

Towards a data-driven organization

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Background

- A data-driven organization is an organization that base its strategic, tactical and operational decisions on data/facts/evidences



Background

- An investigation by Ross and al (2013) showed that few organizations use available data in ERP, CRM and DW system in order to support their decisions and govern their organizations
- Therefore Ross et al (2013) ask "You May Not Need Big Data After All?" - since organizations do not even seem to use the existing data in their IT system to support their decisions

[Ross et al (2013) "You May Not Need Big Data After All"]



Bakgrund

- On the other hand, organizations that are data-driven, that is, organizations that are using evidence based decision making, are improving their business performance
- An investigation based on interviews with managers - and based on performance data (financial and operational results) - from 330 North American companies - showed that organizations – that are in the top third of their industry – and that are using evidence based decision making were, on average, 5 % more productive and 6 % more profitable

[McAfee&Brynjolfsson (2012): “Big Data: The Mangement Revolution”]



Question (not answered in this presentation)

- Why are not organizations in general data-driven and why do they not apply evidence based decision making?



Additional questions (answered in this presentation)

- How to create a data-driven organization?
- How to establish a culture of evidence based decision making?
- How to establish a process for making decisions based on facts?



The answer to the additional questions ...

- ...are based on research presented in an article by Jeanne W. Ross, MIT Sloan School, Cynthia M. Beath, University of Texas, and Anne Quaadgras, CISR, in Harvard Business Review, Dec 2013, entitled: "You may not need Big Data after all"
- The research are based on seven case studies and interviews with 51 executives, investigating how organizations are generating value out of data

[Ross et al (2013) "You May Not Need Big Data After All"]



What is the answer?

- The answer, according to Ross et al (2013) is to apply the following four practices:
 - Agree on a Single Source of Truth
 - Provide Real-Time (or close to) Feedback to Decisions made by Decision Makers (“Use Scorecard”)
 - Explicitly Manage Your Business Rules
 - Use Coaching to Improve Performance

[Ross et al (2013) “You May Not Need Big Data After All”]



Practice 1: Agree on a Single Source of Truth

- Agree on and create a “single source of truth” – one source where you can go if you want to check facts, correct spellings, full name, correct ID no, actual ordered products etc.
- Important part of such a source is that terms are well-defined and data are correct, i.e. have a high quality
- When you have one “single source of truth” it is possible to, for example, start comparing sales data from different stores and make decisions based on that comparison
- The technical solutions for a “single source of truth” are often called master data management systems



Practice 2: Provide Real-Time (or close to) Feedback to Decisions Made by Decision Makers (“Use Scorecard”)

- If you provide real-time feedback to the decisions made, the interest for data increases and the possibility of basing the decision on data/facts/evidences increases
- Note, it is also necessary that you can act and change behavior on the feedback data

[Ross et al (2013) “You May Not Need Big Data After All”]



Practice 3: Explicitly Manage Your Business Rules

- Business rules are rules that specify how employees should act in a business when certain business events happened, such as, an order is received or an customer wants to return a non-used product.
- That is, business rules govern the operations of organizations
- An example of a business rule: “Accept a return of product in store only if the customer has a receipt and the product was sold seven days ago or later”
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Practice 3: Explicitly Manage Your Business Rules

- When circumstances change for organizations due to external and internal events, organizations need to – many times – change and adapt as well
- One way to manage such changes is to change the business rules when needed, since business rules provide support to employees in how to act in business due to business events
- Therefore, business rules can be a useful means to do changes in business when circumstances for an organization change
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[Ross et al (2013) "You May Not Need Big Data After All"]



Practice 3: Explicitly Manage Your Business Rules

- If business rules are changed based on new data/facts/evidences, these data/facts/evidences can have large effects on a how a business acts
- However, there are many business rules in an organization. There can be thousands of business rules in an organization on different detail levels, such as strategic, tactical and operational business rules.
- How do you manage practice 3 since you have all these business rules?
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Practice 3: Explicitly Manage Your Business Rules

How do you manage practice 3?

- Business rules need to be clearly formulated
- Business rules need to support the goals of the organization
- Business rules need to be used by employees
- ...cont. next slide ...



Practice 3: Explicitly Manage Your Business Rules

How do you manage practice 3?

- Business rules also need to be embedded in IT systems
- Business rules embedded in IT system make it possible to change the business rules often without forcing the employees to remember all the changed rules.
- Business rules embedded in IT system frees employees from routine decisions
- There also have to be processes for analyzing the changes of business rules – such as the effects on revenue and costs – in order to make successful changes



Practice 4: Use Coaching to Improve Performance

- If you are not coaching the employees, the other three practices will fail
- A manager must coach the employees to make decisions based on data/facts/evidences on not on instinct
- A manager must coach the employees to read reports, use the data in the reports, design hypothesis based on data as well as enhance the hypothesis based on new data

[Ross et al (2013) "You May Not Need Big Data After All"]



An example: 7-Eleven Japan, 1970s

- The CEO at 7-Eleven in Japan decided that the store clerks should decide what should be ordered to the stores since they had the best knowledge of the preferences of local customers

[Ross et al (2013) "You May Not Need Big Data After All"]



7-Eleven – Access to sales data

- Store clerks were also given access to daily sales reports, that is, what was sold yesterday, what was sold last year at the same date, what was sold the last time the weather was like this, what is sold in other local stores yesterday, etc.

[Ross et al (2013) "You May Not Need Big Data After All"]



7-Eleven – Impact the suppliers

- The stores received deliveries of food three times a day
- Store clerks could affect deliveries – also during the day – by changing the orders several times a day
- Store clerks also had access to suppliers in order to tailor products to local needs

[Ross et al (2013) "You May Not Need Big Data After All"]



7-Eleven – Meet advisors

- Advisors met with clerks twice a week to teach them how to use the data effectively
- Advisors discussed the clerks' hypotheses and compared with what was actually sold and what data they based their hypotheses on. And they discussed how to improve their performance

[Ross et al (2013) "You May Not Need Big Data After All"]



7-Eleven - Result

- 7-Eleven Japan became the most profitable retailer in Japan for 30 years.
- 70 percent of the goods were new every year - often designed by the store clerks
- 7-Eleven Japan was "empowering" the employees and gave them access to data
- Note, we are not talking about the use of "big data", instead the change was based on fairly small amount of data

[Ross et al (2013) "You May Not Need Big Data After All"]



Cultural change necessary

- According to Ross et al (2013) an evidence based decision making requires a cultural change in taking decisions based on the data/facts/evidences, which in turn require changes in processes, business rules, data quality work
- However, there is a lack of competence in the management teams in many companies in order to carry out such a cultural change
- If an organization succeed with this change – a small amount of data can result in a major change

[Ross et al (2013) "You May Not Need Big Data After All"]



Big Data – is about business transformation

- So far we have not discussed big data – only discussed how to achieve big value of rather small amount of data
- However, there is a great potential in big data
- According to Schmarzo (2013) big data is about business transformation
- That is, moving the organization from a retrospective, batch oriented, business monitoring hindsights organization, to predictive, data hungry, real-time business optimization organization

