



4th Australia and New Zealand Conference on Advanced Research
(ANZCAR-2020), Melbourne, Australia

ISBN: 978-0-9953980-8-5

Asia Pacific Institute of Advanced Research (APIAR)

www.apiar.org.au

UTILIZING BIG DATA AND MACHINE LEARNING IN ACHIEVING BUSINESS OUTCOMES: AN “OUTCOME-DRIVEN BUSINESS ARCHITECTURE” (ODBA) PERSPECTIVE

Bhuvan Unhelkar^a & Amit Tiwary^b

^aUniversity of South Florida, Sarasota-Manatee, Florida, USA.

^bVictoria Police, Melbourne, VIC, Australia.

Corresponding Email: bunhelkar@sar.usf.edu

Abstract

The competitive advantage of a business is driven by how effectively it utilizes its limited resources and capabilities. Outcome-Driven Business Architecture (ODBA) is a published framework (Tiwary and Unhelkar, 2019) to help business organizations achieve effective utilization of resources, as well as generating customer value. Business outcomes, based on the aforementioned framework, stand to gain by judicious introduction of Big Data and Machine Learning (ML). The 4+1 V (Volume, Velocity, Variety, Veracity + Value) of Big Data has also been discussed in *Big Data Strategies for Agile Business* (Unhelkar, 2018). In this paper, we examine the potential of Big Data and ML in optimizing and enhancing Business Outcomes. Machine Learning enables systems to increasingly continue to learn from the decisions made in the organization – and provide insights into those decisions for future decisions. Big Data provides vast repositories of data (decisions and the data on which those decisions are based) in order to improve the speed, accuracy and number of places within an organization where decisions are taken. The utilization of these technologies in casual analysis of organisational capabilities will provide a roadmap to achieve desired business outcomes.

This paper outlines the use of the two aforementioned technologies in enabling effective use of organizational resources, initiating and controlling projects, reflecting on failures in order to predict the possibility of failure, aligning outcomes with project outputs and creating a fine-granular decision-making engine for multiple decision points. A project’s successful output does not always equal to achievement of desired business outcomes. Business Architecture is argued to be the glue that binds the organization’s projects with the business’s desired outcomes. ODBA is a well-constructed and well-maintained architecture that is geared towards lean and agile business. Lean processes enable a business to update its strategies to correspond to the changing business environment. As a result, the direction of a business is influenced as certain outcomes are brought to light by the ODBA that may have been overlooked or not fully considered by the direction-setters. This paper aims to augment ODBA with Big Data and ML capabilities. We further outline the approach to this examination of Big Data and ML and how we plan to further validate it through Action Research in global industries.

Keywords: Big Data, Machine Learning, Business Strategies, Business Architecture, Business Outcomes.
