

## **Governance in the data revolution**

The emergence of data-related innovations come with impressing and enticing concepts, such as ‘big data’, ‘BOLD’ (big, open and linked data) and ‘the data revolution’. Unmistakably the usage of data includes many promises to the public sector, for example to service provision, policymaking, responsive management of events and infrastructure, supervision, and for combatting crime. A first promise is more accurate and efficient information provision for public decision making and service provision. An increasing amount of data and – particularly - data processing capacity would enable analysts to serve managers and policy makers with real-time and evidence-based information. A second promise is that data systems increase the ability to predict change, including a change of individual behaviour and broader societal developments. The more sophisticated the algorithms used for data analysis, the more opportunities exist for informed pro-active policies. A third promise concern a broader availability of data, which may pose opportunities for self-organization by new social structures, including crowds and communities.

As any major development, the data revolutions comes with both promises and doubts. An obvious doubt is about privacy and transparency. To many people - including many public managers and decisionmakers - data analytics is a black box of professionals doing complex work. The output of this black box, however, may concern interpretations of personal information with potentially high personal impact. A second, related, doubt is about the ownership of data. Organizations holding and/or owning many data – such as Facebook, Google and Apple – are private for-profit companies operating on a global level. There are hardly institutions to limit their rapidly increasing powers. A third doubt concerns in fact revisiting the accuracy claim. This claim uses potentially problematic assumptions, such as a rationality of those operating the data (i.e. developing the algorithms; translating data into information), correlations representing causalities and accuracy and relevance of data sources.

In sum, the usage of data systems may improve public decision making, however this claim is based on assumptions that may be contested. Moreover, the impact of these data systems on public values such as democracy and privacy is unsure. As a consequence, the data revolution involves important questions about both effectiveness and legitimacy of public policy making and management. To some of these issues governments are expected to be responsible. At the same time, governments have several stakes in the usage of data systems and plays several different roles: as data supplier, data analyst, data user, but also as policy maker and regulator.

Many scholars are making sense of the ‘data revolution’. However, the governance aspects are still understudied. Potentials and doubts are abundant in literature, however the way multiple public and private actors deal with new features of the data revolution and its institutions – or lack thereof - is a topic rarely tackled. How is the effectiveness and legitimacy of public policymaking and management affected by data systems, given the fact that the impact of the data revolution is a result of multi-actor governance? We will invite panelists to reflect on this main question. Issues may include:

- Second order questions about the potentials of big data for public decision making and public management, e.g. comparisons between sectors and important conditions to potentials getting realized.

- Data ownership, including the willingness and conditions to share data and information over institutional borders.
- The politics of algorithms, including the emergence of new professionals, such as data miners and data analysts.
- The dynamics of ‘networked’ political and managerial decision- making during and after the data revolution, including the impact of big data on the rationality of decision-making.
- The impact of big data on privacy and democratic values such as transparency, including the governance of securing these values.
- The way key players – both global, national and local – anticipate and reply to regulatory actions and a lack thereof.
- The capacity of big data to reinforce new, self-organizing institutions and – as a consequence – changes in the institutional landscape.
- Potentials and incentives of governments on all levels and considering their multiple roles to improve the effectiveness and legitimacy of big data practices.

### **The linkage between the panel and a subtheme of the NIG research programme**

The panel is at the core of the subtheme “Multi-actor governance in complexity”. The data revolution is a new context in which multi-actor governance takes place. Many concepts of this subtheme – networks, professionalism, complexity, accountability, transparency – are of direct relevance to the data revolution, however underexposed in the literature so far. The many roles of governments adds to the complexity, because it leads to some ambiguousness of the motives of governmental organizations. The quick technological progress and opportunities make institutions lagging behind. The resulting institutional voids provide a playing field with little hierarchical authority of governments, even more so on a global level where key data owners operate. As a result, effectiveness and legitimacy of big data practices are shaped and controlled in a horizontal context. On a micro-level power relations within data chains are also subject to change, with professional data analysts – computer scientists, econometrists – becoming a considerable force. The relation between (public) decisionmakers and managers and these new professionals providing the data can be described as horizontal, and subject of politics of algorithms. Together these governance complexities of the data revolution pose serious questions to the rationality of big data practices.

## **Panel organizers**

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