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Unpacking data analytics: rhetorical analysis

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ABSTRACT

This study delves into the idea of data analytics and investigates the rhetoric through which its qualities are rendered accessible to people. It poses the following research question: How is data analytics and its relationship to organisations made attractive through rhetorical strategies? The analysis is based on 16 articles on data analytics published in the *Harvard Business Review* (HBR) from 2006 to 2020. Due to the analysis, two rhetorical strategies were identified: creativity and delegation. The findings suggested that contradictions prevail in the idea of data analytics. The creativity strategy underscores the illumination of possibilities in the application of data analytics, whereas the delegation strategy increasingly emphasises the need for organisational change, including the redistribution of work. In this study, we suggest that while data analytics can bring about various benefits, it can also create new uncertainties in an organisation. The contradictory features of data analytics may easily go unrecognised by practitioners.

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1. Introduction

Recently, practitioners and researchers in management and information technology have increasingly focused on data analytics and its affiliated concept of big data (Ardito et al. 2019). Data analytics is used to reveal hidden patterns and gain insights that can advance decision making and value creation. It typically builds upon massive volumes of multi-dimensional heterogeneous data that may be incomplete or noisy (El-Alfy and Mohammed 2020, 984–985). Data analytics is rooted in developments concerning artificial intelligence and expert systems (Kitchin 2014, 2) and draws from various orientations and techniques in which firm-specific capabilities are important (Amankwah-Amoah and Adomako 2019). Practitioners usually see data analytics as an objective managerial technique and as an 'aura of truth, objectivity and accuracy' coupled with it (Boyd and Crawford 2012, 663). Thus, data analytics is increasingly employed to construct valuable information (Sivarajah et al. 2017).

Generally speaking, data analytics researchers have investigated the theoretical development of the concept: the transitions in management, firm resources and capabilities required regarding its effective application, its performance implications and supply chain management (Ardito et al. 2019). While we have learned that data analytics can add value to an organisation in many ways (Wamba et al. 2015), its most significant effects may remain unclear due to its emerging and elusive nature (Caesarius and Hohenthal 2018). Despite these interesting findings, we still know

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little about the generic, albeit relatively subtle, sense-making processes that occur in society through which the idea of data analytics is introduced and rendered accessible to people. This is a notable shortcoming for two reasons. First, data analytics has been characterised as a hot topic (Shan et al. 2019, 406), revolution (El-Alfy and Mohammed 2020, 984), breakthrough technological development (Günther et al. 2017, 191) and disruptive innovation (Kitchin 2014, 10). It is important to investigate the potential sources of its inherent attraction, as it seems that manifold, potentially overrated expectations are tied to it. Second, studies have suggested that practitioners are uncertain about the actual content and implications attributed to data analytics. Incumbent organisations face difficulties in comprehending it, as it appears to be an elusive technology. Data analytics can mean different things to different organisations (Caesarius and Hohenthal 2018, 129). It has also been found that storytelling is required to form acceptance of data analytics individually (Boldosova 2019). Thus, it can be argued that language practices are worthy of consideration regarding it. These openings call for investigations into data analytics that go beyond organisation-specific considerations. As a step in this direction, this study delves into the idea of data analytics and investigates the rhetoric through which its qualities are rendered accessible to people. The study's research question is as follows: *How is data analytics and its relationship to organisations made attractive through rhetorical strategies?*

This study addresses the research question by analysing articles on data analytics and big data from the *Harvard Business Review* (HBR). It has been widely acknowledged that this publication plays a key role in introducing and disseminating timely management ideas (Schulz and Nicolai 2015; Li and Parker 2013). The empirical materials comprise 16 articles published from 2006–2020. Theoretically, the study collaborates with the scholarship on management ideation, which refers to the dynamics involved in the production and consumption of contemporary management knowledge (Sturdy et al. 2019). Management ideas can be perceived as fashionable or otherwise attractive techniques that represent the latest management progress (Abrahamson 1996). They are formed by various knowledge entrepreneurs, such as management writers, for whom rhetoric is an important resource in idea formation and dissemination (Graham and Williams 2005). Our investigation is relevant because the ambitions and implications of new technologies are formed through rhetoric (Huang and Galliers 2011).

