How Big Data Can Destroy Organisations' Legitimacy

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Synopsis

In this piece we discuss how Big Data can shape, promote and hinder the legitimacy of organisations. Big Data presents both a challenge and an opportunity for organisations to influence stakeholders' judgements about the desirability, propriety or appropriateness of the actions of the organisation. However, in order to shape such judgements, organisations have first to understand the different dimensions of legitimacy, which include regulatory, pragmatic, moral and cultural- cognitive aspects.

The promise and perils of Big Data

The prominent role of data in information-driven organisations is sometimes summarised in the statement that 'data is the new oil'.[1] The analogy suggests that data is the fuel and lubricant of organisations. Data availability has increased exponentially since the turn of the 21st century, paving the way for a new business environment.[2] Big Data has been described as a 'management revolution',[3] and 'the next frontier for innovation, competition and productivity'.[4] Big Data presents both a challenge and an opportunity: organisations now have access to a stream of real time, digitized data relating to how people, companies and other organizations interact; yet to turn these data into knowledge, the whole process of data analysis – otherwise known as Big Data analytics, or consumer analytics[5] – needs to be carefully planned and organised.[6]

Many organisations have not fully grasped the potential benefits to be gained from Big Data analytics, and a better understanding of the strategic implications of Big Data is urgently needed.[7] It has been argued that taking advantage of Big Data is an evolutionary process, as organisations get to grips with the potential of Big Data[8] and new organisational routines become established. Researchers argue that Big Data analytics can provide business value at several stages of the value chain, as well as supporting organisational agility though knowledge management. This has important consequences for improving organisational processes and creating competitive advantage.[9] To discover, create and realise the full value of Big Data, organisations need to formulate and implement a data-driven strategy,[10] as well as investing in IT innovation and developing skills in data analytics.

As the growth of Big Data accelerates, a better understanding is needed of the opportunities that the new

1. 'The World's Most Valuable Resource Is No Longer Oil, but Data' (2017) *The Economist*, <https://www.economist.com/leaders/2017/05/06/ the-worlds-most-valuable-resource-is-no-longer-oil-but-data>, viewed 8 August 2018.
2. S. Fosso Wamba, S. Akter, A. Edwards, G. Chopin and D. Gnanzou, 'How "Big Data" Can Make Big Impact: Findings from a Systematic Review and a Longitudinal Case Study' (2015) 165 *International Journal of Production Economics* 234.
3. A. McAfee and E. Brynjolfsson, 'Big Data: The Management Revolution' (2012) *Harvard Business Review* 61.
4. J. Manyika, M. Chui, B. Brown, J. Bughin, R. Dobbs, C. Roxburgh and A. Hung Byers, 'Big Data: The Next Frontier for Innovation, Competition, and Productivity' (1 May 2011), <https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Big%20data%20The%20next%20frontier%20for%20innovation/MGI_big_data_full_report.ashx>.
5. S. Erevelles, N. Fukawa and L. Swayne, 'Big Data Consumer Analytics and the Transformation of Marketing' (2016) 69 *Journal of Business Research* 897.
6. D. Blazquez and J. Domenech, 'Big Data Sources and Methods for Social and Economic Analyses' (2018) 130 *Technological Forecasting and Social Change* 99.
7. Y. Wang, L.A. Kung and T.A. Byrd, 'Big Data Analytics: Understanding Its Capabilities and Potential Benefits for Healthcare Organizations' (2018) 126 *Technological Forecasting and Social Change* 3.
8. M. Janssen, H. van der Voort and A. Wahyudi, 'Factors Influencing Big Data Decision-Making Quality' (2017) 70 *Journal of Business Research* 338.
9. N. Côrte-Real, T. Oliveira and P. Ruivo, 'Assessing Business Value of Big Data Analytics in European Firms' (2016) 70 *Journal of Business Research* 379.
10. J. Sheng, J. Amankwah-Amoah and X. Wang, 'A Multidisciplinary Perspective of Big Data in Management Research' (2017) 191 *International Journal of Production Economics* 97.

