The role of shared mental models of strategic thinking in the development of organisational strategy

A dissertation by

Reneé Malan, BA Hons (Psychology) MBA

Submitted for the award of Doctor of Philosophy in Management

June 2010
ABSTRACT

Strategic thinking is a popular research topic in management and business fields and mental models are studied extensively in the area of cognitive psychology. However, there is a dearth of research focused on mental models of strategic thinking. Limited empirical research and paucity in assessment or exploration of mental models of strategic thinking result in a theoretical gap that this study addresses. Although it is well noted in the strategic management theory that finding a competitive strategy is essential in achieving sustainable competitive advantage, few models include strategic thinking as a specific aspect in the strategy development process. Because strategic thinking relies on the mental models of strategic thinking, the cognitive aspects of strategic thinkers need to be investigated. This study specifically addresses the gap in investigating strategy development from a business and psychology perspective. Furthermore, limited research on strategy development in Australian local government and the newly-established regional councils in Queensland creates an opportunity to conduct a study focussing on organisational strategy in these councils to assist councils in achieving the aims of the local government reform. In this context, the aim of this dissertation study is to investigate the role of shared mental models of strategic thinking in the development of organisational strategy.

This investigation of shared mental models includes the content of task mental models and group-functioning mental models of individual group members and also the content of the strategy groups’ shared mental models of the task of strategic thinking and group-functioning. The levels of agreement of these mental models are investigated within specific strategy groups and among strategy groups on various organisational levels.

Within the three Queensland regional councils which participated in the study, three levels of strategy groups are studied. The first level strategy group includes the mayors, councillors and chief executive officers. The second level strategy group includes the chief executive officers and directors of the council departments. The third level strategy group includes the directors of those departments or directorates that are responsible for developing corporate plans,
plus other employees on operational levels involved in strategy development. Nine strategy groups are investigated—three on each level—and the results of the study are presented according to the level of strategy groups and not according to individual regional councils.

Primarily, a qualitative approach is applied, although the survey section of the interview protocol includes a secondary quantitative approach. Multiple sources of data gathering are applied, including the interview protocol, a scenario exercise and documentation. Multiple data analysis methods are incorporated, including qualitative content analysis, scenarios, documentary analysis and Leximancer analysis. Triangulation is applied to compare the results obtained from the different methodologies, to seek for similarities and to integrate the different sets of results.

The results of the study indicate that strategy group members applied strategic thinking in their involvement in developing organisational strategy. The content of their task mental models of strategic thinking includes the four elements of strategic thinking, namely to think about sustainable competitive advantage, thinking holistically, thinking creatively and analytically and thinking long-term about the future when they consider the long-term direction for their organisation. Medium to high levels of agreement about the task of strategic thinking occurs within and across strategy groups but this does not reflect identical mental models because individual characteristics influence individual mental models. High levels of agreement refer to similarity about strategic thinking although individual mental models ensure distinctiveness in thinking. Furthermore, the results indicate that although strategic thinking occurs in all three levels of strategy groups, employees on various levels contribute differently towards strategy development. A high degree of strategic thinking is required for first level strategy groups and this decrease progressively on the second and third level strategy group.

Perceptions of strategy group members about the functioning of their strategy groups are investigated and the findings show that group members share
perceptions about the roles and responsibilities of fellow group members and the knowledge and skills of fellow group members, but they do not share perceptions about how the groups interact. When the strategy groups were investigated, they were only recently established and in the initial stages of development. The results suggest that individual mental models develop in the initial phases of group development and that shared mental models only start to develop when groups mature. Regarding the levels of agreement within and among strategy groups about group-functioning mental models, the results indicate varied levels of agreement within strategy groups and overall medium levels of agreement across the groups.

This study predominantly contributes to bridging the gap in the theory between strategic thinking literature and mental models literature by investigating mental models of strategic thinking. It also addresses strategy making within various organisational levels and develops a set of strategic thinking elements that include aspects of sustainability that do not feature prominently in current literature about strategic thinking.

Finally, the study contributes to the development of methodology to investigate mental models of strategic thinking and the research methods was applied to real employees in real organisations, as opposed to studies in laboratory settings. The research methods can be applied in local government to assess strategic thinking as part of their internal analysis of competencies or in selection and assessment processes in the appointment of new staff. More specifically, this study contributes to learning and development of the regional councils that were investigated through the feedback provided to these councils about strategic thinking in their strategy groups.
CERTIFICATION OF DISSERTATION

I certify that the ideas, results, analyses and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

____________________________________  ____________
Signature of Candidate                   Date

ENDORSEMENT

____________________________________  ____________
Signature of Supervisor                   Date

____________________________________  ____________
Signature of Supervisor                   Date
ACKNOWLEDGEMENTS

It’s DONE…and this would not have been possible without the encouragement, enthusiasm, help and support of my two excellent supervisors, Prof. Ronel Erwee and Dr. Dennis Rose. You have been amazing - what a privilege to work with you –thank you.

