

social media the most. Furthermore, during the last few months, when the book was already in the middle of the publishing process, the political scene in Poland had changed significantly and it started to influence the media sphere profoundly, but it might be an opportunity for other researchers to make a cross-time analysis and use the extensive data collected during the research and featured in the publication for comparison.

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DOI: 10.19195/1899-5101.10.1(18).13

Erik W. Johnston (eds.) (2016). *Governance in the Information Era. Theory and Practice of Policy Informatics*. New York: Routledge, pp. 374, ISBN: 978-1-138-83208-4.

The modern world requires from people with power to be quick and decisive in the process of governing. It can lead to provide social and economic security of the country or particular communities. Decision-makers are facing many challenges associated with the governance and administrative processes which are primarily related to the dynamic technological development and globalization phenomenon. This big amount of different factors can lead to the inability of governments to solve complex problems and the disaffection of people with their governments. In fact, those in power often use the help of the scientific community to address challenges and consequences of decision making within the system with its complicated structure of interrelated elements, where the change of one item alters the change of another. Scientists can use many methods allowing them to generate useful information.

The authors of the book *Governance in the Information Era* have presented new ways of governance and provided the approach of policy informatics, where a basic assumption is that more intensive and creative use of information and technology can improve policy making processes and lead to better policy choices.

This book is the product of the collective work of scholars and practitioners who all deal with issues of policy informatics. *Governance in the Information Era* consists of nineteen chapters divided into six thematic parts which are an attempt to explain what policy informatics is and how the use of particular computational and simulation tools or methods can improve policy making processes.

The first part is an introduction where the editor Eric W. Johnston familiarizes readers with the basic notions related to policy informatics. He emphasizes the fact that the subject of governance systems is complicated and depends on many factors.

That is why in this part the author tried to draw a wide context of changes occurring in the political, social and economic systems which can affect and determine the process of decision making. Additionally, Johnston provided the conceptualization of policy informatics as an approach useful in management.

The second part is called “the basics”. This section of the book includes considerations about the value and limits of government information resources. Sharon S. Dawes and Natalie Helbig explained how important the information is for policy informatics and governance processes and how we should understand information in the context of policy making. The next chapter is dedicated to the evidence for policy inquiry. The main premise here is to present two perspectives of policy inquiry. Authors Anand Desai and Kirstin Harlow presented the process of building policy decisions based on information. They propose a conceptual model of consideration about evidence and sources of information. Additionally, the authors share the knowledge about transformation of unstructured problems to evidence useful for people with power to make appropriate decisions. In the last chapter in this part Evert Lindquist shows the importance of data visualization in the context of policy making. He provides a list of opportunities and limitations of data visualization in the process of strategy building. Lindquist, in a comprehensive way, explains any issues related to measuring and acquisition of data and credibility of this kind of action.

Next, the third part named “analysis” is one of the most important composites of the book. In this section the reader is familiarized with policy informatics techniques and methods and tools indispensable to take into consideration the governance processes. George P. Richardson explains what the importance is of the endogenous point of view when it comes to policy informatics. He presents the basics of the system dynamics method of analysis and provides the necessary theoretical background for policy informatics understanding. David Wheat takes under consideration a model-based policy design — an inherent component of what is serious and best in quality policy making processes. In this part Wheat presents how the system dynamics measure works and what exactly the analyst should take into account. In the seventh chapter, David N. Ford, Ivan Damnjanovic, and Scott T. Johnson present an analysis of policy making in the perspective of public-private partnerships. They provide analysis of transportation in the perspective of risk allocation and impacts of financial stress on risk allocation. In the next chapter Navid Ghaffarzadegan, John Lyneis, and George P. Richardson present the policy informatics approach with small system dynamics models. They try to consider how small models can help public policy processes. This is an attempt to explain how to analyze, structure and determine the shape of segment of the whole system to make it as useful as possible.

