## How Social Networks Shape Absorptive Capacity in Open Innovation: Food Industry Case Studies Swinburne University of Technology



Andrew Terhorst

July 17, 2015

## Abstract

Abstract goes here

## Dedication

To mum and dad

## Declaration

I declare that..

## Acknowledgements

I want to thank...

## Contents

1	Intr	Introduction							
	1.1	Scope of research study	8						
	1.2	Research motivation	8						
	1.3	Research objectives	8						
	1.4	Organisation of this document	8						
2	Lite	erature Review	9						
	2.1	What is innovation?	9						
	2.2	Why is innovation important?	6						
	2.3	Business perspectives of innovation	S						
		2.3.1 Resource-based view	S						
		2.3.2 Knowledge-based view	S						
		2.3.3 Relation-based view	S						
		2.3.4 Dynamic capabilities	S						
	2.4		6						
	2.5	Knowledge transfer	9						
			Ö						
		2.5.2 Sticky knowledge	6						
		2.5.3 Network perspective	6						
	2.6		6						
	2.7		9						
3	Mot	thodology 1	n						
J	3.1	Research philosophy							
	3.2	Research design							
	5.2	3.2.1 Multiple case study approach							
		3.2.2 Mixed method social network analysis							
		3.2.3 Multitheoretical multilevel analytic framework							
	3.3	Case Studies							
	3.4	Quantitative methods							
	5.4	3.4.1 Quantitative data collection							
		3.4.2 Quantitative data analysis							
	3.5	Qualitative methods							
	5.5	3.5.1 Qualitative data collection							
	3.6	3.5.2 Qualitative data analysis							
	J.U	3.6.1 Association rule learning							
	3.7								
	J. (	Cross-case analysis	- 1						

4	Results				
	4.1	Case study 1	12		
	4.2	Case study 2	12		
	4.3	Case study 3	12		
	4.4	Results of cross-case analysis	12		
5	Discussion				
	5.1	Social mechanisms of absorptive capacity	13		
	5.2	Antecedents of knowledge sharing and knowledge creation	13		
		5.2.1 Individual factors	13		
		5.2.2 Relational factors	13		
		5.2.3 Organisational factors	13		
	5.3	Stickiness of knowledge	13		
	5.4	Multilevel assessment of absorptive capacity	13		
6	Conclusion				
	6.1	Study findings	14		
	6.2	Limitations of this study	14		
	6.3	Implications for management of open innovation	14		
	6.4	Future research	14		
Re	efere	nces	15		
$\mathbf{A}$	Qua	alitative analysis code book	16		
В	Fori	mulae for computing centrality measures	17		
	B.1	Freeman's measure of degree centrality	17		
	B.2	Bonacich's measure of eigenvector centrality	17		
	В.3	Burt's measure of constraint	17		
	B.4	Katz's measure of subgraph centrality	17		
$\mathbf{C}$	R code used in this study				
	C.1	Code for computing centrality measures	18		
	C.2	Code for generating network visualisations	18		
	C.3	Code for exponential random graph models	18		
D	On-	line survey items	19		

## Introduction

- 1.1 Scope of research study
- 1.2 Research motivation
- 1.3 Research objectives
- 1.4 Organisation of this document

#### Literature Review

- 2.1 What is innovation?
- 2.2 Why is innovation important?
- 2.3 Business perspectives of innovation
- 2.3.1 Resource-based view
- 2.3.2 Knowledge-based view
- 2.3.3 Relation-based view
- 2.3.4 Dynamic capabilities
- 2.4 The open innovation paradigm
- 2.5 Knowledge transfer
- 2.5.1 Absorptive capacity
- 2.5.2 Sticky knowledge
- 2.5.3 Network perspective
- 2.6 Research gaps
- 2.7 Research questions

## Methodology

3.1	Research	phi	loso	phy
-----	----------	-----	------	-----

- 3.2 Research design
- 3.2.1 Multiple case study approach
- 3.2.2 Mixed method social network analysis
- 3.2.3 Multitheoretical multilevel analytic framework
- 3.3 Case Studies
- 3.4 Quantitative methods
- 3.4.1 Quantitative data collection

Survey participants

On-line survey

#### 3.4.2 Quantitative data analysis

Centrality measures

Exponential random graph modelling

#### 3.5 Qualitative methods

#### 3.5.1 Qualitative data collection

Interview participants

Semi-structured interviews

#### 3.5.2 Qualitative data analysis

Transcription of recorded interviews

Coding of interview transcripts

Analysis of codes

3.6 Integrating the quantitative and qualitative

11

## Results

- 4.1 Case study 1
- 4.2 Case study 2
- 4.3 Case study 3
- 4.4 Results of cross-case analysis

### Discussion

- 5.1 Social mechanisms of absorptive capacity
- 5.2 Antecedents of knowledge sharing and knowledge creation
- 5.2.1 Individual factors
- 5.2.2 Relational factors
- 5.2.3 Organisational factors
- 5.3 Stickiness of knowledge
- 5.4 Multilevel assessment of absorptive capacity

## Conclusion

6.1 Study findings

6.2 Limitations of this study

6.3 Implications for management of open innovation

6.4 Future research

## 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