Due to the analysis, the study identifies and elaborates on two distinct rhetorical strategies through which data analytics and its relationship to organisations are made attractive to people. The study's findings illustrate the importance of shedding light on the underlying features behind the idea of data analytics. This study continues as follows. In Section 2, the study's theoretical framing is presented. Section 3 describes the methodological choices. After that, the study's findings are analysed. Finally, the study ends with a discussion and conclusions.

2. Theoretical framing

2.1 Data analytics as an organisational phenomenon

Alongside the emergence of other 'disruptive' technologies (see Majumdar, Banerji, and Chakrabarti 2018), such as artificial intelligence and machine learning, data analytics has recently attracted heightened interest among practitioners and researchers. Big data and data analytics are associated concepts that represent a new form of 'empiricism' (Kitchin 2014, 1), which can create a new ability to process data in ways that are hitherto not possible (see Günther et al. 2017). According to Boyd and Crawford (2012, 663), the phenomenon rests upon the interplay between technology, analysis and mythology. The term *data analytics* refers to utilisation datasets that typically possess the following four attributes: volume, variety, velocity and veracity (El-Alfy and Mohammed 2020, 984).

Earlier studies have suggested that data analytics can add value to organisations. In addition to creating new business models, services and products, data analytics can be used to support or replace human decision making and to enable transparency in an organisation (see Wamba et al.

2015). It has also been argued that portability and interconnectivity are the key socio-technical features of big data related to value realisation. Portability concerns the possibility of transferring data from one context to another and its accessibility, whereas interconnectivity refers to synthesising data from various big data sources (Günther et al. 2017, 201). Due to its highly technical nature, data analytics is generally perceived as a complex technology. Shan et al.'s (2019) findings suggested that organisations can gain competitive advantages through big data by improving their dynamic capabilities and resources. Furthermore, Ferraris et al. (2019) pointed out that organisations should have specific data analytics capabilities to obtain performance improvements (see also Mishra et al. 2019; Zeng and Khan 2019). When executed appropriately, data analytics is perceived to affect the decision-making culture. Data analytics has been interpreted as shifting organisations away from a dominant technical perspective towards a social perspective, which can be characterised as pluralistic, collaborative and communicative (Frisk and Bannister 2017, 2085).

While data analytics can revolutionise the way organisations and operations are managed (Ardito et al. 2019), challenges and difficulties regarding its application should also be recognised. For incumbent organisations, data analytics appears to be an elusive but transformative technology that may make managers cautious of their positions (Caesarius and Hohenthal 2018). A skill deficit within a workforce may also hinder data processing and analysis, as it requires esoteric technical knowledge (Kitchin 2014). Amankwah-Amoah and Adomako (2019) argued that the mere possession of big data and analytic capabilities is not enough to create value from data analytics. Moreover, Boldosova (2019) argued that the planned and intentional use of stories is needed to create the acceptance of data analytics on an individual level. Overall, it can be argued that a rhetorical approach to data analytics is relevant, as the phenomenon attracts 'both utopian and dystopian rhetoric' and may create new divides and hierarchies in organisations and societies (Boyd and Crawford 2012, 663).

2.2 Management ideas and rhetoric

Theoretically, this study subscribes to the literature on management ideas. Organisations are keen to adopt different management techniques and practices, which are perceived to be new and efficient and therefore 'at the forefront of practice' (Wang 2010, 63). Management ideas can be seen as packaged solutions containing a prescriptive vision for solving certain managerial issues (Sturdy et al. 2019). Management ideas parallel management fashions, which are relatively transitional beliefs that some techniques represent the latest advancements in management progress (Abrahamson 1996, 254). Alongside their economic-rationalistic benefits, organisations adopt fashionable management ideas to pursue legitimacy in the eyes of others (Wang 2010).

