

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

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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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Contents

1	Introduction	1
1.1	Background	3
1.2	Research goals and question	5
1.3	Data analytics definition	6
1.4	Thesis structure	7
2	Data – a source of competitive advantage	9
2.1	Big data definition	9
2.2	Data analytics	13
2.3	Problems with the use of data analytics for innovation in financial sector	16
2.3.1	Current data analytics model	21
3	Innovation	25
3.1	Innovation definition	25
3.2	Innovation overview	27
3.3	Dimensions of innovation	29
3.3.1	Innovation as a process.	30
3.3.2	Innovation as an outcome.	31

3.3.2.1	Disruptive innovation	33
3.3.2.2	Big-bang disruption	35
3.4	Innovation success factors	39
3.4.1	Innovation leadership	40
3.4.2	Managerial levers	42
3.4.2.1	Organisational mission and strategy	43
3.4.2.2	Resource allocation	44
3.4.2.3	Structure and systems	45
3.4.2.4	Organisational culture	47
3.4.3	Business processes	48
3.4.3.1	Structured problems	52
3.4.3.2	Unstructured problems	54
3.4.4	Customers	62
3.4.4.1	Design thinking	64
3.4.4.2	Understanding design thinking as a concept	67
4	Research process	73
4.1	Philosophical assumptions of positivism and interpretivism	73
4.1.1	Positivist perspective	74
4.1.2	Interpretive perspective	74
4.2	Research approaches	76
4.2.1	Quantitative research	77
4.2.2	Qualitative research	78
4.2.3	Taxonomy of research approaches	78

4.3	Research method chosen for this study	83
4.3.1	Case study method	83
4.3.2	Limitation of research method	85
4.4	Data collection	87
4.4.1	Case study design	88
4.4.2	Case participants	89
4.5	Data analysis	92
4.6	Grounded theory	93
4.6.1	Grounded theory procedures	97
4.6.1.1	Coding	98
4.6.1.2	Memo writing	99
4.6.1.3	Theoretical sampling and comparison	100
5	Field studies: case study analysis	103
5.1	Case study analysis	103
5.1.1	Propositions that emerged from the data analysis	106
5.2	Results of case study analysis	109
5.2.1	Importance of the problem	110
5.2.1.1	Understand the business challenges and problems	111
5.2.1.2	Understand customers and focus on them	113
5.2.1.3	Focus on ideas that result in 10x better	115
5.2.2	People aspect	115
5.2.2.1	Quality of people	115
5.2.2.2	Team work	117

5.2.2.3	Collaboration between teams	118
5.2.3	Internal organisational culture	118
5.2.3.1	Innovation culture	119
5.2.3.2	Failure accepting culture	121
5.2.3.3	Innovation framework	122
5.2.4	Experimentation factors	124
5.2.4.1	Prototyping	125
5.2.4.2	Iteration	125
5.2.4.3	Fast-paced execution	127
5.2.5	Managerial support	128
5.2.5.1	Managers as team members	129
5.2.5.2	Adequate resources	130
5.2.6	Use variety of data	130
5.2.7	Organisational structure	132
5.2.7.1	Physical environment	133
5.2.7.2	Separate small units	133
5.3	Framework for innovative analytics	134
5.3.1	The prerequisite phase	140
5.3.1.1	Managerial support	140
5.3.1.2	Innovation culture	143
5.3.1.3	People aspect	144
5.3.1.4	Physical environment	145
5.3.2	User-centric data analytics phase	148
5.3.2.1	Empathy and framing	152

5.3.2.2	Ideation	154
5.3.2.3	Prototyping and testing	155
5.3.2.4	Data analytics	156
6	Evaluation	161
6.1	Action research	161
6.1.1	Pre-requisites	163
6.1.2	Challenge identification	165
6.1.3	Empathy	166
6.1.4	Framing	177
6.1.5	Ideation	182
6.1.6	Prototyping	185
6.1.7	Testing	192
6.1.8	Data analytics	200
6.1.9	Interviews with managers	204
7	Conclusion	207
7.1	Summary of research process	207
7.1.1	Summary of thesis chapters	207
7.1.2	Review of research questions	210
7.1.3	Review of research methodology	211
7.2	Conclusion of the research problem	212
7.2.1	Case study	212
7.3	Theoretical evaluation of interpretive research	213
7.4	Contribution of research	216

7.5 Conclusion	218
Appendix 1	
Interview questions for Australia’s largest financial institutions	221
Appendix 2	
Interview questions for large innovative organisations in Silicon Valley	225
Appendix 3	
Interview questions for managers involved in the CDA projects at Commonwealth Bank of Australia	229
Appendix 4	
Data design process for the transactional data generator	231
References	241