I would also like to thank my Head of School, Prof. Doren Chadee, staff from the Faculty of Business’ Research Office, Prof. Raj Gururajan and Liz Whatson and colleagues in the Faculty of Business for your assistance and support; your contributions are greatly appreciated. Special thanks to Chris O’Reilly for editing this huge document, sacrificing her weekends – many thanks, Chris!

I would like to acknowledge my fellow PhD students and dear friends who supported me through this process – thank you for your friendship and kindness!

For all the council employees who participated in this study – many thanks for your wonderful participation. Thank you for trusting me with your personal opinions and for your honest responses to my many questions. I really appreciate your time and contributions.

To my parents who taught me resilience, to NEVER give up and to be strong – thank you for your encouragement, love and support, your prayers; and for always believing in me. Thank you also to my sisters, Janie, Heidi and Anita for your encouragement and love. To my dearest husband Mel and children, Stephan and Chene: a huge thank you for your love, patience, kindness, motivation and support – I can’t imagine my life without you. Thank you for graciously allowing me to complete this study - I promise that I will make up for all the hours that I was unavailable to you! I have to also mention my little dog, Lyla, for the many hours she patiently waited by my feet while I worked on my thesis.

Finally and most of all, my thanks and praise to God for all His blessings!
TABLE OF CONTENTS

Chapter 1 .................................................................................................................. 1
Introduction ................................................................................................................. 1

1.1 Background and outline ....................................................................................... 1

1.1.1 Shared mental models of strategic thinking .................................................. 3

1.1.2 Context of study ............................................................................................. 4

1.2 Justification for the research and problem statement ......................................... 6

1.3 Research objective and research questions ....................................................... 8

1.4 Conceptual framework ....................................................................................... 9

1.5 Research Methods ............................................................................................. 12

1.6 Key definitions and terminologies ...................................................................... 14

1.7 Ethical considerations ....................................................................................... 14

1.8 Delimitations of the scope and key assumptions ............................................. 15

1.9 Structure of the dissertation ............................................................................. 16

Chapter 2 .................................................................................................................. 17
Literature Review ....................................................................................................... 17

2.1 Introduction ........................................................................................................ 17

2.2 Strategy development ....................................................................................... 18

2.2.1 Strategic management .................................................................................. 21

2.2.2 Strategic planning ....................................................................................... 23

2.3 Strategic thinking ............................................................................................. 24

2.3.1 Strategic thinking and operational thinking ............................................... 27

2.3.2 Elements of strategic thinking .................................................................... 29

2.3.3 Role players in strategic thinking ............................................................... 44

2.4 Contextual factors in strategy development ..................................................... 47

2.5 Mental models .................................................................................................. 54

2.5.1 Mental model theory .................................................................................... 55

2.5.2 Shared mental models .................................................................................. 57

2.5.3 Shared mental model agreement .................................................................. 59

2.5.4 Determining mental models ........................................................................ 70

2.6 Shared mental models of strategic thinking ..................................................... 80

2.6.1 Shared task mental models of strategic thinking ......................................... 81

2.6.2 Shared group-functioning mental models of strategic thinking .... 85
2.7 Context of the study: local government regional councils in South East Queensland................................................................. 92
  2.7.1 Local government reform......................................................... 92
  2.7.2 Regional councils in South East Queensland................................. 94
  2.7.3 Development of strategic plans for councils.................................. 94
2.8 Conceptual framework .................................................................. 95
2.9 Chapter summary .......................................................................... 99

Chapter 3 .......................................................................................... 100
Research Methods ............................................................................. 100
  3.1 Introduction ................................................................................ 100
  3.2 Scientific paradigm ...................................................................... 101
  3.3 Research approach ....................................................................... 106
    3.3.1 Qualitative and quantitative data............................................. 107
    3.3.2 Induction and deduction......................................................... 108
    3.3.3 Case study approach.............................................................. 109
    3.3.4 Quality criteria ..................................................................... 117
  3.4 Research design for this study...................................................... 122
  3.5 Research process ......................................................................... 123
  3.6 Data collection procedures ........................................................... 126
  3.7 Interview instrument design .......................................................... 133
  3.8 Data analysis method ................................................................... 139
    3.8.1 Qualitative content analysis .................................................. 139
    3.8.2 Leximancer ............................................................................ 140
    3.8.3 Documentary analysis ........................................................... 143
    3.8.4 Triangulation ........................................................................ 143
  3.9 Limitations of the research methods............................................. 144
  3.10 Chapter summary ...................................................................... 147