Generally speaking, management ideas have two facets: design and rhetorical characteristics. Management ideas involve design characteristics, such as prescriptive principles and vision, to guide their implementation and use on a technical level. Rhetorical characteristics involve presenting management ideas as attractively as possible and making them seem particularly rational, beneficial, innovative and timely (Ax and Bjørnenak 2007). In addition, it is noteworthy that management ideas contain a certain 'interpretative viability' through which they become open to different interpretations and agendas that may evolve over time (Benders and van Veen 2001). Fashionable management ideas are also observable in information technology and systems (Baskerville and Myers 2009). According to Wang (2010), companies that have invested in fashionable management ideas have better reputations and higher executive pay. However, they have lower performance in the shorter term but improved performance in the long term.

Management writers and business magazines are seen as key actors involved in the formation and promotion of timely management ideas (Abrahamson 1996). Studies have suggested that the process of moulding a management idea into something 'sellable' involves substantial editing. This is understandable since every idea is expected to have the maximum impact on an audience (Clark and Greatbatch 2004). Therefore, editors of professional magazines seek topics that appear

to be significant and novel (Nijholt, Heusinkveld, and Benders 2014). Regarding this, writing popular management texts is a distinctive genre of writing (Clark and Greatbatch 2004).

Based on the insights presented above, it can be argued that management ideas are not neutral techniques, since their formation and promotion involve rhetoric. According to Watson (1995, 806), 'rhetoric is all about using language to persuade'. Therefore, rhetoric has a close relationship with the formation of arguments and meaning (Bonet and Sauquet 2010, 122). Rhetoric, as a socially constructed activity, is used to accomplish predetermined ends (Symon 2000). It reflects human interests and agendas through which particular perspectives of reality are created (Watson 1995). Using rhetoric well takes skill, as it demands 'a good understanding of the feelings, motivations, purposes, interests and values of people' (Bonet and Sauquet 2010, 122).

Management ideas typically juggle both certainty and anxiety in their rhetoric. Carlone (2006) recognised that the rhetoric of timely management knowledge tends to increase the sense of anxiety among an audience when alternative, increasingly radical future scenarios are sketched out. Accordingly, creating controversy surrounding new technology is a distinct rhetorical means (Symon 2008). Overall, seeing data analytics as a management idea is relevant, as earlier related concepts, such as e-commerce, data warehouses, enterprise resource planning and knowledge management, have been perceived as fashionable (Wang 2010; see also Gupta et al. 2019). Through rhetorical qualities and values, management ideas are constructed and then communicated to people (Huang and Galliers 2011). Thus, rhetoric and communication for proper contextual sensemaking are critical for adoption.

3. Methodology

According to Leach (2000), rhetorical analysis, a part of the qualitative research tradition, investigates persuasive communication by focusing on textual or oral discourse. To cite Symon (2008, 75), 'rhetorical analysis can help us understand how constructions of technology, its effects, and its relationship to the organization are made persuasive'. An analysis of how textual or oral discourse is created to convince and affect an audience may occur in different forms but often requires a close reading of empirical materials (Leach 2000).

Management ideas can be studied using texts within management discourse as empirical materials. This demands the application of discourse analytical approaches (Strang and Wittrock 2019). It has been argued that business media plays an important role in shaping and transferring management ideas (Nijholt, Heusinkveld, and Benders 2014). According to Li and Parker (2013, 301), HBR is 'simply the most well-known management and organisation publication'. Thus, the empirical materials chosen for this study are articles published on data analytics and big data in HBR's printed edition. During its history, several prominent writers have published their work in HBR (Schulz and Nicolai 2015) and have discussed popular management ideas.

This study analyses 16 articles on data analytics or big data that were published during 2006–2020 (Appendix 1). All the articles identified as having 'analytics' or 'big data' in their titles were included in the analysis. From these articles, one case study was removed due to its educational nature. One text was also added; the article by Davenport and Patil was part of HBR's special issue on big data, but did not contain references to analytics or big data in its title. Since deconstructing texts in rhetorical analysis requires careful reading, these articles were chosen as appropriate materials for the study (Strang and Wittrock 2019, 97).

