika RI.

Kornberger, M., et al. 2017. "When Bureaucracy Meets the Crowd: Studying "Open Government" in the Vienna City Administration." *Organization Studies* 38(2), 179-200. DOI: https://doi.org/10.1177/0170840616655496

Lee, S., S. Park, and W. Kim. 2015. "The Importance of Social Value in the Evaluation of Web Services in the Public Sector." *International Journal of Distributed Sensor Networks* 11(9), 1-6. DOI: https://doi.org/10.1155/2015/459804

Lopes, N. V. M. 2020. *Smart Governance for Cities*: *Perspectives and Experiences*. Cham: Springer. http://www.springer.com/series/15427

Madakam, S., R. Ramaswamy, and H. Date. 2019. "Quality of Life @ Palava Smart City: A Case Study." *Global Business Review* 20(3), 708-742. DOI: https://doi.org/10.1177/0972150917721822

Malhotra, C., R. Anand, and V. Soni. 2020. "Creating Public Services 4.0: Sustainable Digital Architecture for Public Services in India." *Indian Journal of Public Administration* 66(3), 327-342. DOI: https://doi.org/10.1177/0019556120957421

Meijer, A. 2016. "Smart City Governance: A Local Emergent Perspective." In J. R. Gil-Garcia, T. A. Pardo, and T. Nam (eds.). *Smarter as the New Urban Agenda: A Comprehensive View of the 21st Century City* (Vol. 11, pp. 73-85). Cham: Springer. https://doi.org/10.1007/978-3-319-17620-8_4

Meijer, A., and M. P. R. Bolívar. 2016. "Governing the Smart City: A Review of the Literature on Smart Urban Governance." *International Review of Administrative Sciences* 82(2), 392-408. DOI: https://doi.org/10.1177/0020852314564308

Meijer, A. J., J. R. Gil-Garcia, and M. P. R. Bolívar. 2016. "Smart City Research: Contextual Conditions, Governance Models, and Public Value Assessment." *Social Science Computer Review* 34(6), 647-656. DOI: https://doi.org/10.1177/0894439315618890

Muñoz, C. A., L. A. Muñoz, and M. P. R. Bolívar. 2022. "Strategic Alignment of Open Government Initiatives in Andalusia." *International Review of Administrative Sciences* 89(3), 685-702. DOI: https://doi.org/10.1177/00208523221086125

Nesti, G. 2020. "Defining and Assessing the Transformational Nature of Smart City Governance: Insights from Four European Cases." *International Review of Administrative Sciences* 86(1), 20-37. DOI: https://doi.org/10.1177/0020852318757063

Osborne, S. P., Z. Radnor, and G. Nasi. 2013. "A New Theory for Public Service Management? Toward a (Public) Service-Dominant Approach." *American Review of Public Administration* 43(2), 135-158. DOI: https://doi.org/10.1177/0275074012466935

Pereira, G. V., et al. 2017. "Increasing Collaboration and Participation in Smart City Governance: A Cross-Case Analysis of Smart City Initiatives." *Information Technology for Development* 23(3), 526-553. DOI: https://doi.org/10.1080/02681102.2017.1353946

Ranchod, R. 2020. "The Data-Technology Nexus in South African Secondary Cities; The Challenges to Smart Governance." *Urban Studies* 57(16), 3281-3298. DOI: https://doi.org/10.1177/0042098019896974

Ruhlandt, R. W. S. 2018. "The Governance of Smart Cities: A Systematic Literature Review." *Cities* 81, 1-23. DOI: https://doi.org/10.1016/j.cities.2018.02.014

Sánchez-Corcuera, R., et al. 2019. "Smart Cities Survey: Technologies, Application Domains and Challenges for the Cities of the Future." *International Journal of Distributed Sensor Networks* 15(6), 1-36. DOI: https://doi.org/10.1177/1550147719853984

Scholl, H. J. and S. AlAwadhi. 2016. "Smart Governance as Key to Multi-Jurisdictional Smart City Initiatives: The Case of the eCityGov Alliance." *Social Science Information* 55(2), 255-277. DOI: https://doi.org/10.1177/0539018416629230

Singh, C. 2020. "Metropolitan and Peri-Urban Governance in India: Case Study of Chennai Metropolitan Area." *Indian Journal of Public Administration* 66(1), 60-76. DOI: https://doi.org/10.1177/0019556120906586

Thomas, C. G. 2021. *Research Methodology and Scientific Writing* (Second Edition). Thrissur: Springer..

Williamson, B. (2014). "Knowing Public Services: Cross-Sector Intermediaries and Algorithmic Governance in Public Sector Reform." *Public Policy and Administration* 29(4), 292-312. DOI: https://doi.org/10.1177/0952076714529139

Zhang, J., J. Bates, and P. Abbott. 2022. "State-Steered Smartmentality in Chinese Smart Urbanism." *Urban Studies* 59(14), 2933-2950. DOI: https://doi.org/10.1177/00420980211062888

Nasrulhaq is a lecturer in the Department of Public Administration at the Muhammadiyah University of Makassar—or Universitas Muhammadiyah Makassar (Unismuh)Makassar—or in Indonesia. Narulhaq is completing his Doctorate in the Model Based Public Planning, Policy Design, and Management at the University of Palermo, Italy. His research focuses on urban governance themes, including smart city governance and sustainable mobility policies. Email: nasrulhaq.nasrulhaq@unipa.it

Suhono Harso Supangkat holds the position of Full Professor at the Institut Teknologi Bandung (ITB), Indonesia, also known as Bandung Institute of Technology. He concurrently serves as the Director of the Smart City and Community Innovation Center (SCCIC) at ITB. His professional endeavors are dedicated to developing and researching smart city initiatives in many cities in Indonesia and other cities worldwide.

Arry Akhmad Arman holds the position of Associate Professor at the School of Electrical Engineering and Informatics, Institut Teknologi Bandung (ITB), Indonesia. He also works at the Smart City and Community Innovation Center (SCCIC). His area of expertise encompasses IT governance and smart cities governance.

Lukman Anas is a lecturer in the Department of Informatics at Muhammadiyah University of Makassar, Indonesia. In his professional career, he has dedicated his time to developing information systems for both government and private institutions.

National Cybersecurity: Global and Regional Descriptive Snapshots through the Analysis of 161 Countries

RADU ANTONIO SERRANO IOVA, RAGNAR NURKSE DEPARTMENT OF INNOVATION AND GOVERNANCE, TALLINN UNIVERSITY OF TECHNOLOGY

Abstract

National cybersecurity includes so many topics and considerations that a global overview of trends is a quite complex endeavor. Previous studies either focus on individual countries or multiple ones while considering only a specific subtopic or point of interest of national cyber security. The purpose of this article is to present the regional cybersecurity trends of 161 nations, as of late January 2023, through the use of the National Cyber Security Index (NCSI). With the help of the NCSI, its methodology and publicly available database, we will provide both global and regional snapshots of what countries have been focusing on and doing in reference to their national cybersecurity. This will allow the discovery of similarities, best practices, and more importantly, underdeveloped topics that should be improved upon to guarantee a more robust approach to national cybersecurity. Globally, the national approaches seem to be reactionary, with very little focus on proactive measures, but regionally some differences start to appear. Future research will be able to build upon this research by either individual case studies or comparative studies among multiple countries.

Keywords: Cybersecurity, global, cybercrime, cyberoperations

Introduction

Information and communication technologies (ICT) and digital technologies have become so ubiquitous around all of us, that cyber security is no longer a topic that is undertaken by only handful of highly specialized individuals. Because of this, whole countries nowadays must endeavor to create complex strategies and policies to protect their cyber security, and mitigate, and recover from, attacks and threats. As Shackelford and Kastelic (2014, 1) have posited in their opening statement "*nations bear increasing responsibility for enhancing cybersecurity.*"

The definition of the term cybersecurity or cyber security it is still under discussion in multiple academic and non-academic circles (Bay 2016; Craigen et al. 2014; ENISA 2015). The debate turns even more complex when you consider the different languages throughout the world that are discussing this universal topic (Carlini 2016; Guranda 2021; K. Newmeyer et al. 2015; Pohlmann 2019), the multiple national interpretations that are given to the term(s) and the

difference in approaches in academia and the non-academic worlds. For this article, we will refer to the definition of the European Union Agency for Cybersecurity (ENISA):

> *"Cybersecurity comprises all activities necessary to protect cyberspace1, its users, and impacted persons from cyber threats… Cybersecurity covers all aspects of prevention, forecasting; tolerance; detection; mitigation, removal, analysis and investigation of cyber incidents. Considering the different types of components of the cyber space, cybersecurity should cover the following attributes: Availability, Reliability, Safety, Confidentiality, Integrity, Maintainability (for tangible systems, information and networks) Robustness, Survivability, Resilience (to support the dynamicity of the cyber space), Accountability, Authenticity and Non-repudiation (to support information security)." (ENISA 2017, 6)*

National cybersecurity refers to all these efforts at the state level, by the government in charge and relevant stakeholders. Although national cybersecurity has been the focus of academic research before (K. P. Newmeyer 2015; Carlini 2016), this article attempts to answer the following questions:

- How is national cybersecurity undertaken throughout the world?
- What similarities and differences exist in national cybersecurity efforts, at the regional and global level?
- From which countries can future best practices be adopted for specific national cybersecurity efforts?

A comparative analysis of 161 national cybersecurity efforts, grouped into regions, allows us to answer these questions. This comparison is constructed according to the national cyber security framework, which forms the basis of the similarly named National Cyber Security Index (NCSI). Given the almost global nature of the sample size, the M49 Standard of the Statistics Division of the United Nations Secretariat has been used.

The purpose of this article is both theoretical and practical. Theoretical, providing a holistic snapshot of national cybersecurity focus globally, and fostering further research through bilateral/multilateral regional comparative studies or individual case studies. Practical, so that countries can use this information as a benchmark and see what they are missing or can improve upon, and/or further endeavor to publicize their efforts so that other nations may benefit from the knowledge and best practices.

National Cybersecurity Research: From the Sporadic to the Specific

Previous research has been focused either on individual case studies or multiple country comparative studies, with the focus on a single theme (e.g., cybercrime, critical infrastructure protection, governance, etc.) or a single sector (e.g., health, defense, industry, etc.). For example, Berthelet (2020) analyses the topic of the fight against cybercrime within the context of the European Union as a whole, exploring how the different member states act together

1 Cyber space is the time-dependent set of tangible and intangible assets, which store and/or transfer electronic information. (ENISA 2017, 6)

to fight this transnational phenomenon (Berthelet 2020). Bada et al. (2019) analyze national cybersecurity awareness in six African countries. Their paper presents recommendations for the implementation of national awareness campaigns and how to identify and prioritize relevant activities (Bada et al. 2019). Le Barreau and Longeon (2016), on the other hand, present a study case of Saudi Arabia. Their analysis centers on "*the integration of cybersecurity into national security*" and additional implications between the stakeholders (Le Barreau and Longeon 2016, 155). Loiseau et al. (2013) study Canada and how its national cybersecurity has evolved throughout the years. Dewar et al. (2018) and Shackelford and Kastelic (2014) focus on national cyber security strategies and policies. The former also delve into cyber defense of France, Finland, Germany, and the United Kingdom. However, the latter presents the analysis of multiple countries. On the other hand, there are also compilations of individual studies, such as Stevens (2018) and Romaniuk and Manjikian (2021). However, the former is a special edition of a journal, whose individual articles deal with specific cybersecurity themes, while the latter, a book, presents chapters and is "*the most comprehensive and up-to-date comparative overview of the cyber-security strategies and doctrines of the major states and actors in Europe, North America, South America, Africa, and Asia*" (page i). In this book, once again we see that each chapter is an individual study, and focus is on the "major states and actors" (bypassing countries that might be worthy of study), without any regional or global analysis that might uncover similarities or differences between the chosen countries.

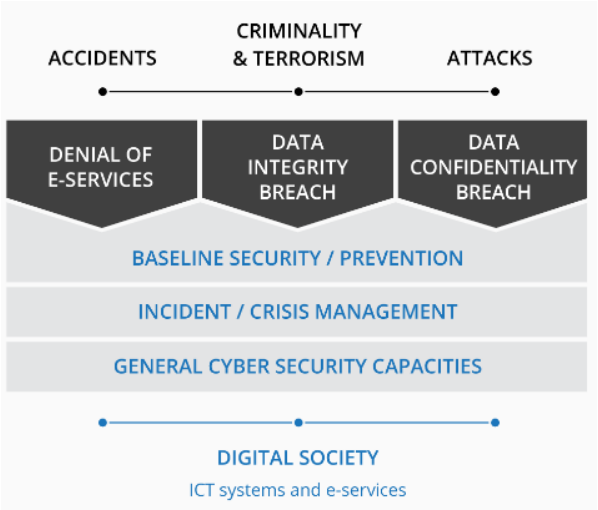
A singular, almost similar, global endeavor is the Global Cybersecurity Index (GCI). The GCI is compiled by ITU-D, the Telecommunication Development Sector of the International Telecommunication Union. In short, an Expert Group sends out a GCI Questionnaire to focal points in the Member States, who then respond and return such answers to the Expert Group for analysis (ITU-D n.d.). While the tools and methodology are publicly available, the responses and weighting process are not. Therefore, we posit that the GCI is not academic in nature, due to its replicability factor being affected by its partially obscure methodological process.

This article focuses on expanding the lack of academic studies on the overarching cybersecurity field with an almost global analysis, information extracted in late January 2023, and inductive regional similarities and differences.

Framework and Methodology

The NCSI (http://www.ncsi.ega.ee/) was created by the e-Governance Academy (eGA) as a live global index, and as a cybersecurity reference, assessment, and capacity-building tool (eGA 2022, 12). It does so through 46 indicators (presented in Annex 1). These indicators were developed through the national cyber security framework (eGA n.d.-b) which in turn alludes to the CIA (Confidentiality, Integrity, and Availability) triad. The CIA triad refers to "*the fundamental elements of security controls in information systems*" (Samonas and Coss 2014, 22), which in turn has been "*a popular definition of cybersecurity*" (Ham 2021, 18:1). However, this has not been the case of the aforementioned framework, and as Ham (2021, 18:1) posits, more focus has been "*on the activity and associated risks for cybersecurity.*" The national cyber security framework (see Figure 1) assessed the fundamental threats to the CIA triad of the national ICT systems and services. "*In order to manage these cyber threats, a country must have appropriate capacities for baseline cyber security, incident management, and general cyber security development.*" (eGA n.d.-b)

Figure 1: National Cyber Security Framework (eGA n.d.-b).

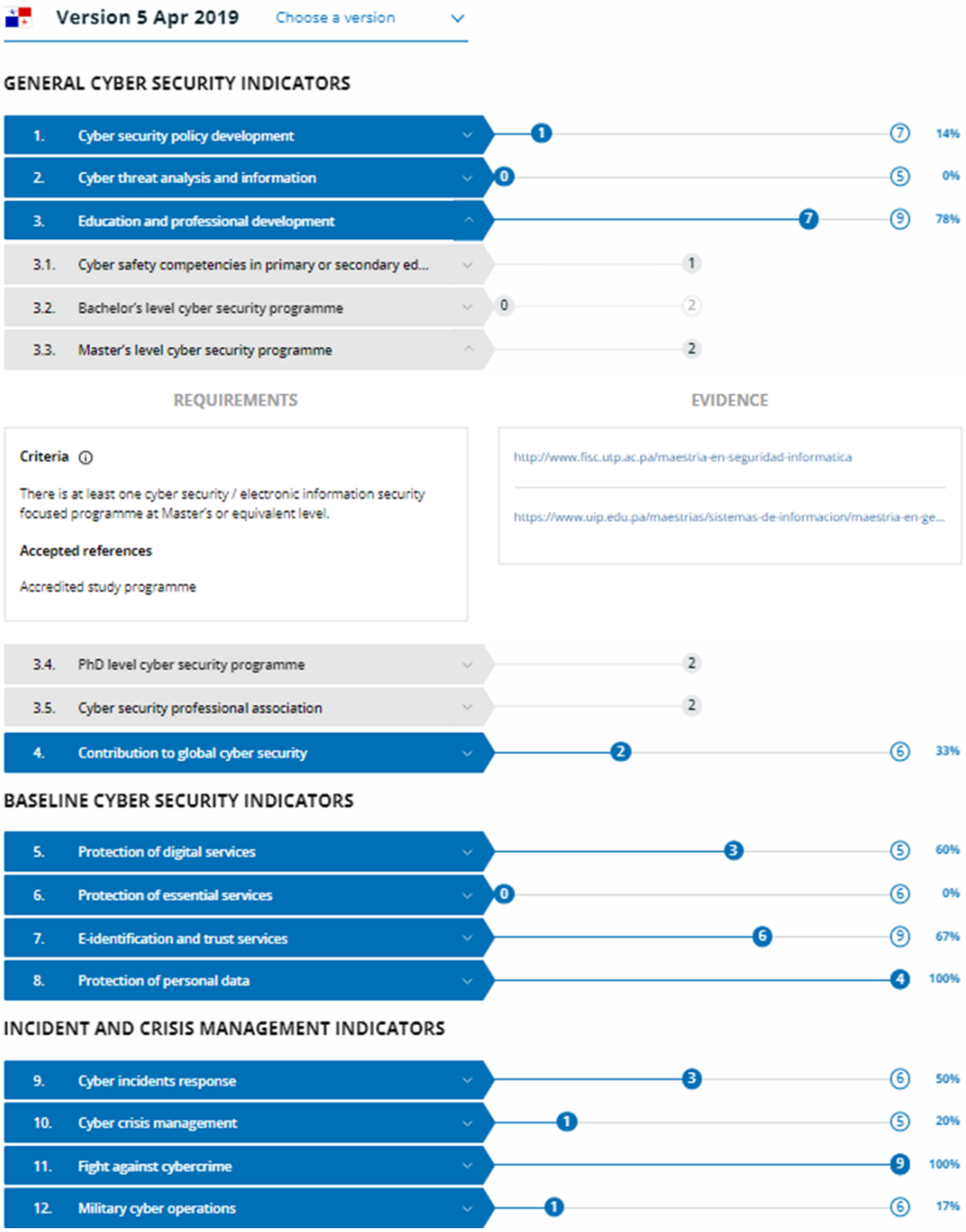


Once the threats were identified, measures and capacities followed, with the selection of important and measurable aspects. This led to the development of the 46 indicators, which in turn are grouped into 12 capacities (seen in Figure 2):

1. Cyber security policy development
2. Cyber threat analysis and information
3. Education and professional development
4. Contribution to global cyber security
5. Protection of digital services
6. Protection of essential services
7. E-identification and trust services
8. Protection of personal data
9. Cyber incidents response
10. Cyber crisis management
11. Fight against cybercrime
12. Military cyber operations

(eGA n.d.-b, 2020)

Figure 2: Partial screenshot of a Country Page (Panama) with the third capacity expanded and Indicator 3.3 expanded as well.



Each measurable indicator is attributed either 0 points (for no evidence) or a specific number of predetermined points (for existing evidence). A country must publicly provide proof of fulfillment of a specific indicator's criteria in order to gain those points. Therefore, to fulfill a specific capacity, a country should provide proof of fulfillment of that capacity's indicators (see Annex 1 for a full overview of the capacities, the indicators, and their respective weights). For example, capacity 1 (i.e., cyber security policy development) contains four indicators (i.e., 1.1, 1.2, 1.3, and 1.4). Each indicator in turn has been assigned a number of points and is subjected to the "all-or-nothing" approach regarding evidence. Then, the points of indicators

with evidence can be divided by the total of points possible in a capacity to indicate the completion rate of that capacity. Following the previous example, if Country A only has evidence for indicator 1.1, it presents a completion rate of 43% for capacity 1; if Country B has evidence for indicators 1.3 and 1.4, it presents a completion rate of 28% for capacity 1; if country C has evidence for all indicators, it presents a completion rate of 100% for capacity 1.

All evidence is collected by the NCSI team, or by country contributors,[2] and is submitted via the back-end platform and verified by experts,[3] who either accept or reject it for the specific indicator that they have been presented. The verification process is not public, but if a piece of evidence is rejected, the experts can leave an explanation for the submitter. Accepted evidence is published in the corresponding country page and visible to any visitor of the website.

The NCSI has been utilized extensively across recent academic debates (Andrade et al. 2021; Calderaro and Craig 2020; Maglaras et al. 2020). Jazri and Jat (2017, 1) mention the NCSI in their road toward *"proposing a simplified and quick framework of measuring cyber security risks profile for critical organizations."* Yarovenko (2020, 195) used the NCSI in her *"assessment of the level of threat to national information security."* Farahbod et al. (2020, 63) uses information from the NCSI and other international indices to *"explore the relationship between cyberattacks and the factors that can possibly be used to predict the impact of such attacks within supply chain domains."* Kruhlov et al. (2020, 1) make use of NCSI country data in their attempt to *"analyze the possibility of providing cybersecurity through the use of public-private partnership (PPP) mechanisms."* Most recently, Urbanovics (2022, 79) utilized NCSI country data for the quantitative analysis of an overarching *"comparative analysis of the strategy development processes in six Latin American countries including Argentina, Brazil, Chile, Colombia, Mexico and Peru."*

The following analysis and discussion sections include the data of all 161 countries that were available in the NCSI in late January 2023 (NCSI 2022; 2023). The data was valid as of its extraction date; however, it was made up from country datasets last updated between 2020 and 2023.[4] Given the large number of the studied sample size, the national results are presented at the level of continents and regions, using the country groupings of the M49 Standard of the Statistics Division of the United Nations Secretariat. It categorizes countries purely by geography and has been used in papers touching upon global matters, albeit mostly in nature research (e.g., De la Fuente et al. 2020, Amon et al. 2022). The M49 Standard was chosen since there exists no other alternative to group such a large sample of countries without running into inherent definition issues due to lack of consensus on the classification terminology (e.g., small, main, developing countries, etc.), there exist no similar papers dealing with such a large sample in the field and the NCSI presents information about U.N. members and allows to visualize them by said standard. Additionally, it is a classification system that helps "*to circumvent several concerns levied against national comparisons*" (Field et al. 2021, 1800).

2 The NCSI core team has varied among the years, containing between two to five individuals, (eGA n.d.-a) while the country contributors themselves have also fluctuated as well, stabilizing at around 60% of the number of countries in the index.

3 As to ensure bias is as low as possible during the verification process, the evidence is checked by at least two different individuals who are considered cybersecurity experts and have previously collaborated in this area with eGA. To guarantee the impartiality of their decisions, their identifiable information is not made public by neither the system nor the NCSI team.

4 Being a live index, the countries are updated constantly and continuously as information is made available by the NCSI team or the different country contributors. As of late January 2023, there were only 161 countries in the NCSI and all of them were last updated between 2020 and 2023. All available countries in the NCSI were used for this publication (see Annex 2 for the comprehensive list), no countries in the NCSI were excluded.

Each country is presented in one region only, and these geographic regions are based on continental regions (United Nations 2021) (see Annex 2 for a full overview of the regions and the countries in them). For a better presentation of the results, the data has been arranged into radar charts (Figures 3 through 8), with each of the spokes (not illustrated for the purpose of simplicity) representing an NCSI capacity (as indicated in each of the vertices), with values corresponding to the completion rate (the center point representing a 0% completion rate, and each vertex, 100% completion rate). The regional average completion rate values for all capacities have been connected to one another through the use of colored lines, thus becoming the global and corresponding regional snapshots. While Figure 3 presents the global and regional snapshots, Figures 4 through 8 also present the best-performing countries for each capacity. This latter group of Figures, in addition to presenting the global and regional snapshots, includes the top two completion rate values for each specific capacity and any country that achieved such value. Said countries have been noted using the ISO 3166-1 alpha-2 country codes,[5] and placed in a random order around the corresponding point that represents the value of the completion rate. If more than eight countries at a time scored the same completion rate, the placeholder "M#C" (i.e., multiple number of countries) has been used in the figures to replace such a large group of countries that cannot be orderly presented in the figure.

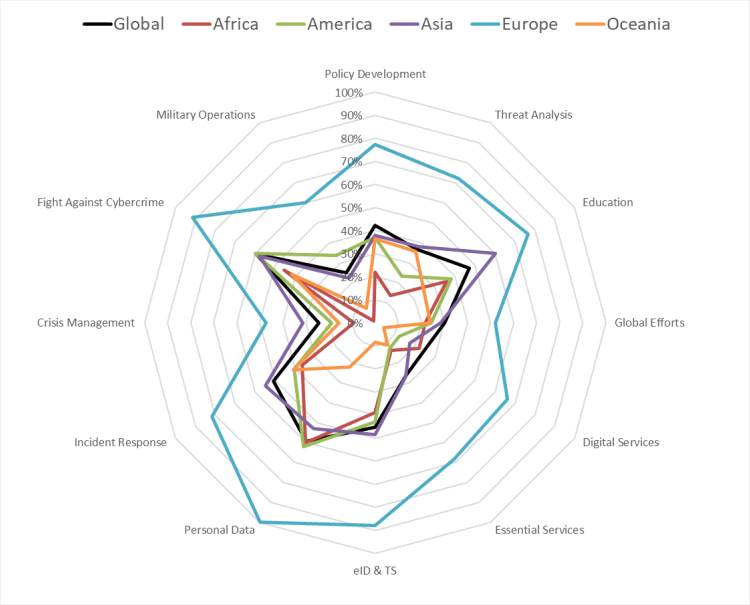
Global and Regional Findings

Globally, personal data protection and fight against cybercrime capacities represent the top focus of countries. Africa, the Americas, Asia, and Europe present more than 50% completion for the former capacity, while only America, Asia, and Europe do so for the latter. Incident response is slightly above halfway its completion rate; however, this is due to Europe and Asia's completion rates balancing out the lower ones from the rest of the regions.

