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Institute for Strategic &
International Management

"I Thought It Was Just About Technology."
A Discourse-Analytical Reconstruction Of The Images Of
Big Data & Analytics In Business Magazines

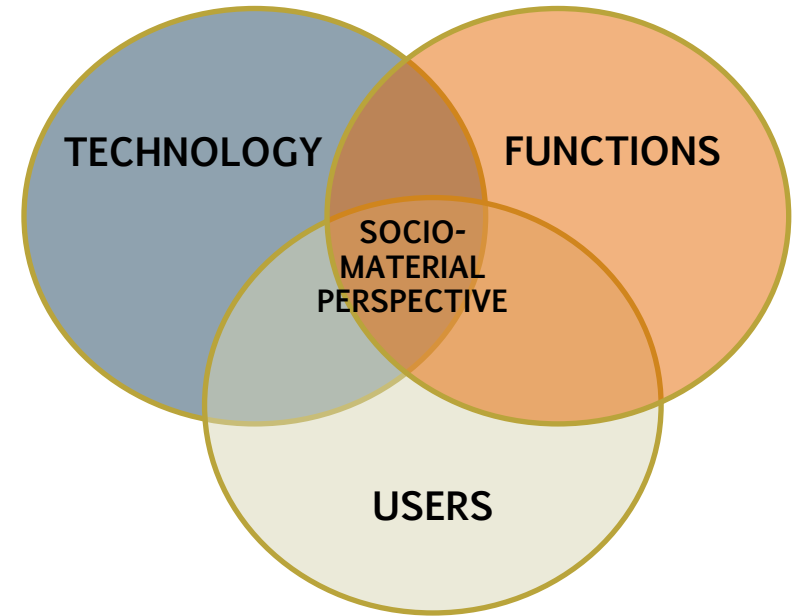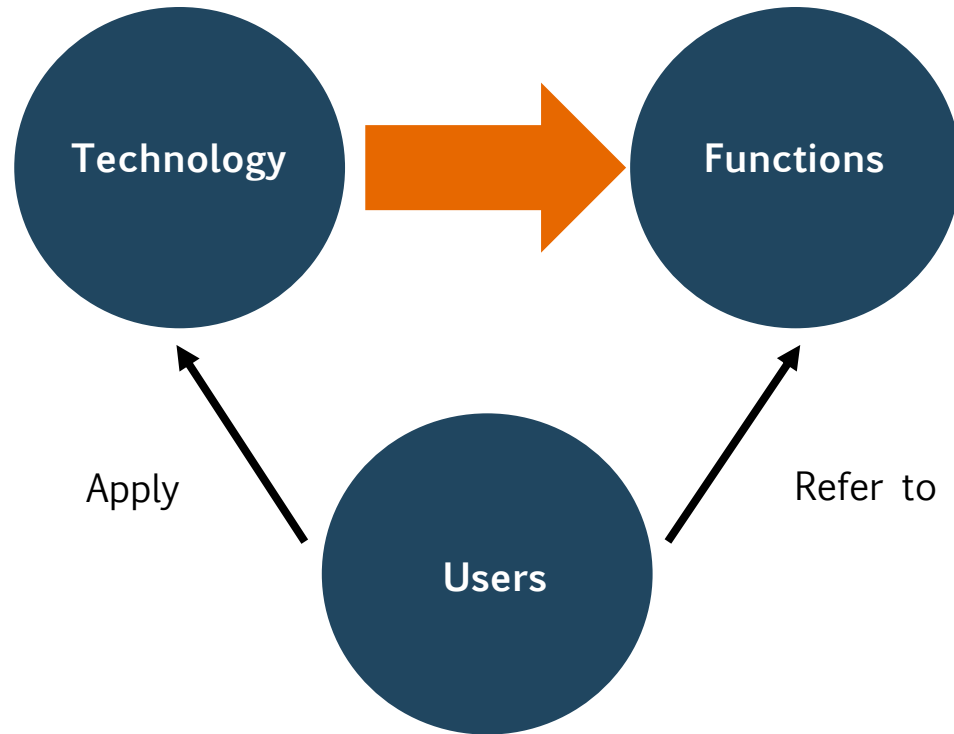Prof. Dr. Thomas Wrona   (Technische Universität Hamburg)

