Organisational Learning and Innovation: Implication of Dual-level Leadership, Trust, Task Interdependence on Intention to Share Knowledge and Innovation

Voyce Li (3099075)

A dissertation submitted in the fulfilment of the requirements for the degree of

Doctor of Business Administration

8 May 2012

This dissertation contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my dissertation, when deposited in the University Library**, being made available for loan and photocopying subject to the provisions of the Copyright Act 1968.

**Unless an Embargo has been approved for a determined period.

I hereby certify that the work embodied in this Dissertation Project is the result of original research and has not been submitted for a higher degree to any other University or Institution.

(:	Signed	

Abstract

Three models have been developed based on the concepts from Bass and Avolio (1989), Pearce and Gregersen (1991), McAllister (1995), West and Anderson (1996), Bock et al. (2005) and Wang and Howell (2010). Hypotheses defined in the models were examined by using a sample of 143 team members from 41 work teams at a university in Hong Kong. Group- and individual-focused transformational leadership (TFL) behaviours were found to be positively related to intention to share knowledge and team innovation. Group-focused TFL behaviour was also found to be positively related to intention to share knowledge through the mediating influence of task interdependence and positively associated with team innovation through the mediating influence of affect-based trust.

The study makes four contributions to the literature with regard to organisational learning and innovation. 1) The attributes from group- versus individual-focused TFL behaviours were measured simultaneously. Both Group- and individualfocused TFL behaviours were found to be positively related to team innovation and intention to share knowledge. As a result, researchers in team innovation and knowledge sharing should focus on both dimensions rather than only on either groups or on individuals. 2) Task interdependence has been found to be positively associated with intention to share knowledge but not with team innovation. The types of tasks and activities undertaken at educational institutions and the high level of homogeneity in the study sample may not have sufficient variety in task interdependence for any relationship to be detected. 3) Interpersonal trust has been found to be a factor of knowledge sharing in organisations. However, affectbased trust was found to be positively related to team innovation but not to intention to share knowledge in the current study. The findings can lead to a further investigation in this area. 4) Task interdependence and affect-based trust were found to have mediating roles in group-focused TFL and intention to share knowledge, and in group-focused TFL and team innovation respectively. The findings suggest that task interdependence can encourage team members' intention to share knowledge, and affect-based trust is important to motivate team

innovation in organisations. In short, team leaders are advised to focus on a more interdependent structure at work to cultivate knowledge sharing among team members and build trust to promote team innovation.

Keywords: group-focused TFL, individual-focused TFL, team innovation, intention to share knowledge, affect-based trust, cognition-based trust, task interdependence.

Acknowledgements and Dedication

I would like to acknowledge the assistance, support and love from the persons that I received in the pursuit of the study and the preparation of the research.

I would like to thank my supervisor, Dr. Rebecca Mitchell, for her guidance and encouragement on the dissertation paper; the two external examiners for the valuable comments; and two of my colleagues, Mr. Adam Forrester and Mr. Alfred Lee, for the advice on my language.

I also would like to thank the teachers, Prof. John Burgess, Assoc. Prof. Alison Dean, Assoc. Prof. Abul Shamsuddin, Dr. Gian Casimir, Dr. John Dugas, Dr. Marilyn Healy, Dr. John Lewer, Dr. David Meacheam, Dr. Marcus Rodrigs and Dr. Suzanne Ryan, who have taught me in the programme. Without their assistance and support, the research study would not be completed smoothly.

I would like to thank the Director, Dr. Bruce Morrison, colleagues and friends from the English Language Centre of the Hong Kong Polytechnic University for their advice and support.

In addition, I would like to express my gratitude for the support from the following in the survey: the Dean of Faculty of Humanities, Prof. Chu-Ren Huang; the Dean of the School of Hotel and Tourism Management, Prof. Kaye Chon; the General Manager of Hotel ICON, Adjunct. Assoc. Prof. Richard Hatter; the Dean of Faculty of Applied Science and Textiles, Prof. Kwok-Yin Wong; the Dead of Faculty of Construction and Land Use, Prof. Jin-guang Teng; the Head of Land Surveying and Geo-Information, Prof. Xiao-li Ding; the acting Dean of Faculty of Business, Prof. Howard Davies; and all the participants.