The protection of digital services and crisis management capacities have been underdeveloped globally. All regions, except for Europe, present less than 25% completion in relation to digital service protection. Crisis management is Europe's lowest completion rate (47%), which is still higher than the rest of the regions. Throughout the world, the other lagging capacities are cyber military operations and the protection of essential services. The rest of the capacities have more mid-range completion values, however, variations among individual regions. Based on the collected data, the cyber security trends as of late January 2023 have been as shown in Figure 3.

5 The ISO 3166 standard can be found at: https://www.iso.org/iso-3166-country-codes.html.

Figure 3: Global cybersecurity focus in each of the individual regions.



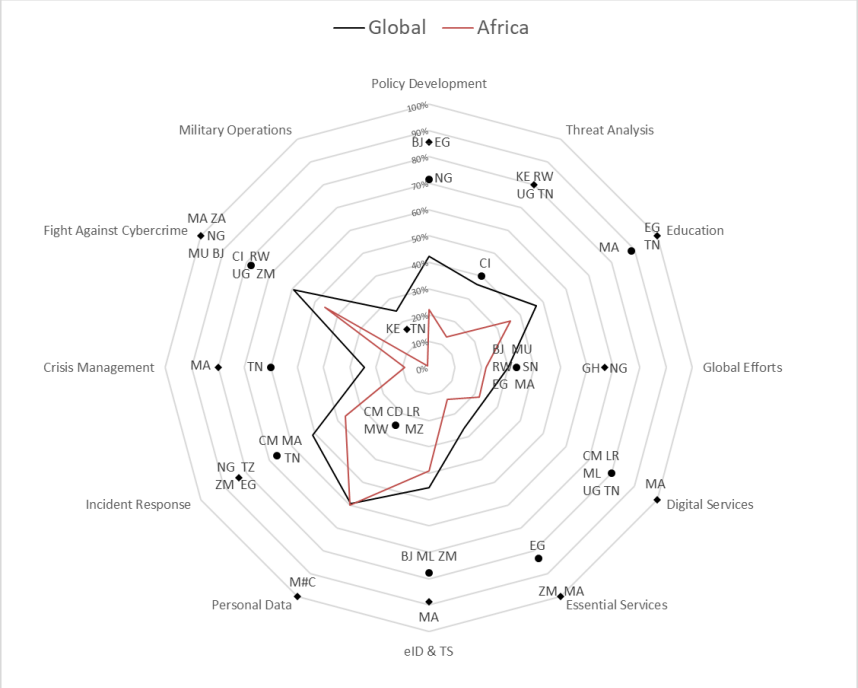
The next sub-sections will delve into the different regions, in alphabetical order, and their findings, followed by the "Discussion and Recommendations" section which will present inductive trends and patterns.

Africa

The African region excels at personal data protection (in relation to the rest of the capacities), with mid-range scores in the fight against cybercrime, incident response, and electronic identification and trust services. They are underdeveloped in military operations and cyber crisis management, with more work needed regarding the protection of essential services and cyber threat analysis. Morocco and Tunisia score the highest, with high completion percentages in nine and seven of the capacities, respectively (Figure 4).

In this region, 46% of the countries have no policy development capacity at all. As of 2023, only Benin and Egypt lead the capacity, followed by Nigeria. Similarly, threat analysis is among the capacities that contain the lowest completion in Africa. Nevertheless, four countries present the highest (80%) completion rate. Egypt and Tunisia lead in the next capacity related to education and professional development, while Nigeria and Ghana lead with a 67% completion rate in global efforts (Figure 4).

Figure 4: Cybersecurity focus in Africa and top scorers for each capacity.



Morocco is at the forefront with a 100% completion rate in the protection of digital services capacity, closely followed by Cameroon, Liberia, Malawi, Tunisia, and Uganda. Zambia, Morocco, and Egypt return with completion rates of 100%, 100%, and 83%, respectively, for the protection of essential services. Regarding electronic identification and trust services, Benin, Mali, and Zambia have a 78% completion rate, following Morocco's 100% completion rate (Figure 4).

Data protection is the capacity in which 21 out of the 37 African countries in the NCSI have achieved a 100% completion rate, with Cameroon, the Democratic Republic of Congo, Liberia, Malawi, and Mozambique following with 25%. The incident response capacity has four leading countries (Egypt, Nigeria, Tanzania, and Zambia) all with an 83% completion rate. However, cyber crisis management is underdeveloped in Africa (and led by Morocco and Tunisia with an 80% and 60% completion rate, respectively). In the fight against cybercrime, Benin, Mauritius, Morocco, Nigeria, and South Africa lead with a 100% completion rate. Finally, in the military operations capacity, Kenya and Tunisia lead with a 17% completion rate because of their participation in international military exercises with cyber components (Figure 4).

Americas

The American region's average overall trends are under the global average, except for the Military Cyber Operations, Fight Against Cybercrime, and Personal Data Protection capacities. The countries should work hard to improve the protection of digital and essential services, crisis management, and threat analysis. The Dominican Republic has eight capacities with high completion percentages, while Canada, Paraguay, and the United States follow with high completion percentages in seven capacities. Nevertheless, other countries also score at the top in individual capacities (Figure 5).

Figure 5: Cybersecurity focus in the Americas and top scorers for each capacity.

Regarding policy development, a 100% completion rate exists in the United States, Ecuador, Paraguay, Dominican Republic, and Chile. However, threat analysis and global effort capacities are very underdeveloped in the region, with only a handful of countries leading them (Figure 5).

The education capacity is headed by Canada and the United States, with 100% and 89% completion rates, respectively. Slightly more than one third of the region maintains some level of protection of digital services, with Cuba and Peru leading with 100% and 80% completion rates (Figure 5).

Regarding the essential services protection capacity, Paraguay and Uruguay are both at 50%, and Peru at 67% completion rate, with almost half of the countries not having any protective elements whatsoever. Electronic ID and trust services in the region are spearheaded by Paraguay 100% and Uruguay 89%. In the region, almost 70% have passed some sort of data protection legislation, but evidence has found that only 21 of them have established a corresponding authority.

Cyber incident response is led by Peru 100%, followed by Bolivia, Costa Rica, the Dominican Republic, Ecuador, Trinidad and Tobago, Paraguay, Uruguay, and Canada, with an 83% completion rate. Crisis management is the third most underdeveloped capacity of the region, spearheaded by the United States with 80% and Panama, Argentina, Paraguay, and the Dominican Republic's 40% completion rates (Figure 5).

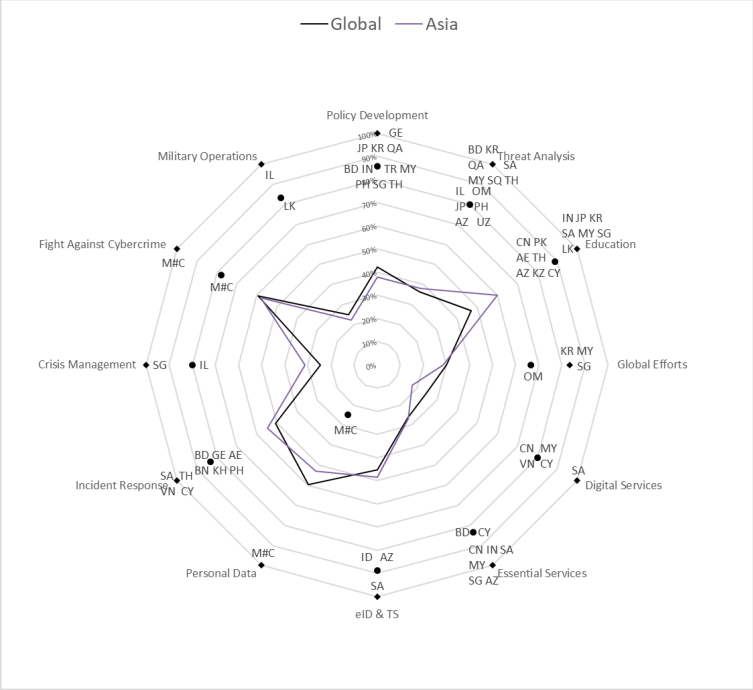
The fight against cybercrime capacity is the closest capacity to the global average, however, above it (Chile, Colombia, Costa Rica, the Dominican Republic, Panama, Peru, Canada, the U.S., Argentina, and Paraguay lead with a 100% completion rate, with followed by other countries' 78% rate). Finally, the region's military cyber operations capacity exceeds the global average, and is spearheaded by four Latin American countries, Canada, and the United States (Figure 5).

Asia

Asia's highest-scoring capacity revolves around education, followed by the fight against cybercrime. Their lowest scores are evidenced in the protection of digital services, followed by cyber military operations and the protection of essential services. Saudi Arabia, Singapore, and Malaysia score the highest, with high completion percentages in eight of the capacities, respectively, followed by South Korea and Cyprus, in six of them.

In Asia, the policy development capacity's average is below the global average. Only 17 nations (41% of the countries in the sample) have reached a completion rate of more than 50%. Out of these, Georgia, Japan, South Korea, and Qatar have achieved a 100% completion rate in the policy development capacity (Figure 6).

Figure 6: Cybersecurity focus in Asia and top scorers for each capacity.



Regionally speaking, the threat analysis capacity is barely higher than the global average, with Bangladesh, Malaysia, Qatar, Saudi Arabia, Singapore, South Korea, and Thailand having achieved a 100% completion rate. The education capacity in the region is better than the global average, with 61% of the sample countries achieving more than 50% of completion rate. However, in global efforts, the Asian region scores lower than the global average, with South Korea, Singapore, and Malaysia spearheading efforts (Figure 6).

As previously mentioned, the digital services protection trend in Asia is below the global average. Only Saudi Arabia reaches a 100% completion rate, while China, Cyprus, Malaysia, and Vietnam score 80%. Essential service protection, from a regional perspective, is tied to the global trend. The top scorers of this capacity include Azerbaijan, China, India, Malaysia, Saudi Arabia, and Singapore. eID and trust services are spearheaded by Saudi Arabia (100%) and Indonesia and Kazakhstan (89% completion rates) (Figure 6).

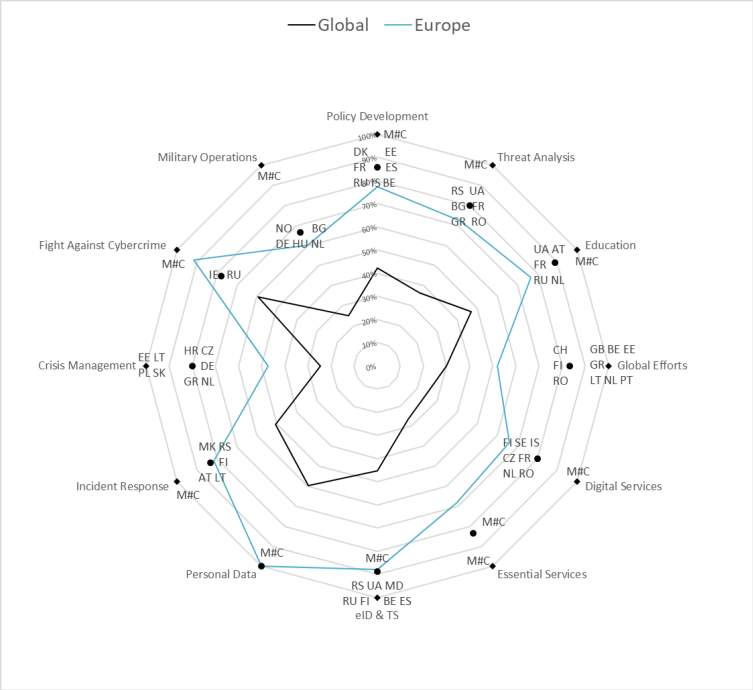
Data protection has been legislated in 30 countries, but the corresponding authority has only been found in 19 of them. Regional incident response capacity is slightly better than the global mean. Cyprus, Saudi Arabia, Thailand, and Vietnam, lead with a 100% completion rate (Figure 6).

Crisis management is the fifth lowest capacity in the region, but it is still better than the global average. Singapore leads with a 100% completion rate, followed by Israel, with 80%. In the fight against cybercrime, the region scores slightly below the global average. Of the sample, 32 nations have evidence of some form of unit designated to tackle cybercrime and 19 have a governmental digital forensics unit. Finally, in the military operations capacity, Israel presents a 100% completion rate, followed by Sri Lanka at 83% (Figure 6).

Europe

Europe's capacities exceed the global average, and they are top performers in personal data protection. Their lower scores are focused on crisis management, global efforts, and military operations capacities. Greece, Belgium, Czech Republic, Germany, and Lithuania are the top scorers with high completion rates; however, they are not the only ones (Figure 7).

Figure 7: Cybersecurity focus in Europe and top scorers for each capacity.



Out of the 39 countries of the region, 30 have established a cyber security policy unit, and have indicated a policy coordination format (but not necessarily the same countries). Only 36 nations have published a national cybersecurity strategy, and of those only 25 have a corresponding implementation plan. Regionally, the cyber threat capacity is regionally at a high level: 34 of the countries maintain a cyber safety and security website, 28 of them have established a cyberthreat analysis unit, and 23 regularly publish their cyber threat reports.

The educational capacity is also well developed in the region. Master's degrees in cybersecurity topics are the most common educational level with 34 countries having some form of program, and PhD level programs are the least available in 24 countries. Global efforts are also quite spread out in the region. The United Kingdom, Belgium, Estonia, Greece, Lithuania, the Netherlands, and Portugal lead in this capacity with a 100% completion rate (Figure 7). The Budapest convention on cybercrime has been signed by 36 nations and all the countries in the region maintain representation in international cyber security cooperation formats.

Approximately 92% of the region has undertaken efforts to protect digital service providers, of which 28 nations have established cyber security responsibilities for digital service providers, while 26 countries have done so for the public sector as well. The essential services capacity is also widespread, 34 of the countries have identified their corresponding operators of essential services while 31 of those have legally required them to follow those minimum cybersecurity standards for their protection and 27 have established at least one competent corresponding supervisory authority.

The basis for eID and trust services has been well cemented in the region and cyber incident response is similarly almost universal (i.e., a regional average completion rate value that is equal to the second top completion rate value, and close to 100%, for each capacity). However, the cyber crisis management capacity is the least developed in the region. Even though 32 countries have participated in international cyber crisis exercises and 20 have executed their own national-level drills, only 12 nations have made public any kind of cyber crisis management plan and only 8 have legislated operational support from volunteers during cyber crises.

Finally, combating cybercrime is also a highly scored regional endeavor, while almost 85% of the region's countries present evidence of military cyber operation capacities.

Oceania

Oceania's strengths surface relative to incident response, policy development, and the fight against cybercrime. Its threat analysis capacity almost equals the global average trend; however, there is still a lot of work to be done in all the rest of the capacities since they are below the global average, and more specifically in terms of digital service protection, electronic ID and trust services and military operations. Australia and New Zealand spearhead the region, with high completion rates in 12 and 10 of the capacities, respectively (Figure 8).

Figure 8: Cybersecurity focus in Oceania and top scorers for each capacity.

The policy development capacity in the region is led by Australia with a full completion rate, closely followed by Vanuatu with 71%. Threat analysis capacities in the region are led by Australia and New Zealand with a 100% completion rate followed up by Tonga with an 80% completion rate. Regarding education, only three countries register any completion rate, Australia, and New Zealand at 100% and Papua New Guinea at 22% (Figure 8).

Australia and Tonga are the only countries that have signed the Convention on Cybercrime, and Australia and New Zealand have endeavored in cyber security capacity-building activities for other countries and personal data protection. Nevertheless, all countries in the region maintain representation in international cooperation formats.

The protection of digital services is the most underdeveloped capacity in the region (with Australia and New Zealand's 20% completion rate) and the protection of essential services is led by a 17% completion rate by multiple countries. Cyber incident response has also been undertaken by two thirds of the nations and is spearheaded by New Zealand. Personal data protection is led once again by Australia and New Zealand with full completion rates, having passed personal data protection acts and established the corresponding authority. No other country in the region has advanced in terms of this capacity (Figure 8).

Cyber incident response has also been undertaken by two thirds of the nations, led the capacity by Papa New Guinea and Vanuatu with an 83% completion rate, while the rest of the countries follow at 50%. The crisis management capacity only shows endeavors in three countries Australia 80%, New Zealand 40%, followed by Tonga. In relation to the fight against cybercrime, there has been much more activity in the region. Seven nations criminalize cybercrimes while Australia and New Zealand contain both cybercrime and digital forensics units. Finally, in relation to the military cyber operations capacity only Australia has a cyber operations unit and has participated in international military cyber exercises (Figure 8).

Discussion and Recommendations

Globally, the snapshot provided in this study appears to demonstrate countries focusing on reactionary measures rather than proactive endeavors. This is exhibited by the high scores in the fight against cybercrime and incident response capacities and the low scores in digital and essential services protection, cyber crisis management, and threat analysis. Countries must implement and/or improve upon their proactive activities, in addition to being prepared to react to incidents and threats. With ever-increasing levels of electronic and trust services throughout the world, all stakeholders should realize that cyber security is a concern for everyone. In that line of thought, global efforts (from those within the same region and to those across regional boundaries) must be redoubled and increased so that different capacities may be developed by those countries that need them. The shared data also shows that best practices can be implemented no matter the characteristics of the country or the type of government that it might have.

Africa's high score in personal data protection might have been the result of the adoption of the African Union Convention on Cyber Security and Personal Data Protection, since 2014, which states that the signatories would commit to establishing a legal framework relative to personal data protection. This brings up considerations that regional agreements and treaties might help push national cybersecurity toward improvement. It would be worth exploring if such a commitment for any of the other capacities would make a positive difference in the region. Given the region's young population, we advocate for less efforts into the military cyber operations capacity and more development of educational opportunities, coupled with the creation of the protective frameworks through crisis management mechanisms and the protection of the digital and essential services. Similarly, threat analysis and policy development seem to be lagging behind, both of which are necessary components for a robust level of national cybersecurity.

Generally speaking, government regulation of the private sector is not well seen in the Americas region. While this might not be the main or only reason behind the low scores in the digital and essential services protection, we believe that it is still an important component. When talking about national cybersecurity, multiple stakeholders have responsibilities in this context. The government must work with the private sectors and all other relevant parties to establish a baseline of minimum cyber security requirements and to ensure their application. An interesting phenomenon was identified in the Caribbean subregion, where island nations had scored for the protection of essential services. Closer inspection revealed that they had identified their essential services prior to the advent of modern ICT (identified by the dates of enactment of the legislation relative to natural disasters and essential services). These countries can work with the existing legislation so that in addition to natural phenomena crises, they are also covered in case of cyber incidents. Next to Oceania and Africa, this region has also the lowest average score in regard to the education capacity; future efforts must focus on these components. With the ongoing development of the region, threat analysis and cyber crisis management must also become strategic priorities, especially for those countries lacking a national armed force.

Second to Europe, Asia's focus on the education capacity is a step in the right direction for the future of the region. Nevertheless, efforts must not shun away from the protection of digital and essential services. With better scores in response crisis management and threat analysis

than the global average, intra-regional efforts and cooperation should allow individual countries to reach a more homogeneous level. Policy development electronic identification trust services and personal data protection must also receive a boost.

Europe's all-around high-leveled capacities could be attributed to the regional standards and common legislative instruments[6] that have pushed the issue of cybersecurity to the forefront. Nevertheless, the cyber crisis management capacity is still a bit lacking in this respect and further endeavors must be geared toward developing these components. The high scores of the education capacity should further be reflected into global efforts and cooperation. We believe the main risk to the region to be complacency and the maintenance of the status quo, which must never be the norm around always progressing cyber capacity building and technological advancements.

The sample of countries from Oceania is limited due to the lack of available infrastructure and hardware necessary for the maintenance of cyberspace in such remote nations. Similarly, to the Caribbean nations (in the American region), most of the countries have identified their essential services due to legislation dealing with emergency situations, caused specifically by natural phenomena. While not specifically related to the cybersecurity topic, the identification of such services gives them an advantage since they can now build upon it with the corresponding cyber security legislation. Nevertheless, they must make sure that in the context of cyberspace, they have identified all the necessary essential services for them to be fully protected. The military cyber operations capacity will be hard to improve within the remote island nations due to their inherent lack of armed forces. Rather, those efforts must be redirected into the protection of digital and essential services and the development of a cyber crisis management system.

Limitations and Future Research

The NCSI itself presents a couple of biases. The first one is that it was created within the context of the European Union and its understanding of cybersecurity, by an Estonian team. As such, some of the indicators were modeled after studying the best practices of the European region. Since the indicators are the components of the capacities and the "all-or-nothing" approach is followed regarding the allotment of points in the event of evidence, this has an impact on the completion rate for the countries. Nevertheless, even if such indicators might provide a region with any apparent advantage, they are still some of the best practices in national cybersecurity that have been implemented and exist around the world. Any similar metrics, with a different degree of strictness, would still yield the same inductive trends (i.e., similarities and differences), and any different metrics are outside the scope of this paper, but a good starting point for future research. The second bias is the fact that the index only accepts publicly available evidence. In some countries, cybersecurity is intricately connected with the concept of national security and as such, evidence might not be disclosed to the public. In such cases, it is not possible to award the points if there is no publicly available evidence that can be shared. Nevertheless, the creators and administrators of the index believe that

6 At first glance, inductively, more European Union (EU) countries have an increased number of 100% completion rates in multiple capacities, than non-EU countries. However, the M49 Standard of the Statistics Division of the United Nations Secretariat does not group all EU countries in the same region. Additionally, under this grouping, the term "non-EU countries" includes the Russian Federation, Switzerland, and the United Kingdom, which are all showcased in the region for their performance. Future research is recommended on supranational unions, specific subregions, and/or categories.

having a multinational index based on publicly available official information outweighs any downgrade in position that a country might suffer due to lack of transparency.

The article has presented how national cybersecurity is being undertaken throughout the world. Regional trends (i.e., similarities and differences) exist (as presented in the previous section), but globally, reactionary measures are being preferred rather than proactive ones. The paper also presents a number of countries from which best practices can be adopted for specific topics (as presented in the regional subsections of the "Global and Regional Findings" section). As previously stated, this article serves as a global and regional snapshot and point of reference for any future single case or comparative studies of national cybersecurity. Since national cybersecurity includes so many individual components and since this article explores 161 countries in an overarching way, we believe that there will never not be a lack of future research topics stemming from this document in this field. With this article, we also wanted to showcase countries and regions that have arguably been underrepresented across academic literature and policy debates and give visibility to their efforts, i.e., non-major states and actors. Future case studies could start focusing on these countries through the whole 12 capacities lens or more in-depth with some of the specific indicators. Similar comparative studies may be proposed among specific subregions and subcategories (i.e. developing, small, island, etc.) of nations, or supranational unions (i.e. African Union, European Union, Caribbean Community, etc.). Since the NCSI is publicly available, such possibilities will remain on the table.

Disclaimers

The NCSI was originally developed through the "Development of a National Cyber Security Index" project, funded by the Ministry of Foreign Affairs of Estonia and managed by the e-Governance Academy. The author of this article has acquired and managed the country data for the NCSI and this article through the following projects: 2018-2020 "Shaping of Trusted Information Societies in Developing Countries"; 2020-2022 "Advancing Cybersecurity Capacities for Digital Transformation"; all funded by the Ministry of Foreign Affairs of Estonia and managed by the e-Governance Academy. The NCSI updated its methodology in November 2023. Nevertheless, all data from the previous methodology (i.e., that was used for this article) was saved for historical purposes and is publicly available.

Acknowledgments

I would like to extend my thanks and appreciation to my colleagues at the e-Governance Academy's Cybersecurity Competence Center (Ms. Merle Maigre, Ms. Epp Maaten, Ms. Kadri Kaska, and Mr. Hauke Schulz) and to all the national contributors who have helped to keep the NCSI up to date throughout the years.

Annex 1

NCSI Capacities and their Indicators	% Value of Corresponding Capacity
1. Cyber security policy development	100
1.1. Cyber security policy unit	43
1.2. Cyber security policy coordination format	29
1.3. Cyber security strategy	14
1.4. Cyber security strategy implementation plan	14
2. Cyber threat analysis and information	100
2.1. Cyber threats analysis unit	60
2.2. Public cyber threat reports are published annually	20
2.3. Cyber safety and security website	20
3. Education and professional development	100
3.1. Cyber safety competencies in primary or secondary education	11
3.2. Bachelor's level cyber security programme	22
3.3. Master's level cyber security programme	22
3.4. PhD level cyber security programme	22
3.5. Cyber security professional association	22
4. Contribution to global cyber security	100
4.1. Convention on Cybercrime	17
4.2. Representation in international cooperation formats	17
4.3. International cyber security organisation hosted by the country	50
4.4. Cyber security capacity building for other countries	17
5. Protection of digital services	100
5.1. Cyber security responsibility for digital service providers	20
5.2. Cyber security standard for the public sector	20
5.3. Competent supervisory authority	60
6. Protection of essential services	100
6.1. Operators of essential services are identified	17
6.2. Cyber security requirements for operators of essential services	17
6.3. Competent supervisory authority	50
6.4. Regular monitoring of security measures	17
7. E-identification and trust services	100
7.1. Unique persistent identifier	11
7.2. Requirements for cryptosystems	11
7.3. Electronic identification	11
7.4. Electronic signature	11
7.5. Timestamping	11
7.6. Electronic registered delivery service	11
7.7. Competent supervisory authority	33

NCSI Capacities and their Indicators	% Value of Corresponding Capacity
8. Protection of personal data	100
8.1. Personal data protection legislation	25
8.2. Personal data protection authority	75
9. Cyber incidents response	100
9.1. Cyber incidents response unit	50
9.2. Reporting responsibility	17
9.3. Single point of contact for international coordination	33
10. Cyber crisis management	100
10.1. Cyber crisis management plan	20
10.2. National-level cyber crisis management exercise	40
10.3. Participation in international cyber crisis exercises	20
10.4. Operational support of volunteers in cyber crises	20
11. Fight against cybercrime	100
11.1. Cybercrimes are criminalised	11
11.2. Cybercrime unit	33
11.3. Digital forensics unit	33
11.4. 24/7 contact point for international cybercrime	22
12. Military cyber operations	100
12.1. Cyber operations unit	50
12.2. Cyber operations exercise	33
12.3. Participation in international cyber exercises	17

Annex 2

The 161 countries in NCSI and analyzed in this paper are as follows: 37 countries from Africa, 35 from America, 41 from Asia, 39 from Europe, and 9 from Oceania.

