

**Big Data Analytics:
Implikationen für
Entscheidungsfindung und Arbeitsmarkt**

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Big Data

- No clear agreement on terminology or concepts
- 3Vs : Volume, velocity, variety

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Big Data: The 3 Vs

Volume

- Terabytes
- Records
- Transactions
- Tables, files

Velocity

- Batch
- Near time
- Real time
- Streams

Variety

- Structured
- Unstructured
- Semi-structured
- All the above

3 Vs of Big Data

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Big Data Technology++

- No clear agreement on terminology or concepts
- 3Vs : Volume, velocity, variety
- Sources and types:
Familiar sources, Internet of things, internal operations (employees etc, customer/user behavior)

'Nanobytes' and 'Nowcasting'

Many companies, which are *not prepared* for Big Data, will go out of business

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A. Pentland (2014) Social Physics

E. Brynjolfsson, A. McAfee (2014) The Second Machine Age

R. Kurzweil (2012) How to Create a Mind

C. Shirky (2008) Here Comes Everybody

F. Levy, R. Murman (2013) Dancing with Robots

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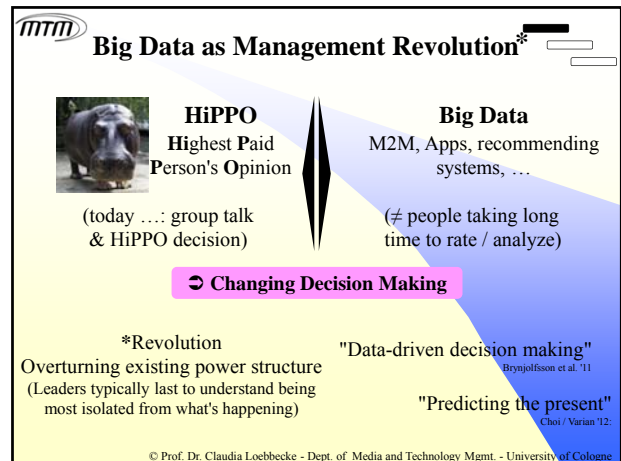
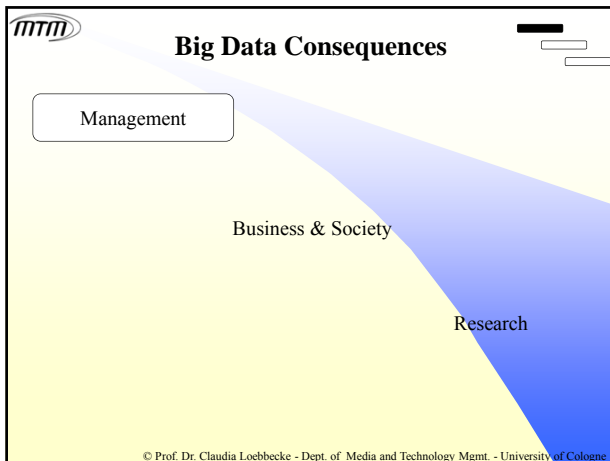
Empowering Organizations and Creating Competitive Advantage

... or even improving the world ?

Endless examples – almost analog to the 'not so new' IS/IT debates

- Trucks / cars with built-in sensors
- Wine chemistry predictions ++
- Sports of all sorts and kinds
- City of Boston locating potholes
- Turning A. Pentland's et al.'s 'Red Balloon' Challenge into Business Model

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Harvard Business Review
GETTING TO THE POINT
BIG DATA

Big Data: The Management Revolution

This isn't management when you don't measure?

Source: McAfee, A., Brynjolfsson, E. (2012)
Big Data: The Management Revolution, Harvard Business Review, 90(10), 60-67.

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Big Data Impacting Management
on Decision Making ...

- On average *better* decision making (Big Data Value = 0, if no better decisions / actionable results)
- Changing *value of domain knowledge*
↪ To ask right question & decide on 'technique' ???
- Increased complexity, *higher fragility* in decision outcomes: (e.g. Wall Street algorithms, retail targeting algorithms)

Working often, but not always ➔ **UNINTENDED Consequences ('Dark Side')**

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... Questions, comments, complaints?

Thanks for attention!

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- Pentland, A. (2014) Social Physics: How Good Ideas Spread - The Lessons from a New Science, The Penguin Press, US.
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