After a close reading of the materials, the texts were divided into individual segments to assist with the analysis (see Suddaby and Greenwood 2005). A text segment comprises an independent entity: a specific line of argumentation and/or reasoning. Then, in Stage 1, descriptive themes were identified in every text segment. One to two descriptive themes were identified per text segment. In Stage 2, the more general subject of each text segment was identified based on the themes. As an outcome of this stage, we could identify three subjects on which the text segments were focused: technology (references to technical details), process (references to applications of data

analytics) and people (references to individuals or social considerations). This stage improved our understanding of how the text segments were oriented towards data analytics. Finally, in Stage 3, we analysed how the identified themes and subjects within the text segments formed distinct rhetorical strategies (Appendix 2). As an outcome of the rhetorical analysis (Strang and Wittrock 2019, 96), the rhetorical strategies identified referred to the persuasive use of language used to present the characteristics of data analytics. The appreciation of the classic rhetorical strategies of ethos (appealing to credibility or authority), pathos (appealing to emotion) and logos (appealing to logic) assisted the identification (Leach 2000, 214). Hence, the subjects of process and technology, in conjunction with logos-and pathos-like arguments, formed a creativity rhetoricalstrategy, and the subjects of process and people, in conjunction with ethos-like arguments, formed a delegation rhetorical strategy. It should be pointed out that the objective of the data analysis was not to analyse the features of eloquent writing; rather, the analysis concentrated on rhetorical strategies.

4. Findings

4.1 Creativity: pursuing the potency of data

> If your organization stores multiple petabytes of data, if the information most critical to your business resides in forms other than rows and columns of numbers, or if answering your biggest question would involve a 'mashup' of several analytical efforts, you've got a big data opportunity. (#5, p. 72)

We start our investigation by focusing on a rhetorical strategy referred to here as creativity. Through the creative strategy, the attributes and implications of data analytics are constructed. It displays the application of data analytics as an idiosyncratic, experimental and open-ended process in organisations. This strategy focuses on the data side of data analytics. In the creativity strategy, data analytics is presented as an adventure involving surprise; hence, the strategy has an optimistic undertone:

> Big data and other analytics projects are more akin to scientific research and clinical trials than to IT initiatives. They typically start with sensing problems or potential opportunities, which may initially just be somebody's hunch. […] In short, they are opportunities for discovery. (#7, p. 110)

The creativity strategy rests upon logos-like, rationalistic claims through which a relationship with data analytics is created. Data analytics is justified by accentuating its deviance from prevailing management technology, and part of its justification stems from criticisms of previous technologies:

> The promised gains in performance were often slow in coming, because the systems remained stubbornly disconnected from how companies and frontline managers actually made decisions, and new demands for data management added complexity to operations. (#6, p. 80)

In this strategy, data analytics is seen to represent the latest development in management technology. Due to problems faced regarding legacy systems, managers may remain sceptical of new technology. The variety of ways to approach data analytics underscores the creativity strategy. The underlying design characteristic of data analytics is data; applying data analytics requires the generation of new data and the recognition of already existing data. The data can originate externally or within an organisation. Useful data can be big or small, unstructured or structured. A creative approach to data is encouraged within this rhetorical strategy:

> Many companies we've worked with claim at first that they lack the required data in-house. That is almost always not the case. Companies are awash in data, albeit dispersed and, often, unintentionally hidden. Relevant data typically exist within sales, finance, customer service, distribution, and other functions outside marketing. (#8, p. 64)

> Collectively, we now have data that could help green the environment, create transparent government, deal with pandemics, and, of course, lead to better workers and better service for customers. (#11, p. 102)

The creativity strategy permits varying perceptions of the nature of data. Data should cater to imagination and experimentation within an organisation. Data analytics is presented as an

organisation-specific process; consequently, it can play different roles in an organisation. It can be used for specific tasks or it may make up the main elements of an organisation's management process or information technology infrastructure. Thus, it is up to those responsible for the ambitions of an organisation to choose how to employ data analytics in its operations. Data analytics is presented as a management idea that is expected to bring performance enhancements through improved decision making and a data analytics-based business model:

> Big data and analytics can put promotions on steroids. (#12, p. 81)

> The common thread in these examples is the resolve by a company's management to compete on analytics not only in the traditional sense (by improving internal business decisions) but also by creating more-valuable products and services. (#9, p. 68)

> Bigger and better data give companies both more-panoramic and more-granular views of their business environment. The ability to see what was previously invisible improves operations, customer experiences, and strategy. (#6, p. 80)