Africa	America	Asia	Europe	Oceania
Angola	Antigua and Barbuda	Afghanistan	Albania	Australia
Algeria	Argentina	Armenia	Austria	Kiribati
Benin	Bahamas	Azerbaijan	Belarus	New Zealand
Botswana	Barbados	Bahrain	Belgium	Papua New Guinea
Burundi	Belize	Bangladesh	Bosnia and Herzegovina	Samoa
Cameroon	Bolivia	Bhutan	Bulgaria	Solomon Islands
Chad	Brazil	Brunei Darussalam	Croatia	Tonga
Congo (Democratic Republic of the)	Canada	Cambodia	Czech Republic	Tuvalu
Côte d'Ivoire	Chile	China	Denmark	Vanuatu
Egypt	Colombia	Cyprus	Estonia	
Ethiopia	Costa Rica	Georgia	Finland	
Ghana	Cuba	India	France	
Kenya	Dominica	Indonesia	Germany	
Liberia	Dominican Republic	Iran (Islamic Republic of)	Greece	
Libya	Ecuador	Israel	Hungary	
Madagascar	El Salvador	Japan	Iceland	
Malawi	Grenada	Jordan	Ireland	
Mali	Guatemala	Kazakhstan	Italy	
Mauritania	Guyana	Korea (Republic of)	Latvia	
Mauritius	Haiti	Kyrgyzstan	Lithuania	
Morocco	Honduras	Lao PDR	Luxembourg	
Mozambique	Jamaica	Malaysia	Malta	
Namibia	Mexico	Mongolia	Moldova (Republic of)	
Nigeria	Nicaragua	Myanmar	Montenegro	
Rwanda	Panama	Nepal	Netherlands	
Senegal	Paraguay	Oman	North Macedonia	
Seychelles	Peru	Pakistan	Norway	

Africa	America	Asia	Europe
Sierra Leone	Saint Kitts and Nevis	Philippines	Poland
Somalia	Saint Lucia	Qatar	Portugal
South Africa	Saint Vincent and the Grenadines	Saudi Arabia	Romania
South Sudan	Suriname	Singapore	Russian Federation
Sudan	Trinidad and Tobago	Sri Lanka	Serbia
Zambia	United States	Syrian Arab Republic	Slovakia
Zimbabwe	Uruguay	Tajikistan	Slovenia
Tanzania, United Republic of	Venezuela	Thailand	Spain
Tunisia		Turkey	Sweden
Uganda		Turkmenistan	Switzerland
		United Arab Emirates	Ukraine
		Uzbekistan	United Kingdom
		Vietnam	
		Yemen	

References

Amon, D. J. et al. 2022. "My Deep Sea, My Backyard: A Pilot Study to Build Capacity for Global Deep-Ocean Exploration and Research." *Philosophical Transactions of the Royal Society B* 377(1854), 20210121. doi: http://doi.org/10.1098/rstb.2021.0121

Andrade, R. O. et al. 2021. "A Comprehensive Study About Cybersecurity Incident Response Capabilities in Ecuador." *Advances in Intelligent Systems and Computing* 1277, 281-292. doi: https://doi.org/10.1007/978-3-030-60467-7_24

Bada, M., B. Von Solms and I. Agrafiotis. 2019. "Reviewing National Cybersecurity Awareness for Users and Executives in Africa." *International Journal On Advances in Security* 12(1&2), 108-118. doi: https://doi.org/10.48550/arXiv.1910.01005

Bay, M. 2016. "What is Cybersecurity? In search of an encompassing definition for the post-Snowden era." *French Journal for Media Research* 6, 1-28.

Berthelet, P. 2020. «La lutte contre la cybercriminalité à l'échelle de l'Union : analyse de l'évolution juridique d'un phénomène à la confluence de plusieurs agendas institutionnels.» *Revue Québécoise de Droit International* Special Issue, 25-39. doi: https://doi.org/10.7202/1067257ar

Calderaro, A. and A. J. S.Craig. 2020. "Transnational Governance of Cybersecurity: Policy Challenges and Global Inequalities in Cyber Capacity Building." *Third World Quarterly* 41(6), 917-938. doi: https://doi.org/10.1080/01436597.2020.1729729

Carlini, A. 2016. "Ciberseguridad: un nuevo desafío para la comunidad internacional." *Bie3: Boletín IEEE* (2) 950-966.

Craigen, D., N. Diakun-Thibault and R. Purse. 2014. "Defining Cybersecurity." *Technology Innovation Management Review* 4(10), 13-21. doi: https://doi.org/10.22215/timreview835

De la Fuente, B. et al. 2020. "Built-Up Areas Within and Around Protected Areas: Global Patterns and 40-Year Trends." *Global Ecology and Conservation* 24, e01291. doi: https://doi.org/10.1016/j.gecco.2020.e01291

Dewar, R. S. et al. 2018. *National Cybersecurity and Cyberdefense Policy Snapshots*. ETH Zurich, Switzerland. doi: https://doi.org/10.3929/ethz-b-000314596

eGA. n.d.-a. *National Cyber Security Index*. https://ncsi.ega.ee/. Last accessed January 2023.

eGA. n.d.-b. *NCSI - Methodology*. https://ncsi.ega.ee/methodology/. Last accessed October 2022.

eGA. 2020. *National Cyber Security in Practice*. https://ega.ee/wp-content/uploads/2020/05/Kuberturvalisuse_kasiraamat_ENG.pdf

eGA. 2022. *Upgrading National Cyber Resilience: National Cybersecurity in Practice 2*. https://ega.ee/wp-content/uploads/2021/05/NCSI-Cyber-Resilience-Digi_F.pdf

ENISA - European Union Agency for Network and Information Security. 2015. *Definition of Cybersecurity - Gaps and Overlaps in Standardisation*. https://www.enisa.europa.eu/sites/default/files/publications/Cybersecurity_Definition_Gaps_v1_0.pdf

ENISA - European Union Agency for Network and Information Security. 2017. *ENISA Overview of Cybersecurity and Related Terminology*. https://www.enisa.europa.eu/sites/default/files/all_files/2017-09-07-ENISAoverviewOfCybersecurityAndRelatedTechnology.pdf

Farahbod, K., C. Shayo and J. Varzandeh. 2020. "Cybersecurity Indices and Cybercrime Annual Loss and Economic Impacts." *Journal of Business and Behavioral Sciences 30*(1), 63-71. http://asbbs.org/files/2020/JBBS_32.1_Spring_2020.pdf

Field, J. G. et al. 2021. "More alike than different? A Comparison of Variance Explained by Cross-Cultural Models." *Journal of International Business Studies* 52, 1797-1816. doi: https://doi.org/10.1057/s41267-021-00428-z

Guranda, V. 2021. La Cyber-sécurité. *Technical-Scientific Conference of Undergraduate, Master and Phd Students* 1, 383-385. https://ibn.idsi.md/ro/vizualizare_articol/134005/datacite

Ham, J. Van Der. 2021. "Toward a Better Understanding of 'Cybersecurity'." *Digital Threats: Research and Practice* 2(3), 1-3. doi: https://doi.org/10.1145/3442445

ITU-D. n.d. ITU-D Cybersecurity Program Global Cybersecurity Index – GCIv5 Reference Model (Methodology). https://www.itu.int/en/ITU-D/Cybersecurity/Documents/GCIv5/513560_2E.pdf. Last accessed January 2023.

Jazri, H. and D. S. Jat. 2017. A quick cybersecurity wellness evaluation framework for critical organizations. *Proceedings of 2016 International Conference on ICT in Business, Industry, and Government, ICTBIG 2016*. doi: https://doi.org/10.1109/ICTBIG.2016.7892725

Kruhlov, V. et al. 2020. Public-private partnership in cybersecurity. *CEUR Workshop Proceedings* 2654. https://ceur-ws.org/Vol-2654/paper48.pdf

Le Barreau, L. and E. Longeon. 2016. «Les enjeux de cybersécurité en Arabie saoudite: Variables culturalistes et conceptualisation d'une stratégie nationale.» *Études Internationales* 47(2-3), 155-175. doi: https://doi.org/10.7202/1039541ar

Loiseau, H. et al. 2013. «La stratégie du Canada en matière de cybersécurité : de la parole aux actes?» *Canadian Foreign Policy Journal* 19(2), 144-157. doi: https://doi.org/10.1080/11926422.2013.805151

Maglaras, L. et al. 2020. "Cybersecurity in the Era of Digital Transformation: The Case of Greece." *2020 International Conference on Internet of Things and Intelligent Applications, ITIA 2020*. doi: https://doi.org/10.1109/ITIA50152.2020.9312297

Newmeyer, K., E. Cubeiro and M. Sánchez. 2015. "Ciberespacio, Ciberseguridad Y Ciberguerra." *II Simposio Internacional de Seguridad y Defensa: Perú 2015*, 76-95.

Newmeyer, K. P. 2015. "Elements of National Cybersecurity Strategy for Developing Nations." *National Cybersecurity Institute Journal* 1(3), 9-19.

NCSI. 2022. Happy New Year 2023!. In *News*. https://ncsi.ega.ee/88/happy-new-year-2023/

NCSI. 2023. Updated Countries January 2023. In *News*. https://ncsi.ega.ee/89/updated-countries-january-2023/

Pohlmann, N. 2019. Cyber-Sicherheit. In *Cyber-Sicherheit*. Springer Fachmedien Wiesbaden GmbH. Wiesbaden, Germany. doi: https://doi.org/10.1007/978-3-658-25398-1

Romaniuk, S. and M. Manjikian. 2021. *Routledge Companion to Global Cyber-Security Strategy.* 1st ed. Milton: Taylor and Francis.

Samonas, S. and D. Coss. 2014. "The CIA Strikes Back: Redefining Confidentiality, Integrity and Availability in Security." *Journal of Information System Security* 10(3), 21-45.

Shackelford, S. and A. Kastelic. 2014. "Toward a State-Centric Cyber Peace? Analyzing the Role of National Cybersecurity Strategies in Enhancing Global Cybersecurity." *SSRN Electronic Journal* 18, 895-984. doi: https://doi.org/10.2139/ssrn.2531733

Stevens, T. 2018. "Global Cybersecurity: New Directions in Theory and Methods." *Politics and Governance* 6(2), 1-4. doi: https://doi.org/10.17645/pag.i92

United Nations. 2021. *Standard country or area codes for statistical use (M49): Geographic Regions*. Series M, No. 49. https://unstats.un.org/unsd/methodology/m49/. Last accessed January 2023.

Urbanovics, A. 2022. "Cybersecurity Policy-Related Developments in Latin America." *Academic and Applied Research in Military and Public Management Science* 21(1), 79-94. doi: 10.32565/aarms.2022.1.6

Yarovenko, H. 2020. "Evaluating the Threat to National Information Security." *Problems and Perspectives in Management* 18(3), 195-210. doi: https://doi.org/10.21511/ppm.18(3).2020.17

Radu Antonio Serrano Iova works as an Expert at the e-Governance Academy. His responsibilities include managing and updating the National Cyber Security Index database, in addition to assisting with other international projects in the fields of cybersecurity, e-governance, and digital transformation. Radu holds a Doctorate degree in Public Administration with a Specialization in Technology Governance, from Tallinn University of Technology. His academic research and multiple publications have been focused on topics of cybersecurity, internet voting, foreign direct investment, and the Panamanian economy. Email: raduserrano@hotmail.com

The Involvement of NGOs in Asylum Policy Decision-Making in Estonia

MARILIIS TREI, RAGNAR NURKSE DEPARTMENT OF INNOVATION AND GOVERNANCE, TALLINN UNIVERSITY OF TECHNOLOGY, ESTONIA

Abstract

With the shift from government to governance and the increased demand for cooperation and coordination in public management during the past few decades, governments have made efforts to improve participatory policy-making. It can be tricky to involve stakeholders across sectors with different interests, resources, and perceptions, especially if the policy issue is controversial. The aim of this paper is to analyze the interaction dynamic of the government and non-governmental organizations (NGOs) in asylum policy decision-making. The paper looks into the case of amending the legislative framework of the Estonian asylum system that was interfered with by the European migration crisis in 2015. The case highlights how the increased salience of the issue and the changing context influenced political decision-making and the way NGOs were involved. The findings show that although the context of crisis increased collaboration between the ministries and the NGOs on the policy implementation level, the involvement of NGOs in political decision-making deteriorated. The paper argues that at times when public debate on asylum policy grows more divisive, the decision-making process becomes more political, and the ability of NGOs to influence policy decisions becomes more likely through service provision rather than political debate.

Keywords: non-governmental organizations; public participation; policy-making; asylum policy

Introduction

The shift from traditional policy-making to more collaborative or participatory policy-making has meant that policies are no longer only "the preserve of policy planners and top decision makers" (Bovaird 2007, 846), but are ideally seen as outcomes of interactions, negotiations, and compromises between stakeholders. According to Rowe and Frewer (2004, 215), public participation is "the practice of consulting and involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development." The value of public participation derives from two underlying assumptions – there are several alternative solutions to one policy problem and the authorized decision-makers possess insufficient knowledge, information, competence, resources, or legitimacy (Fung 2006, 67). Thus, public participation is expected to improve the quality and legitimacy of policy decisions by consulting a wide range of stakeholders or affected parties across sectors.

Although the value of participatory policy-making is widely acknowledged, it has also been argued that the process of public participation is difficult to "get right" (Ianniello et al. 2018). Participatory policy-making requires ways to foster collaborative interactions between actors that can have conflicting perceptions, interests, and power resources depending on the institutional and political context (Cornwall 2008; Halpin and Fraussen 2017). The process becomes even more complex if we consider that the values, interests, and positions of participating actors are not static, but rather "actively constructed or constrained" during the course of public participation (Harvey 2009, 140). Failure to work together can result in disagreements and coordination problems, leading to ineffective policy-making and implementation (Neshkova and Guo 2011), which can further escalate policy problems and have negative consequences for society.

Asylum policy represents a complex and controversial policy field with a wide range of actors with different interests across governments, sectors, and policy areas (Alink et al. 2001). The core contradiction of asylum policy lies in balancing national interests, international norms, and morality (Steiner 2000), insisting on trade-offs during the policy-making process. Different actors (e.g., the government, media, NGOs, international organizations) want to protect or advance different values and interests, leading to attempts to disqualify other opinions instead of reaching a common understanding (Geuijen et al. 2017, 626). This became evident, for example, during the 2015 European migration crisis, which intensified the trend toward national solutions among the European Union (EU) member states (Lavenex 2018, 1203) and polarized political debate.

The dynamics between various stakeholders in the asylum policy-making process have been researched on the EU level (e.g., Guiraudon 2000 and 2017; Givens and Luedtke 2004; Kaunert et al. 2015; Zaun 2017), but less emphasis has been on exploring the dynamics between stakeholders with different roles and considerations on the national level (few exceptions are, e.g., Szczepanikova 2011; Mayblin 2017), especially in the decision-making phase. In particular, the involvement of NGOs in asylum policy decision-making on the national level has thus far received little attention (Korneev and Kluczewska 2018; an exception is Menz 2011), although their important role in national asylum systems has been widely acknowledged. Research on NGOs in asylum policy has mainly looked into their function and activities (Kersch and Mishtal 2016; Simsa 2017; Roth et al. 2018; Mayblin and James 2018), but has not closely considered their involvement in the legislative process.

The aim of this paper is to address this gap and provide an in-depth account of the involvement of NGOs in asylum policy decision-making on the national level during a critical period – the height of the European migration crisis of 2015. More specifically, the case study follows the legislative process of amending the Estonian Act of Granting International Protection to Aliens (AGIPA) – the main act regulating the asylum system in Estonia. This process took place from 2014 until 2016. To analyze the engagement of NGOs, three core research questions were posed: (1) What was the role of NGOs in the Estonian asylum policy system before the 2015 EU migration crisis?; (2) How did the interaction dynamic between government actors and NGOs evolve during the proceeding of the AGIPA?; and (3) What was the impact of the 2015 European migration crisis on the involvement of NGOs in the proceeding process of the AGIPA?

To answer the research questions, the paper first outlines the characteristics of asylum policy and the role of NGOs in asylum policy from a theoretical perspective and lays out the criteria

for analyzing the involvement of NGOs in the asylum policy-making context. The term "policy-making" in this article will be used to refer to the process of determining policy options and deciding on the course of action (Howlett and Giest 2013). The theoretical part is followed by a description of the Estonian context and the research methodology. Finally, an analysis and discussion are provided. The data for the analysis was gathered through desk research and 17 semi-structured interviews conducted in 2016 and 2019 with NGO representatives, civil servants, and members of the Government and Parliament in office during the 2015 European migration crisis.

By deconstructing the decision-making process, the case of the AGIPA offers an opportunity to consider the dynamics of interaction between government actors and NGOs in a context of crisis where immediate decisions are required. Understanding this dynamic provides insights into the nature of the relationship between stakeholders, which is crucial to understanding asylum policy outcomes. Insights from the national level are especially important for understanding the processes on the EU level, as asylum policy remains an area where compromises between member states are difficult to reach (Zaun 2018, 45). Estonia offers a suitable context for the case study as volunteers and NGOs have been actors in the Estonian asylum system since it was established in 1997 and the 2015 European migration crisis can be considered as the first big challenge for the Estonian system (Trei and Sarapuu 2021). The paper also contributes to the knowledge on the specifics of the asylum system in Central and Eastern European countries, which have received limited attention in literature.

Characteristics of asylum policy-making

Asylum policy is a multifaceted, transnational, and institutionally complex policy field (Alink et al. 2001) that deals with the challenges stemming from the irregular movement of people (often forcibly) uprooted from their homes. Reasons for seeking shelter in another country vary and can range from fleeing armed conflicts, violence, and persecution in their home country to being forced to migrate due to natural disasters or climate change. In any case, the need for asylum arises when a state is unable to protect its citizens and provide them with their civil rights forcing people to seek protection elsewhere (Heuser 2007).

The formal right to seek asylum was instituted in 1951 when the UN Convention Relating the Status of Refugees[1] was adopted. The international asylum system lays out three interrelated functions of asylum policy for the contracting states of the Refugee Convention – the admission of asylum applications and the determination of the refugee status; the reception of asylum seekers; and the integration of people who have been granted the refugee status (Alink et al. 2001, 288-89). All these functions are performed by a plethora of actors from different domains (e.g., border control, law enforcement, and welfare), sectors (private and third sector), and governance levels (local, national, EU, and international levels) who need to cooperate to successfully execute their tasks.

The wide circle of actors and the complexity of asylum policy make the policy-making process challenging. Based on the literature, three defining characteristics of the asylum policy-making process stand out. First, asylum policy is controversial by nature. The inherent contradiction between the international right to seek asylum and the sovereign right of states to decide

1 UN General Assembly, *Convention Relating to the Status of Refugees*, 28 July 1951, United Nations Treaty Series, vol. 189:137.

who enters their borders leads to the "political dilemma of law versus policy" (Alink et al. 2001, 297). It has been argued that in the European context, and especially in exceptional and emergency circumstances, the political interests of member states (mainly concerns related to security and the viability of the welfare state) have become superior to the legislative framework (Kjærum 2002; Lavenex 2018). Although the EU's common asylum system obliges member states to fulfill their humanitarian commitments, there are discrepancies in how these regulations are implemented on the national level (Toshkov 2013; Scipioni 2017).

Second, asylum policy is highly value-based (Baldwin et al. 2018), and consequently, the decision-making process is more dependent on the prevailing policy frame and politics than on scientific or technical knowledge (Mayblin 2017). The political competition to change the dominating policy frame in such a sensitive policy field becomes central in the decision-making process, because often the dominant policy frame eventually leads to institutionalizing the interpretation of the policy issue (Erikson 2015). The prevailing policy frame, therefore, essentially affects how the policy field is governed – how decisions are made, who is involved in decision-making, and even which facts or knowledge is used (Mayblin 2017). In EU member states, the ministry dealing with internal affairs and security usually dominates asylum policy-making (Kaunert et al. 2015). As security is traditionally a policy area that stays partly hidden from the public, asylum policy-making on the national level can become opaque (Zaun 2016).

Lastly, asylum policy-making is contingent on the fluctuation of the number of asylum seekers, which makes asylum policy-making reactive and *ad hoc* in nature (Dahlvik 2018). As it is difficult to predict and control the fluctuations of migration flows, asylum policy-making tends to lack a long-term perspective (Böcker and Havinga 1998, 246). When the number of asylum seekers rises, the pressure on each part of the asylum system also increases and governments are urged to find quick solutions (Zaun 2017, 43). In moments of high pressure and crisis, the demands of the public can gain "political traction" (Hatton 2017, 468) and potentially lead to political change.

The role of NGOs in asylum policy

NGOs started to gain relevance in the asylum policy field during the early 1990s when the conflict between national refugee policies and human right laws increasingly emerged, creating an incentive for the establishment of several humanitarian and human rights organizations in the EU (Korneev and Kluczewska 2018; Kjærum 2002). In a short period of time, NGOs became engaged at "whatever level of governance, whether it be in the delivery of grassroots protection and assistance or in the formulation of policies, standards and norms and in monitoring their implementation" (Lester 2005, 125).

NGOs are not always defined uniformly in the third-sector literature. Nevertheless, five defining features seem universal (United Nations 2018): they need to be institutionalized to some extent (formally or informally); are limited in distributing their profits; are self-governing; membership is non-compulsory for members; and are not controlled by the government. Under this definition, a vast number of organizations with different missions, activities, and funding can be classified both on the international and national levels. However, regarding their categorization, the most customary basis is the function of NGOs. Most commonly three roles are recognized: service providers, watchdogs monitoring government actions, and

representation vehicles for different groups in society (Leroux and Goerdel 2009; Anheier 2009; Enjolras et al. 2018).

These three roles are also evident in the asylum policy context. NGOs as service providers can be engaged during the entire process of asylum provision by arranging reception-related services, like accommodation, legal advice, health care, psychological support, cultural orientation, and providing integration-related services, like housing, language courses, mentoring services, and help to access education or the work market for both asylum seekers and refugees (Garkisch, Heidingsfelder and Beckmann 2017, 1853-1857; Simsa 2017; Mayblin and James 2018). By working closely with asylum seekers and refugees at the grassroots level, service-providing NGOs acquire a unique knowledge base and expertise (Chin 2017). Crisis situations have shown that service-providing NGOs often step in as "gap-fillers" because they can be more agile and adaptable compared to governments in sudden critical situations (Milan 2018).

NGOs as watchdogs in asylum policy aim to ensure that states comply with their international obligations to accept asylum seekers and follow the principles of non-discrimination, non-penalization, and non-refoulment that are fundamental to the Refugee Convention. The international mandate of monitoring the fulfillment of the Refugee Convention belongs to the United Nations High Commissioner for Refugees (UNHCR), but as NGOs are often more familiar with the specific national situation, the UNHCR sometimes uses the help of local NGOs to act as national norm entrepreneurs (Betts and Loescher 2014, 217). By highlighting the omissions of the government, NGOs simultaneously raise awareness about local refugee-related issues and human rights in society in general. As the willingness of governments to improve the conditions for asylum claimants also depends on the views prevailing in society, NGOs have an important role in educating the public to counteract the increasingly negative perceptions of migration (Hatton 2005).

Arguably, the most important role of NGOs is to advocate for the rights of organized members, other groups in society, and the civil society in general. Asylum seekers and refugees often belong to politically marginalized groups in the receiving country and their ability to self-organize is limited to countries with an already existing community of refugees and, concurrently, enough social capital to advocate for themselves (Jacobsen 1996). Thus, advocating for asylum seekers' rights in public debates, legal processes, and lobbying for a comprehensive asylum policy in formal policy-making processes is often the function of NGOs (Leroux and Goerdel 2009).

There are several types of advocacy activities (e.g., Cambridge and Williams 2004, 100-102), but more broadly, it is possible to distinguish between public advocacy, political advocacy, and legal advocacy in asylum policy (Garkisch et al. 2017, 1859-1860). Although public advocacy is similar to the role of maintaining universal democratic values and educating the public, political advocacy is intended to change existing policy. In political advocacy, local NGOs and the UNHCR often collaborate to steer government actions in their desired direction. Although governments can perceive the pressure from international human rights organizations as a "threat to its control over policymaking" (Jacobsen 1996, 663), national NGOs represent a more legitimate instrument for influencing the government. Local NGOs can act as "the extensions of the United Nations" on the national level (Gordenker and Weiss 1997, 447) or, on the contrary, try to find political support for anti-migration stances. Legal

advocacy is directed toward helping either individuals or a larger group to defend their rights in legal processes, for example, in determining the status of refugees or contesting these status decisions in court (Cambridge and Williams 2004).

In practice, the three functions of NGOs described above can overlap. The role of advocacy in particular can be very hard to separate from other functions (Young and Casey 2017). Increasingly, service provision and advocacy activities blend together and through the provision of services, NGOs can form their policy objectives and pursue changes in the existing policy or regulation (Hwang and Suarez 2019; Chin 2017).

