

Chapter 1

Big Data Intelligence and Perspectives in Darwinian Disruption

Moses John Strydom

Independent Researcher, South Africa

Sheryl Beverley Buckley

 <https://orcid.org/0000-0002-2393-4741>

University of South Africa, South Africa

ABSTRACT

The convergence of big data and artificial intelligence, namely big data intelligence, seems inevitable at an epoch just as the automation of smart decision making becomes the future digital disruptor. Every industry will be confronted with the same Darwinian pressure of excellence and adaptation, and must conjointly be supported by the major stakeholder, the ultimate client. Authenticated by the hypothesis that big data intelligence has the potential of Darwinian disruption, the objective of this chapter was to identify the most recent worldwide research trends in the field of big data intelligence and its most relevant research areas. A social network analysis tool was employed to interpret the interrelationship between generated keywords and keyphrases. The resulting taxonomy of published peer-reviewed scientific papers was bibliographically analyzed. This investigation permitted all manner of social and business interests underpinned by this technology to understand what to embrace, what to ignore, and how to adapt.

INTRODUCTION

In this fast-paced universe, the web is inundated with an exponential production of huge amounts of data that is rapidly transforming the manner in which business is concluded throughout all industries and societal sectors.

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Technology is disrupting¹ everything, and everything is disruptable and everything must be disrupted (Christensen, 1997): the companies, their business models, their products and services, the expertise they offer to their customers, but also our models of organization, our public institutions, our political leaders, our ways of thinking, learning, communicating, working, our representations of the world, our values and even as far as the very fiber of our beings. Today's world, as we know it, should consequently be animated and inspired by these, sometimes prodigious developments – but paradoxically it rarely feels that way. Deplorably, the proximity of abundance and health abruptly rubs against despair.

Moreover, in this hyper-competitive market where everything is offered, the selection is ultra-fast.

Every product, service, idea or content that is adapted to its environment, that responds to an existing demand, is very quickly spotted and selected by consumers that make it emerge and likewise diffuse it. This selection can be classified as being Darwinian because it allows to impose what was not planned intentionally, often after several tests of random characteristics: no buzz is expected, no innovation is anticipated (Christensen, 1997; Wang et al., 2018). Chance and selection by the environment give clues to the innovator to develop his vision and then direct his efforts to make it happen. Predictably, these expansive set of circumstances combined with the unlimited education available on the internet, heralds a period of massive debate. In order to cope with this acceleration of globalization, which is making the old world disappear violently, it is urgent to understand the dynamics that address disruption. As a stratagem, this chapter proposes the following investigative tasks:

- *To explain* how these new technologies, especially big data intelligence, come to challenge humans about what makes them special - their intelligence.
- *To understand*, follow and let the new organizational models, the culture and the requirements of this new paradigm take hold.
- And finally, *to know* the state of mind, the aspirations and the techniques of these new professional actors of the disruption who have no limits to reach their objectives and draw their ideas in science-fiction.

Faced with disruption, there is now only one option: to disrupt oneself to avoid being disrupted.

This chapter further ambitions to provide the keys to apprehend this world being invented, not to fear it, but to prevent others from building it for us. The chapter aspires to increase the body of knowledge of a complex domain and, by so doing, encourage real conversations about bigger issues. Likewise, the authors resolve to connect the dots, to see commonalities and differences based on data from a widespread literature review as well as conversations with colleagues and friends.

The cornerstone of this investigation is, after a holistic reflection, the creation of a taxonomy of research areas which would aid in analyzing and synthesizing of normative literature on artificial intelligence and big data to support the signposting of future research directions.

BACKGROUND

We live in an era of disruption in which powerful global forces are changing how we live and work. The rise of several emerging economies, the rapid spread of digital technologies, growing challenges to globalization, and, in some countries, the splintering of long-held social contracts are all disrupting business, the economy, and society. These trends offer considerable new opportunities to companies, sectors, countries, and individuals that embrace them successfully.

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