It can be argued that this strategy encourages a pragmatic approach to data analytics. This is evidenced by expressions such as 'learning by doing', 'testing ground' and 'data discovery environment', which appear in texts reinforcing data analytics' continuous nature. Tools for data analytics are presented as affordable and achievable, contrary to those of past technologies:

> In contrast, projects concerned with information use and big data should focus less on managing the risks of deploying technology and more on solving business problems – or, to put it another way, these projects should seek to avoid the risk of not achieving successful business outcomes. (#7, p.112)

> Data needn't be perfect to be appropriate for analysis – just sufficient to understand trends that matter. (#2, p. 57)

> But companies that make a sophisticated analysis of the huge data streams now available can unlock deep insights and value—without having to make major new investments in technology. (#3, p. 12)

The texts analysed include many examples of how organisations have become increasingly data driven, which, in turn, has led to superior performance. The texts contain pathos-like examples, such as Amazon, LinkedIn and Oakland Athletics, which are presented as successful users of data analytics. Therefore, it could be argued that the creativity strategy is outlined by the experiences of well-known examples:

> Some companies have built their very businesses on their ability to collect, analyze, and act on data. Every company can learn from what these companies do. (#1, p. 99)

All things considered, the creativity strategy presents data analytics as an impactful yet relatively gentle process. Data analytics is portrayed as having the potential to improve an organisation's performance without the risks associated with previous technologies. The strategy is data-centred, underscoring inspiration and experimentation within the various possibilities offered by data analytics, which is presented as a management idea whose potential depends on the illumination and ambitions of an organisation.

4.2 Delegation: enacting an analytics-based management process

> The managerial challenges, however, are very real. Senior decision makers have to embrace evidence-based decision making. Their companies need to hire scientists who can find patterns in data and translate them into useful business information. And whole organizations need to redefine their understanding of 'judgement'. (#4, p. 63)

The other rhetorical strategy identified, namely delegation, focuses on the enactment of data analytics, as conveyed in the quotation above. This strategy presents data analytics as a skilful accomplishment whose enactment poses socio-technical challenges for organisations. Focusing on the analytics side, this strategy deals with the distribution of work regarding data analytics. The

delegation strategy has a transformative but realist undertone as it discusses the restructuring of order in an organisation.

> Improving how businesses extract value from data requires more than analytical tools. It involves creating an environment where people can use the company's data and their own knowledge to improve the firm's operational and strategic performance. (#7, p. 112)

The delegation strategy has a normative, ethos-like tone, which is permeated by assertions that certain conditions must be met to enact data analytics. The strategy links the enactment of data analytics to organisational change. The need for organisational change and the associated introduction of data analytics are justified by describing problems in organisations' existing management processes. Within this strategy, pre-existing management processes are regarded as incapable due to their hierarchical and rigid nature. Conversely, data analytics presumes an open and collaborative culture within which shifts in decision making (using delegation) are essential. Yesteryear managers are portrayed as being prone to using intuition, gut feelings and experience when approaching decisions. Decisions should instead be based on reasoning derived from quantitative datasets and models.

> If you want better performance from your top employees – who are perhaps your greatest asset and your largest expense – you'll do well to favor analytics over your gut instincts. (#2, p. 54)

> Algorithms make estimates, but it is ultimately humans' responsibility to make informed judgments using them. (#15, p. 83)

It can be argued that data analytics alters managerial work. With it, the authority on business-related issues shifts to the people involved in its application. In this strategy, data analytics is seen to smooth out organisational echelons as an 'evidence-based' management process that gives employees autonomy over their work. Decision rights lie with relevant data and the associated expertise. As employees engaging with data analytics play an increasingly larger role in determining initiatives, the role of executives becomes to enhance learning in the organisation. When accessing relevant data changes under data analytics, the task of managers is to ask insightful questions and facilitate discoveries. Organisational change is seen as a condition for the effective enactment of data analytics, as the following excerpts intimate:

> Adjusting culture and mind-sets typically requires a multifaceted approach that includes training, role modeling by leaders, and incentives and metrics to reinforce behavior. (#6, p. 83)

> Empowering employees in this way, and arming them with the data they need, helps them make better operating decisions on a daily basis. It can also lead to a constant stream of innovation. (#10, p. 92)

Designing one's own instruments is important in the application of data analytics. Regarding this, a new occupational group, comprising both data scientists and analysts, seems to be emerging. Data scientists and analysts are presented as people who have suddenly appeared in the arena of business and become involved in decision making regarding managerial and operational issues. They primarily develop models based on data analytics, which is a continuous process.