List of Figures

2.1	Definitions of big data based on an online survey of 154 global executives in April 2012. (adapted from Gandomi and Haider (2015)) . . .	10
2.2	Processes for extracting insights from big data (Labrinidis and Jagadish, 2012)	16
2.3	Phases of the CRISP-DM reference model	22
3.1	Methodology for defining the strategic significance of disruptive innovations (Christensen, 1995).	35
3.2	The phases of big bang disruption (Downes and Dunning, 2014) . . .	38
3.3	Innovation Type Matrix (Verworn <i>et al.</i> , 2007)	52
3.4	Stage-gate process of the early phase (Cooper and Kleinschmidt, 1988)	54
3.5	Example of GE's probe and learn process (Lynn <i>et al.</i> , 1996)	56
3.6	The NCD model (Koen <i>et al.</i> , 2002)	58
3.7	The magic ideation quadrant diagram (Cooper <i>et al.</i> , 2008)	65
3.8	Description of a DT process (source Stanford d.School, 2009).	70
5.1	The creative data analytics framework (CDA)	137
6.1	Business model canvas for general insurance completed with the leadership team (co-created with CBA)	164
6.2	Challenge statements (co-created with CBA)	166

6.3	The graph of insurance extreme users (co-created with CBA)	167
6.4	Customer ecosystem map (co-created with CBA)	168
6.5	Sales and service ecosystem map (co-created with CBA)	170
6.6	Customer interview questions (co-created with CBA)	171
6.7	Customer persona - Non-believers (co-created with CBA)	173
6.8	Customer persona - Builders (co-created with CBA)	174
6.9	Customer persona - Protectors (co-created with CBA)	174
6.10	Customer persona - Optimisers (co-created with CBA)	175
6.11	Customer persona - Drifters (co-created with CBA)	175
6.12	Customer engagement journey for general insurance products (co-created with CBA)	176
6.13	Key insights from empathy phase - Word of Mouth (co-created with CBA)	177
6.14	Key insights from empathy phase - Word of Mouth quotes (co-created with CBA)	178
6.15	Key insights from empathy phase - Insurance not associated with banks (co-created with CBA)	178
6.16	Key insights from empathy phase - Car insurance not associated with banks (co-created with CBA)	179
6.17	Customer journey map for general insurance products (co-created with CBA)	180
6.18	Creation of the opportunity spaces (co-created with CBA)	181
6.19	Opportunity spaces for general insurance (co-created with CBA) . . .	181
6.20	How Might We questions for general insurance (co-created with CBA)	183
6.21	Image of the team in an ideation session (co-created with CBA) . . .	184
6.22	Project team using dotmocracy on ideas (co-created with CBA) . . .	184

6.23	Grouping the concepts (co-created with CBA)	185
6.24	Sample prototype - Offering retention incentives (co-created with CBA)	186
6.25	Sample prototype - Setting up a new policy (co-created with CBA)	187
6.26	Sample prototype - Moving to new address for under 30s (co-created with CBA)	187
6.27	Sample prototype - Insure your child's toy (co-created with CBA)	188
6.28	Sample prototype - Customisable renters product (co-created with CBA)	188
6.29	Sample prototype - Content insurance (co-created with CBA)	189
6.30	Sample prototype - Renewal with competitor (co-created with CBA)	189
6.31	Sample prototype - Renovation poke (co-created with CBA)	190
6.32	Sample prototype - Insure the device for free (co-created with CBA)	190
6.33	Sample prototype - No excess (co-created with CBA)	191
6.34	Sample prototype - Commit to Fix (co-created with CBA)	191
6.35	Sample prototype - Empty investment properties (co-created with CBA)	192
6.36	Paths that prototypes could take based on testing results (co-created with CBA)	193
6.37	Tested prototype - Setting up a new policy (co-created with CBA)	194
6.38	Tested prototype - Moving to new address for under 30s (co-created with CBA)	194
6.39	Tested prototype - Leaving customers (co-created with CBA)	195
6.40	Tested prototype - Insure your child's toy (co-created with CBA)	195
6.41	Tested prototype - Customisable renters product (co-created with CBA)	196

6.42	Tested prototype - Content insurance (co-created with CBA)	196
6.43	Tested prototype - Renewal with a competitor (co-created with CBA)	197
6.44	Tested prototype - Renovation poke (co-created with CBA)	197
6.45	Tested prototype - Insuring the device for free (co-created with CBA)	198
6.46	Tested prototype - No excess (co-created with CBA)	198
6.47	Tested prototype - Commit to fix (co-created with CBA)	199
6.48	Tested prototype - Empty investment properties (co-created with CBA)	199
6.49	A summary of the achievements of the project (co-created with CBA)	200
6.50	A typical data architecture at Commonwealth Bank (co-created with CBA)	201

List of Tables

2.1	List of organisations involved in our qualitative research	17
3.1	Theories used in highly cited papers (Crossan and Apaydin, 2010)	28
3.2	Fives generations of innovation models (Adopted from Rothwell (1994) and Xu <i>et al.</i> (2007)).	50
3.3	Studies confirming the impact of the front end on NPD	51
4.1	Information systems research approaches (Galliers, 1992)	80
5.1	List of organisations that participated in our case studies	104
5.2	Core categories and subcategories that emerged from the data analysis.	107
5.3	Propositions that emerged from data analysis	109
5.4	Entrepreneurial and innovation culture factors (Drucker, 1993)	120
A 1.1	Tranformation questions	223
A 2.1	Transformation questions	227
A 4.1	Age group and mean income of customer categories	234

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.