Chapter 4 .......................................................................................... 149
Results: Qualitative content analysis and documentary evidence ............ 149
  4.1 Introduction ................................................................................ 149
  4.2 Case descriptions and participant details ...................................... 150
  4.3 Analysis strategy ........................................................................ 151
  4.4 Qualitative content analysis results ............................................. 153
4.4.1 RQ 1: Content of shared task mental models in three levels of strategy groups ................................................................. 154
4.4.2 Quantitative content analysis ................................................................. 164
4.4.3 RQ 2: Level of agreement of task mental models within each level and then across the levels ................................................................. 168
4.4.4 Across-levels analysis ...................................................................... 172
4.4.5 RQ 3: Content of shared group-functioning mental models in three levels of strategy groups ................................................................. 175
4.4.6 RQ 4: Level of agreement of group-functioning mental models within each level and then across the levels ................................................................. 197
4.4.7 Across level analysis ...................................................................... 203
4.5 Documentary analysis ....................................................................... 206
4.5.1 Analysis of organisational structures ........................................ 207
4.5.2 Analysis of visions, missions and corporate plans ...................... 208
4.6 Chapter summary ............................................................................... 216

Chapter 5 ..................................................................................................... 218

Results: Leximancer analysis .................................................................... 218
5.1 Introduction .......................................................................................... 218
5.2 Case descriptions .................................................................................. 219
5.3 Analysis strategy .................................................................................. 219
5.4 Leximancer analysis ............................................................................. 219
5.4.1 Interpretation of the maps ................................................................. 220
5.4.2 Map settings ..................................................................................... 221
5.4.3 Initial exploratory map ................................................................... 222
5.4.4 RQ 1: Content of shared task mental models in three levels of strategy groups ................................................................. 224
5.4.5 RQ 2: Level of agreement of task mental models within each level and then across the levels ................................................................. 237
5.4.6 RQ 3: Content of shared group-functioning mental models in three levels of strategy groups ................................................................. 241
5.5 Triangulation of Leximancer analysis, content analysis and documentary evidence ................................................................. 263
5.5.1 RQ 1: Content of shared task mental models in three levels of strategy groups .................................................................263
5.5.2 RQ 2: Level of agreement of task mental models within each level and then across the levels .................................................................272
5.5.3 RQ 3: Content of shared group-functioning mental models in three levels of strategy groups .................................................................277
5.5.4 RQ 4: Level of agreement of group-functioning mental models within each level and then across the levels .................................................................281
5.6 Chapter summary ................................................................................285

Chapter 6 ...........................................................................................................286
Discussion, Conclusions and Implications .....................................................286
6.1 Introduction .............................................................................................286
6.2 Discussions and conclusions of the results .............................................287
6.2.1 RQ1: What is the shared task mental model of strategic thinking of strategy groups? .................................................................288
6.2.2 RQ2: What is the level of agreement of the task mental models of strategic thinking within and among strategy groups? ................300
6.2.3 RQ3: What is the shared group-functioning mental model of strategy groups? ....................................................................................305
6.2.4 RQ4: What is the level of agreement of the group-functioning mental models amongst strategy groups? ..............................315
6.3 Conclusions about the research problem .................................................318
6.4 Implications for theory and practice .......................................................322
6.4.1 Implication of the results for theory ..................................................323
6.4.2 Implications of the results for methodology ......................................326
6.4.3 Implications of the results for practice ..............................................328
6.5 Limitations of the research .....................................................................330
6.6 Directions for future research .................................................................332
6.7 Summary ..................................................................................................333

7. List of References .......................................................................................335
8. Appendices ...................................................................................................353
**LIST OF TABLES**

Table 2.1: Elements of strategic thinking .................................................................35

Table 2.2: Methods of reviewing mental models as applied in the management field ..........................................................................................................................75

Table 2.3: Indicators of strategic thinking elements ...............................................84

Table 2.4: Scales applicable to Group-functioning mental models elements ..........90

Table 3.1 Scientific research paradigms ..................................................................103

Table 3.2 Case study tactics for four design tests ...................................................118

Table 3.3 The link between the interview questions and research questions .......136

Table 4.1 Connection between research questions and propositions .................152

Table 4.2 Coding categories: strategic thinking content ........................................164

Table 4.3 Frequency distribution of results: quantitative content analysis ........167

Table 4.4 Coding categories for level of agreement: Within groups and across groups .........................................................................................................................168

Table 4.5 Across-levels results of level of agreement of task mental models ......175

Table 4.6 Perceptions of Strategy Group Level 1 regarding the balance between strategic thinking and operational thinking ..........................................................182

Table 4.7 Perceptions of Strategy Group Level 2 regarding the balance between strategic thinking and operational thinking ..................................................190

