Innovative collaboration for policy design through ICT

Empirical observations and implications

1. Potential of ICT for policy design

The enormous technological progress in recent years, such as social media, big data or machine learning, has led to the development of innovative ICT tools for policy design in governments. Such tools are designed to make governmental action more effective, efficient and transparent (Kamateri et al. 2015; Ahrweiler et al. 2015; Criado and Villodre 2018). Many of these new ICT tools promise the opportunity of innovative policy-making through collaborative solutions for policy problems – but can the high expectations put on ICT regarding improved collaboration for more informed, effective and transparent decision-making really be met?

TROPICO Work Package 4 analyses the influence of ICT tools on internal collaboration in policy design, more specifically the extent to which ICT tools foster innovative practices within the public sector. On the basis of five comparative case studies and an academic expert survey in ten countries, we examined drivers, as well as obstacles, for such practices, and studied how institutional, organisational and individual means and actors shape the development and use of innovative ICT tools for collaboration.

2. Key recommendations

Our research shows that European governments interested in more innovative and collaborative policy design should foster the development and use of ICT tools, as they can indeed facilitate collaboration and lead to more effective, efficient and informed policy making.

Against this background, the following aspects appear to be relevant:

**ICT tools as channels for professional exchange:** Collaborative inter- or intranet platforms facilitate information exchange and information processing, and are suitable to intensify informal professional exchange between public officials.

**ICT-mediated framework for harmonisation:** ICT-tools can support the harmonisation of administrative units by restricting the leeway in decision-making or providing a common database as a guideline for decisions.

**Digitalisation agencies as hubs for expertise:** Digitalisation agencies can be key promoters of greater ICT-use in governments. Although they often do not take a proactive role in policy-making, they are relevant providers of expertise.

**Organisational, political and financial support:** ICT tools should receive sufficient institutional and financial support from political and administrative leaders to be successful. This applies especially to ICT-tools that are initiated by public officials in a bottom-up manner.

**What is TROPICO?**

TROPICO is an international research consortium investigating how public administrations are transformed to enhance collaboration in policy design and service delivery, advancing the participation of public, private and societal actors. We analyse collaboration in and by governments, with a special emphasis on the use of information and communication technologies (ICT), and its consequences from a comparative perspective.

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**More training:** Public sector organisations should offer further training for public officials to familiarise themselves with the practicalities and, most importantly, advantages of using ICT tools. This contributes to the practical skills of the public officials in using the tool. It could also motivate public officials to actually use the tool because they perceive it as useful. These recommendations are based on comparative case studies and a survey among academic experts:

### 3. Comparative case studies

We conducted case studies on five novel ICT initiatives for policy design in France, Germany, Hungary, the Netherlands, and Norway. The cases were selected on the basis of several similarities. All initiatives aim at (1) providing information to public officials, (2) improving public officials’ awareness for specific policy issues, and (3) improving communication across the public sector.

**Description**

**Chorus** in France is an information system for financial data that supports finance-based decision-making. It allows public officials to assess the exact financial situation of a given public organisation in real-time and thus fosters the quality of collaboration since discussions rely on a common data basis.

**eNAP** in Germany is an assessment tool designed to support public officials in their evaluation of the potential impact of planned policies regarding the United Nations Sustainable Development Goals (SDGs).

**NAGiS** in Hungary is a geo-information system that aims to assist all governmental levels and selected NGOs in assessing the impact of planned legislation and other projects on climate change. It thus encourages relevant stakeholders to collaborate in the development of municipal climate change strategies.

**Pleio** in the Netherlands is a social collaboration platform that enables employees in public sector organisations to share their professional knowledge and experiences, aiming at more informed policy-making in all policy areas. Today, especially teachers and tax officials use it.

**DIGIT** in Norway is a working group assisting all ministries to improve their appearance and communication practices in social media (more information: Carstens et al. 2019; TROPICO 2019).

The Dutch and Norwegian initiatives were initiated bottom-up by public officials, while the ICT tools in the other countries were commissioned top-down by political and administrative leaders as part of larger administrative reform projects.

With these five cases we selected ICT initiatives that were initiated across different European administrative traditions, allowing us to examine if and how institutional settings shape their development and use. Public sectors across Europe are grouped into different administrative traditions, based on their values and logics of action: Continental (e.g. Germany, Netherlands), Napoleonic (e.g. France), Central Eastern (e.g. Hungary), and Nordic (e.g. Norway) (for more: Carstens et al. 2019; Painter and Peters 2010).

**Key findings**

The effects of novel ICT tools on policy design and internal collaboration are mainly determined by the (1) set-up conditions, for example, whether the use of the tool is mandatory or not, the (2) behaviour of the actors involved, for example, whether they are motivated to use it, and the (3) means, i.e. the design characteristics and technical properties.

