Disruption: A Transdisciplinary User-Centric Framework for Innovation Through Data Design and Analytics

By: Mahya Mirzaei
Supervisor: Professor Mary-Anne Williams

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Faculty of Engineering and Information Technology
University of Technology Sydney, Australia
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Declaration of Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as part of the collaborative doctoral degree and/or fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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Abstract

While innovation has always been critical for competitiveness of businesses, fierce competition resulting from the global economy and constant waves of disruption has made innovation even more crucial for the survival of large organisations. Today, extremely large volumes of data from variety of sources are continuously created with immense speed. Containing deep information and insights into customer habits and needs, data has the potential to become a key enabler of competition and innovation. In the financial industry in particular, with no physical products, data is the most valuable asset that needs to be utilised to create competitive advantage and innovation.

However, studies in literature as well as primary qualitative research that I have conducted in collaboration with Ernst and Young, reveal that financial institutions are falling short of exploiting data and analytics' full potential for innovation and competition. This is due to the failure to discover high-value problems that may be solved using data analytics, which can have the potential to result in significant value for customers and business.

The aim of this research is to develop and evaluate a holistic model that increases the probability of success of data analytics endeavours in large organisations, resulting in high value and innovative products and services. Using the research methodologies of interpretive case studies and grounded theory for data analysis, I derived the influencing factors for the success of developing innovation using data analytics and hence created a framework that mapped these success factors in a cohesive and clear way. The generated framework, referred to as Creative Data Analytics (CDA), provides a methodology that consists of both creative and analytical techniques which enable organisations to develop an end to end roadmap to creative data analytics innovations. The CDA Framework integrates customer needs and predictive data analytics, and directs the investigation of data towards an innovative solution with a higher probability of solving an important real customer need or business problem.
The validity of the CDA framework was evaluated by conducting action research using three projects involving data analytics at the Commonwealth Bank of Australia. These projects were conducted according to the CDA framework principles and the degree of innovation of the solutions derived from these projects were evaluated qualitatively by interviewing managers and innovation experts involved in the projects.