phenomenon offers – and of the challenges it poses.[11] Some of the pitfalls of Big Data for the economy and society are not yet fully understood. For example, Mayer-Schonberger and Ramge[12] describe how Big Data can disrupt existing industries, from life insurance to automobile manufacturing – and the potential consequences in terms of job losses, increased inequality and reduced social cohesion.[13] Privacy may also be under threat, for example if data from fitness trackers (capturing patterns of exercise, sleep, diet and so on) are shared with corporations in industries such as health insurance. Even the democratic process may be disrupted by Big Data, as is evidenced by the on-going debate on the role of social media in the US Presidential Election and the UK Brexit Referendum in 2016.[14]

The place and role of Big Data companies is currently being debated across societies. The results of this debate can have important consequences, as shown by recent consumer boycotts – such as the #DeleteFacebook campaign which followed the Cambridge Analytica scandal[15] – and demands for further regulation – of which the introduction of GDPR in Europe in May 2018 is an example.[16] However, most organisations in the Big Data space have arguably not yet fully recognised that their business models, and indeed their very existence in the current form, are currently the subject of social judgements. There is an urgent need for frameworks which allow companies to understand how their activities are being seen from the outside, as well how to manage those judgements. The concept of legitimacy offers one such framework.

Legitimacy

Legitimacy consists of a judgement about the desirability, propriety or appropriateness of the actions of an entity – such as a corporation – in a society.[17] To be legitimate reflects a good alignment between a business and the existing culture, its norms, rules and values

and definitions.[18] Stakeholders – the state, media and individuals, for example – can confer legitimacy by considering businesses and judging how appropriate they are. These judgements are not exclusively fact- based, but can also be the result of relatively superficial perceptions about the fit of a business to existing moral norms, beliefs and values.[19]

The legitimacy of a business is not constant. It can be gained and lost through actions which are judged as appropriate or inappropriate against existing social norms. In general, most stakeholders will only engage with businesses seen as legitimate.[20] Stakeholders can judge that a business is outright illegitimate and oppose its existence – the extreme case – but can also refuse to engage the institution, and continuously debate its legitimacy. Companies perceived as illegitimate can suddenly lose market access, can be sanctioned by states, and can be boycotted by individual consumers. Even in lesser cases of illegitimacy, an organisation can be perceived as too problematic to engage with, and this can have negative impacts in terms of reputation and bottom line.

Reasons to manage and maintain legitimacy include not only the survival of the business, but also its financial performance, support from stakeholders, and maintenance of strategic choice in terms of what activities to pursue.[21] Illegitimate institutions usually find their freedom is restricted, and that their actions and strategies are closely monitored. Legitimacy is necessary for an organisation to access resources, markets, and survive over the long term. As a result, legitimacy has become a construct to be managed.

To manage legitimacy requires an understanding of the dimensions of legitimacy. Deephouse *et al.*[22] suggest four distinct dimensions – *regulatory, pragmatic, moral* and *cultural-cognitive*, as described in the next section. Judgements on these four dimensions of legitimacy are pervasive, and apply to any company under the public eye. Some companies in the Big Data space have, through the nature of their business models and because of

11. V. Mayer-Schönberger and K. Cukier, *Big Data: A Revolution That Will Transform How We Live, Work and Think* (Murray, London, 2013).

12. V. Mayer-Schönberger and T. Ramge, *Reinventing Capitalism in the Age of Big Data* (John Murray, London, 2018).

13. C. O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (Crown, New York, 2016).

14. I. Sherr, *Facebook, Cambridge Analytica, Data Mining and Trump: What You Need to Know* (18 April 2018) CNET, <https://www.cnet.com/news/facebook-cambridge-analytica-data-mining-and-trump-what-you-need-to-know/>, viewed 16 August 2018.

15. M.A. Cherney A, *Facebook Stock Drops Roughly 20%, Loses $120 Billion in Value after Warning That Revenue Growth Will Take a Hit* (26 July 2018) MarketWatch, <https://www.marketwatch.com/story/facebook-stock-crushed-after-revenue-user-growth-miss-2018-07-25>, viewed 20 August 2018.

16. P. Galdies, *A Summary of the EU General Data Protection Regulation* (12 October 2017) DataIQ, <https://www.dataiq.co.uk/blog/summary-eu-general-data-protection-regulation>, viewed 22 August 2018.