Finally, I dedicate this dissertation to my family members, Wai-Yee Yim, Wendy Li, Mike Li, Kennis Cheng, Craig Weiser, Pinky Weiser, Sophie Weiser, Murphy Li, Alisa Yip and Libby Li for their love and support during my study.

Table of Contents

Abstract	i
Acknowledgements and Dedication	
List of Table	
List of Figures	IX
Chapter 1 Overview	
1 Introduction	
1.1 Background to the Research	1
1.2 Justification for the Dissertation Project	2
1.3 Research Question and Hypotheses	4
1.4 Research Methodology	5
1.5 Major Findings	6
Chapter 2 Literature Review	
2 Introduction	7
2.1 Individual, Team and Organisational Learning	10
2.2Transformational Leadership	11
2.3 Dual-level Transformational Leadership	12
2.4 People or Task Oriented Behaviours	13
2.5 Interpersonal Trust – Affect-based and Cognition-based	Trust14
2.6Task Interdependence	16
2.7Leader-Member Exchange	18
2.8 Knowledge	20
2.9 About Knowledge Sharing	21
2.10 Significant of Knowledge Sharing	22
2.11 Innovation	24
2.12 Team Performance in Teams of Knowledge Creation ar	nd Innovation25
2.13 Gaps	27
Chapter 3 Theoretical Framework and Hypothesis	
3 Introduction	29
3.1 Research Questions	29

3.2The	oretical Framework	30
3.2.1	Introduction of variables in the framework	
	The conceptual models and the relationships between variables	
	otheses Development	37
3.3.1	Intention to share knowledge and the dual-level transformational	
	leadership	
3.3.2	3	
3.3.3	Intention to share knowledge and task interdependence	.39
3.3.4	Innovation and the dual-level transformational leadership	.40
3.3.5	Innovation and interpersonal trust	41
3.3.6	Innovation and task interdependence	42
3.3.7	Dual-level transformational leadership, interpersonal trust and task	
	interdependence	43
3.3.8	Mediating effects of task interdependence	44
3.3.9	Mediating effects of interpersonal trust	45
3.3.10	Moderating effects of task interdependence	. 46
Chapter 4	Methodology	
4 Introdu	ıction	47
	fication for the Paradigm and Methodology	
	earch design	
	Strategy	
	Sample	
	Data collection: The instrument	
	Date collection: Procedure	
	4.1 Ethical consideration	
	4.2 Prerequisite – A pilot study	
	4.3 Recruitment of participants	
4.3 Data	Analysis	
4.3.1	,	
4.3.2	Testing goodness of data	59
4.3.3	Aggregation test – Within-group agreement, intraclass correlations	60

	4.3.4	Hypotheses testing	61
CI	hapter 5	Analysis of Data	
5	Introdu	iction	63
	5.1 Subj	ects	63
	5.1.1	Response rate	63
	5.1.2	Subjects characteristics	64
	5.2 Bas	ic information, Correlation Matrix, Common Method Variance	66
	5.2.1	Assessing normality	66
	5.2.2	Assessing correlation	66
	5.2.3	Assessing common method variance	67
	5.3The	Goodness of Data	68
	5.3.1	Factor analysis – Principal component analysis	68
	5.3.2	Confirmative items for individual-focused transformational	
		leadership	69
	5.3.3	Confirmative items for group-focused transformational leadership	70
	5.3.	4 Confirmative items for affect- and cognition-based trust	71
	5.3.5	Confirmative items for task interdependence	72
	5.3.6	Confirmative items for intention to share knowledge	73
	5.3.7	Confirmative items for individual innovation	74
	5.3.8	Confirmative items for team innovation	74
	5.3.9	Reliability	75
	5.4 Data	Aggregation - r _{WG} , ICC(1) and ICC(2)	76
	5.5 Ordii	nary Least Squares (OLS)	77
	5.5.1	Linear regression – intention to share knowledge	78
	5.5.2	Linear regression – team innovation	80
	5.5.3	Linear regression – individual innovation	82
	5.5.4	Linear regression – dual-level transformational leadership	83
	5.5.5	Mediation relationship	85
	5.5.	5.1 Mediation analysis for task interdependence	85
	5.5.	5.2 Mediation analysis for affect-based trust	87
	5.5.6	Moderation relationship	89

