P03 / The Data/Sensor Revolution and Public Policy

Topic : Science, Internet and Technology Policy

Chair : Jouke de Vries (RUG/Campus Fryslân)

Second Chair : Sarah Giest (Leiden University)

Third Chair : Reuben Ng (Lee Kuan Yew School of Public Policy)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

One of the central assumptions in theories on decision- and policymaking has been that there is not enough information to take the best possible decision. The psychologist and Nobel Prize winner Herbert Simon stated that decision-making is never 100% rational, because rationality itself is limited. Rationality is bounded due to the limited capacities of human intelligence, brain dysfunction, and all kind of difficulties within the political and administrative system. The solutions within a complex political and administrative system are thus suboptimal, which is why it is difficult to solve complicated societal issues. This bounded rationality assumption became dominant in theories on decision- and policymaking in political science and public administration. Decision- and policymaking was no longer rational-synoptic, but was more incremental and political.

The assumption of bounded rationality has led to different theories on decision- and policymaking. The rational-synoptic model was succeeded by the theory of incrementalism. According to this model, the essence of decision-making was to take small steps. Of course empirical and theoretical work led to a synthesis between the rational decision-making model and incrementalism: the model of mixed scanning.

At the end of the twentieth century, new models on decision- and policymaking received more attention. These new models were based on chaos and complexity theory from the natural sciences and theoretical biology. Based on the assumption that planning of decision-making is difficult due to relations no longer being linear, coincidence became a crucial element in explaining processes of decision-making. Two models shaped this development. The first one is the work of John W. Kingdon on political agendas. Kingdon makes a distinction between three streams: societal problems, alternatives and politics. Only when these three streams overlap can there be fundamental decision making. The second model is termed the punctuated equilibrium model. (Baumgartner & Jones)Most of the time political and administrative systems are confronted with stability, yet sometimes the decision-making process becomes more turbulent. This border between stability and turbulence is the punctuated equilibrium.

The process of digitalization is changing the dynamics related to decision- and policymaking: information is no longer scarce in society and in political and administrative systems. To the contrary, data are everywhere now. Decision makers are no longer confronted with a lack of information, but rather with an endless sea of information and data. This development will continue because of new developments in the IT-sector: nanocomputers, the Internet of things and artificial intelligence. Many of these developments are discussed with the term Big Data Revolution.

As a result, the notion of limited rationality is debatable nowadays. If this central assumption is no longer correct because of the Big Data Revolution, this must have consequences for different theories that have been dominant in political science and public administration for a long period. The central question of our panel is: What are the consequences of the Data and Sensor Revolution for decisionand policymaking, both theoretically and empirically?
This general question leads to different partial questions:
- What are the consequences of the Big Data Revolution for theories on decision- and policymaking?
- Is it possible to incorporate the consequences of the Big Data Revolution into decision- and policymaking models?
- What are the consequences of the Big Data Revolution in the daily practice of political and administrative systems?

CALL FOR PAPERS

The Big Data Revolution challenges some of the assumptions made in the field of decision- and policymaking connected to bounded rationality. Decision makers are no longer confronted with a lack

of information, but rather with an endless sea of information and data. Under these circumstances, new questions arise that have consequences for different theories dominating political science and public administration. This panel wishes to examine these challenges for decision-making processes and political administrative systems. Our focus is on novel theoretical and empirical perspectives moving the field towards identifying and incorporating the consequences of the Big Data Revolution in these processes.

The panel calls for papers that address the dynamics of decision- and policymaking in the context of the big data revolution. Submissions can cover a wide range of topics connected to decision-making models, data-aided decision support, evidence-based policymaking or the digitization of administrations. Addressing the leading question of what the consequences of big data will be for decision- and policymaking, the papers can offer methodological developments based on big data, case studies of data-driven decision-making as well as challenges of incorporating this type of information into daily public practices. We welcome both theoretical and empirical papers. Of course the combination of both theory and empirical research is also possible.

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Session 1

Friday, June 30th 13:45 to 15:45 (Block B 4 - 4)

Discussants

Sarah Giest (Leiden University)

Data-Driven Innovation as a Strategy : Towards Responsible Innovation and Adaptation for Humanitarian Response and Sustainable Development

Thomas Baar (Centre for Innovation (Leiden University))

Jos BERENS (Leiden University, Centre for Innovation)

To What Extent the Grand Lyon Metropole can harness the Smart Meter Project towards the Governance of Territorial Climate Energy Plan (PCET) Study case: Smart Electric Lyon project initiated by EDF [French Electric Utility Company]

WAHYUDDIN YASSER (EVS-RIVES, ENTPE)

Institutions and temporal dynamic of policy change: empirical evidence from the Structural Topic Model (STM) analysis of development policies in Asia.

Maria Stella Righettini (University of Padova)

Stefano Sbalchiero (University of Padova)

Harnessing the Deluge and Drought of Text Data for Policy Analysis: An Ontological Approach

Chetan Singai (National Law School of India University)

Thant Syn

T. R Kumara Swamy (National Institute of Advanced Studies)

Ajay Chandra (National Institute of Advanced Studied)

From Dots to Distributions: Why a Statistician’s Approach to Big Data Matters

Jason Kok (Autoriti Monetari Brunei Darussalam)