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INTRODUCTION

- Increased interest in Big Data & Analytics (BDA)

- Growing amount of scientific and media publications, conferences and management speeches that address the topic and its strategic implications

- Managers face the pressure of reacting to the technological developments given the attention paid to the debate

- Many of them ascribe significant meaning to the phenomenon and believe that their organizations need to radically change

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COMPETING ONTOLOGIES OF TECHNOLOGY IN IS RESEARCH

Technology as a Function

Technology as engineered artifact with intended functions and pre-defined characteristics over which humans have control (Orlikowski & Iacono 2001)

Technology as Sociomateriality

Constitutive entanglement of technology and people, functional effects cannot be detached from people as human agency, values and expectations are deeply inscribed in the material (Orlikowski & Scott 2008)

THE SOCIAL CONSTRUCTION OF REALITY (BERGER/LUCKMANN, SCHÜTZ)

- How complex entanglement of Technology, Functions and Users happens is based on subjective constructions

- Reality is not „just out there" but socially constructed by humans

- As objects have different meanings to people, there are multiple constructions

- There is a permanent exchange between individual meaning and societal meanings

- Action is influenced by these societal meanings

- Therefore: Understanding corporate action on BDA requires an understanding of BDA's **societal meaning**

- Basic consensus in social sciences that human interactions with the world are mediated by **language** as meaning systems

- Therefore: Understanding BDA's societal meaning is achieved by analyzing media

RESEARCH GAP AND RESEARCH QUESTION

The present literature attributes a *functionality to BDA*

Little is known about *the meaning construction of* BDA

- Understand how BDA is perceived

- To understand why respective actions are derived

RQ: How is the topic BDA constructed in business journals, what significance is attributed to it and how is it evaluated?

Discourse theory

Language-based constitution of the world's meaningfulness (Keller 2018)

Discourse describes an ensemble of interrelated texts, incl. their production, dissemination and reception (Phillips & Hardy 2002)

Institutional theory of organizations

Institutional environments shape the emergence of a new phenomenon and influence the behavior of organizations and individual actors in a field (Scott 2001)

Emergence of technology is embedded in a social system (see e.g. Zilber 2006)

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Sociology of knowledge approach to discourse (SKAD) (Keller 2011, 2013)

- Assumptions:

    - Knowledge about the world is socially constructed and shared by communication (Berger & Luckmann 1991)

    - Language constructs social reality (Foucault 1972, Fairclough 2003)

- Purpose:

    - Examine discourses as order-building structures

    - Understand their deeper meaning

- Data collection and analysis:

    - Construct the data corpus (articles in business section of newspapers)

    - Theoretical sampling

    - Sequential (line-by-line) analysis to reconstruct underlying meanings in groups

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„Wer nicht handelt, bleibt zurück"

„Who does not act, remains behind"

RESULTS – INTERPRETIVE PATTERNS OF BDA

BDA as a Competitive Process

1

- · Tough competitive process including several actors
- · Competition between companies in an industry whose competitive moves differ greatly
- · New, almost extraterrestrial competitors that are hard to cope with
- · Supremacy of these titans may lead to calls for public regulation

BIG DATA

BDA as a Tool

2

- · Magic tool
- · Moral tool
- · Achieve efficiency or legitimacy advantages

BDA as a Gold Treasure

3

- · Value of data is illustrated with reference to Technology giants
- · Digging for gold metaphor
- · "Treasure" deeply hidden in data

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CONTRIBUTIONS

- Current research on BDA effects and applications basically rooted in tool view
- Our study reveals heterogenous perspectives on BDA
- Extend empirical research on institutional theory on multiple levels
- Evidence for further research and practical impact

Proposition #1: Interpretive schemes have implication for corporate actions.

Proposition #2: The adoption of a particular BDA interpretive scheme by managers will result in different repertoires of action.

Proposition #3: Interpretive schemes may differ in different countries with different institutional settings.

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