Analyzing the involvement of NGOs in asylum policy-making

Several authors have argued that the more controversial an issue, the more important public participation becomes (Rowe and Watermeyer 2018; Moynihan 2003). Conflicting values, for example, between the government and civil society organizations, and unequal allocation of knowledge should arguably increase the need to discuss, share information, and negotiate to either agree on a compromise or on a lack thereof (Rowe and Watermeyer 2018). However, the discrepancy of interests, different understandings of what participation should entail, and a stark conflict in values in particular can create an incentive for the more powerful stakeholders to undermine the genuineness of public involvement to sustain control over the final decision (Wang and Wan Wart 2007). Neglecting the position of other stakeholders through an ostensible process of public participation creates additional tension and frustration between stakeholders, threatening their future collaboration as partners (Edelenbos and Klijn 2005). Considering the important role of NGOs in asylum policy systems, cooperation is necessary for the system to function properly, and failing to involve NGOs in decision-making increases the potential of uninformed or unbalanced asylum policy.

The literature on public participation is clear on the participation process being dependent on the specifics of the problem and the surrounding context (Ianniello et al. 2018). To determine why some collaborations succeed and others turn into conflicts, four important analytical variables have been suggested (Hardy and Phillips 1998; Ansell and Gash 2008): the (im) balance of formal power and critical resources between actors; the perceived discursive legitimacy of an actor; the motive to participate; and past history of interactions between stakeholders. These aspects influence whether and how NGOs are involved, but also which strategies NGOs might use to participate in decision-making (Casey 2002).

The allocation of power and resources is arguably the most important aspect of determining the relationship between stakeholders (Hardy and Phillips 1998). In the asylum policy context, the government is by default the dominant stakeholders as they are in charge of processing asylum requests and responsible for the functioning of national asylum reception systems. Even though NGOs in asylum policy often possess considerable expertise and knowledge, the trend of securitization of asylum policy in the EU has made NGO access to decision-making more difficult (Boswell et al. 2011). The distribution of power and resources is closely connected to how the policy issue is framed and which organizations have discursive legitimacy (Hardy and Phillips 1998; Mosley 2013). Discursive legitimacy refers to the ability to influence the narrative by possessing specific knowledge or skills that are perceived valuable by other stakeholders.

From the perspective of NGOs, the process of opposing policymakers to the extent of confronting the government with, for example, critical reports or demonstrations, requires resources, a supporting network, but also a certain level of autonomy (Casey 2002; Leroux and Goerdel 2009). If the NGOs are dependent on government resources (e.g., government funding for service provision), this can hinder their ability to use confrontational tactics and ultimately result in complying with the government (Casey 2002). When the imbalance of power and resources is perceived by the non-governmental actors to be perpetual, a strategy of conflict is more likely to be employed by the NGOs with the aim of significantly altering existing policy or power dynamics (Casey 2002).

The motive and incentive to participate depend on how the stakeholders perceive their ability to influence the participatory process (Ansell and Gash 2008). For example, the institutional and legislative framework around public participation processes can be a factor that either enables or hinders NGOs in having a say in decision-making. If public participation is not legally regulated or considered as a norm, policymakers can use political manoeuvring to restrict access for NGOs (Wang and Wan Wart 2007). Asylum policy ranks high on the agenda in most EU countries and the influence of right-wing populist movements has affected public opinion across Europe. Governments being under political pressure to satisfy public opinion makes it harder for NGOs advocating for refugee rights to influence decision-making. NGOs can choose not to participate if they do not perceive the participation process as genuine and might try to assert influence through other means. Service-providing NGOs can use "day-to-day" advocacy and "client-level concerns and frustrations to develop policy advocacy objectives" on the policy implementation rather than the political decision-making level (Chin 2017, 28).

Finally, the success of collaboration also depends on the previous relationship between stakeholders. Although conflicts are not necessarily a barrier to collaboration, it does affect the level of trust needed to cooperate. "A prehistory of conflict creates a vicious circle of suspicion, distrust and stereotyping." (Ansell and Gash 2008, 553). Therefore, if policymakers have previously collaborated with NGOs or perceive NGOs to be significant or trustworthy actors, they are more likely to involve NGOs in decision-making (West 2004; Halpin and Fraussen 2017; Nicholson-Crotty and Nicholson-Crotty 2004).

The Estonian context

Estonia is a small state on the eastern border of the EU, which officially regained independence from the Soviet Union in 1991. Faced with the task of building its politico-administrative system virtually from scratch after more than 50 years of Soviet occupation (Sarapuu 2012), Estonia made rapid steps toward political and economic integration with Europe. During this transformative phase, establishing a formal asylum regime was by no means a priority for the young state, but rather one of the prerequisites for becoming a member of the EU. Asylum policy regulations were included in the EU's *acquis* for new candidate countries and cooperation projects were shortly initiated to support Estonia in establishing the necessary legal framework and institutions.

Asylum policy as a separate policy field in Estonia was formally established in 1997, when the Parliament of Estonia adopted the first Refugees Act and ratified the UN Refugee Convention

(1951) and the Protocol Relating to the Status of Refugees (1967). The first refugee reception center was opened in 2000. During the same year, three people were granted refugee status for the first time. The next important juncture in the Estonian asylum policy was in 2004 when Estonia became an EU member state and, concurrently, had to adapt its asylum system to the requirements of the EU Common European Asylum System (CEAS). For this reason, the Estonian Refugees Act was replaced with the AGIPA, which continues to regulate the Estonian asylum system.

Estonia's experience with asylum seekers and refugees during the first 10 years since establishing a formal asylum regime was limited (Annex 1). Rather than becoming a popular destination country for asylum seekers, Estonia mainly served as a transit country for people trying to reach Scandinavia (Kallas 2011). The number of asylum applications only slowly started increasing after Estonia adopted the Dublin Regulation and joined the Schengen area in 2007. A steeper rise of asylum applications came in 2009 and an upward trend continued until the end of the 2015 EU migration crisis. Until 2022, Estonia remained among the three EU countries with the lowest number of asylum applicants. The Russian invasion of Ukraine in February 2022 caused an influx of Ukrainian refugees into Estonia and marked the beginning of a new chapter in the functioning of the Estonian asylum system. The long-term ramifications of the arrival of thousands of Ukrainian refugees to Estonia are still unfolding.

Estonian asylum policy-making before the 2015 EU migration crisis can be characterized as *ad hoc* without any long-term strategy (National Audit Office 2016). Because of the small number of asylum seekers, asylum policy was not a priority and, therefore, complying with the minimal requirements of the CEAS was one of the guiding principles for Estonia (Kallas 2011). Another reason behind Estonia's rather conservative line in asylum policy was the historical context of forced labor immigration during the Soviet occupation. Between 1945 and 1989, the share of immigrants in the total population increased from 3% to 38%, and in the early 1990s only two other European countries had a higher percentage of immigrants (Tammur et al. 2017). Therefore, migration policy choices stemmed from this background.

Asylum policy in Estonia primarily falls under the jurisdiction of the Ministry of the Interior (MoI) and to a lesser extent under the Ministry of Social Affairs (MoSA). The MoI, together with the Police and Border Guard Board and the Estonian Internal Security Service, is responsible for asylum policy-making and administration of the asylum applications admission and processing system. The MoSA, together with the Estonian National Social Insurance Board, is responsible for the reception and integration of asylum seekers and refugees.

The provision of everyday services for asylum seekers and refugees has mainly been delegated to the state-owned company AS Hoolekandeteenused (responsible for managing the refugee reception center since 2000), international organizations (e.g., the International Organization for Migrants), and a few NGOs. In addition to state-funded projects, the NGOs also offer voluntary support services for asylum seekers and refugees and are also the main advocators of refugee rights. To a lesser extent, local governments provide general social services for refugees after they have found a permanent living space. On the international level, the UNHCR and the EU are the most important actors. Although the UNHCR monitors the compliance of Estonian asylum policy with the international legal system, the EU provides a policy framework through the CEAS and grants resources through the Asylum, Migration, and Integration Fund.

Methodology

The case study follows the involvement of NGOs in the decision-making process during the amendment of the AGIPA – the framework document of the Estonian asylum system. More specifically, the proceedings of the *Law Proposal 81SE amending the Act on Granting International Protection to Aliens and Associated Acts* is analyzed from drafting the document in December 2014 until it was enacted in March 2016.

The analysis is based on qualitative data. The data were gathered through document analysis and stakeholder interviews. Document analysis was used to recreate the timeline and the formal proceedings of the AGIPA 81SE process, relying on memorandums, protocols of the parliamentary standing committee, transcripts of the plenary sessions of the Parliament, and media coverage. Documents were also used to gain detailed information about the structure, function, and activities of NGOs in asylum policy.

Documentary data was complemented with 17 semi-structured interviews that were conducted in two rounds within two separate research projects. In April 2016, right after the AGIPA 81SE had been enacted, 10 interviews were conducted with the stakeholders involved in the proceedings, including representatives of NGOs, civil servants from the MoI and the MoSA, and members of the Constitutional Committee of the Parliament (see Annex 2). Anonymity was promised to all interviewees to allow them to express their opinions freely. Interviewees were first asked about how they perceived the role and importance of different stakeholders in the Estonian asylum policy field. After that, the proceedings of the AGIPA were discussed in detail. Interviewees were asked to describe and assess the participation process, including the relationship between the actors, differences in views, and perceptions on the outcome of the process.

Another round of interviews was conducted in 2019, which involved the representatives of the same organizations and additionally two members of the Government in office during the 2015 crisis as well as a representative of the UNHCR. This time, the interviews centered more on how the 2015 EU migration crisis unfolded in Estonia. The interviewees were asked how the events of the crisis changed collaboration practices and the roles of stakeholders. The possibility of analyzing the relationship dynamics in hindsight gave the interviewees a wider perspective on the topic. Data gathered from the interviews in 2016 and 2019 was used to analyze the role of NGOs in the Estonian asylum policy system and helped to dissect the process of policymaking during a critical period.

NGOs in the Estonian asylum system

Because of the small scale of the Estonian asylum system, there were mainly three NGOs that were either primarily or partly focused on assisting asylum seekers and refugees until the 2015 EU migration crisis (the Estonian Refugee Council, Johannes Mihkelson Center, and the Estonian Human Rights Centre; see Table 1). In fact, the first volunteers emerged right after the first asylum seekers arrived in Estonia in the late 1990s to help applicants with legal advice. As the number of asylum seekers increased and resources from the EU's Refugee Fund became available for Estonia in 2009, formal organizations began their activities. For example, the founders of the Estonian Refugee Council first came together in 2000, but the organization was revived and its statute renewed in 2010 (*Interview E).*

Table 1. NGOs in the Estonian asylum policy field

NGO	Founding year/active in asylum policy	Employees/ volunteers	Role in the Estonian asylum system	Main funders as of 2016
Johannes Mihkelson Centre (JMC)	1993/2009	Only contractual employees	1) Service provision 2) Advocacy	Ministry of the Interior, Ministry of Social Affairs, AMIF
Estonian Refugee Council (ERC)	2000/2010	Employees + network of volunteers, including voluntary support persons	1-2) Advocacy and service provision 3) Monitoring	Ministry of Foreign Affairs, U.S. Embassy, National Foundation of Civil Society + donations
Estonian Human Rights Centre (EHRC)	2007/2010	Employees + volunteers	1) Monitoring 2) Advocacy 3) Service provision	UNHCR, Ministry of Social Affairs + donations

Source: Organisations' websites, interviews. Compiled by the author.

The three NGOs have had different roles throughout their existence offering legal counsel to asylum seekers (ERC, EHRC), providing support person services for refugees (JMC, ERC), or advocating for the rights of asylum seekers and refugees (ERC, EHRC). Although at times some activities overlapped (e.g., the support person service), the NGOs were constantly in touch with each other and coordinated their work with the target group. All the NGOs financed their activities through project-based funding, but this did not lead to much competition between them at the time. In 2013, the three NGOs and the UNHCR Northern European Office jointly established an official cooperation network – the Roundtable of Refugee Organizations (RRO). The aim of the RRO was to share information and to amplify their voices when advocating for the interests of asylum seekers and refugees (*Interviews A, B, and E).*

The NGO representatives interpreted their role in the Estonian asylum system primarily through their functions, which also affected how they cooperated with the government. The JMC representatives saw their organization mainly as a service-providing partner for the government and tried to influence policy decisions by arguing their position through client cases (*Interviews A and J*). The ERC and EHRC representatives, on the other hand, saw their NGOs first and foremost as advocators for the target group, but also for human rights in general (*Interviews B and E).* This was expressed by one NGO representative: "We also represent the human rights perspective in legislative processes. The Ministry of the Interior represents an internal security perspective. We must be there to balance the scale" (*Interview E*). For this reason, ERC and EHRC were more active in openly and publicly criticizing the government and contesting policy choices. Government actors mainly perceived the NGOs as partners in service provision and sources of expert knowledge (*Interviews C, I, and O)*. Because civil servants from the ministries did not have any direct contact with the target group, NGOs were perceived as an important source of knowledge about the experience of refugees in Estonia.

The case of the amendment of AGIPA

In the late 2000s, the second phase of the EU CEAS was initiated to further harmonize common standards in asylum policy and increase solidarity between member states (European Commission 2008). The reform entailed recasting the existing legislative framework. Between 2011 and 2013, five recast directives were adopted by the European Parliament and a 2-year deadline was set for member states to harmonize their legislation with the new directives. Estonia started this process in 2013 and by 2014 had two recast directives (the asylum procedures (2013/32/EU) and the reception (2013/33/EU) directive) left to integrate into Estonian legislation.

The Estonian MoI saw the harmonization process mainly as a technical change to existing legal framework (Siseministeerium 2015a). The Ministry prepared the draft document (AGIPA81SE) that consisted of the required amendments of the two directives. The MoSA, especially in relation to the reception directive, provided input and the draft law was circulated for coordination and feedback with other ministries, agencies and NGOs in December 2014. The NGOs presented their amendment proposals jointly through the RRO (Pagulasorganisatsioonide Ümarlaud 2015).

From the NGO's perspective, the recast directives were a positive development because they further clarified and improved the procedures and regulations of application processing and reception of asylum seekers (*Interview E*). Because the directives were minimum standard directives, the suggestions of the NGOs only targeted the parts where Estonia had to choose whether to implement the minimum requirements or opt for higher standards. According to the interviewed ministry official, the feedback gained from the NGOs was very "thankworthy" and was incorporated as much as possible (*Interview I*).

A few months later, the proceedings of the AGIPA 81SE took a turn. Reports of the inflow of refugees to the EU made asylum-related matters politically highly salient in Estonia.[2] In May 2015, the Estonian government decided to accept 550 refugees through the EU's resettlement and relocation program (Siseministeerium 2015b). This decision was a major deviation from the traditionally conservative line of Estonian asylum policy. The government's poor communication of its decisions created tensions in society (Veebel and Markus 2015). Asylum policy became an important topic in national news and political debates. Similarly to other European states, populist political forces used the momentum to gain popularity, leading to anti-migration demonstrations and the spread of negative opinions about asylum seekers among the Estonian population (Säär 2017).

Agreeing to accept 550 refugees – more than double the number of refugees received since 1997 – forced the Estonian government not only to improve the existing capacity of its asylum system, but also to construct a new model for determining the status and integration of refugees arriving under the EU's migration scheme (Trei and Sarapuu 2021). As a result, in the fall of 2015, the MoI launched a regular meeting for all government actors and NGOs to share information and find solutions to practical issues with regard to the relocated refugees. One of the ministry officials said: "We saw that we needed the knowledge from the NGOs and their contribution because we do not have enough resources to do it alone." (*Interview I*). The openness of the government to cooperate with other stakeholders did not go unnoticed by

2 Based on Eurobarameter surveys, the salience of immigration as a policy issue increased by 21.5% in 2015 compared to 2013. The Eurobarometer survey measured the salience of immigration policy as an issue by asking the respondents what were the two most important issues facing the country (Hatton 2017).

the NGOs. "Starting from the year 2015, we sat at the table more like partners" (*Interview M*). It was expressed that the relations between the NGOs and the ministries became more informal and constructive on issues relating to service provision and service design for refugees.

In parallel with the practical changes to the asylum system, the legislative framework also had to be adapted. As the proceedings of the AGIPA 81SE were ongoing, the necessary changes relating to the resettlement and relocation scheme were simply added by the MoI to the existing draft document in the Fall of 2015. The deadline for adopting the CEAS recast directives had already passed in July 2015 and the government was under pressure to pass the AGIPA 81SE in the Parliament. Therefore, several changes were added by the political leadership in ministries and even though the need to involve the NGOs in these discussions was felt by the civil servants, the time constraints and political pressure did not allow it (*Interview C*). In September 2015, the proceeding of the AGIPA 81SE moved to the Parliament and the Parliament's Constitutional Committee continued with the proceeding process.[3]

Aware of the new version of the AGIPA 81SE, the NGOs and the UNHCR provided additional comments and amendment proposals to the Constitutional Committee and were invited to present their arguments at a Committee meeting. According to the NGOs, the meeting was merely an opportunity to introduce their suggestions, but not a place for substantive debates as the expectation of the Committee was that the formal public participation process had already been completed (*Interiew E*). The attitude of the Committee members toward the NGOs was somewhat critical. One ministry official explained: "I wouldn't say that the criticism was targeted towards the organisations, but rather towards the fact that we had a migration crisis and we did not want to introduce any favourable conditions for refugees" (*Interview I*). The views of the interviewed Committee members concurred with this sentiment. One of them even explicitly stated that the "NGOs' representatives did not correspond with the mood of the political parties, the Parliament and the public opinion. They did not seem trustworthy" and that the overall motivation of NGOs in asylum policy was to increase their work opportunities (*Interview G*).

In addition, the Committee heard the input from other stakeholders (e.g., the ministries, courts, the Chancellor of Justice) and all political parties represented in the Parliament were able to suggest changes to the draft law. Altogether, nearly 80 amendment proposals were made during the period from October until December 2015. Only after the Committee had received all suggestions from stakeholders did political deliberations begin. For the next three months, the government coalition parties met in workgroups to find an ideological compromise before continuing with the deliberations of the AGIPA 81SE in the Constitutional Committee. The main points of discussions concerned where and how to process asylum applications received through the relocation and resettlement schemes (in the initial host country or in Estonia); how to stipulate the obligation to learn the Estonian language; and what level of social aid was necessary for refugees to start their new life in Estonia (Constitutional Committee, Protocols No. 27 and No. 29). An agreement on the final version of AGIPA81SE was concluded between political parties in late February 2016.

Compared to the first draft, the final version had gone through significant changes, especially during political discussions in the Parliament (*Interviews I and F*). The draft law passed the

3 The Estonian legislative process determines that once the draft law reaches the Parliament, one of the parliamentary committees is assigned to deliberate on the document. The assigned committee has discretion to involve any expert or stakeholder. The draft law must pass through three rounds of voting in the plenary meetings of the Parliament. If the law proposal passes, the President of the Republic of Estonia finally signs and proclaims the act.

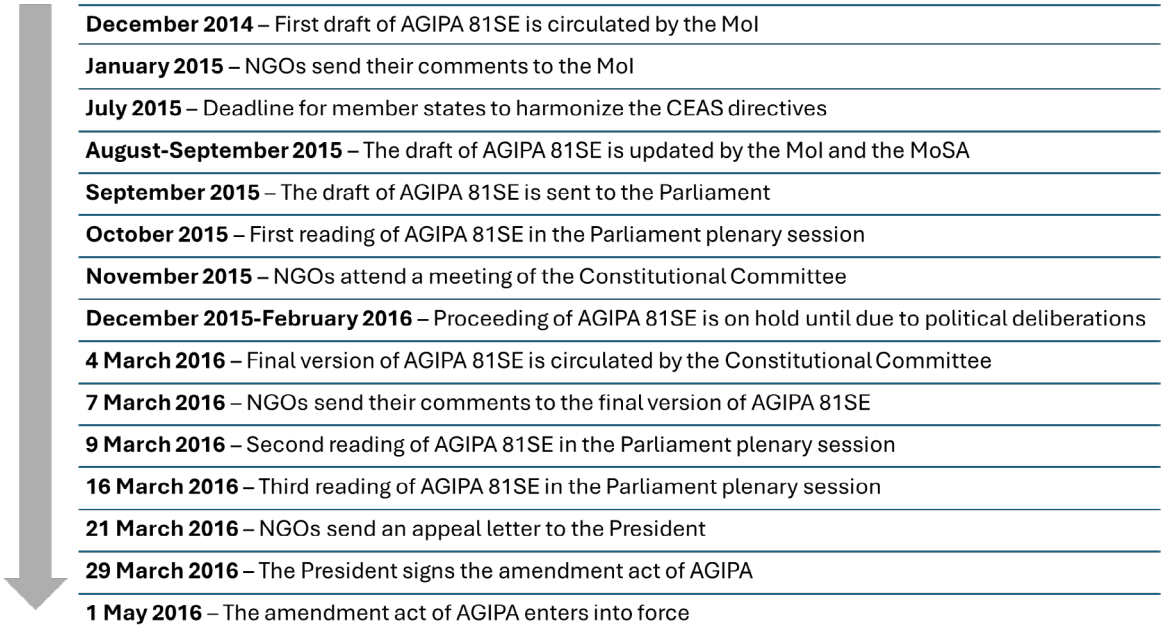
second reading in the plenary session of the Parliament on 9th of March 2016. The legislative amendment was eventually supported by five out of the six political parties represented in the Parliament at the time (Parliamentary proceedings 16.03.2016). The Constitutional Committee representative even stated at the plenary session that the AGIPA 81SE was "a good example of co-operation" and the final version of the draft law was "in the best possible form we could achieve with our current knowledge" (Parliamentary proceedings 09.03.2016).

But not everyone was satisfied. The bulk of the political compromises were reached in working groups behind closed doors, which made it impossible for outside stakeholders to follow the discussions and to participate. Representatives of the NGOs claimed that the political compromises reached by the Committee were "the most problematic part of the whole amendment process" and several changes were not in accordance with the international asylum regulation (*Interview E*). One of the main criticisms of the NGOs targeted the added obligation for refugees to take Estonian language courses and a clause that stipulated Estonian language proficiency as a requirement for extending the refugee status in the future. From the perspective of the NGOs, the right to receive international protection should only be decided based on the actual need for protection rather than individual language skills. Because NGOs received the final version of the AGIPA 81SE only two days before the final vote in the Parliament, there was no time left to discuss any further comments by the NGOs.

This was the reason why NGOs decided to go public and criticized the Constitutional Committee of the Parliament in the media for "bad legislative practices" and "no involvement or public debate about the important changes made during the second reading in the Parliament" (EIK 2016, 3). From the perspective of the Committee, this claim was considered an overstatement because the NGOs were given an opportunity to present their suggestions and, therefore, were nominally involved in the decision-making process. Most of the interviewees from the Committee expressed that making the final decision was the prerogative of politicians and constantly informing the NGOs about political decisions was not necessary (*Interviews H, D, and F*). One of the Committee members stated: "If someone thinks public participation means that they get to sit in on all Committee meetings and decide what the Constitutional Committee decides, then I cannot agree with that. Drafting a law is still a democratic process that has to happen through voting" (*Interview D).*

As a final option, the NGOs sent an appeal letter to the President to prevent the AGIPA 81SE from being enacted and continue discussions in the Parliament (Pagulasorganisatsioonide Ümarlaud 2016). The President did not accept their appeal and the AGIPA 81SE entered into force in March 2016. The full timeline of proceedings of the AGIPA 81SE is summarized in Figure 1.

Figure 1. Timeline of the proceedings of AGIPA 81SE



Source: compiled by the author.

Discussion

The case study of the amendment process of the AGIPA in Estonia offers crucial insights about how a change in context can influence the relationship dynamic and involvement of NGOs in asylum policy-making. First, the 2015 EU migration crisis and the Estonian Government's decision to accept refugees through the European migration scheme altered the power dynamics between the stakeholders in the Estonian asylum system. Right from the beginning of the crisis in 2015, Estonian Government members took a clear position, seeing the crisis as a shared European problem where Estonia must give a helping hand. This position was maintained throughout the crisis and led to important developments in the asylum system. The decision to accept 550 refugees meant that Estonia was facing a practical problem of unforeseen magnitude and NGOs had the resources (knowledge, employees) needed to find the solutions. As NGOs became to be seen as indispensable partners, the decision to accept refugees legitimized the NGOs and their expertise in the eyes of civil servants. Instead of having total control over matters relating to migration, NGOs became a necessary partner to ensure the reception and integration of relocated persons. Concurrently, the collaboration between civil servants and NGOs improved.

Second, several interviews highlighted that a change had occurred in how administrative actors, especially officials in national security organizations (the MoI, the Police and Border Guard Board) perceived refugees and asylum seekers as a policy problem. Instead of the restricted focus on asylum as mostly an internal security issue, the social aspects and the need for social support of asylum seekers became more recognized. One ministry official said: "There was increasing awareness that if an asylum seeker has nowhere to live while his/her application is being processed, or we do not have a reception center where people could

feel safe or satisfied, then the same person is not going to cooperate with the police. These two aspects need to go hand in hand" (*Interview O*). The migration crisis, therefore, had an effect on how the issue of asylum policy was perceived on the policy implementation level.

Third, the shift in perception on the policy implementation level was more immediate than on the policy-making level. The political discussions in the Parliament during the proceedings of the AGIPA 81SE largely followed old patterns and frames. The public's negative reaction toward being "forced" to accept refugees solidified the existing narrative of asylum seekers as a threat to security and burdensome for the welfare system. Therefore, for parliamentarians and politicians, the decision-making process during the proceedings of the AGIPA revolved more around finding a political compromise that would "calm down society" (Parliamentary proceedings 09.03.2016) rather than solving a practical problem in cooperation with all stakeholders. It was important for the politicians to prove to the Estonian public that no special treatment would be given to refugees. For example, the final text of the AGIPA 81SE included a declarative clause that asylum seekers and refugees are "required to observe the constitutional order of Estonia and to comply with the legislation of Estonia"[4] although this is required from all people residing in Estonia regardless of their status. It was important for political decision-makers to display continued governmental control over matters related to migration, which was the reason why the involvement of NGOs in the legislative process remained mere tokenism.