5.6 Co	nclusion	90
Chapter 6	6 Conclusions and Implications	
6 Introd	uction	93
6.1 Cor	nclusion about Each Research Issue	93
6.1.1	The relationship between intention to share knowledge and	the dual-
	level transformational leadership	95
6.1.2	The relationship between intention to share knowledge and	
	interpersonal trust	96
6.1.3	The relationship between intention to share knowledge and	task
	interdependence	97
6.1.4	The relationship between innovation and the dual-level tran-	
	leadership	
6.1.5	The relationship between innovation and interpersonal trust	99
6.1.6	The relationship between innovation and task interdepende	nce100
6.1.7	The relationship between dual-level transformational leader	ship and
	interpersonal trust	100
6.1.8	The relationship between dual-level transformational leader	ship and
	task interdependent	101
6.1.9		
6.1.1	0 Mediating effects of interpersonal trust	
	lications for Theory	
6.3Lim	itations	108
6.4 Fur	ther Research	110
Referenc	es	111
	ces	
 Ap 	ppendix I Participant Information Statement	128
-	opendix II Demographic data	
	opendix III Descriptive Statisticsopendix IV Goodness of Data	
۰,۲	r	

List of tables

Table 4.1 The instrument used in the survey	52
Table 5.1 Correlations (N=143)	67
Table 5.2 KMO and percentage of variance explained	68
Table 5.3 Component matrix of factor analysis – individual-focused TFL	69
Table 5.4 Component matrix of factor analysis – group-focused TFL	70
Table 5.5 Component matrix of factor analysis – affect- and cognition-based	70
trust	12
Table 5.6 Component matrix of factor analysis – task interdependence	72
Table 5.7 Component matrix of factor analysis – intention to share knowledge.	73
Table 5.8 Component matrix of factor analysis – individual innovation	74
Table 5.9 Component matrix of factor analysis – team innovation	74
Table 5.10 KMO, percentage of variance explained and Cronbach's alpha	75
Table 5.11 r _{WG} (j), ICC(1), ICC(2) and F statistic	77
Table 5.12 Mediation analysis - task interdependence	86
Table 5.13 Sobel test for task interdependence by unstandardised regression	
coefficient and standard error	87
Table 5.14 Mediating role of affect-based trust on team innovation	88
Table 5.15 Sobel test for affect-based trust by unstandardised regression	
coefficient and standard error	88
Table 5.16 Mediating role of affect-based Trust on Intention to share	
knowledge	89
Table 5.17 Results of the hypotheses	91

List of figures

Figure 2.1 Knowledge sharing for knowledge creation and knowledge retention organisation	
Figure 3.1 Model 1 - conceptual framework of the relationships between intent to share knowledge and its independent and mediating variables	
Figure 3.2 Model 2 - conceptual framework of the relationships between innov and its independence and mediating variables	
Figure 3.3 Model 3 - conceptual framework of a moderating effect of task interdependence	37
Figure 5.1 Model 1 - the hypotheses for intention to share knowledge	78
Figure 5.2 Model 2 - the hypotheses for innovation	80
Figure 5.3 Model 3 - the hypothesis for the moderating role task interdependence	90
Figure 6.1 Model 1 - the results of the hypotheses for intention to share knowledge	94
Figure 6.2 Model 2- the results of the hypotheses for innovation	94
Figure 6.3 Model 3 - the result of the hypothesis for the mediating role of task interdependence	95