

# Preface

In an environment where digitization permeates both society and economy at an ever-increasing pace, big data rank among the most fascinating challenges for all types of organizations. And their influence is not limited to those organizations concerned with matters of political administration such as national intelligence. All types of organizations, and especially those seeking to make a profit, i.e. companies, resort to big data. They now sense that the use of big data simultaneously entails fascinating opportunities and great risk.

Companies are immediately affected by the sheer momentum of the challenge that is big data, thus facing a series of profound questions: Do we even want to deal with big data? If so, what exactly do we want to do? What is possible, what is legal, what is reasonable, what is effective, and what can we legitimize? Those aspects refer to strategic decisions and, consequentially, to the more detailed questions regarding the actual execution of big data projects.

*Tobias M. Scholz* tackles exactly this in his dissertation. Even just consecutively reading through the array of practical as well as theoretical deficits he explicitly elaborates, reveals the overall chain of arguments: research on big data rarely dedicates itself to the human perspective – besides being a technological phenomenon, big data is also a social one – research rarely contextualizes big data towards particular corporations – big data challenge the role of the HR department – neither organizational theory nor theory on HR management adequately discuss the subjectivity of big data – research widely ignores the catalyzing effect of big data on complexity – the effects of big data on employees and the company are unclear – big data are insufficiently categorized theoretically – research on big data still lags behind in terms of practical application. Especially when putting into consideration those undeniable deficits, the subject of big data in organizations and the role of human resource management appear both pressing and highly economically relevant; above all doing so by means of a complex systems theory-based conceptualization.

For his dissertation, *Tobias M. Scholz* thus chooses a topic that bares the potential for substantial innovation in both theory and practical application. In his work, he clearly utilizes said potential by initiating important developments in three distinct ways:

First of all, he provides a novel, concise, scientifically exact, and up-to-date outline, thus answering the question: “What are big data?” His very differentiated conceptualization goes beyond picking up numerous definitions and the evolutions thereof or differentiating said definitions from related concepts. He interconnects diverse developments of data-driven digitization and adjusts them to one another. In reference to a systematization introduced by *Boyd* and *Crawford*, he does away with unrealistic expectations regarding big data, thus bringing the concept back down to earth. He conducts a broad philosophical categorization of big data that includes critical observation. All things considered, he successfully illustrates the limitations

of big data in organizations, while providing crucial hints as to how big data can be utilized sensibly. Especially the critical evaluation of those terms common to the big data discourse that are oftentimes used in a diffuse fashion, as well as of the only roughly implied paradigmatic progress, forms the base of his constructivist composition of alternative explanations and design suggestions.

Secondly, he stays true to his aim of specifying the implications of big data for organizations in general, and for the role of the HR department in particular. Not only does he successively walk the reader through his coherent mental framework; he integrates concepts derived from diverse strands of theory, among which being the ideas of complex systems theory, population ecology theory, and sociohistorical technology assessment, with their practical application. Particularly convincing is his differentiation between reactive, reactive-anticipating, and proactive roles of the HR department. In this context, he competently tackles future tasks that have arisen following the emergence of big data. Among those tasks are “big data risk governance” or “big data immersion”, both featuring a strong link to HR economical practice, like that of “big data literacy” to HR development. En passant, he manages to develop a sustainable future role for the HR department, a corporate function that, as a result of the digitization and the pressing need for legitimization, finds itself at risk of being marginalized in corporate practice.

Thirdly, *Tobias M. Scholz* goes beyond elaborating a merely theory-based conceptualization on how to handle big data in organizations and the HR management. He also illustrates, in a differentiated manner, their implementability. He does so, firstly, with regards to practical application, by suggesting to fundamentally transform the HR department, while at the same time anticipating the emotional discussion and resistance this would entail, and sounding a word of caution when professionally handling this transformational challenge (of which he also provides a rough outline). He does so, secondly, with regards to research, by placing particular emphasis on social and ethical research challenges, stimulating further research on the transfer between theory and practice, and encouraging the HR research community to more intensely attend to novel paradigms such as gamification. He does so, thirdly, with regards to didactics in academia, by showing that both big data and the consequences of their application are fields of major didactic relevance.

More indirectly, *Tobias M. Scholz* takes a step in the theoretical discourse towards converging the logic of stabilization and that of dynamization. His major contribution is located on the conceptual metalevel. He bridges the gap between the necessities of constant organizational dynamization on the one hand, and the need for organizational balance on the other, thus postulating what he calls the “homeodynamic organization.” His request to place the responsibility of creating such a coherence into the hands of the HR department lies grounded in the fact that the HR department is the only corporate function concerned with both employees as well as their data-related working conditions.

On the one hand, this dissertation about the interaction between data-related technology and human actors reveals to the reader that the implementation of big data is going to fundamentally change the corporate function of human resource

management, as well as the way this transformation will occur. On the other hand, it illustrates the disposition of HR management itself to be more active, create more value, and drive the ethical implementation of big data in organizations. The fact that *Tobias M. Scholz* received this year's best dissertation award of the University of Siegen ("Förderpreis der Dirlmeier-Stiftung"), further attests to the excellence of his research.

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*Univ.-Prof. Dr. Volker Stein*