> In online firms and big data start-ups, data scientists are often able to run the whole show (or at least to have a lot of independence). In larger and more conventional firms, however, they must collaborate with a variety of other players to ensure that big data is matched by big analytics. (#9, p. 70)

> Some applications of [capitals and bold text removed] people analytics will be especially difficult to perfect. They include detecting high potentials and driving cultural change, because so many factors are at play. (#13, p. 55)

It could be argued that within the rhetorical strategy referred to here as delegation, increasingly high expectations characterise the roles of data scientists and analysts in organisations. Data scientists and analysts are presented as authoritative due to their exceptional skills, covering both technical and analytical aspects. They are expected to employ rigorous methods and offer significant insights into management and business issues. This requires the application of esoteric knowledge

that goes beyond traditional business subjects. Data scientists should be business-oriented and communicate fluently with management, in addition to possessing technical mastery of data analytics:

> Make sure a candidate can find a story in a data set and provide a coherent narrative about a key data insight. Test whether he or she can communicate with numbers, visually and verbally. (#5, p. 74)

This citation suggests that data scientists are expected to highlight their hard skills through the use of appropriate softer ones. When data scientists become responsible for the application of data analytics, this impacts decisions:

> The best analysts can persuade managers to adopt analytical decision making. (#2, p. 58)

> Most companies rely on data scientists to cull insights related to talent and performance management. That often creates a bottleneck, because there aren't enough data scientists to address all management queries in a timely manner. (#14, p. 81)

The quotations above illustrate how the delegation strategy results in a mutual relationship between management and the people responsible for data analytics. The delegation strategy constructs a vision in which managers are involved in issues related to general management, while data scientists and analysts play an increasingly large role in developing an analytics-based management process. Due to the redistribution of work, juxtaposition may occur within other groups:

> Reliance on analytics and data-driven decisions may be second nature to the new hires in a large marketing organization, but very foreign to their veteran colleagues. (#12, p. 86)

> Most IT professionals have engineering, computer science, and math backgrounds. Not surprisingly, they are generally very logical and are strong process thinkers, and they tend to focus less on the 'I' and more on the 'T' in IT. For tasks such as processing financial trades or retail transactions, these are ideal skills. If, however, the goal is to support the discovery of knowledge, they become a hindrance. (#7, p. 108)

> Creating a culture where analytics flourishes takes thoughtful leadership. As organizations grow toward incumbency, only the most visionary will have the courage to nurture a true analytics department and make sure that business leaders have access to it and are influenced by it. (#16, p. 55)

As people equipped with esoteric technical knowledge attract increasing autonomy and authority in an organisation, this may result in the emergence of hierarchies and divides regarding the application of data analytics. In all, the delegation strategy links data analytics to organisational and social accommodation. The enactment of data analytics is seen to require organisational change, which also affects power relations due to the redistribution of work.

5. Discussion

Recently, data analytics has been characterised as having the potential to revolutionise the way organisations and operations are managed (Sivarajah et al. 2017). This study was motivated by a firm belief that it is important to investigate data analytics in a way that goes beyond organisation-specific circumstances. As a step in this direction, the study engaged with a rhetorical perspective and proposed the following research question: How is data analytics and its relationship to organisations made attractive through rhetorical strategies? It should be pointed out that the aim of the analysis was to shed light on the subtle sense-making processes surrounding data analytics, not to denounce it. Two rhetorical strategies were recognised as outcomes of the analysis.