Fourth, before the 2015 EU migration crisis, NGOs described their relationship with the MoI as merely symbolic and at times even prone to conflict or antagonistic. Because asylum policy followed the "minimum program" and the policy issue was not considered a priority (*Interview Q*), cooperation with NGOs was symbolic. As the need for cooperation on the policy implementation level increased during the crisis, the relationship with NGOs improved and, consequently, changed the incentive of NGOs to engage in policy-making. One NGO representative explained:

> *"The fact that government agencies listen more and seek solutions is a change. Advocacy is always a question of strategies. Now that the relationship is more constructive, we haven't used the more extreme or more public methods, because there is another way, an easier way. Dissecting problems publicly is not our first choice. And now that we have other options on the table, we use these options more." (Interview M)*

This sentiment shows that as the perspectives of government agencies and NGOs started to converge, the dynamic between the actors on the policy implementation level became less antagonistic. At the same time, the political sensitivity of asylum matters meant that on the policy-making level, which is more public, the dynamic remained confrontational.

Finally, the findings of this study demonstrate that even though Estonia's asylum policy ensued from and was heavily influenced by the Soviet legacy of forced migration, the Estonia's stance of adhering to the principle of EU-solidarity was considered more important by the Estonian Government at the time. One interviewed Government member stated: "There were no questions or doubts in the Government coalition whether we should participate [in the EU's resettlement scheme] or not. Of course, you can try to fight back and, for example, Slovakia fought back for a very long time, but what good does it do? What good does it do?" (*Interview*

4 Act on Granting International Protection to Aliens. RT1 2006, 2, 3. §11 and §74[1].

P). The Estonian political parties that formed the Government considered the potential risk of not being perceived as legitimate partners for other EU member states more important than following decade-long conservative principles in Estonia's asylum policy-making.

Conclusion

Analyzing the involvement of NGOs in asylum policy-making by focusing on a specific decision process offers an in-depth understanding of the relationship dynamics between stakeholders. Several conclusions can be made based on the case of the AGIPA proceedings during the 2015 EU migration crisis. First of all, the context of crisis changed the power dynamics between the government and NGOs. Before the 2015 migration crisis, the relationship between NGOs and government actors was symbolic and at times even antagonistic, because of Estonia's conservative migration policy. The Estonian Government's decision to accept refugees through the EU's resettlement scheme forced policy implementers to cooperate with NGOs to tackle the upcoming challenge. The discursive legitimacy of NGOs increased and civil servants began to perceive NGOs as partners rather than mere sources of information.

Despite these shifts in the Estonian asylum policy system, the power dynamics on the political decision-making level remained the same. The 2015 migration crisis exacerbated the existing collectively perceived vulnerability of the Estonian society. Therefore, addressing the fears of society and sending the right messages to the public was one of the primary motives for parliamentary politicians. NGOs were perceived as an interest group rather than significant actors and legitimate sources of information. As a result, a kind of ambivalent situation emerged during the proceedings of the AGIPA where NGOs became important partners on the policy implementation level, but were only nominally involved on the legislative level.

These findings indicate that even when the need for cooperation and coordination is theoretically vital to tackling multidimensional and complex policy problems, then when the salience of the issue increases, it is less likely that a wide circle of stakeholders will be involved in the rule-making process. From the perspective of NGOs, the possibility of engaging in and influencing asylum policy becomes more likely through service provision and on the policy implementation level, rather than through political debates. As put by Maynard-Moody and Herbert (1989, 139) "administrative policy making is less public" and because asylum policy is usually a publicly sensitive issue, it is more likely that NGOs will have better access to asylum policy decision-making through the policy implementation level.

Acknowledgments

This study was supported by the Estonian Research Council grant PUT1461 and the Doctoral School in Economics and Innovation; funded through the ASTRA project "TTÜ arenguprogramm aastateks 2016-2022" (2014-2020.4.01.16-0032).

The author is grateful to the two anonymous reviewers for their very helpful comments.

References

Alink, Fleur, Arjen Boin, and Paul 't Hart. 2001. "Institutional Crises and Reforms in Policy Sectors: The Case of Asylum Policy in Europe." *Journal of European Public Policy* 8(2), 286-306. doi: https://doi.org/10.1080/13501760151146487

Anheier, Helmut K. 2009. "What Kind of Nonprofit Sector, What Kind of Society?" *American Behavioral Scientist* 52 (7), 1082-1094. doi: https://doi.org/10.1177/0002764208327676

Ansell, Chris, and Alison Gash. 2008. "Collaborative Governance in Theory and Practice." *Journal of Public Administration Research and Theory* 18(4), 543-571. doi: https://doi.org/10.1093/jopart/mum032

Baldwin-Edwards, Martin, Brad K. Blitz, and Heaven Crawley. 2018. "The Politics of Evidence-Based Policy in Europe's 'Migration Crisis'." *Journal of Ethnic and Migration Studies* 45(12), 2139-2155. doi: https://doi.org/10.1080/1369183X.2018.1468307

Betts, Alexander and Gil Loescher. 2014. "Introduction: Continuity and Change in Global Refugee Policy." *Refugee Survey Quarterly* 33(1), 1-7. doi: https://doi.org/10.1093/rsq/hdu001

Boswell, Christina, Andrew Geddes, and Peter Scholten. 2011. "The Role of Narratives in Migration Policy-Making: A Research Framework." *The British Journal of Politics and International Relations* 13(1), 1-11. doi: https://doi.org/10.1111/j.1467-856X.2010.00435.x

Bovaird, Tony. 2007. "Beyond Engagement and Participation: User and Community Coproduction of Public Services." *Public Administration Review* 67(5), 846-860. doi: https://doi.org/10.1111/j.1540-6210.2007.00773.x

Böcker, Anita and Tetty Havinga. 1998. "Asylum Applications in the European Union: Patterns and Trends and the Effects of Policy Measures." *Journal of Refugee Studies* 11(3), 245-266. doi: https://doi.org/10.1093/jrs/11.3.245

Cambridge, Paul and Lucy Williams. 2004. "Approaches to Advocacy for Refugees and Asylum Seekers: a Development Case Study for a Local Support and Advice Service." *Journal of Refugee Studies* 17(2), 97-113. doi: https://doi.org/10.1093/jrs/17.1.97

Casey, John. 2002. "Confrontation, Collaboration and Costs: Third Sector Participation in the Policy Process." *Australian and New Zealand Third Sector Review* 8(2), 71-86. doi: https://search.informit.org/doi/10.3316/ielapa.200310441

Chin, John J. 2017. "Service-Providing Nonprofits Working in Coalition to Advocate for Policy Change." *Nonprofit and Voluntary Sector Quarterly* 47(1), 27-48. doi: https://doi.org/10.1177/0899764017721060

Cornwall, Andrea. 2008. "Unpacking 'Participation': Models, Meanings and Practices." *Community Development Journal* 43(3), 269-283. doi: https://doi.org/10.1093/cdj/bsn010

Dahlvik, Julia. 2018. *Inside Asylum Bureaucracy: Organizing Refugee Status Determination in Austria*. Austria: Springer Open.

Edelenbos, Jurian and Erik-Hans Klijn. 2005. "Managing Stakeholder Involvement in Decision Making: A Comparative Analysis of Six Interactive Processes in the Netherlands." *Journal of Public Administration Research and Theory* 16(3), 417-446. doi: https://doi.org/10.1093/jopart/mui049

Eesti Inimõiguste Keskus (EIK). 2016. *SA Eesti Inimõiguste Keskuse kommentaarid välismaalasele rahvusvahelise kaitse andmise seaduse ja sellega seonduvalt teiste seaduste muutmise seaduse-eelnõule* (81 SE II). Available: https://www.riigikogu.ee/download/b0d76fcc-22f9-460f-a9af-94939b6ce7ea (Accessed 24.04.16).

Enjolras, Bernards et al. 2018. *The Third Sector As A Renewable Resource for Europe: Concepts, Impacts, Challenges and Opportunities*. Switzerland: Palgrave Macmillan.

Erikson, Josefina. 2015. "Ideas and Actors in Policy Processes: Where is the Interaction?" *Policy Studies* 36(5), 451-67. doi: 10.1080/01442872.2015.1091067

European Commission. 2008. *Policy Plan on Asylum. An Integrated Approach to Protecton across the EU.* COM(2008) 360 final.

Fung, Archon. 2006. "Varieties of Participation in Complex Governance." *Public Administration Review* 66(1), 66-75. doi: https://doi.org/10.1111/j.1540-6210.2006.00667.x

Garkisch, Michael, Jens Heidingsfelder, and Markus Beckmann. 2017. "Third Sector Organizations and Migration: A Systematic Literature Review on the Contribution of Third Sector Organizations in View of Flight, Migration and Refugee Crises." *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations* 28(5), 1839-1880. doi: https://doi.org/10.1007/s11266-017-9895-4

Geuijen, Karin et al. 2017. "Creating Public Value in Global Wicked Problems." *Public Management Review* 19(5), 621-639. doi: https://doi.org/10.1080/14719037.2016.1192163

Givens, Terri and Adam Luedtke. 2004. "The Politics of European Union Immigration Policy: Institutions, Salience, and Harmonization." *The Policy Studies Journal* 32(2), 145-165. doi: https://doi.org/10.1111/j.0190-292X.2004.00057.x

Gordenker, Leon and Thomas G. Weiss. 1997. "Devolving Responsibilities: A Framework for Analysing NGOs and Services." *Third World Quarterly* 18(3), 443-455. doi: https://doi.org/10.1080/01436599714803

Guiraudon, Virginie. 2017. "The 2015 Refugee Crisis Was Not a Turning Point: Explaining Policy Inertia in EU Border Control." *European Political Science* 17(1), 151-160. doi: https://doi.org/10.1057/s41304-017-0123-x

Guiraudon, Virginie. 2000. "European Integration and Migration Policy: Vertical Policy-making as Venue Shopping." *Journal of Common Market Studies* 38(2), 251-271. doi: https://doi.org/10.1111/1468-5965.00219

Halpin, Darren R. and Bert Fraussen. 2017. "Conceptualising the Policy Engagement of Interest Groups: Involvement, Access and Prominence." *European Journal of Political Research* 56(3), 723-732. doi: https://doi.org/10.1111/1475-6765.12194

Hardy, Cynthia and Nelson Phillips. 1998. "Strategies of Engagement: Lessons from the Critical Examination of Collaboration and Conflict in an Interorganizational Domain." *Organization Science* 9(2), 217-230. doi: https://doi.org/10.1287/orsc.9.2.217

Harvey, Matthew. 2009. "Drama, Talk, and Emotion: Omitted Aspects of Public Participation." *Science, Technology, & Human Values* 34(2), 139-161. doi: https://doi.org/10.1177/0162243907309632

Hatton, Timothy J. 2017. "Refugees and Asylum Seekers, the Crisis in Europe and the Future of Policy." *Economic Policy* 32(91), 447-496. doi: https://doi.org/10.1093/epolic/eix009

Hatton, Timothy J. 2005. "European Asylum Policy." *National Institute Economic Review* 194(1), 106-118. doi: https://doi.org/10.1177/0027950105061503

Heuser, Stefan. 2007. "Is There a Right to Have Rights? The Case of the Right of Asylum." *Ethical Theory and Moral Practice* 11(1), 3-13. doi: https://doi.org/10.1007/s10677-007-9079-1

Howlett, Michael and Sarah Giest. 2013. "The Policy-Making Process." In Eduardo Araral Jr., Scott Fritzen, Michael Howlett, M Ramesh and Xun Wu (eds). *Routledge Handbook of Public Policy*. UK: Routledge, 17-28.

Hwang, Hokyu and David Suárez. 2019. "Beyond Service Provision: Advocacy and the Construction of Nonprofits as Organizational Actors." In Hokyo Hwang, Jeanette A. Colyvas, and Gili S. Drori (eds). *Agents, Actors, Actorhood: Institutional Perspectives on the Nature of Agency, Action, and Authority*. UK: Emerald Group Publishing, 87-109.

Ianniello, Mario et al. 2018. "Obstacles and Solutions on the Ladder of Citizen Participation: A Systematic Review." *Public Management Review* 21(1), 21-46. doi: https://doi.org/10.1080/14719037.2018.1438499

Jacobsen, Karen. 1996. "Factors Influencing the Policy Responses of Host Governments to Mass Refugee Influxes." *The International Migration Review* 30(3), 655-678. doi: https://doi.org/10.1177/019791839603000301

Kallas, Kristina. 2011. "Eesti varjupaigapoliitika Euroopa perspektiivis." *Riigikogu toimetised* 24, 31-37.

Kaunert, Christian, Sarah Léonard, and Ulrike Hoffmann. 2015. "Venue-Shopping and the Role of Non-governmental Organisations in the Development of the European Union Asylum Policy." *Comparative Migration Studies* 1(1), 179-200. doi: https://doi.org/10.5117/CMS2013.1.KAUN

Kersch, Adam and Joanna Mishtal. 2016. "Asylum in Crisis: Migrant Policy, Entrapment, and the Role of Non-Governmental Organisations in Siracusa, Italy." *Refugee Survey Quarterly* 35, 97-121. doi: https://doi.org/10.1093/rsq/hdw017

Kjærum, Morten. 2002. "Refugee Protection between State Interests and Human Rights: Where Is Europe Heading?" *Human Rights Quarterly* 24(2), 513-536. doi: https://doi.org/10.1353/hrq.2002.0024

Korneev, Oleg and Karolina Kluczewska. 2018. "The Globalised Third Sector in the Migration Policy Field." In Triandafyllidou (ed.) *Handbook of Migration and Globalisation*. UK: Edward Elgar Publishing, 54-68.

Lavenex, Sandra. 2018. "'Failing Forward' Towards Which Europe? Organized Hypocrisy in the Common European Asylum System." *JCMS: Journal of Common Market Studies* 56(5), 1195-1212. doi: https://doi.org/10.1111/jcms.12739

Leroux, Kelly and Holly T. Goerdel. 2009. "Political Advocacy by Nonprofit Organizations: A Strategic Management Explanation." *Public Performance & Management Review* 32(4), 514-536. doi: https://doi.org/10.2753/PMR1530-9576320402

Lester, Eva. 2005. "A Place at the Table: The Role of NGOs in Refugee Protection: International Advocacy and Policy-Making." *Refugee Survey Quarterly* 24(2), 125-142. doi: https://doi.org/10.1093/rsq/hdi030

Mayblin, Lucy. 2017. "Imagining Asylum, Governing Asylum Seekers: Complexity Reduction and Policy Making in the UK Home Office." *Migration Studies* 7(1), 1-20. doi: https://doi.org/10.1093/migration/mnx060

Mayblin, Lucy and Poppy James. 2018. "Asylum and Refugee Support in the UK: Civil Society Filling the Gaps?" *Journal of Ethnic and Migration Studies* 45(3), 375-394. doi: https://doi.org/10.1080/1369183X.2018.1466695

Maynard-Moody, Steven and Adam W. Herbert. 1989. "Beyond Implementation: Developing an Institutional Theory of Administrative Policy Making." *Public Administration Review* 49(2), 137-143. doi: https://doi.org/10.2307/977333

Menz, Georg. 2011. "Stopping, Shaping and Moulding Europe: Two-Level Game, Non-state Actors and the Europeanization of Migration Policies." *Journal of Common Market Studies* 49(2), 437-462. doi: https://doi.org/10.1111/j.1468-5965.2010.02123.x

Milan, Chiara. 2018. "Refugees at the Gates of the EU: Civic Initiatives and Grassroots Responses to the Refugee Crisis along the Western Balkans Route." *Journal of Balkan and Near Eastern Studies* 21(1), 43-60. doi: https://doi.org/10.1080/19448953.2018.1532686

Mosley, Jennifer. 2013. "Recognizing New Opportunities: Reconceptualizing Policy Advocacy in Everyday Organizational Practice." *Social Work* 58(3), 231-239. doi: https://doi.org/10.1093/sw/swt020

Moynihan, Donald P. 2003. "Normative and Instrumental Perspectives on Public Participation." *The American Review of Public Administration* 33(2), 164-188. doi: https://doi.org/10.1177/0275074003251379

National Audit Office. 2016. *Capability of the State and Local Governments to Accept People Who Are Requesting or Have Received International Protection*. Tallinn: National Audit Office of Estonia.

Neshkova, Milena I. and Hai Guo. 2011. "Public Participation and Organizational Performance: Evidence from State Agencies." *Journal of Public Administration Research and Theory* 22(2), 267-288. doi: https://doi.org/10.1093/jopart/mur038

Nicholson-Crotty, Sean and Jill Nicholson-Crotty. 2004. "Interest Group Influence on Managerial Priorities in Public Organizations." *Journal of Public Administration Research and Theory* 14(4), 571-583. doi: https://doi.org/10.1093/jopart/muh037

Pagulasorganisatsioonide Ümarlaud. 2015. Kommentaarid ja ettepanekud seoses välismaalasele rahvusvahelise kaitse andmise seaduse muutmise seaduse eelnõuga. January 2015. (Received from the JMC representative).

Pagulasorganisatsioonide Ümarlaud. 2016. Pöördumine seoses välismaalasele rahvusvahelise kaitse andmise seaduse ja sellega seonduvalt teiste seaduste muutmise seadusega (81 SE). 21.03.2016. Received from the Estonian Refugee Council representative.

Roth, Benjamin, Seo Yeon Park, and Breanne Grace. 2018. "Advocating for Structural Change? Exploring the Advocacy Activities of Immigrant-Serving Organizations in an Unwelcoming Policy Context." *Advances in Social Work* 18(3), 682-703. doi: https://doi.org/10.18060/21642

Rowe, Gene and Lynn J. Frewer. 2004. "Evaluating Public-Participation Exercises: A Research Agenda." *Science, Technology, & Human Values* 29(4), 512-556. doi: https://doi.org/10.1177/0162243903259197

Rowe, Gene and Richard Patrick Watermeyer. 2018. "Dilemmas of Public Participation in Science Policy." *Policy Studies* 39(2), 204-221. doi: https://doi.org/10.1080/01442872.2018.1451502

Sarapuu, Külli. 2012. "Administrative Structure in Times of Changes: The Development of Estonian Ministries and Government Agencies 1990–2010." *International Journal of Public Administration* 35(12), 808-819. doi: https://doi.org/10.1080/01900692.2012.715561

Scipioni, Marco. 2017. "Failing Forward in EU Migration Policy? EU Integration After the 2015 Asylum and Migration Crisis." *Journal of European Public Policy* 25(9), 1357-1375. doi: https://doi.org/10.1080/13501763.2017.1325920

Simsa, Ruth. 2017. "Leaving Emergency Management in the Refugee Crisis to Civil Society? The Case of Austria." *Journal of Applied Security Research* 12(1), 78-95. doi: https://doi.org/10.1080/19361610.2017.1228026

Siseministeerium. 2015a. Seletuskiri välismaalasele rahvusvahelise kaitse andmise seaduse ja sellega seonduvalt teiste seaduste muutmise seaduse eelnõu juurde. Available: https://www.riigikogu.ee/download/b1d6ee7e-0da2-4507-9674-f8f4428dd3b2 (Accessed 19.01.2025)

Siseministeerium. 2015b. Täpsustatud tegevuskava Euroopa Liidu ümberasustamise ja ümberpaigutamise tegevuste elluviimiseks. 8 October 2015. Available: https://valitsus.ee/sites/default/files/contenteditors/failid/vastuvotmise_tegevuskava_08102015.pdf

Steiner, N. 2000. *Arguing about Asylum. The Complexity of Refugee Debates in Europe.* New York: Palgrave Macmillan

Szczepanikova, A. 2011. "From the Right of Asylum to Migration Management: The Legal–Political Construction of 'a Refugee' in the Post-Communist Czech Republic." *Europe-Asia Studies* 63(5), 789-806. doi: https://doi.org/10.1080/09668136.2011.576022

Säär, Anni. 2017. *Racism, Racial Discrimination and Migration in Estonia 2015-2016*. Tallinn: Estonian Human Rights Centre.

Zaun, Natascha. 2018. "States as Gatekeepers in EU Asylum Politics: Explaining the Non-adoption of a Refugee Quota System." *JCMS: Journal of Common Market Studies* 56(1), 44-62. doi: https://doi.org/10.1111/jcms.12663

Zaun, Natascha. 2017. *EU Asylum Policies: The Power of Strong Regulating States*. Basingstoke: Palgrave Macmillan.

Zaun, Natascha. 2016. "Why EU Asylum Standards Exceed the Lowest Common Denominator: The Role of Regulatory Expertise in EU Decision-Making." *Journal of European Public Policy* 23 (1), 136-154. doi: https://doi.org/10.1080/13501763.2015.1039565

Tammur, Alis, Tiit Tammaru and Allan Puur. 2017. "Is There A Migration Turnaround Taking Place in Estonia? Migration Trends 2000-2015" In Tiit Tammaru (ed). *Estonian Human Development Report 2016/2017. Estonia at the Age of Migration*. Tallinn: Eesti Koostöö Kogu.

Trei, Mariliis and Külli Sarapuu. 2021. "A Small Administration Facing a Complex Policy Challenge: Estonia and the 2015 Refugee Crisis." In Joensen,T., Taylor, I. (eds.) *Small States and the European Migrant Crisis – Politics and Governance.* New York: Palgrave MacMillan, 243-265.

Toshkov, Dimiter Doychinov. 2013. "The Dynamic Relationship Between Asylum Applications and Recognition Rates in Europe (1987–2010)." *European Union Politics* 15(2), 192-214. doi: https://doi.org/10.1177/1465116513511710

United Nations. 2018. *Satellite Account on Non-profit and Related Institutions and Volunteer Work*. United Nations.

Wang, XiaoHu and Montgomery Wan Wart. 2007. "When Public Participation in Administration Leads to Trust: An Empirical Assessment of Managers' Perceptions." *Public Administration Review* 67(2), 265-278. doi: https://doi.org/10.1111/j.1540-6210.2007.00712.x

Veebel, Viljar and Raul Markus. 2015. "Europe's Refugee Crisis in 2015 and Security Threats from the Baltic Perspective." *Journal of Politics and Law* 8(4), 254-262. doi: https://doi.org/10.5539/jpl.v8n4p254

West, William F. 2004. "Formal Procedures, Informal Processes, Accountability, and Responsiveness in Bureaucratic Policy Making: An Institutional Policy Analysis." *Public Administration Review* 64(1), 66-80. doi: https://doi.org/10.1111/j.1540-6210.2004.00347.x

Young, Dennis and John Casey. 2017. "Supplementary, Complementary or Adversial? Nonprofit-Government Relations". In Elizabeth T. Boris and Eugene Steuerle (eds). *Nonprofits and Government. Collaboration and Conflict.* Rowman & Littlefield Publishers, 28-44.

ANNEX 1

The number of asylum applications and positive decisions between 1997 and 2023. The data includes both refugees and receivers of temporary protection.

Year	Asylum applications	Positive decisions
1997	1	0
1998	23	0
1999	21	0
2000	3	8
2001	15	4
2002	9	1
2003	14	0
2004	15	0
2005	11	1
2006	7	0
2007	14	4
2008	14	4
2009	40	4
2010	33	17
2011	67	11
2012	77	13
2013	97	7
2014	157	20
2015	231	78
2016	260	154
2017	487	120
2018	107	35
2019	127	50
2020	49	26
2021	80	46
2022	2941	2106
2023	3984	3917

Source: The Estonian Police and Border Guard Board, 2024.

ANNEX 2

List of interviewees

Interview	Institution	Date of interview
Interview A	Johannes Mihkelson Center	5 April 2016
Interview B	Estonian Human Rights Centre	7 April 2016
Interview C	Ministry official	7 April 2016
Interview D	Member of Parliament, Constitutional Committee	7 April 2016
Interview E	Estonian Refugee Council	8 April 2016
Interview F	Civil servant, Constitutional Committee	13 April 2016
Interview G	Member of Parliament, Constitutional Committee	13 April 2016
Interview H	Member of Parliament, Constitutional Committee	13 April 2016
Interview I	Ministry official	19 April 2016
Interview J	Johannes Mihkelson Center	21 March 2019
Interview K	Estonian Human Rights Centre	22 March 2019
Interview L	UNHCR Northern Europe	26 March 2019
Interview M	Estonian Refugee Council	28 March 2019
Interview N	Member of Government during 2015-2016	11 October 2019
Interview O	Ministry official	11 October 2019
Interview P	Member of Government during 2015-2016	16 October 2019
Interview Q	Ministry official	25 October 2019

Mariliis Trei is a PhD candidate at the Ragnar Nurkse Department of Innovation and Governance, Tallinn University of Technology, Estonia. Her research focuses on public sector coordination and collaboration, especially in the policy-making process. She has also been involved in research projects focusing on the governance of small administrations. Email: mariliis.trei@taltech.ee

Art Alishani, Maarja Olesk, Ralf-Martin Soe, Tarmo Kadak, Robert Krimmer 2025 "Real-Time Economy: A New Frontier in Business and Economic Growth"
Halduskultuur. The Estonian Journal of Administrative Culture and Digital Governance 23(1-2), 129-155

Real-Time Economy: A New Frontier in Business and Economic Growth

ART ALISHANI, CITIS CENTER FOR IT IMPACT STUDIES, JOHAN SKYTTE INSTITUTE FOR POLITICAL STUDIES, UNIVERSITY OF TARTU, ESTONIA

MAARJA OLESK, INSTITUTE OF BALTIC STUDIES, TARTU, ESTONIA

RALF-MARTIN SOE, FINEST CENTRE FOR SMART CITIES, TALLINN UNIVERSITY OF TECHNOLOGY (TALTECH), ESTONIA

TARMO KADAK, SCHOOL OF BUSINESS AND GOVERNANCE, TALLINN UNIVERSITY OF TECHNOLOGY (TALTECH), ESTONIA

ROBERT KRIMMER, DR. KRIMMER CONSULTING OÜ, TALLINN, ESTONIA

ABSTRACT

This article delves into the concept of the Real-Time Economy (RTE), defined as a joint digital ecosystem where economic and administrative transactions between private and public actors take place as close to real-time as possible. It is an emerging economic paradigm characterized by instantaneous (or near-instantaneous) data exchange, real-time decision-making, and automated business processes. We conducted a systematic literature review across research domains such as information systems, business management, accountancy, and economics to capture and understand this continual transition toward digital business and economy. Our findings suggest that RTE has the potential to become an important topic in digital transformation, enabling the economy to function independently of the physical location and human intervention. We identified the factors that have contributed to the rise of RTE, such as rapid advancements in digital technology, big data, and artificial intelligence. Further, we explore the potential benefits and challenges of embracing RTE, including increased efficiency, reduced transaction costs, and enhanced competitiveness. Our article also highlights the role of governments in promoting the adoption of RTE through policy interventions, infrastructure investments, and public–private partnerships. Lastly, we conclude by discussing the transformative potential of RTE and the challenges to ensure a sustainable and secure economic future.