In the fourth part entitled “administration”, the authors present new, possible ways to manage and handle the administration in the context of appropriate policy making. Christopher Koliba and Asim Zia try to explain governance informatics

in the terms of using computer simulation models to deepen situational awareness and governance design considerations, Nora H. Sabelli, William R. Penuel, and Britte H Cheng show readers the role of informatics when it comes to education research. In Petra Ahtweiler's, Andreas Pyka's, and Nigel Gilbert's chapter readers can find information how policy modeling looks like in terms of large-scale social systems. The authors familiarize readers with issues related to innovation models. In the last chapter in this part, William H. Dutton presented the meaning that citizen sourcing has for governors.

The last, fifth part (excluding conclusions) named "governance infrastructure" contains the chapters devoted to synthetic information environments for policy informatics. In this chapter we can find notions on the synthetic information environment, and presentation of an epidemic as a complex system or mental system models. In the next chapter, the authors present participatory simulation as a tool of policy informatics. Here the reader can find information about human participation in information spread over the system. The next chapter is a case study presentation of ACTion Alexandria in the context of action brokering for community engagement. The last chapter is devoted to the importance of new forms of knowledge incubation for policy informatics. Ines Mergel explains the occurrence of the breaking of the silos of silence, which is useful for policy makers and decision making under the lack of information. The last part of the book are conclusions.

The book *Governance in the Information Era. Theory and Practice of Policy Informatics* undoubtedly brings many important insights into governance and management processes. All the methods presented by the authors play a huge role in presenting new approaches useful during the considerations about policy making and decision making.

The construction of the book and its logical structure of all the chapters makes this work necessary for modern adepts of political sciences. The authors rightly pointed at alternative ways of policy making and information sourcing not only from traditional media but all sources capable of generating information and have the ability to information exchange (p. 26). One of the more important statements is the fact of ensuring information quality and fitness for use (p. 38) which means that not all information produced by political, economic, or civic entities is ready to use in terms of decision making. The authors have highlighted many times, that both scientists and policy makers should limit the information flow. As the authors write there are three levels of uncertainty when it comes to policy inquiry (p. 47): conflict in relations between stakeholders values and between actions and outcomes, uncertainty about stakeholders, and uncertainty about outcomes, that underline the comprehensive nature of the decision making processes.

The authors gave the recipe for scientists and politicians who should find complex solutions to resolve these problems. What is more, it is always difficult to make a decision, even if the problem is fairly and clearly defined. In this book we can also find very important considerations about the system dynamics method which is an

approach coined by Jay Forrester at the MIT in the 1950s. The authors, in the part called “analysis” gave us instructions how to use this tool to present all phenomena taking place within the chosen system (pp. 83–187). Thanks to that, the reader can gain knowledge on how to analyze the feedback loops in the system or how to set the boundaries of endogenous character of the system, how to analyze variables representing accumulations (of information) within the feedback loops and variables representing particular activity within the feedback loop. In the result we can achieve the goals, which are: observed conditions of the system, detection of discrepancy and action based on discrepancy. In fact, the reader can be familiarized with issues related to a computational approach based on simulation of hypothetical events which can occur within the system.

The meaningful claim of this book is the fact of knowledge incubation among citizens (pp. 319–323). It is really vital to enhance the importance of citizen information engagement during the policy-making process in the information or social media era. Breaking the silo of silence is crucial for making appropriate decisions and additionally to create a simulation model which corresponds as much as possible to reality. The authors are also complementing their considerations by social network analysis (pp. 189–212). Thanks to this method they provide comprehensive and complete analysis of relations between the public and private sphere, between people with power and people without power (in a formal meaning). The authors also clarify all conditions and factors indispensable to look at the system as a system of connected vessels.

After reading this book the reader could have the impression of a strong systemic approach. The presentation and consideration about system dynamics and this kind of systemic approach should be one of the subjects required for graduation among the social sciences. Without any doubt this book is a “must have” for every student interested in social sciences, political communication, or political leadership.

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