The creativity strategy, focusing on the 'data side', motivates the adoption of data analytics in organisations. This strategy contains rationalistic, logos-like arguments through which data analytics is presented as a suitable way to achieve various goals and purposes. The creativity strategy articulates the attributes, affordances and implications of data analytics. The application of data analytics is linked to improved decision-making, performance enhancements and emerging business models. Evidence is provided through examples from its well-known forerunners. Experiences of the forerunners in data analytics are described in a fashion that resemble pathos-like argumentation. This strategy views data

analytics as an idiosyncratic, experimental and open-ended process. As the technical aspects involved in data analytics centre on the appreciation of data, organisations are given the freedom to define the qualities of data. Thus, the creativity strategy portrays data analytics as pragmatic and inspirational. While it has been argued that data analytics may require information technology investments (Caesarius and Hohenthal 2018, 138) and the coordination of capabilities and resources (Shan et al. 2019), the creativity strategy posits a low barrier to its implementation. The strategy forms a view according to which data analytics may result in rewards with relatively low risks.

The delegation strategy deals with the enactment of data analytics and thus focuses on the 'analytics side'. In this strategy, the enactment of data analytics is considered a skilful accomplishment that requires organisational change (see Frisk and Bannister 2017). The strategy has an ethos-like normative tone and spells out preconditions for its effective enactment. The strategy views data analytics as transformative due to its restructuring of the social order. Managers, who overly depend on their instincts when making judgements, are deemed unsuitable for present-day circumstances, and consequently, data analytics should be harnessed to enable decision-making based on evidence and facts. This strategy connects the distribution of work to data analytics. The role of general management is to facilitate learning and 'discoveries', while developing an analytics-based management process is assigned to specialists equipped with technical knowledge. When these specialists, called data scientists and analysts, take over the application of data analytics, they become involved in decisions. In this strategy, effective data analytics is presented as such a demanding accomplishment that the decision-making authority is increasingly expected to move to those responsible for it. Due to this, a mutual relationship between management and specialists is constructed in a fashion that may create new hierarchies and divides within an organisation.

The findings suggested that data analytics can be conceptualised as a management idea that represents the latest developments in management progress (Abrahamson 1996). Offering substantial performance improvements and containing prescriptive visions of contemporary organising, the idea of data analytics leaves considerable room for interpretation in its application (Benders and van Veen 2001). However, despite the flexibility regarding its use, our rhetorical analysis illustrated that power features the idea of data analytics. Regarding the delegation strategy, data analytics is seen as requiring organisational change, including the redistribution of work, while the creativity strategy recognises the experiences of forerunners in illustrating the potency behind data analytics. Thus, this study subscribes to the findings of Caesarius and Hohenthal (2018), according to which data analytics may make managers fear their positions as responsibilities become assigned to data scientists and analysts. One could also question how sustainable the competitive advantage created by data analytics is if its endeavours are guided by the experiences of a few iconic forerunners (Amankwah-Amoah and Adomako 2019). Furthermore, increasing inclinations towards data analytics-based management processes may increase the sense of resemblance within organisations (see Abrahamson 1996; Wang 2010).

As with any research, this study has its limitations. It was based on an analysis of articles published in HBR. Although the publication is without a doubt one of the most well-known management and organisational publications, it may represent a limited view of business and organisational issues, and it mostly draws on Northern American traditions (see Schulz and Nicolai 2015; Li and Parker 2013). Moreover, the distinguished rhetorical strategies are not necessarily mutually exclusive. Future studies could address the realisation of rhetoric surrounding data analytics with interview data from practitioners representing different echelons and functions in organisations. We also encourage researchers to undertake rhetorical analyses of contemporary technological advancements, such as business intelligence, data science and artificial intelligence.

6. Conclusions

In this study, we delved into the idea of data analytics and investigated the rhetoric through which its qualities are rendered accessible to people. Due to the analysis, two rhetorical strategies were identified, and the study's findings warrant the following conclusions.

