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13 Organizations' Attempts to Become Data-Driven

Mikael Berndtsson, University of Skövde, Skövde, Sweden
https://orcid.org/0000-0001-8362-3825
Christian Lennerholt, University of Skövde, Skövde, Sweden
Thomas Svahn, Advectas AB, Malmö, Sweden
Peter Larsson, Advectas AB, Malmö, Sweden

ABSTRACT

Becoming a data-driven organization is a vision for several organizations. It has been frequently mentioned in the literature that data-driven organizations are likely to be more successful than organizations that mostly make decisions on gut feeling. However, few organizations make a successful shift to become data-driven, due to a number of different types of barriers. This article investigates, the initial journey to become a data-driven organization for 13 organizations. Data has been collected via documents and interviews, and then analyzed with respect to: i) how they scaled up the usage of analytics to become data-driven; ii) strategies developed; iii) barriers encountered; and iv) usage of an overall change process. The findings are that most organizations start their journey via a pilot project, take shortcuts when developing strategies, encounter previously reported top barriers, and do not use an overall change management process.

KEYWORDS

Analytics, Business Intelligence, Change Management, Strategy

1. INTRODUCTION

Several organizations have a vision to become data-driven (Davenport & Bean, 2018; Halper & Stodder, 2017; Watson, 2016), since those type of organizations are likely to capitalize on business insights more frequently than organizations that are not data-driven (LaValle, Lesser, Shockley, Hopkins, & Kruschwitz, 2011). Halper and Stodder (2017) classify an organization as data-driven "when it uses data and analysis to help drive action—even if that action is a deliberate inaction." In theory, data-driven organizations can apply data-driven decisions for all types of analytics (descriptive, predictive, prescriptive), and all types of decisions (operational, tactical, strategical). In practice, we assume that most organizations aim for a subset of combinations of analytics and decisions.

Managers have taken several steps to initiate transformations to a data-driven organization, by introducing mantras such as - business insights are based on data and not opinions - into strategy documents, held large kick-off events, educated employees in Self-Service Business Intelligence (SSBI) tools, and hired data scientists and AI-programmers. Despite these good intentions, most of the organizations still struggle and few of them seem to reach their vision. In two recent surveys (Bean & Davenport, 2019; Halper & Stodder, 2017) roughly 30% of the organizations had made a successful shift to be data driven. The other organizations struggled with their barriers or had not

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started to move towards a data-driven culture. According to Halper and Stodder (2017), the biggest barrier to being data-driven was "lack of business executive support/corporate strategy" (42% of 264 respondents), and the most frequently mentioned step managers took to develop a data-driven culture was "make the case to corporate leadership to invest in BI and analytics" (57% of 230 respondents). In response to the low share of organizations that make a successful shift to become data-driven, Davenport and Bean (2018) suggested that organizations "… need more concerted programs to achieve data-related cultural change".

Change management (Moran & Brightman, 2001; Todnem By, 2005) has previously been identified as a success factor for implementing business intelligence systems (Olszak & Ziemba, 2012; Pham, Mai, Misra, Crawford, & Soto, 2016; Yeoh & Koronios, 2010). As the area of business intelligence is closely related to data-driven organizations and analytics, change management has also been suggested in the literature (Berndtsson, Forsberg, Stein, & Svahn, 2018; Forbes-Insights & EY, 2015) as an enabler for establishing a data-driven organization. In a survey of 564 senior executives, conducted by Forbes Insight and EY, 59% of the respondents that considered themselves as top-performing, claimed that change management was "extremely important" to the organizations' overall analytics initiative (Forbes-Insights & EY, 2015). Hence, change management has an important role to play when organizations intend to scale up their usage of analytics. However, none of the sources provide any details on how such a road map or program, inspired by change management may look like.

The objective of this paper is to investigate how 13 organizations started their journeys towards becoming data-driven, given previously reported barriers and potential usage of change management as an enabler. This paper is also a response to the recommendation by Arnott and Pervan (2014), to increase the usage of case studies within the field of decision support systems, as an approach to improve the relevance of conducted research.

In the remainder of this paper, we present a brief introduction to data-driven organizations and related barriers. Thereafter, we present our research approach. In the succeeding sections, we present our findings. Finally, related work and conclusions are presented.

2. BACKGROUND

2.1 Data-Driven Organizations

The concept of collecting and analyzing data in the context of an organization is not new. According to Power (2007), the implementation of computerized Decision Support Systems (DSS) can be traced back to the mid-1960s. A genealogy for the DSS field for 1960–2010 is provided in (Arnott & Pervan, 2014), and as of the 2010s, there were two areas in the DSS field that received much attention: knowledge management-based DSS, and business analytics. The former field has its roots in knowledge management, organizational learning, and AI. The latter area is rooted in data warehousing, database theory, negotiation support systems, and group support systems. As decisions in data-driven organizations can span all types of analytics (descriptive, predictive, prescriptive), data-driven organizations have a DSS that overlaps both knowledge management-based DSS, and business analytics.

Sample definitions of data-driven organizations and data-driven cultures are provided in Table 1. What is common among these sample definitions, is that they all share an underpinning process of i) collect data, ii) use analytics to derive insights, and iii) make a decision based on derived insights.

McAfee and Brynjolfsson (2012) investigated 330 companies and discovered:

The more companies characterized themselves as data-driven, the better they performed on objective measures of financial and operational results. In particular, companies in the top third of their industry in the use of data-driven decision making were, on average, 5% more productive and 6% more profitable than their competitors.