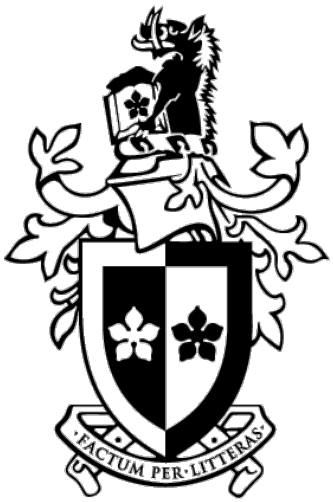
How Social Networks Shape Absorptive Capacity in Open Innovation: Food Industry Case Studies

Swinburne University of Technology



Andrew Terhorst

July 21, 2015

Abstract

Abstract goes here

Dedication

To mum and dad

Declaration

I declare that..

Acknowledgements

I want to thank...

Contents

1 Introduction **8**
- 1.1 Scope of research study . . . 8
- 1.2 What is innovation? . . . 8
- 1.3 Why is innovation important? . . . 8
- 1.4 Leveraging knowledge assets . . . 8
  - 1.4.1 Resource-based view . . . 8
  - 1.4.2 Knowledge-based view . . . 8
  - 1.4.3 Relation-based view . . . 8
  - 1.4.4 Open innovation . . . 8
- 1.5 Impediments of knowledge transfer . . . 8
- 1.6 Organisation of this document . . . 8

2 Moderating affect of absorptive capacity on innovation **9**
- 2.1 Conceptualising absorptive capacity . . . 9
- 2.2 Sticky knowledge . . . 9
- 2.3 Network perspective . . . 9
- 2.4 Research gaps . . . 9
- 2.5 Research questions . . . 9

3 Social mechanisms of absorptive capacity **10**
- 3.1 Social networks . . . 10
- 3.2 Social mechanisms . . . 10
  - 3.2.1 Brokerage . . . 10
  - 3.2.2 Closure . . . 10
  - 3.2.3 Reciprocity . . . 10
- 3.3 Social network analysis . . . 10

4 Methodology **11**
- 4.1 Research philosophy . . . 12
- 4.2 Research design . . . 12
  - 4.2.1 Multiple case study approach . . . 12
  - 4.2.2 Mixed method social network analysis . . . 12
  - 4.2.3 Multitheoretical multilevel analytic framework . . . 12
- 4.3 Case Studies . . . 12
- 4.4 Quantitative methods . . . 12
  - 4.4.1 Quantitative data collection . . . 12
  - 4.4.2 Quantitative data analysis . . . 12
- 4.5 Qualitative methods . . . 12
  - 4.5.1 Qualitative data collection . . . 12

4.5.2 Qualitative data analysis 12
4.6 Integrating the quantitative and qualitative phases 12
4.6.1 Association rule learning 12
4.7 Cross-case analysis 12

5 Case study 1 **13**

6 Case study 2 **14**

7 Case study 3 **15**

8 Cross-case analysis **16**

9 Conclusion **17**

References **18**

A Qualitative analysis code book **19**

B Formulae for computing centrality measures **20**
B.1 Freeman's measure of degree centrality 20
B.2 Bonacich's measure of eigenvector centrality 20
B.3 Burt's measure of constraint 20
B.4 Katz's measure of subgraph centrality 20

C R code used in this study **21**
C.1 Code for computing centrality measures 21
C.2 Code for generating network visualisations 21
C.3 Code for exponential random graph models 21

D On-line survey items **22**

Chapter 1

Introduction

1.1 Scope of research study

1.2 What is innovation?

1.3 Why is innovation important?

1.4 Leveraging knowledge assets

1.4.1 Resource-based view

1.4.2 Knowledge-based view

1.4.3 Relation-based view

1.4.4 Open innovation

1.5 Impediments of knowledge transfer

1.6 Organisation of this document

Chapter 2

Moderating affect of absorptive capacity on innovation

2.1 Conceptualising absorptive capacity

2.2 Sticky knowledge

2.3 Network perspective

2.4 Research gaps

2.5 Research questions

Chapter 3

Social mechanisms of absorptive capacity

3.1 Social networks

3.2 Social mechanisms

3.2.1 Brokerage

3.2.2 Closure

3.2.3 Reciprocity

3.3 Social network analysis

Chapter 4

Methodology

4.1 Research philosophy

4.2 Research design

4.2.1 Multiple case study approach

4.2.2 Mixed method social network analysis

4.2.3 Multitheoretical multilevel analytic framework

4.3 Case Studies

4.4 Quantitative methods

4.4.1 Quantitative data collection

Survey participants

On-line survey

4.4.2 Quantitative data analysis

Centrality measures

Exponential random graph modelling

4.5 Qualitative methods

4.5.1 Qualitative data collection

Interview participants

Semi-structured interviews

4.5.2 Qualitative data analysis

Transcription of recorded interviews

Coding of interview transcripts

Analysis of codes

4.6 Integrating the quantitative and qualitative phases

Chapter 5

Case study 1

Chapter 6

Case study 2

Chapter 7

Case study 3

Chapter 8

Cross-case analysis

Chapter 9

Conclusion

References

Appendix A

Qualitative analysis code book

Appendix B

Formulae for computing centrality measures

B.1 Freeman's measure of degree centrality

B.2 Bonacich's measure of eigenvector centrality

B.3 Burt's measure of constraint

B.4 Katz's measure of subgraph centrality

Appendix C

R code used in this study

C.1 Code for computing centrality measures

C.2 Code for generating network visualisations

C.3 Code for exponential random graph models

Appendix D

On-line survey items