Keywords: Real-Time Economy; Digitalization; Decision-making; Economic efficiency; Policy implications; Infrastructure development.

1. Introduction and background

What makes a vision of a digital, real-time and contactless economy both tempting and challenging is the stark contrast it poses to the logic of everyday business rooted in human-to-human interactions. For millennia, goods and services have been exchanged or intermediated using gold, bank notes, and coins via physical person-to-person communication. Only recently has this standard begun to be challenged by the adoption of Information and Communication Technologies (ICTs), which have introduced machine-to-machine (M2M) transactions and possibilities to replace age-old concepts (bank notes, invoices, business agreements, logistics-related documents, documents supporting services, and products) with digital alternatives (Perez 2009). In some fields, the change has already been transformative (major financial transactions are based on electronic cash instead of moving banknotes from one human being to another), whereas other sectors of business have been resistant to digitalization. For example, important business agreements still tend to be signed on paper and exchanged from person to person due to a lack of international standards (Ferencz and Gonzales 2019).

In order to understand how a large-scale transformation from an analog to a digital economy could take place, this paper provides an analytical overview of existing research related to the digitalization and automation of business management, captured in the concept of Real-Time Economy (RTE). In the context of the economy, the term "real-time" was first used in 2002 by Ludwig Siegele in his article "How about now?" in The Economist (Siegele 2002). Siegele used the concept of RTE to refer to a new type of economy where physical location and contact are becoming increasingly irrelevant, and emerging ICTs are able to reduce process latencies to the minimum. The concept was later taken up by researchers, most notably by the group of researchers and business partners in the Real-Time Economy Competence Center affiliated with the Aalto University in Finland. The Real-Time Economy Competence Center depicts RTE as a joint digital environment where financial and administrative transactions take place as close to real-time as possible (Harald 2018). Some of the key technologies for enabling real-time transactions include e-invoices, e-receipts, and e-payments, which are seen as paving the way for more complex automated accounting processes, business reporting, auditing, monitoring, and forecasting.

To date, efforts to develop RTE ecosystems have often been isolated to specific projects and applications, with national and regional blueprints still in the early stages. Finland stands out as one of the few countries that have advanced a more strategic and comprehensive approach to RTE development. Early initiatives, like the Fully Integrated Accounting projects, focused on automating business accounting and streamlining the value chain from ordering to reporting. Another initiative, the TALTIO project, developed a standardized model for entering invoice, receipt, and accounting statement data into financial management systems without manual work. The ongoing "Real-Time Economy" project focuses on establishing the foundation for an interoperable economy and setting up a management strategy and model to support its development (Finnish Patent and Registration Office 2023).

Inspired by Finland's progress, Estonia started more systematic work on RTE between 2018 and 2019 and adopted its first strategic vision of RTE at the national level in 2020 (Ministry of Economic Affairs and Communication 2020). Since then, several initiatives have been

launched, including projects focused on e-invoices, e-receipts, automating reporting using eXtensible Business Reporting Language Global Ledger (XBRL GL), e-logistics, and real-time economic forecasting, with pilot projects either in the planning stages or currently being tested (Tietoevr 2020). To strengthen regional economic collaboration, national initiatives in digital public services are being expanded to support regional RTE efforts in the Nordic and Baltic regions. For example, Finland's TALTIO project was further developed through the Nordic Smart Government initiative, a joint effort by Finland, Denmark, Iceland, Norway, and Sweden to create an interoperable cross-border ecosystem for business data exchange. In 2023, a vision and roadmap for RTE was proposed for the Nordic and Baltic countries, focusing on seamless data interoperability and governance to enhance the business environment (PwC 2023). While policy initiatives have begun addressing RTE in key areas, the primary focus has been on standardizing data and business practices. The aspect of immediacy and real-time operations has been less central to these efforts.

Furthermore, the strict measures during the COVID-19 pandemic, along with ongoing geopolitical tensions disrupting global supply chains, have prompted businesses and governments to speed up digitalization, reduce physical interactions, and reduce reliance on manual labor. As these disruptions' long-term effects become more apparent, there is a growing preference for digital interactions, real-time M2M communication, and automation of business processes. This is further fueling the transition from an analog to a fully digital economy, as organizations seek resilience in an increasingly uncertain global landscape. In this context, RTE is broadly understood as an emerging concept that refers to transferring standard business transactions (e.g., ordering and invoicing) and administrative procedures (e.g., business reporting) from paper-based and human-to-human communication to digital contactless and automated M2M data exchanges. RTE solutions promise various opportunities to save time, money, and human resources and add value to the economy (Harald 2018). The benefits mainly occur due to digital and structured transaction data. If recorded and exchanged in standardized ways, such data can be reused for various purposes, from continuous data-driven auditing and monitoring of business performance in a company to the automated submission of tax reports to government agencies.

Despite the increasing number of policy initiatives, the concept of RTE has not garnered significant attention in academic literature and remains poorly defined in both policy and research. To address this gap, we conducted a systematic review of the RTE literature using a meta-synthesis method for qualitative research (Walsh and Downe 2005). This approach involves extracting, aggregating and interpreting findings from qualitative studies related to a particular topic (Finfgeld-Connett 2010). For this study, meta-synthesis method allowed us to investigate the key trends in RTE research (Moro et al. 2015), establish a foundation to build a theoretical understanding of the topic, identify research topics that have been investigated, and discover domains where further research is required. The methodology of the literature review is described in Section 2, while Section 3 presents the results of the literature review and develops an integrated conceptual model for RTE. Lastly, Section 4 discusses its implications in the context of digital transformation in both business and government and provides an outlook toward future developments.

2. Methodology

Given our focus on building a better understanding of the concept of RTE, this study employed a meta-synthesis method for qualitative research. The method provides a standardized procedure to direct text-synthesizing practices to facilitate the discovery of new themes and metaphors to create a deeper understanding of the research subject (Siau and Long 2005). This study integrates findings from qualitative studies on RTE across several research domains and provides a comprehensive synthesis of the literature, consolidating different fragments of RTE-related knowledge from different research fields. An initial round of review was conducted in spring 2019, and an update was conducted in spring 2020 following Walsh and Downe's (2005) six-step approach for conducting a meta-synthesis of qualitative research. The steps include (1) framing the purpose and research questions of the study, (2) locating relevant literature, (3) selecting research to be included in the study, (4) evaluation of studies, (5) synthesis of studies, and (6) elucidation of more refined meanings and new concepts based on the synthesis.

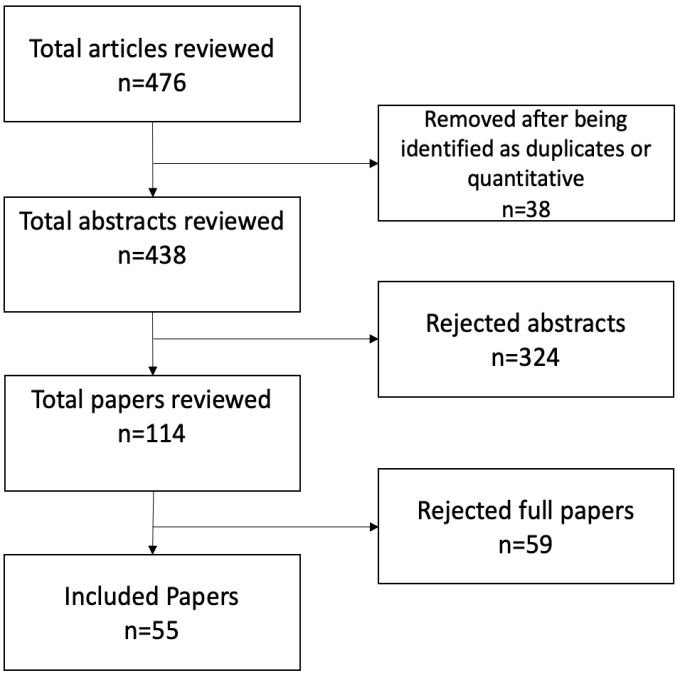
As part of the first step, three research questions were formulated:

1. What is understood by RTE in literature? How can RTE be defined?
2. What building blocks are needed to develop RTE?
3. What barriers hinder the development of RTE?

After formulating the research questions, a keyword search was conducted in the leading academic knowledge databases of Web of Science and SCOPUS. Queries were executed to find RTE-related research from the years 1990-2020. As academic research on RTE is still scarce, the same queries were repeated in Google Scholar to make sure to include all potentially important contributions beyond the two key databases. The following search terms were used: "real-time economy," "just-in-time economy," "now economy," "real-time" + "extended enterprise," "real-time platform," "real-time" + "public service," "real-time" + "supply chain," "real-time enterprise" + "interoperability," "real-time" + "XBRL."

The initial query retrieved 476 articles. Since Walsh and Downe (2005) suggest that the meta-synthesis method should be limited to qualitative studies, several review sessions took place to check the relevance of the articles for this study. First, 38 articles were ruled out because they were either identified as duplicates or quantitative research. A detailed abstract and keyword scan of the 438 remaining articles was conducted to identify the most relevant articles for the study. As a result, 324 articles were excluded due to their limited relevance. With 114 articles left, the last stage of filtering included full-text scanning. As a result, 55 articles were identified as relevant to this research topic and qualified for a detailed review. The literature selection process is summarized in Figure 1.

Figure 1: The selection process for the review of literature.



The authors conducted a thorough examination of 55 articles, focusing on their content to uncover meanings, key metaphors, and concepts that are discussed and are relevant to the purpose of this study (Walsh and Downe 2005). Findings from this step were then synthesized into broader, more abstract categories (Ang et al. 2019; Finfgeld-Connett 2010). The objective was to understand existing definitions of RTE, enablers, barriers, and key building blocks prescribed in the literature. From this exploration, three distinct yet complementary RTE perspectives emerged. Leveraging these perspectives, the authors develop an overarching RTE definition and model that are intended to serve as a guiding framework for future research and practical endeavors in the field.

The initial findings of the study were presented in the 2019 project report titled "Real-Time Economy: Definitions and Implementation Opportunities," co-authored by researchers conducting this study (Krimmer et al. 2019). The report offers a preliminary overview of RTE research based on a literature search executed in 2019, aiming to leverage RTE studies and empirical data for the development of policy recommendations and a roadmap for RTE implementation in Estonia. Since then, more studies on RTE emerged (Akagi 2023; Güldenkoh and Silberg 2022; Kästik 2019; Milisavljevic-Syed et al. 2020), whereas the gap for definitions and academic synthesis of RTE research has persisted. In response, the authors re-executed the literature search in spring 2020 based on the keywords used in 2019. The literature review served two goals: first, to systematically synthesize research findings within the RTE field and secondly, to lay the groundwork for future research by providing a cohesive and comprehensive overview of the RTE notion. The findings of the literature review have been summarized in Section 3.

The chosen method provides a systematic approach to synthesize studies across a research field (Walsh and Downe 2005). However, it is important to recognize its limitations. First, meta-

synthesis reviews are confined to qualitative research, excluding quantitative research from consideration (Walsh and Downe 2005). This is relevant as quantitative studies may provide valuable insights into RTE building blocks or barriers. Therefore, it is recommended that future research inquiries explore these avenues. A second limitation is related to the literature search terms. This study focuses on the "real-time" dimension of RTE, including synonymous terms such as "now-economy" and "just-in-time economy." This focus may have missed studies dedicated to specific RTE applications or aspects, as well as contributions related to "e-invoicing," "automated accounting," or "timeliness of information." As research in this area is evolving, extending the search terms in future studies can add valuable insights to the ongoing discussions.

3.Findings: What is an RTE?

3.1 Key perspectives

The literature review finds that the concept of the "RTE" has been present for over two decades. However, it remains a developing notion without a clear definition, and we identified three main streams of RTE research. While discussions on related topics are growing (e.g., automated reporting, automated taxation, or e-invoicing), they only offer partial insights into what a fully developed RTE ecosystem would look like in practice. To address this gap, our inquiry begins by examining diverse RTE perspectives from previous studies. Through a literature-based approach, we articulate how these various perspectives come together and make the RTE notion different from other digitalization initiatives.

For the first time, the RTE notion appears in The Economist article "How about now?" by Ludwig Siegele (2002). The author makes a critical distinction between the traditional economy and the "new" type of economy where distance and physical location are no longer relevant (Siegele 2002). Since 2002, the understanding and applications of RTE have evolved, and a broad range of concepts are now presented under this notion. A careful examination of existing RTE definitions in literature reveals the evolution of this concept through three perspectives inherent in the definitions: the financial perspective, the business network perspective, and an extended perspective that goes beyond the scope of the first two (Krimmer et al. 2019).

3.1.1 Financial perspective

The financial perspective is evident in research that focuses on applications and services tied to financial transactions, especially studies that focus on the automation of auditing, accounting, or quality control. The goal of this cluster of research is to contribute to increasing financial control for business owners, increasing process efficiency, and reducing (human) mistakes in financial services. Therefore, the RTE notion is often seen as a vision to digitally transform analog processes and improve operational efficiency, i.e., redesign business reporting processes that still rely on human interventions.

In contrast to Siegele's (2002) interpretation of RTE, this cluster of studies focuses on financial solutions implemented by individual enterprises. In this way, the financial perspective

provides a limited ecosystem perspective that emerges in later RTE research. Hence, it also does not address the implications of automated financial applications for business networks, government agencies, or end-users. Nonetheless, this cluster of studies links RTE solutions to various benefits, such as those related to automation and integration of financial management processes (Castka et al. 2020; Chan and Vasarhelyi 2011; Trigo et al. 2014; Vasarhelyi et al. 2005; Vasarhelyi, Teeter, et al. 2010; Vasarhelyi and Alles 2008), improvements in organizational efficiency (Castka et al. 2020; Eulerich and Kalinichenko 2018; Rydén and El Sawy 2019; Trigo et al. 2014; Vasarhelyi, Teeter, et al. 2010), improvements in the quality of decision-making (Castka et al. 2020; Eulerich and Kalinichenko 2018; Oliveira and Handfield 2019; Rydén and El Sawy 2019; Trigo et al. 2014; Vasarhelyi, Teeter, et al. 2010; Vasarhelyi and Alles 2008), improvements in the quality of information (Appelbaum et al. 2016; Eulerich and Kalinichenko 2018; Oliveira and Handfield 2019), and improvements in the forecasting capabilities and time responding to market changes (Appelbaum et al. 2016; Oliveira and Handfield 2019; Rydén and El Sawy 2019; Trigo et al. 2014; Vasarhelyi and Alles 2008). The key benefits of RTE from the business perspective are summarized in Table 1.

Table 1. Financial perspective on RTE

Financial perspective
RTE supports automation and integration of financial management processes.
RTE solutions improve organizational efficiency.
RTE solutions improve the quality of information.
RTE solutions improve the quality of decision-making.
RTE solutions improve forecasting capabilities.
RTE solutions reduce response times to market changes.

3.1.2 Business network perspective

Research on the business network perspective focuses on new (inter) organizational collaborations and sets digital ecosystems as a central variable for RTE. On the one hand, RTE is seen as a response to recent market changes, and on the other hand, as a way to improve business capabilities by tapping into the opportunities that ICTs create. The purpose of these studies is to highlight the value businesses capture in digital ecosystems that foster partnerships, facilitate the exchange of digital resources, support the free movement of data, and facilitate knowledge creation and exchange. In this context, "real-time enterprises" emerge as a novel business model compatible with the RTE vision. This business model enables organizations to create value based on business information and reduce delays by optimizing processes (Polites 2006).

Articles in the business network perspective also associate RTE ecosystems and applications with many benefits. These benefits include improving use of existing ICT infrastructures (Davenport et al. 2004; Kuhlin and Thielmann 2005), increasing the number of tools available to collect and process data on customer behavior (Oliveira and Handfield 2019; Rydén and El Sawy 2019), create new business opportunities and competitive advantages for RTE participants (Kuhlin and Thielmann 2005; Reichwald et al. 2005; Rydén and El Sawy 2019; Siegele 2002), provide real-time services and products, including real-time monitoring of

delivery (Chan and Chan 2006; Oliveira and Handfield 2019; Rydén and El Sawy 2019; Siegele 2002), enable real-time and local manufacturing (Kästik 2019; Reichwald et al. 2005; Vedeshin et al. 2020), support organizational differentiation in the market (Chan and Chan 2006; Kuhlin and Thielmann 2005; Reichwald et al. 2005; Siegele 2002), support real-time access to additional sources of information (Chan and Chan 2006; Davenport et al. 2004; Hope 2006; Kuhlin and Thielmann 2005; Oliveira and Handfield 2019; Rydén and El Sawy 2019), and reduce transaction costs (Kuhlin and Thielmann 2005; Siegele 2002). The benefits are summarized in Table 2.

Table 2. A business network perspective on RTE

Business network perspective
RTE is the network in which real-time enterprises perform their activities.
RTE solutions increase the use of existing ICT infrastructures.
RTE solutions increase the number of tools available to collect and process customer data.
RTE delivers new business opportunities and competitive advantages for RTE participants.
RTE allows firms to provide real-time services and products.
RTE supports real-time manufacturing.
RTE allows firms to differentiate themselves from the competition.
RTE provides direct access for companies to new sources of information.
RTE will reduce transaction costs for firms.

3.1.3 Extended RTE perspective

Research in the extended perspective broadens RTE interpretation and includes applications implemented by both the business sector and government agencies. While emphasizing the key role of businesses in a transition towards RTE, studies also recognize public administrations as a key force to drive the implementation of these initiatives in practice. This recognition is driven by significant cost-saving opportunities and the necessity to address broader governmental issues related to business administrative burden and organizational efficiency. Although studies on the extended perspective have recently emerged and are growing significantly, they do not yet offer a comprehensive understanding of the overall implications of RTE for the economy and society.

According to the extended view, RTE is a collaborative digital environment where financial and administrative transactions take place as close to real-time as possible and human interactions between businesses and governments are increasingly replaced by innovative forms of M2M communication (Harald 2018). In this scenario, most interactions between businesses and government, including financial reporting, would be contactless, automated, and take place as close to real-time as possible. The benefits associated with real-time M2M communication include a reduced administrative burden for organizations (Kästik 2019), improved business and operational efficiency (Kästik 2019), improved business transparency (Harald 2018), environmental benefits (Harald 2018; Penttinen 2008), stimulation of innovation and further developments in the field of artificial intelligence or AI (Harald 2018), further progress in the EU Digital Single Market Agenda and enhanced EU competitiveness on a global level (Harald 2018). The main benefits are summarized in Table 3.

Table 3. The extended perspective on RTE.

Extended perspective
RTE represents a virtual environment where transactions are performed as close as possible to real-time.
RTE environments connect citizens, businesses, and government.
RTE reduces administrative burdens.
RTE develops the context for further AI developments.
RTE supports businesses in improving operational efficiency.
RTE improves business transparency.
RTE solutions have environmental benefits.
RTE advances EU Digitalization Single Market Agenda.
RTE enhances EU competitiveness on a global level.

3.1.4 Developing an integrated understanding

Thus far, researchers have used various conceptual and operational definitions of RTE based on different perspectives discussed above. This has created ambiguity, hindering effective academic communication and impeding progress (Onyshkevych 1997). Conceptual ambiguity surrounding RTE has, therefore, challenged research progress and the development of more coherent theories, hypothesis, or research questions. To start addressing these concerns, we propose an integrated definition based on multiple attributes and features found in RTE literature. Using the "semantic decomposition" approach, as proposed by Akmaijan et al. (2017), we grouped existing RTE definitions and interpretations, extracted their core meanings, and formulated a more comprehensive definition to incorporate the key ideas circulating in the RTE literature. The draft version of the definition was initially presented in the project report by the authors of this study (Krimmer et al. 2019) and then re-evaluated further for the purpose of this article.

Constructing a definition entails a careful selection of properties associated with the concept (Onyshkevych 1997). Despite variations, the review of RTE interpretations revealed three core properties common across the definition. First, interactions in RTE take place in a M2M format. This refers to the exchange of data taking place autonomously between connected machines to reduce the need for human interventions and media breaks. Secondly, it necessitates the free flow of data across organizations, moving beyond traditional systems to encourage collaboration across ecosystems. Thirdly, RTE services are contactless and delivered close to real-time to ensure end-users experience minimal service delays (Weltevrede et al. 2014). Based on these insights, we propose to define RTE in the following way:

> *"Real-time Economy is a digital ecosystem where paperless transactions between public and private actors occur in or near real-time by way of an increasingly automated exchange of digital, structured and machine-readable data in a standardised format."*

In other terms, RTE is a broad concept that refers to the digitalization of business and administrative activities across a digital ecosystem. This includes transactions between business partners, interactions with the government, service delivery to end-users, organizational planning, and decision-making. RTE ecosystems are enabled by technologies

that support real-time collection, exchange, and use of data to perform activities in real-time or with minimal time lags to reduce the need for human interventions. The notion of RTE is particularly relevant in discussions about transactional services, such as invoices, receipts, business reporting, automated accounting, assurance, digital payments, and digital identification. Based on literature, shifting to RTE digital ecosystems based on M2M communication can lead to: (1) improved organizational efficiency, (2) increased process automation, (3) support for evidence-based governance, (4) enhanced connectivity among RTE participants, (5) greater business competitiveness, and (6) advancements in business forecasting. We argue that research and policies guided by this broad ecosystem view of RTE could be more effective in unlocking these benefits than previous fragmented efforts.

3.2 Building blocks

Due to the central role of ICTs in facilitating real-time data sharing (Davenport et al. 2004), service delivery, and consumption (Weltevrede et al. 2014), RTE literature maintains a strong technical focus. Therefore, the core building blocks of RTE are different types of ICTs, from hardware and sensors to AI solutions. However, the availability of digital technologies alone is not sufficient for a functional RTE environment. The latter also requires an e-service layer, constructed over the technologies, while reaping true benefits from RTE presumes a large-scale reorganization and rethinking of business processes at the organizational and cross-organizational levels. In other words, RTE requires the technology for production, storage, and sharing of data as well as rules and processes to govern the use of these data. Therefore, we divide the RTE building blocks into three layers: (1) core technological infrastructure, comprising the base solutions for RTE; (2) the e-service layer; and (3) the management layer, which encompasses business processes and management decisions relating to the use of data for organizational purposes. The building blocks are summarized in Table 5 and explained below.

Table 5. Building blocks and enablers of RTE

Technological layer	Common standards for M2M data exchange	Hardware and software for automatic data collection	XML languages	Digital nervous systems connecting value chains	Cross-organizational integration platforms	
E-service layer	eInvoicing, eReceipt	Continuous reporting and risk monitoring	Automated accounting, assurance, auditing	Real-time income register, taxation, asset reporting	eProcurement, ePayment, real-time forecasting	eID, eSignature, eAddress
Management layer	Measures to build trust between participants	Business process automation		Business process reengineering	Human decision-making frameworks	

Core technological infrastructure

Literature lists several technological enablers which facilitate the development of RTE. These include, foremost, different types of business software applications facilitating digital storage of business data and automated business processes, such as enterprise resource planning (ERP), customer relationship management (CRM), and electronic data interchange (EDI) systems (Appelbaum et al. 2016; Chan and Chan 2006; Vasarhelyi 2010). While ERPs serve as a key source of business data, EDIs facilitate M2M data exchange between organizations. Enterprise software systems have been used for decades but can also serve as a core enabler for real-time data exchange.

Another group of building blocks concerns standards for recording and exchanging data in machine-readable formats (Alles et al. 2002; Kuhlin and Thielmann 2005; Vasarhelyi, Alles, et al. 2010). An essential backbone for RTE is M2M communication standards and networks enabling connectivity between M2M devices, servers and users as well as M2M applications for processing and visualizing information in real-time (Nikaein and Krco 2011). The key to RTE is the harmonization and development of a common framework of standards (Al-Mashari et al. 2003; Chituc 2017; Umble et al. 2003; Molina et al. 2007; Narayanan et al. 2009; Nurmilaakso and Kotinurmi 2004; Penttinen 2008; Kirchmer 2004; Vasarhelyi 2008). Common standards are associated with improvements in the overall internal consistency of data (Topçu et al. 2014).

RTE literature regards eXtensible Markup Language (XML) based standards as central to managing real-time data (Chituc 2017; Eierle et al. 2014; Jones and Willis 2003; Gray and Miller 2009). XML involves machine and human-readable meta-languages used for e-document management, web publishing and data formats (Chituc 2017). XML provides the formal syntax for assigning codes and tags to define the meaning of the text and is used as a basis of specialized languages, such as the XBRL (Jones and Willis 2003).