Table 4.8 Perceptions of Strategy Group Level 3 regarding the balance between strategic thinking and operational thinking ..................................................195

Table 4.9 Strategy Group Level 1 perceptions about the balance between strategic thinking and operational thinking: normative and real ......................199

Table 4.10 Strategy Group Level 2 perceptions about the balance between strategic thinking and operational thinking: normative and real .................200

Table 4.11 Strategy Group Level 3 perceptions about the balance between strategic thinking and operational thinking: normative and real .................202

Table 4.12 Comparison of Groupthink and groupshift and boundary spanning within each strategy group level ...............................................................202

Table 4.13 Summary of results: levels of agreement of shared group-functioning mental models .........................................................................................204
Table 4.14 Comparison of perceptions of Strategy Group Level 1, 2 and 3 regarding the balance between strategic thinking and operational thinking as applicable to each level ................................................................. 206
Table 4.15 Departments and Directorates in each of the councils: Toowoomba, Dalby and Lockyer Valley ................................................................. 207
Table 4.16 The visions and missions of Toowoomba, Dalby and Lockyer Valley Regional Councils ................................................................. 210
Table 4.17 Key issues addressed in the corporate plans of Toowoomba, Dalby and Lockyer Valley Regional Councils ................................................................. 212
Table 5.1 Ranked Concepts List: Map 1 ................................................................. 223
Table 5.2 Thematic Summary: Map 1 ................................................................. 224
Table 5.3 Ranked Concepts List: Map 2 ................................................................. 226
Table 5.4 Thematic Summary: Map 2 ................................................................. 227
Table 5.5 Ranked Concepts List: Map 3 ................................................................. 230
Table 5.6 Thematic Summary: Map 3 ................................................................. 231
Table 5.7 Ranked Concepts List: Map 4 ................................................................. 234
Table 5.8 Thematic Summary: Map 4 ................................................................. 235
Table 5.9 Comparison of Ranked Concepts and Relevance List: Maps 2, 3 and 4 ................................................................. 238
Table 5.10 Comparison of Thematic Summaries: Maps 2, 3 and 4 ................................................................. 240
Table 5.11 Summary of results: Leximancer analysis RQ2 ................................................................. 241
Table 5.12 Ranked Concepts List: Map 5 ................................................................. 243
Table 5.13 Thematic Summary: Map 5 ................................................................. 244
Table 5.14 Concepts related to group-functioning: Map 5 ................................................................. 245
Table 5.15 Ranked Concepts List: Map 6 ................................................................. 248
Table 5.16 Thematic Summary: Map 6 ................................................................. 250
Table 5.17 Concepts related to Group-functioning: Map 6 ................................................................. 250
Table 5.18 Ranked Concepts List: Map 7 ................................................................. 253
Table 5.19 Thematic Summary: Map 7 ................................................................. 255
Table 5.20 Concepts related to Group-functioning: Map 7 ................................................................. 256
Table 5.21 Comparison of Ranked Concepts List: Maps 5, 6 and 7 ................................................................. 258
Table 5.22 Comparison of Thematic Summaries and Connectivity: Maps 5, 6 and 7 ................................................................. 260
Table 5.23 Comparisons of Concepts related to Group-functioning: Maps 5, 6 & 7

Table 5.24 Summary of results: Leximancer analysis RQ4

Table 5.25 Comparison of results related to Research Question 1

Table 5.26 Comparison of results related to Research Question 2

Table 5.27 Comparison of results related to Research Question 3

Table 5.28 Comparison of results related to Research Question 4

LIST OF FIGURES

Figure 2.1: Visual illustration of shared mental models

Figure 2.2: Conceptual framework of relationships between strategic thinking, shared mental models of strategic thinking and the strategic planning process

Figure 3.1: Types of case study designs

Figure 3.2 The business research process: qualitative data analysis and interpretation

Figure 3.3 Overview of the data gathering process

Figure 3.4 Flow diagram of data gathering process

Figure 3.5 Data analysis plan

Figure 4.1 Strategy groups

Figure 6.1 Conceptual framework

LIST OF APPENDICES

APPENDIX A: CASE STUDY DATABASE

APPENDIX A1: TOOWOOMBA REGIONAL COUNCIL

APPENDIX A2: DALBY REGIONAL COUNCIL

APPENDIX A3: LOCKYER VALLEY REGIONAL COUNCIL

APPENDIX B: CASE STUDY PROTOCOL

APPENDIX C: CASE STUDY INTERVIEW PROTOCOL

APPENDIX D: CASE STUDY PARTICIPATION E-MAIL

APPENDIX E: INFORMED CONSENT FORM

APPENDIX F: LETTER OF COMPLETION TO STUDY PARTICIPANTS