Almost all the tools we studied were seen to improve collaboration within or outside the organisations analysed. **Pleio** led to an increased exchange of information and new arenas of informal coordination. Both **DIGIT** and **NAGiS** contributed to closer collaboration between different organisations and organisational units, while **Chorus** increased the level of communication with external actors.

The experts interviewed for the case studies stated that the tools contribute to more effective policy outcomes and thus to a higher legitimacy of political decisions. Overall, they also assessed the effects of the ICT tools on the organisations’ efficiency as positive.
The ICT initiatives we studied were seen to be well suited to present and process information and data in a way that is comprehensible and useful for public officials. The information processed through these initiatives facilitates their strategic and evidence-based decision-making. In addition, they produce information that raises officials' awareness for specific issues.

The success of those ICT initiatives that were voluntary in use largely depended on the individual motivation of (participating) officials. Administrative and government leaders can make a crucial contribution to ensuring that such initiatives are successful by promoting and incentivising their use and offering training opportunities.

Whether a tool is successfully used or not depends also on the availability of sufficient resources. ICT initiatives initiated by public officials therefore benefit from institutional and financial support of the administrative and political leadership.

### 4. Academic expert survey

In 2018, the TROPICO project invited more than 2,000 academic experts specialising in public administration, public policy, political science, history, economics and law in ten European countries to participate in a survey on structures and processes related to ICT-supported internal policy design within their country. The overall response rate of the survey was 21%.

#### Description

The survey collected the experts’ assessments of the use of innovative forms of ICT-related collaboration within government, between public sector organisations, as well as ICT tools that are used to facilitate collaboration between public sector organisations and external actors. We assessed the impact of digitalisation on policy design, among other trends discussed in the scholarly literature, such as multi-level dynamics. Also, we asked for the experts’ opinion on the impact of ICT tools as means of collaboration for internal policy design (Fleischer & Wanckel 2019).

#### Key findings

The Academic Expert Survey examined the experts’ perceptions of the “innovativeness” and “policy analytical capacity” of government authorities, and their assessment of the role of digitalisation agencies.

Among all effects of ICT tools studied in our survey, the academic experts considered increased information processing to be the strongest, followed by the involvement of external actors in policy formulation and increased procedural innovativeness.

![Effects of ICT on internal policy design regarding innovativeness](image)

Effects of ICT on internal policy design regarding innovativeness. The figure shows the mean values of all expert assessments per country (Fleischer & Wanckel 2019)

When it comes to the perceived effects of ICT on formal lines of responsibility in internal policy design, the experts’ assessments are in accordance with the characteristics of the respective administrative traditions. In countries with strong formal responsibilities (e.g. Germany, Scandinavian countries), ICT tools are expected to have little effect on formal institutions, whereas in countries with rather ambiguous responsibilities (e.g. United Kingdom, Hungary) a stronger effect was expected. The introduction and use of novel ICT tools may also be shaped by the administrative tradition and corresponding differences in the policy analytical capacity of bureaucracies. Policy analytical capacity refers to the officials' capabilities to assess different policy alternatives.
An increasing number of countries are setting up digitalisation agencies to support the development and use of ICT tools in government. Experts assess the importance of these agencies as ambivalent. Although they play an important role in providing expertise, they are not highly involved in policy-design.

5. Practical implications

In Work Package 4, TROPICO examined both the impact of institutional and organisational (formal structures, resources etc.), as well as individual factors’ (e.g. skills of individual public officials) impact on the use of ICT tools for policy design. Concerning these dimensions, we identified the following implications:

**Institutional and organisational factors**

ICT tools that create a platform for discussion outside the established coordination and decision-making processes may open novel and more collaborative arenas within and between public sector organisations, as well as with citizens and other external actors.

Novel ICT tools initiated by public sector officials can have a positive effect on collaboration within the organisation. Yet, such bottom-up initiated ICT tools are more successful with administrative and political leadership support.

The analysis of Chorus indicates that centrally introduced ICT tools that are mandatory in use could lead to a harmonisation of means and objectives in concerned administrative units (e.g. harmonisation of budget standards). This presumably applies particularly in countries with centralised administrative systems as the central government orientation makes it possible to oblige the use of a tool for all administrative levels.

**Individual factors**

ICT tools that present data and information in a comprehensive manner are particularly suitable for supporting decision-making of public officials in policy design, as it helps employees to quickly recognise key information.

Not only the mandatory use of ICT tools can lead to success but also training offers and suitable incentives for voluntary use.

7. Further research

The results of the expert survey highlight the opportunities of ICT use in collaboration practices of the public sector with external actors. We follow up these and adjacent questions of e-participation and e-services in the TROPICO project’s work packages 5 and 7.

Recently introduced tools such as eNAP should be re-examined in the future to find out whether the expectations of the tool are met. By doing so, we also prevent rationalisation of the fit between expectations and effects ex-post.

8. References


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