XBRL is an XML-based format explicitly tailored for reporting and communicating business information (Eierle et al. 2014; Troshani et al. 2018). It provides a common language for assigning tags to information and exchanging data between diverse systems (Eierle et al. 2014). Although XBRL is still under development, it is already in use for web-based financial reporting, financial analysis, tax and regulatory filings, internal reports, and consolidations (Gray and Miller 2009). XBRL is also seen to have a high potential to support continuous computer-based auditing (Eulerich and Kalinichenko 2018). To date, XBRL has primarily been used for external reporting (Amrhein et al. 2009; Cohen 2009; Eierle et al. 2014; Gray and Miller 2009; Troshani et al. 2018). However, as not all information can be coded accurately with XBRL (Gary and Miller 2009), the XBRL GL taxonomy has been developed as an extension of XBRL. The XBRL GL taxonomy is recognized as a standard for representing financial and non-financial data with a high level of detail, which allows data exchanges between different systems and provides the means to drill down XBRL reports to a detailed level (Amrhein et al. 2009, Henderson et al. 2012).

RTE solutions are also facilitated by technologies such as hardware for automatic data collection, e.g., wireless sensors, radio-frequency identification (RFID), quick-response (QR) scanners, or global-positioning system (GPS) (Vasarhelyi 2011; Vasarhelyi et al. 2005) and emerging digital technologies such as AI and smart technologies. Emerging technologies

are estimated to create new opportunities for RTE, mostly as they support the automation of routine and non-routine tasks. However, existing literature does not give clear answers as to what business functions and processes could be automated with the help of AI and other smart technologies.

According to the literature, most RTE services are multifaceted and very complex in nature. Therefore, they can rarely be delivered merely by one independent entity. Consequently, organizational collaboration is recognized as the core principle upon which RTE institutions should be built. Such cross-organizational collaboration is enabled by digital nervous systems connecting enterprise, customers, employees, ICT, production, products and suppliers (Chan 2006; Siegele 2002) as well as platforms which enable integration of business processes on a cross-organizational level (Kuhlin and Thielman 2005).

E-service layer

The use of real-time solutions by businesses and other economic actors (customers, public organizations) is enabled by certain generic building blocks that constitute the e-service layer on top of underlying hardware and software. Applications such as e-invoices, e-receipts, and e-reports are often regarded as the core building blocks of RTE, allowing data about business transactions to be exchanged between transaction parties in real-time (Kuhlin and Thielman 2005; Harald 2018; Penttinen 2008). Real-time data exchange in several different fields is also facilitated by generic components such as eID, e-address, e-signature, e-payment, and e-procurement (Harald 2018, Penttinen 2008). Harald (2018) suggests that such generic services could also include a real-time income register, taxation, and asset reporting in the future.

Many authors focus on solutions that have become available for business managers to know and monitor the performance of their business in real-time (Harald 2018; Vasarhelyi and Alles 2008; Vasarhelyi et al. 2005; Vasarhelyi et al. 2010). This includes using different analytics and advanced dashboards to drill down, visualize and guide decision-making through real-time data. A key feature of RTE solutions is the possibility to automate monitoring and control processes (Vasarhelyi et al. 2005), including automated assurance, accounting, and auditing systems (Eulerich and Kalinichenko 2017; Harald 2018; Vasarhelyi and Alles 2008; Vasarhelyi 2011; Vasarhelyi et al. 2010). As organizations obtain access to real-time information on changes in the business environment, fundamental changes in risk monitoring and assessment are expected (Vasarhelyi et al. 2005; Vasarhelyi et al. 2010). Accounting will expand the measurement and reporting range from current business activities to underlying environmental factors, business strategy, lead actions, and consequent events (Mock et al. 2007; Vasarhelyi and Alles 2008). Reporting, risk monitoring, and assessment processes become continuous (Harald 2018; Vasarhelyi 2011; Vasarhelyi et al. 2005; Vasarhelyi et al. 2010), and monitoring data can be used for real-time forecasting (Harald 2018), e.g., with the help of applications and dashboards that visualize information (Kitchin et al. 2015). Moreover, such technological developments and the digitalization of core administrative and business functions also enable the shift from forecasting to "nowcasting" and predict the present or the very near plausible future (Amaboldi et al. 2017).

Management layer

Business process reengineering is regarded as a precondition for a functional RTE environment (Trego et al. 2014; Vasarhelyi et al. 2005; Vasarhelyi et al. 2010). In essence, public and private organizations must be able to redesign their business processes and establish organizational policies which align ICT strategies with general organizational goals. Moreover, organizations in RTE environments need to be able to aggregate data from different sources, integrate these into continuous measurement, monitoring, control and assurance processes, and enact advanced analytics systems (Vasarhelyi 2010). RTE also requires new management practices. For example, RTE accelerates business measurement, assessment, and business processes (Vasarhelyi and Alles 2008). The rise of real-time data supports innovations in KPI production, and significant progress in data visualization can improve accounting techniques (Knudsen 2020). Enterprises must also understand how to capture new business value in RTE ecosystems and support the integration of real-time solutions into their organizational context, culture, structures, and processes (Rydén and El Sawy 2019). Industries can improve customer experiences, save time and resources by establishing standard operating procedures, minimizing operational latencies and offering remote services in real-time (Rydén and El Sawy 2019).

RTE also presumes a better integration of human and automated decision-making. While recent technological advancements allow different business and administrative processes to be automated, literature on RTE still lacks sufficient reflections on the latest data-driven technologies and AI applications and their implications for RTE ecosystems. Older studies stress the need to achieve the integration of human and automatic decision-making processes (Vasarhelyi 2010) but highlight cognitive limitations, emphasizing that technologies are not fully capable of handling non-routine and complex tasks independently. Some of the limitations mentioned in this literature may soon become obsolete as rapid progress in the development of AI systems (in particular large language models) since the end of 2022 is reducing the need for human labor even for more complex tasks. it

In addition to integrating technology in decision-making, RTE also requires different inter-organizational collaborations that enable organizations to achieve common goals and deal with problems related to ecosystem development and maintenance. However, researchers suggest that maintaining inter-organizational collaborations can be challenging, especially when multiple different stakeholders are involved (Vangen and Huxham 2003). In this context, trust between actors is crucial to facilitate business interactions and nurture partnerships across the RTE ecosystems (Chen et al. 2006). Therefore, it is essential to develop (non) technological mechanisms (e.g., data governance frameworks) for increasing mutual trust between actors in the RTE ecosystem.

3.3 Barriers to RTE Adoption

The review suggests that RTE could become a driver of economy in the post-COVID-19 era by facilitating remote business interactions, enabling automated reporting, enhancing operational efficiency, and reducing administrative burdens. However, literature also associates problems with its implementation. Mapping barriers to adoption at an early stage

of development is essential to recognize the limitations of RTE and address concerns as soon as possible to facilitate later implementation stages.

By their nature, the barriers identified in this review are similar to those that digitalization initiatives face in general. The most prevalent impediments are related to the lack of resources in the right place, at the right time, or allocated to the right people. The implementation of RTE ecosystems and the shift toward M2M interactions will require the adoption of new ICT solutions and interventions in many business and administrative processes. Yet, businesses and government agencies may lack the required resources to cover upfront costs and development to instigate, operate, and maintain RTE solutions (Al-Mudimigh et al. 2004; Narayanan et al. 2009; Nurmilaakso and Kotinurmi 2004; Penttinen 2008).

Moreover, ownership of large-scale and complex RTE ecosystems is still hazy in literature. An essential question that needs an answer is who will build and own RTE ecosystems? If this is the sole responsibility of government agencies, how long will it take to develop such complex digital ecosystems? If the responsibility to set up RTE ecosystems is shared between public and private organizations, the question is how to balance power and design equitable RTE environments? This is especially important, assuming that SMEs lack the financial capital to contribute equally to such projects (Al-Mudimigh et al. 2004; Penttinen 2008). To fully harvest the benefits of RTE and participate in these digitally established ecosystems, firms also need to invest in reengineering some of their core business functions and processes. Lacking knowledge (Al-Mudimigh et al. 2004), financial resources, and time (Hope 2006) may reduce enthusiasm about the transition toward RTE.

On the other hand, despite the reduced costs of ICT, developing a sufficient portfolio of technical solutions is still presented as a critical barrier in the field. Participants need compatible ICT infrastructures and unified data standards to support the free flow of data in RTE ecosystems. That is why there are significant difficulties in creating RTE networks and connecting participants to communicate freely (Molina et al. 2007; Rabin 2003). The lack of common standards for information representation (Navarrete et al. 2010) and data exchange (Rabin 2003; Navarrete et al. 2010; Molina et al. 2007) is a major impediment cited in RTE literature. The presence of overlapping standards and semantic differences (Ducq et al. 2012) challenges the development of RTE solutions, as access may be restricted to only a narrow group.

Literature stresses that many organizations embody their IT systems in complex and widely established business practices. Offline processes, legacy systems (Belfo et al. 2015; Hope 2006), and incompatible technological applications (Ducq et al. 2012; Navarrete et al. 2010; Vera-Baquero et al. 2016) may lock organizations into their existing practices and hinder potential changes. Another technical barrier that the literature identifies is the result of the varying degrees of digitalization among RTE participants (Ducq et al. 2012). Since some businesses lack access to ICT tools and technological know-how, RTE solutions risk becoming exclusive and restricted only to specific organizations sharing established digital practices. On the other hand, a study in Estonia, Latvia, and Lithuania found that higher e-invoice penetration leads to a greater business willingness to adopt these technologies (Gunaratn 2020), creating the condition for a network effect that boosts e-invoice uptake.

Studies in this field also recognize organizational barriers as a concern to RTE implementation. Owing to its novelty, RTE implementation may require major changes in well-established business processes and administrative practices. That is why organizational and individual resistance to change is a key barrier threatening the implementation of RTE. While the goal is to reduce process latencies and improve input quality for decision-makers, many businesses risk not embracing RTE transformation, especially because of the vast changes required in management practices (Appelbaum et al. 2016; Al-Mudimigh et al. 2004).

The perceived risk that RTE relinquishes business autonomy and data ownership raises a significant barrier (Alles et al. 2002; Kästik 2019; Meijer 2015; Gray and Miller 2009). In a study measuring the attitude of Estonian enterprises toward e-services provided by the Estonian Tax and Customs Board, 63% of the respondents claimed they do not support the automatic transmission of business data to the state for reporting purposes (Kästik 2019). Kästik (2019) finds that three main perceived risks cause the resistance: (1) business owners believe they might lose control of their enterprises, (2) risk of third parties accessing their business data, and (3) the risk that the government will seek total control of the business environment.

In addition to resistance, studies in the field also highlight organizational and process incompatibilities among RTE participants as a possible barrier (Appelbaum et al. 2016; Al-Mudimigh et al. 2004; Chituc 2017; Lam 2005). RTE implementation requires a significant degree of process integration and unification among participants. However, aligning diverse organizational practices with the logic of RTE systems takes time. For example, a study of Estonian, Latvian, and Lithuanian enterprises found that most companies still rely on manual labor for e-invoicing operations even after adopting e-invoicing systems (Gunaratn 2020). If such gaps remain in place, especially within organizations and data transmissions between public and private sectors (Pang et al. 2014), establishing a joint digital ecosystem with shared access and unified e-services might be out of the horizon. A lack of consensus on issues such as division of labor, responsibilities, ownership, and authority (Chituc 2017) adds even more complexity to the large-scale transition.

Interestingly, RTE literature makes almost no mention of the effects of regulatory frameworks and legal constraints on RTE, although these are frequent barriers in digital government implementation literature. For example, research on e-invoicing shows that while there are no fundamental legal barriers that hinder the implementation of e-invoicing, the legislative requirements of different European Union Member States cause complexities when it comes to cross-border e-invoices (European Commission 2016). Even if states implement supportive legislation, variations in national rules may hinder cross-border initiatives (Karantjias et al. 2007).

The barriers mentioned in the literature mirror those associated with many other digitalization initiatives, in particular those striving for increased interoperability between systems and organizations. However, the ambition of RTE to transform business-as-usual comes with exceptionally high complexities, making the development of a common RTE ecosystem an extremely difficult task.

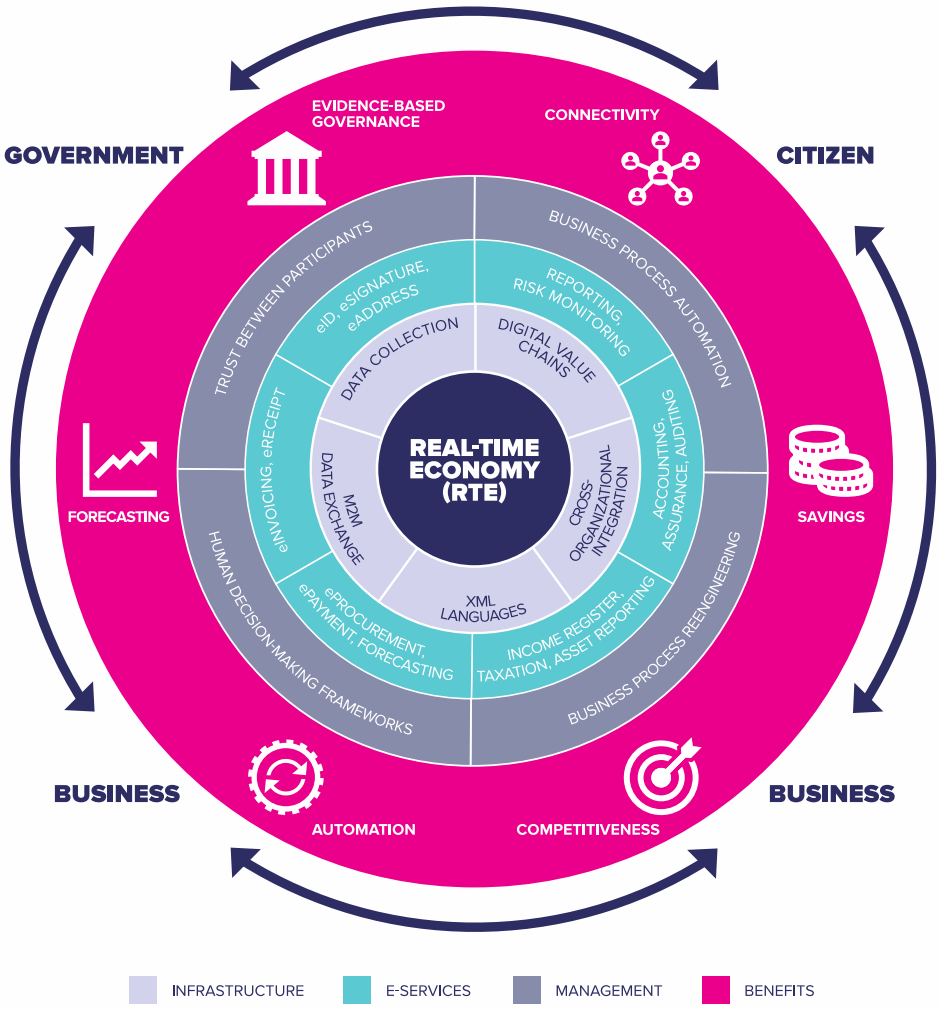
3.4 Proposal for an integrated conceptual model of RTE

Since its first appearance in 2002, the concept of RTE has undergone many changes. Today, a wide range of definitions and interpretations of RTE can be found in literature. This variety has several causes. First, literature on RTE has emerged spontaneously and in an uncoordinated manner from heterogeneous sources. Although initiatives such as e-invoices, e-receipts, or automated accounting all share RTE properties, these initiatives were developed in isolation and did not originally share a common vision. Second, the diverse nature of RTE applications and services allowed each component to become an independent field of research. For this reason, knowledge of RTE remains fragmented. There are also vast differences in what is meant by "real-time." While in some contexts, "real-time" means instant and immediate, there are cases where "real-time" may mean hours, days, and even weeks of process delays.

We argue that developing an overarching RTE definition is crucial to establish a foundation for future research and policy in the area. Moreover, the disruptive effects of the COVID-19 pandemic on the economy offered two essential lessons. In the face of a global emergency, business models and administrative processes relying on extensive use of human labor were no longer competitive. The spotlight is on developing standardized RTE solutions businesses could quickly adapt if they wish to advance their digitalization agenda and strengthen core business functions – from production to sales, service delivery, and business reporting. This helps to generate more savings and stimulate the adoption of new, digitally-driven, and competitive business models. In addition, the COVID-19 pandemic has vividly demonstrated the inefficiency of countries adopting isolated responses to global and pressing challenges. Our study argues that the concept of RTE provides a way to increase collaboration between national economies and for overcoming coordination failures to boost economic activity.

Below, we propose an integrated and refined conceptual model of RTE, based on findings from the literature review. This model primarily builds on the extended RTE perspective developed by the RTE Competence Center in Finland (Harald 2018; Penttinen 2008). According to this view, RTE could be considered as an ecosystem building on a digital infrastructure and consisting of digital applications that enable contactless real-time interactions between various stakeholders, most notably businesses and government agencies. This technology-driven ecosystem is regarded as providing fertile ground upon which innovations may emerge. Our model expands this view by including new actors (in particular citizens and consumers) and new interactions where the availability of structured business data in real-time could create or add economic value.

Figure 2. Integrated RTE ecosystem model (Source: authors).



This model presents RTE as a digital ecosystem encompassing the following elements: (1) RTE building blocks (the three internal layers), (2) the benefits that RTE applications create (outer layer), and (3) stakeholders and interactions in the RTE ecosystem (the outer circle).

The RTE ecosystem builds on *core enablers* at three levels: basic technological infrastructure, e-service layer, and management layer. The core technological enabler for RTE is the collection and availability of digital structured data, which could be exchanged through M2M communication and without human intervention. M2M communication is facilitated by uniform and widely used data standards, which so far have been mainly based on XML languages. Digitalized value chains and cross-organizational integration constitute additional preconditions for RTE-based services, whereas generic digital infrastructure components such as eID, eSignature, and eAddress enable conducting transactions fully digitally.

These core and generic components are used by *e-services*, which make up the second layer of the RTE model. These include both services consumed internally by a company (i.e., reporting and automated risk monitoring) and services that facilitate transactions and information exchange between businesses (i.e., e-procurement, e-invoicing), or between businesses and government bodies (i.e., automated business reporting, automated taxation, etc.).

The *management layer* refers to the changes needed at the level of business processes for RTE stakeholders to facilitate the adoption of this concept and reap the benefits of real-time data exchange. The availability of technological and service infrastructures enables the reengineering and automation of a number of standard business processes, including electronic invoices, executing payments, accounting, etc., to increase business efficiency. At the same, combining automated and human decision-making frameworks supports the execution of more complex business processes, which cannot be automated at this point in time. This layer also includes trust between public and private parties as an essential prerequisite of RTE (Kattel and Mergel 2019), requiring action and the formation of trusted relationships at the level of business management.

The RTE ecosystem connects three main *actors*: businesses, public sector organizations, and citizens. Whereas existing approaches to RTE primarily emphasize business-to-business (B2B) and business-to-government (B2G) interactions, our model expands these approaches by explicitly including citizens as stakeholders in the ecosystem. This aims to highlight the opportunity to create new value emerging from real-time digital communication between businesses and customers, but also between government agencies and citizens.

The backbone of the RTE ecosystems is the opportunity for contactless and real-time B2B communication in the form of instant, automated transactions between different partners (the main focus of the business network perspective), which holds the key to increasing business competitiveness on a national level. Real-time B2G interactions in automated reporting (emphasized in the extended perspective) also generate economic *benefits* through reduced administrative burdens, allowing companies to save time and resources and focus on their core business functions. For public bodies, real-time data from businesses is an important source of intelligent decision-making, evidence-based policies, and enables government bodies to forecast economic developments, risks, take predictive measures and boost the economy as needed.

In addition to B2B and B2G interactions, we argue that real-time business-to-customer (B2C) interactions are becoming increasingly important as a source of added value for businesses and customers, as well as a driver of new business models and innovation in commercial products and services. There are RTE solutions in use applying blockchain and the Internet of Things (IoT) in trade and logistics, which allows key stakeholders to exchange information in real-time, stay abreast of the state of goods and the status of shipments, and replace paper-based processes with smart contracts (Engin and Treleaven 2019). The advantages of digital real-time B2C (and C2B) interactions also became evident during the COVID-19 pandemic. The RTE logic, which is based on digital, fully automated, real-time, and contactless communication, perfectly aligns with the growing interest in online orders, contactless home delivery, instant e-payments, and real-time tracking of deliveries. Therefore, RTE solutions deliver numerous innovative opportunities to improve customer relationship management, accelerate service delivery, increase product/service personalization, and track goods along the value chain. In a full-fledged RTE ecosystem, citizens/customers act as key players, alongside businesses and public bodies.

Due to the origin of the RTE notion in business management literature, G2C relationships have been almost entirely disregarded in current RTE studies. However, instant data exchange

can play a crucial role in strengthening public efficiency and offering new mechanisms to create public value. This enables governments to save taxpayers money by optimizing the management of public resources, providing new automated and online services to citizens, and reducing administrative burdens by enabling citizens to share certain data with public bodies in real-time.

This brings us to the role of government bodies in the RTE ecosystem. In addition to public service provision to companies and individuals, the government acts as a platform and an enabler for various interactions between other ecosystem stakeholders (Linders 2012). Government bodies have the power to create favorable regulations supporting real-time data exchange and strengthening international standardization efforts to prevent the creation of isolated "digital RTE islands." Governments can also provide incentives and support for business digitalization as well as the basic technical infrastructure for companies to lower barriers to the large-scale adoption of RTE solutions. This can be done, for example, by providing simple free or low-cost software with functionalities to store accounting data as machine-readable data, send and receive e-invoices and e-receipts, submit reports to the government, etc. Our model, therefore, also suggests a policy agenda for governments interested in stimulating the economy through adopting RTE solutions.

When comparing our proposed model with existing literature on RTE, some differences become apparent. For example, e-invoicing, automated accounting, and forecasting have a relatively prominent place both in the literature and in our model. Other elements, such as electronic identity and human decision-making frameworks, are less-well represented in previous works on RTE. This model also stresses the benefits businesses can gain by becoming part of the RTE ecosystems. In particular, the idea to create new business value and develop new digital capabilities for enterprises is the fuel driving RTE implementation. At the core, RTE is an indirect digital mechanism helping firms enhance their operational practices by increasing organizational efficiency, creating new partnerships, and improving business profitability. Unlike most literature, our model places more attention on the role of government as an actor in the RTE ecosystem. We argue that in order for harmonized RTE solutions to emerge, governments need to steer and coordinate the development of the RTE system. Governments also have the potential to gain from investments in RTE – access to business information in real-time would enable governments to forecast economic trends in real-time and use real-time evidence in decision-making for economic policy to anticipate changes in the economic environment. In addition, this model highlights the role of citizens/customers as an important actor in RTE environments, which has received minimal attention in the RTE literature so far. Hence, we propose to focus more on the value that RTE solutions generate for this group and explore citizens' roles and responsibilities in RTE ecosystems.

4. Implications and future prospects: Is RTE the next stage of digital transformation?

Current discussions on RTE in both academic and policy circles have highlighted opportunities for creating and monitoring a contactless economy in real-time. This study contributes by synthesizing these discussions into a comprehensive model. Our model aims to help researchers identify new questions and assist practitioners in implementing RTE visions

effectively. However, this will not come easy. The implementation of RTE solutions faces a number of barriers which prevent these systems from quickly taking root in the economy. Some of these barriers deserve particular attention.

One of the first barriers concerns legacy systems and institutional path dependencies. Authors (e.g., Harald et al. 2018) have focused on analyzing and modeling RTE's societal and economic benefits in comparison with analogue (pre-RTE) options, i.e., on the effects of shifting from paper-based towards an automated digital economy. Such works mainly indicate that RTE can boost the effectiveness of the economy by automating several manual processes. While this seems like a valid argument, it ignores the legacy of the locked-in analogue systems due to path dependency. This, in turn, relates to a number of barriers (technical, organizational, legal) as discussed above. History can relate several examples of innovations that were technologically advanced but failed to challenge inferior technologies. According to the classical case introduced by W. Brian Arthur, Sony's Beta was superior to the VHS technology of JVC (Arthur 1990). However, the market's choice did not represent the optimal economic outcome. This can be explained by path dependency: decisions by earlier adopters are expected to have an effect on the decisions of later adopters. According to Barnes, Gartland, and Stack (2004), path dependency can be triggered both by technological lock-in (e.g., technology standards and legacy technologies) and behavioural lock-in (human habits). Similarly, David (1985) argued that the widespread QWERTY keyboard arrangement is inferior to the DHIATENSOR arrangement provided by August Dvorak – the latter would allow for faster typing as the letters are more systematically placed. However, due to technological and behavioral lock-in, society has decided to stay with the QWERTY keyboard as the standard.

In other words, if we were to introduce solutions for business transactions in 2023, we would not come up with analog and paper-based solutions such as invoices, receipts, banknotes, or checks since more effective technological solutions are already available. However, since business information systems and human practices cannot be restarted from scratch, we need to take into account path dependencies and lock-ins that hinder breakthroughs of radical innovations. Below, we list some examples of complex RTE services that follow the path dependency of pre-digital solutions but would likely follow different designs in RTE ecosystems:

- Real-time taxes. There is significant latency in how taxes are collected, going back to medieval times. In the era of ICT, there is no need for citizens to receive overpaid labor taxes, returned with delays of up to tens of months. There is also no objective need today to distinguish between payment of wages and taxes to justify several months' delay in paying labor taxes. Similarly, in RTE, Value-Added Tax (VAT) could be collected automatically. If company A transacts business with company B, VAT could be deducted automatically and collected by the Tax Authority instead of claiming back overpaid or underpaid VAT with all the related reporting and accounting involved.
- Real-time accounting, data-based reporting, analysis, and audit. A legal entity's annual report is another example of practice from the pre-digital era. In the digital economy, it makes little sense to create tens of months of delays in presenting reliable financial data to external parties. Currently, financial information of transactions will often only become available with approximately 18 months' delay for most SMEs. The actual value of such reports for business partners and economic policy-makers can

be limited, especially in dynamic economies. In a real-time environment, there could be automatic daily, weekly, or monthly reports in order to build trust. At the same time, company management could enjoy a real-time view of their current accounts, cash flow, and sales. In turn, outcomes of analysis and auditing benefit companies due to earlier reports.