17. M.C. Suchman, 'Managing Legitimacy: Strategic and Institutional Approaches' (1995) 20 *The Academy of Management Review* 571.

18. D.L. Deephouse, J. Bundy, L.P. Tost and M.C. Suchman, 'Organizational Legitimacy: Six Key Questions', in R. Greenwood, C. Oliver, T. Lawrence and R. Meyer (eds.), *The SAGE Handbook of Organizational Institutionalism* (2nd ed, SAGE, Thousand Oaks, California, 2017); W.R. Scott, *Institutions and Organizations* (SAGE, Thousand Oaks, 1995).

19. P. Haack, M.D. Pfarrer and A.G. Scherer, 'Legitimacy-as-Feeling: How Affect Leads to Vertical Legitimacy Spillovers in Transnational Governance: Legitimacy-as-Feeling' (2014) 51 *Journal of Management Studies* 634.

20. Deephouse et al., n 18.

21. Deephouse et al., n 18.

22. Deephouse et al., n 18.

their actions, seen their legitimacy questioned. Below we describe the four dimensions of legitimacy in more detail.

Big Data challenges to legitimacy

Regulatory legitimacy: Are companies using Big Data following the law?

The first dimension is *regulatory legitimacy*, associated with a perception of whether the organisation follows existing rules and laws. This establishes a 'baseline' legitimacy, but as a result is of relatively limited reach. Companies can easily fall foul of the law. This is especially the case when they operate across different contexts and regulatory environments, as Big Data businesses often do. When this happens, companies can see challenges to their regulatory legitimacy.

Pragmatic legitimacy: Do Big Data approaches deliver on their promise?

The second dimension is *pragmatic legitimacy*. This requires a business to demonstrate whether it can deliver on its claims. Under this dimension, an important aspect which can impact companies' legitimacy is the performance of their products. This is especially important in the field of Big Data, where most applications are still in their infancy, and companies are still learning the limits of their approaches.

Moral legitimacy: Are Big Data providers and users following ethical values and purposes?

The third dimension of legitimacy, *moral legitimacy*, is about social values. To achieve this level of legitimacy, a business must demonstrate that it follows collectively-valued purposes, values and goals. The extent to which this dimension of legitimacy can be achieved is dependent on how widely the moral values in question are held. For example, privacy looks set to be a field of contention for Big Data companies. The collection of data from individuals, and the usage of that data for micro-targeted advertising, is likely to constitute a challenge to companies' *moral legitimacy*.

Cultural-cognitive legitimacy: Are Big Data approaches compatible with society's shared meaning systems?

The final level of legitimacy involves demonstrating a fit with socially-shared meaning systems, and it is referred to as *cultural-cognitive legitimacy*. These meaning systems are pervasive, consisting of taken-for-granted and shared understandings. For example, companies' business models can put them at odds with societies. This is especially the case where Big Data approaches are used to disrupt how markets work. This is clearly visible in the so-called 'gig economy', where service users and service providers are brought together by apps hosted by companies, which use Big Data to optimise the service.

Big Data companies can face serious consequences when suffering negative social judgements and losing legitimacy. We close by suggesting how companies can respond to institutional demands or pressures and how they can try to regain some of their legitimacy.

Legitimacy recovery

Suddaby *et al.*[23] show that organisations can adopt three main strategies to recover their legitimacy:

– *Conforming*: organisations adopt the characteristics, practices and forms imposed by regulations, standards, or norms.

– *Decoupling*: organisations superficially conform to appear legitimate as a means of buffering and protecting their core economic or technical activities.

– *Performing*: organisations demonstrate their technical superiority over the alternatives.

Conclusion

Big Data is a potentially valuable resource that organisations must learn to handle with care and skill. We began by noting that Big Data is often referred to as the 'new oil' of organisations; however, there is little discussion of its ability to disrupt or enhance the legitimacy of corporations. We suggest that organisations need to invent new strategies for rescue or recovery if they seek to re-establish their legitimacy following a Big Data 'crisis'.

23. R. Suddaby, A. Bitektine and P. Haack, 'Legitimacy' (2017) 11 *Academy of Management Annals* 451.