First, we argue that a rhetorical perspective is important in shedding light on the features of data analytics. Our findings suggested that contradictions prevail in the idea of data analytics. While creativity underscores the illumination of various possibilities in its application, delegation increasingly speaks of planned organisational change, including the redistribution of work, in its enactment. Data analytics can be characterised as a management idea that can bring about various benefits but may also create new uncertainties in an organisation. The rhetorical analysis illustrates that data analytics may easily appear as a 'gentle' technology due to its pragmatic and experimental appeal. However, its organisational and social aspects should be recognised as data analytics can restructure the order in an organisation. To add to the observations by Boyd and Crawford (2012), our analysis showed that the emergence of new hierarchies and divides within a workforce is not merely a consequence of data analytics, since this quality is embedded in the idea of data analytics. Data analytics is prone to creating new uncertainty in an organisation, as its enactment entails considerable organisational and social adaptation (see Carlone 2006). Second, and somewhat related, we argue that data analytics is a socially constructed phenomenon in which different kinds of actors have an impact (see Huang and Galliers 2011). As a management idea, data analytics takes shape through subjective understandings, but meanings are attached to it beyond organisation-specific circumstances, which makes the phenomenon appear attractive. Rhetoric mobilised through articles from HBR is worthy of investigation since both practitioners and researchers use these texts. We hope that this study will help practitioners and researchers grasp the idea of data analytics and its featured contradictions.

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No potential conflict of interest was reported by the author(s).

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Appendixes

Table A1. Analysed articles.

Article number	Reference
1	Davenport, T.H. 2006. "Competing on Analytics." *Harvard Business Review* 84 (1): 98–107.
2	Davenport, T.H., J. Harris, and J. Shapiro. 2010. "Competing on Talent Analytics." *Harvard Business Review* 88 (10): 52–58.
3	Ignatius, A. 2012. "Big Data for Skeptics." *Harvard Business Review* 90 (10): 12–12.
4	McAfee, A., and E. Brynjolfsson. 2012. "Big Data: The Management Revolution." *Harvard Business Review* 90 (10): 60–68.
5	Davenport, T.H., and D.J. Patil. 2012. "Data Scientist: The Sexiest Job of the 21st Century." *Harvard Business Review* 90 (10): 70–76.
6	Barton, D., and D. Court. 2012. "Making Advanced Analytics Work for You." *Harvard Business Review* 90 (10): 78–83.
7	Marchand, D.A., and J. Peppard. 2013. "Why IT Fumbles Analytics." *Harvard Business Review* 91 (1-2): 104–112.
8	Nichols, W. 2013. "Advertising Analytics 2.0." *Harvard Business Review* 91 (3): 60–68.
9	Davenport, T.H. 2013. "Analytics 3.0." *Harvard Business Review* 91 (12): 64–72.
10	Ross, J.W., C.M. Beath, and A. Quaadgras. 2013, "You May Not Need Big Data After All." *Harvard Business Review* 91 (12): 90–98.
11	Berinato, S. 2014. "With Big Data Comes Big Responsibility." *Harvard Business Review* 92 (11), 100–104.
12	Horst, P., and R. Duboff. 2015. "Don't Let Big Data Bury Your Brand." *Harvard Business Review* 93 (11): 78–86.
13	Prokesch, S. 2017. "Reinventing Talent Management: How GE Uses Analytics to Guide a More Digital, Far-Flung Workforce." *Harvard Business Review* 95 (5): 54–55.
14	Leonardi, P. and N. Contractor. 2018. "Better People Analytics." *Harvard Business Review* 96 (6): 70–81.
15	Corritore, M., A. Goldberg, and S.B. Srivastava. 2020. "The New Analytics of Culture." *Harvard Business Review* 98 (1): 76–83.
16	Kozyrkov, C. 2020. "To Recognize Risks Earlier, Invest in Analytics." *Harvard Business Review* 98 (6): 53–55.

Table A2. Illustration of stages in data analysis.

Text segment	In addition to enabling targeted offers, granular, data-driven understanding of consumer behaviour and segments can reveal the shared concerns and underserved needs of subsets of customers, such as those who have young children or those who are responding to cholesterol guidance from a physician. (#12, *p*. 82)	Analysts thrive in ambiguity. Their talent is exploration, which makes them particularly good at foreseeing and responding to crises. By searching internal and external data sources for critical information, analysts keep a finger on the pulse of what's going on. They scan the horizon for trends and formulate questions about what's behind them. (#16, *p*. 54)
Stage 1: theme(s)	Understanding, customer needs	Analysts, information
Stage 2: subject(s)	Process, technology	People, process
Stage 3: rhetorical strategy	Creativity (logos-like)	Delegation (ethos-like)