Is it possible to radically switch from an analog to a digital economy? Under normal circumstances, this is very complicated due to path dependencies, lock-ins, and other barriers. Rebuilding an old farmhouse into a new smart zero-energy house is difficult unless radical changes are implemented (e.g., deconstruction on purpose) or unless extreme situations occur, such as a fire burning the old building down. During stable periods, radical innovations are complex, painful, and expensive. However, during extreme (and mostly unwanted) crises, the leap-frogging effect may effectively enable bypassing intermediate stages of technology development and stimulate the adoption of radically new practices.

Therefore, it is interesting to understand the impact of the COVID-19 pandemic in automating the economy and what kinds of leap-frogging effects it has created to overcome the existing barriers to RTE. When it started, the COVID-19 pandemic socially isolated approximately one third to a half of the global population for months, with severe effects on the economy. At the same time, while face-to-face communication and traveling were on pause, the lockdowns increased the adoption of different digital solutions and boosted M2M interactions. Although more research is needed on the impacts of the pandemic, it has likely accelerated the global shift towards digital, contactless, and real-time applications:

- Cash-based transactions have decreased significantly.
- There has been a significant shift toward e-invoicing. For late-adopters who preferred paper-based solutions, COVID-19 provided an impetus to switch to digital ones.
- On many levels, paper receipts were replaced by digital ones.
- Key service providers were required to offer more digital, contactless, and automated services (e.g., open bank accounts or negotiate loan agreements when socially distanced via video link-up).
- The crisis boosted the adoption and development of digital validation tools, including authentication and certified digital signatures.
- Private and public sectors increased the number of digital and automated services. This creates an opportunity to integrate these services effectively with financial services providers such as banks, leading to automated salary payments, and VAT declarations.

In addition to numerous developments and opportunities, implementation of RTE may also pose risks, which – much to our surprise – are infrequently discussed in the existing literature. Based on the few existing studies, one of the key risks concerns maintaining the confidentiality of company business secrets. Exchanging real-time data and offering real-time services exposes data to the risk of leaks to unauthorized parties and increases demand for transparent cryptography services. Loss of control over data is perceived as a real risk that business owners associate with sharing real-time data; furthermore, entrepreneurs fear

that real-time data provision to government agencies may yield excessive control over the business environment to the state (Kästik 2019). These are valid concerns meriting more attention in future research on RTE and careful consideration in emerging RTE policy initiatives.

Moving forward, the COVID-19 pandemic established a potential turning point for the digital economy, as it has created a clear division between the pre-pandemic and post-pandemic worlds. While the former prefers human contact and analog interventions, the latter is much more about automation, as well as integrated data opportunities at the expense of privacy and confidentiality. Despite technological advancements and two decades of thinking, the development of RTE ecosystems has been slow in practice and rife with barriers. Although consistent efforts to develop RTE in stable times help build the foundation for change. pandemics or other unexpected sources of pressure may stimulate a more radical switch than has been possible previously.

Acknowledgments

The authors wish to express their gratitude to Bo Harald and Esko Penttinen for their time, effort, and valuable suggestions for improving earlier drafts of this paper. Also, we appreciate the anonymous reviewers, whose insightful comments significantly contributed to improving this manuscript during two rounds of review. This study expands on the authors' earlier research in the 2019 report titled 'Real-Time Economy: Definitions and Implementation Opportunities'. We would also like to thank the Estonian Ministry of Economic Affairs and Communications for supporting this project and the Real-Time Economy working group for their assistance.

This research has also been conducted as part of the ECePS ERA Chair and FinEst Twins project, funded from the European Union's Horizon 2020 research and innovation programme under grant agreements No 857622 and No 856602. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

References

Akagi, K. 2023. "What Does E-invoice Data Bring to SNA and Real-Time Economy?" *Journal of Economic Structures*, 13(1), 15. doi: https://doi.org/10.21203/rs.3.rs-3254344/v1

Akmaijan, A., et al. 2017. *Linguistics: An Introduction to Language and Communication*. MIT Press, Cambridge, Massachusetts.

Al-Mashari, M., A. Al-Mudimigh, and M. Zairi. 2003. "Enterprise Resource Planning: A Taxonomy of Critical Factors." *European Journal of Operational Research* 146(2), 352-364. doi: https://doi.org/10.1016/S0377-2217(02)00554-4

Al-Mudimigh, A. S., M. Zairi, and A. M. M. Ahmed. 2004. "Extending the Concept of Supply Chain: The Effective Management of Value Chains." *International Journal of Production Economics* 87(3), 309-320. doi: https://doi.org/10.1016/j.ijpe.2003.08.004

Alles, M. G., A. Kogan, and M. A. Vasarhelyi. 2002. "Feasibility and Economics of Continuous Assurance." *Auditing* 21(1), 125-138. doi: https://doi.org/10.2308/aud.2002.21.1.125

Amaboldi, M., C. Busco, and S. Cuganesan. 2017. "Accounting, Accountability, Social Media and Big Data: Revolution or Hype?" *Accounting, Auditing and Accountability Journal* 30(4), 762-776. doi: https://doi.org/10.1108/AAAJ-03-2017-2880

Amrhein, D. G., S. Farewell, and R. Pinsker. 2009. "REA and XBRL GL: Synergies for the 21st Century Business Reporting System." *The International Journal of Digital Accounting Research* 9(15), 127-152. doi: 10.4192/1577-8517-v9_5.

Ang, B. H., et al. 2019. "Factors and Challenges of Driving Reduction and Cessation: A Systematic Review and Meta-Synthesis of Qualitative Studies on Self-Regulation." *Journal of Safety Research* 69, 101-108. doi: https://doi.org/10.1016/j.jsr.2019.03.007

Appelbaum, D., et al. 2016. "Designing CA/CM to Fit Not-For-Profit Organizations." *Managerial Auditing Journal* 31(1), 87-110. doi: https://doi.org/10.1108/MAJ-10-2014-1118

Arthur, W. B. 1990. "Positive Feedbacks in the Economy." *Scientific American* 262(2), 92-99.

Barnes, W., M. Gartland, and M. Stack. 2004. "Old Habits Die Hard: Path Dependency and Behavioural Lock-In." *Journal of Economic Issues* 38(2), 371-377. doi: https://doi.org/10.1080/00213624.2004.11506696

Board. In Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance (pp. 472-474).

Castka, P., C. Searcy, and J. Mohr. 2020. "Technology-Enhanced Auditing: Improving Veracity and Timeliness in Social and Environmental Audits of Supply Chains." *Journal of Cleaner Production* 258(April 2013), 120773. doi: https://doi.org/10.1016/j.jclepro.2020.120773

Chan, D. Y. and M. A. Vasarhelyi. 2011. "Innovation and Practice of Continuous Auditing." *International Journal of Accounting Information Systems* 12(2), 152-160. doi: https://doi.org/10.1016/j.accinf.2011.01.001

Chan, J. O. and J. O. Chan. 2006. "The Anatomy of Real-Time CRM." *Communications of the IIMA* 6(1), 115-124.

Chituc, C. M. 2017. "XML Interoperability Standards for Seamless Communication: An Analysis of Industry-Neutral and Domain-Specific Initiatives." *Computers in Industry* 92, 118-136. doi: https://doi.org/10.1016/j.compind.2017.06.010

Cohen, E. E. 2009. "XBRL's Global Ledger Framework: Exploring the Standardised Missing Link to ERP Integration." *International Journal of Disclosure and Governance* 6(3), 188-206. doi: https://doi.org/10.1057/jdg.2009.5

Davenport, T. H., J. G. Harris, and S. Cantrell. 2004. "Enterprise Systems and Ongoing Process Change." *Business Process Management Journal* 10(1), 16-26. doi: https://doi.org/10.1108/14637150410518301

David, P. A. 1985. "Clio and the Economics of QWERTY." *The American Economic Review* 75(2), 332-337.

Ducq, Y., D. Chen, and G. Doumeingts. 2012. "A Contribution of System Theory to Sustainable Enterprise Interoperability Science Base." *Computers in Industry* 63(8), 844-857. doi: https://doi.org/10.1016/j.compind.2012.08.005

Eierle, B., H. Ojala, and E. Penttinen. 2014. "XBRL to Enhance External Financial Reporting: Should We Implement or Not? Case Company X." *Journal of Accounting Education* 32(2), 160-170. doi: https://doi.org/10.1016/j.jaccedu.2014.04.003

Engin, Z. and P. Treleaven. 2019. "Algorithmic Government: Automating Public Services and Supporting Civil Servants in Using Data Science Technologies." *The Computer Journal* 62(3), 448-460. doi: https://doi.org/10.1093/comjnl/bxy082

Eulerich, M. and A. Kalinichenko. 2018. "The Current State and Future Directions of Continuous Auditing Research: An Analysis of the Existing Literature." *Journal of Information Systems* 32(3), 31-51. doi: https://doi.org/10.2308/ISYS-51813

European Commission. 2016. "The adoption of e-invoicing in public-Guidance for EU public administrations." Activity Group of the European Multi-Stakeholder Forum on e-Invoicing (EMSFEI). Version 3.1.

European Commission. 2017. "The Single Digital Gateway.". Retrieved 21 June 2022, from https://ec.europa.eu/growth/single-market/single-digital-gateway_en.

Ferencz, J. and F. Gonzales. 2019. "Barriers to Trade in Digitally Enabled Services in the G20." *OECD Trade Policy Papers* (Issue 232). OECD Publishing, Paris, 1-18. doi: https://doi.org/ https://doi.org/10.1787/264c4c02-en

Finfgeld-Connett, D. 2010. "Generalizability and Transferability of Meta-Synthesis Research Findings." *Journal of Advanced Nursing* 66(2), 246-254. doi: https://doi.org/10.1111/j.1365-2648.2009.05250.x

Finnish Patent and Registration Office. 2023. Goals are Processed in Teams. *Real Time Economy*. Retrieved September 23, 2024, from https://www.yrityksendigitalous.fi/en/general-information-about-the-real-time-economy-project/goals-are-processed-in-teams/

Güldenkoh, M. and U. Silberg. 2022. "The Readiness of Micro-Entrepreneurs for Changes in Accountancy, in the Example of Estonia." *Estonian Discussions on Economic Policy* 30(1-2), Article 1-2. doi: https://doi.org/10.15157/tpep.vi1-2.22090

Gunaratn, G. H. 2020. Identifying Barriers in e-Invoicing Process to Increase Efficiency and Raise the Level Of Automatisation of Workflows [Master's thesis]. TalTech

Gray, G. L. and D. W. Miller. 2009. "XBRL: Solving Real-World Problems." *International Journal of Disclosure and Governance* 6(3), 207-223. doi: https://doi.org/10.1057/jdg.2009.8

Harald, B. 2018. Roadmap for Real Time Economy and MyData for Europe: *Ministry of Economic Affairs and Communications, Discussion Paper*.

Henderson, D., S. D. Sheetz, and D. Trinkle. 2012. "The Determinants of Inter-organizational and Internal In-House Adoption of XBRL: A Structural Equation Model." *International Journal of Accounting Information Systems* 13(2), 109-140. doi: https://doi.org/10.1016/j.accinf.2012.02.001

Hope, W. 2006. "Global Capitalism and the Critique of Real Time." *Time & Society* 15(3), 275-302. doi: https://doi.org/10.1177/0961463X06066943

Jones, A. and M. Willis. 2003. "The Challenge of XBRL: Business Reporting for the Investor." *Balance Sheet* 11(3), 29-37. doi: https://doi.org/10.1108/09657960310491172

Karantjias, A., S. Papastergiou, and D. Polemi. 2007. "Innovative, Secure and Interoperable E/M-Governmental Invoicing." *2007 IEEE 18th International Symposium on Personal, Indoor and Mobile Radio Communications* (pp. 1-5). IEEE.

Kästik, T. 2019. "The Impact of Digital Governance on the Business Environment: The Case of Estonian Tax and Customs Board." *ACM International Conference Proceeding Series* Part F1481, 472-474. doi: https://doi.org/10.1145/3326365.3326430

Kattel, R. and I. Mergel 2018. Estonia's digital transformation: Mission mystique and the hiding hand. UCL Institute for Innovation and Public Purpose Working Paper Series (IIPP WP 2018-09). Retrieved 18 March 2022, from https://www.ucl.ac.uk/bartlett/public-purpose/wp2018-09. Last accessed: 18 March 2022

Kirchmer, M. 2004. "E-business Process Networks–Successful Value Chains Through Standards." *Journal of Enterprise Information Management* 17(1), 20-30. doi: https://doi.org/10.1108/09576050410510926

Kitchin, R., T. P. Lauriault, and G. McArdle. 2015. "Knowing and Governing Cities Through Urban Indicators, City Benchmarking and Real-Time Dashboards." *Regional Studies, Regional Science* 2(1), 6-28. doi: https://doi.org/10.1080/21681376.2014.983149

Koch, B. 2020. E-Invoicing/E-Billing International Market Overview & Forecast (Issue February). Retrieved 15 March 2022, from: https://www.billentis.com/einvoicing_ebilling_market_overview_2020.pdf.

Knudsen, D.-R. 2020. "Elusive Boundaries, Power Relations, and Knowledge Production: A Systematic Review of the Literature on Digitalization in Accounting." *International Journal of Accounting Information Systems*, 36, 100441. doi: https://doi.org/10.1016/j.accinf.2019.100441

Krimmer, R., et al. 2019. Real-Time Economy: Definitions and Implementation Opportunities. Tallinn: Tallinn University of Technology. Retrieved May 9, 2022, from https://realtimeeconomy.ee

Kuhlin, B. and H. Thielmann. 2005. *The Practical Real-Time Enterprise*: *Facts and Perspectives*. 1st Edition. Berlin, Heidelberg: Springer Berlin / Heidelberg. doi: https://doi.org/10.1007/b138980

Lam, W. 2005. "Barriers to e-Government Integration." *Journal of Enterprise Information Management*. 18(5), 511-530. doi: https://doi.org/10.1108/17410390510623981

Linders, D. 2012. "From e-Government to We-Government: Defining a Typology for Citizen Coproduction in the Age of Social Media." *Government Information Quarterly* 29(4), 446-454. doi: https://doi.org/10.1016/j.giq.2012.06.003

Meijer, A. 2015. "E-Governance Innovation: Barriers and Strategies." *Government Information Quarterly* 32(2), 198-206. doi: https://doi.org/10.1016/j.giq.2015.01.001

Milisavljevic-Syed, J., J. L. Thames, and D. Schaefer. 2020. "The Digitization of Design and Manufacturing: A State-of-the-Art Report on the Transition from Strategic Vision to Implementation in Industry." *Procedia CIRP* 93, 575-580. doi: https://doi.org/10.1016/j.procir.2020.03.088

Ministry of Economic Affairs and Communication. 2020. Real-Time Economy Vision (2020-2027). Retrieved 15 April 2023, from https://realtimeeconomy.ee/sites/default/files/2022-04/Real-Time%20Economy%20Vision%202020-2027%20%28in%20English%29.pdf

Mock, T.J., M.A. Vasarhelyi, and S. A. Romero. 2007. Measurement theory perspective on business measurement. Working Paper. Rutgers Business School, November.

Molina, A., et al. 2007. "Enterprise Integration and Networking: Challenges and Trends." *Studies in Informatics and Control* 16(4), 353-368.

Moro, S., P. Cortez, and P. Rita. 2015. "Business Intelligence in Banking: A Literature Analysis from 2002 to 2013 Using Text Mining and Latent Dirichlet Allocation." *Expert Systems with Applications* 42(3), 1314-1324. doi: https://doi.org/10.1016/j.eswa.2014.09.024

Narayanan, S., A. S. Marucheck, and R. B. Handfield. 2009. "Electronic Data Interchange: Research Review and Future Directions." *Decision Sciences* 40(1), 121-163. doi: https://doi.org/10.1111/j.1540-5915.2008.00218.x

Navarrete, C., et al. .2010, January. Multinational e-government collaboration, information sharing, and interoperability: An integrative model. In 2010 43rd Hawaii International Conference on System Sciences (pp. 1-10). IEEE.

Nikaein, N. and S. Krco. 2011. "Latency for Real-Time Machine-to-Machine Communication in LTE-Based System Architecture." 17th European Wireless Conference 2011, EW 2011, 263-268.

Nurmilaakso, J. M. and P. Kotinurmi. 2004. "A Review of XML-Based Supply-Chain Integration." *Production Planning & Control* 15(6), 608-621. doi: https://doi.org/10.1080/09537280412331283937

Oliveira, M. P. V. de and R. Handfield. 2019. "Analytical Foundations for Development of Real-Time Supply Chain Capabilities." *International Journal of Production Research* 57(5), 1571-1589. doi: https://doi.org/10.1080/00207543.2018.1493240

Onyshkevych, B. A. 1997. An ontological-semantic framework for text analysis (Doctoral dissertation, Carnegie Mellon University).

Pang, M. S., G. Lee, and W. H. DeLone. 2014. "IT Resources, Organizational Capabilities, and Value Creation in Public-Sector Organizations: A Public-Value Management Perspective." *Journal of Information Technology* 29(3), 187-205. doi: https://doi.org/10.1057/jit.2014.2

Penttinen, E. 2008. Electronic Invoicing Initiatives in Finland and in the European Union - Taking the steps towards the real-time economy. Retrieved 7 April 2021, from http://www.umic.pt/images/stories/Penttinen_B-95.pdf.

Perez, C. 2009. "Technological Revolutions and Techno-Economic Paradigms." *Governance: An International Journal of Policy And Administration* 20, 1-26.

Polites, G. L. 2006. "From Real-Time BI to the Real-Time Enterprise: Organizational Enablers of Latency Reduction." ICIS 2006 Proceedings - Twenty Seventh International Conference on Information Systems, 1383-1400.

PwC. 2023. Harmonised vision and a roadmap for the development of the RTE Economy in the BSR. Retrieved 18 October 2024, from: https://realtimeeconomy-bsr.eu/sites/global/files/2023-05/Report%20on%20Real-Time%20Economy%20-%20vision%20and%20roadmap.pdf

Rabin, S. 2003. "The Real-Time Enterprise, the Real-Time Supply Chain." *Information Systems Management* 20(2), 58-62. doi: https://doi.org/10.1201/1078/43204.20.2.20030301/41471.9

Reichwald, R., C. M. Stotko, and F. T. Piller. 2005. "Distributed Mini-Factory Networks as a Form of Real-Time Enterprise: Concept, Flexibility Potential and Case Studies." *The Practical Real-Time Enterprise: Facts and Perspectives*, vol. 1 403–434. doi: https://doi.org/10.1007/3-540-27367-0_27

Rydén, P. and O. A. El Sawy. 2019. "How Managers Perceive Real-Time Management: Thinking Fast & Flow." *California Management Review* 61(2), 155-177. doi: https://doi.org/10.1177/0008125618818840

Siau, K. and Y. Long. 2005. "Synthesizing e-Government Stage Models–A Meta-Synthesis Based on Meta-Ethnography Approach." *Industrial Management & Data Systems* 105(4), 443-458. doi: https://doi.org/10.1108/02635570510592352

Siegele, L. 2002, February. "How About Now?" *The Economist*. Retrieved 18 April 2020, from https://www.economist.com/special-report/2002/02/02/how-about-now

Tietoevr. 2020. Real-Time Economy Economic Impact Study Final Report. Retrieved 21 November 2021, from https://realtimeeconomy.ee/sites/default/files/2022-04/Final%20report%20of%20the%20real-time%20economy%20economic%20impact%20study%20%28in%20English%29.pdf

Topçu, Ö. Ş., T. Çakmak, and G.Doğan. 2014. "Data Standardization in Digital Libraries: An ETD Case in Turkey." *Procedia - Social and Behavioral Sciences* 147, 223-228. doi: https://doi.org/10.1016/j.sbspro.2014.07.157

Trigo, A., F. Belfo, and R. P. Estébanez. 2014. "Accounting Information Systems: The Challenge of the Real-time Reporting." *Procedia Technology* 16, 118-127. doi: https://doi.org/10.1016/j.protcy.2014.10.075

Troshani, I., et al. 2018. "Digital Transformation of Business-to-Government Reporting: An Institutional Work Perspective." *International Journal of Accounting Information Systems* 31, 17-36. doi: https://doi.org/10.1016/j.accinf.2018.09.002

Umble, E. J., R. R. Haft, and M. M. Umble. 2003. "Enterprise Resource Planning: Implementation Procedures and Critical Success Factors." *European Journal of Operational Research* 146(2), 241-257. doi: https://doi.org/10.1016/S0377-2217(02)00547-7

Vangen, S. and C. Huxham. 2003. "Nurturing Collaborative Relations: Building Trust in Interorganizational Collaboration." *The Journal of Applied Behavioral Science* 39(1), 5-31. doi: https://doi.org/10.1177/0021886303039001

Vasarhelyi, M. A. 2010. The Coming Age of Continuous Assurance (Issue October, pp. 1–9). 71st CPA Australia/University of Melbourne.

Vasarhelyi, M. A. 2011. "The Coming Age of Continuous Assurance." *Insights, Melbourne Business and Economics*, 23-29.

Vasarhelyi, M. A. and M. G. Alles. 2008. "The "Now" Economy and the Traditional Accounting Reporting Model: Opportunities and Challenges for AIS Research." *International Journal of Accounting Information Systems* 9(4), 227-239. doi: https://doi.org/10.1016/j.accinf.2008.09.002

Vasarhelyi, M. A., M. G. Alles, and K. T. Williams. 2010. "Continuous Assurance for the Now Economy: A Thought Leadership Paper for the Institute of Chartered Accountants in Australia" (Issue February). Retrieved 22 April 2021, from: https://raw.rutgers.edu/docs/Previousprojects/Previousprojects/Continuous_Assurance_for_the_Now_Economy_-_2nd_draft%20mav.pdf

Vasarhelyi, M. A., et al. 2005. *Continuous Monitoring and Assurance in a Real Time Economy*. In The Impact of European Integration On the National Economy: Business Information Systems. Babes-Bolyai University of Cluj-Napoca, Oct (pp. 1–20). Rutgers University.

Vasarhelyi, M. A., R. A. Teeter, and J. P. Krahel. 2010. "Audit Education and the Real-Time Economy." *Issues in Accounting Education* 25(3), 405-423. doi: https://doi.org/10.2308/iace.2010.25.3.405

Vedeshin, A., et al. 2020. "A Secure Data Infrastructure for Personal Manufacturing Based on a Novel Key-Less, Byte-Less Encryption Method." *IEEE Access* 8, 40039-40056. doi: https://doi.org/10.1109/ACCESS.2019.2946730

Vera-Baquero, A., R. Colomo-Palacios, and O. Molloy. 2016. "Real-Time Business Activity Monitoring and Analysis of Process Performance on Big-Data Domains." *Telematics and Informatics* 33(3), 793-807. doi: https://doi.org/10.1016/j.tele.2015.12.005

Walsh, D. and S. Downe. 2005. "Meta-Synthesis Method for Qualitative Research: A Literature Review." *Journal of Advanced Nursing* 50(2), 204-211. doi: https://doi.org/10.1111/j.1365-2648.2005.03380.x

Webster, J. and R. T. Wantson. 2002. "Analyzing the Past to Prepare for the Future: Writing a Literature Review." *MIS Quarterly* 26(2), xiii-xxiii. doi: https://doi.org/10.2307/4132319

Weltevrede, E., A. Helmond, and C. Gerlitz. 2014. "The Politics of Real-time: A Device Perspective on Social Media Platforms and Search Engines." *Theory, Culture & Society* 31(6), 125-150. doi: https://doi.org/10.1177/0263276414537318

Art Alishani is a Junior Research Fellow at the Johan Skytte Institute of Political Science at the University of Tartu. He holds an MSc in Public Sector Innovation and e-Governance (KU Leuven, University of Münster, and TalTech). Art's PhD research focuses on the uses of artificial intelligence applications in encounters between citizens and government, and what this means for their relationship. Email: art.alishani@ut.ee

Ralf-Martin Soe is an Assistant Professor of Smart City Studies and a Founding Director of the FinEst Centre for Smart Cities (www.finestcentre.eu) at Tallinn University of Technology (Estonia). In 2024, he was also an Academic Visitor at the Computer Science Department of Aalto University (Finland) and in 2023, he was a Global Digital Governance Fellow at Stanford University (USA). His previous positions include being an ICT Counsellor to the Minister of Entrepreneurship and Information Technology in Estonia, a Supervisory Board Member at the Estonian Internet Foundation and a Government Fellow at the United Nations University's e-Government Unit (Portugal). During 2009-2013, he was a Financial and Digitalization Consultant working with the UK Government, PwC, Praxis and United Nations University. From 2006-2009, he was an Investigative Journalist at the Business Daily Äripäev and was selected as the Best Young Journalist in Estonia by the Estonian Newspaper Association in 2008, after several nominations. Ralf has two master's degrees in financial management (MSc, Maastricht University/ United Nations University and MBA, University of Tartu) and has a PhD degree in Technology Governance from TalTech. He was selected as the TalTech Junior Researcher of the Year 2019 and most influential person of the year 2019 in Estonia by the Estonian Association of Information Technology and Telecommunications.

Tarmo Kadak is Associate Professor of Accounting at Tallinn University of Technology. He received his PhD from the same University in 2011. His research interests include best practice and benefits from Costing, Management Accounting, Performance Measurement and Management, Real-Time Economy, Accounting Information Systems. He has researched these topics in business and as well in public sector organizations. He has published a number of papers in leading journals such as Measuring Business Excellence, International Journal of Productivity and Performance Management, International Journal of Management and Enterprise Development and Journal of Business Economics and Management.

Robert Krimmer is a digital transformation expert and entrepreneur. Between 2014 and 2022 he was a professor for e-governance in Estonia. Since 2022, he has been focusing on digital transformation in the private sector.