



University of Canberra

This thesis is available in print format from the University of Canberra Library.

If you are the author of this thesis and wish to have the whole thesis loaded here, please contact the University of Canberra Library at *e-theses@canberra.edu.au* Your thesis will then be available on the www providing greater access.

Information Technology implementation and acceptance:

A case study of change management

Shane M. Compton

A research thesis type 1 presented in fulfillment of the requirements of the degree of
Masters in Applied Science at the University of Canberra

November 2001

Comments incorporated July 2002

© Shane M. Compton 2002

Acknowledgements

I would like to thank the Defence Housing Authority for their support and willingness to provide access to their staff as participants in my research. Access to this environment meant the research could be conducted in an organization undergoing a significant Information Technology implementation.

I would especially like to thank my supervisor Dr Ron Henderson for the expert guidance and advice he has given me throughout the process. Without his expertise, encouragement and commitment, this thesis would not have been possible. I would also like to thank my parents for their support and encouragement in attaining this goal.

Abstract

The implementation of a new Information Technology in an organization represents a significant change. Little research, however, has been conducted on the collective power of Information Technology acceptance and change management. The current research seeks to integrate a prominent model of technology acceptance and change management theory to develop an holistic approach to Information Technology implementation and acceptance. Using Davis' (1989) Technology Acceptance Model (TAM) (Attitude) and Beer, Eisenstat and Spector's (1990) six step model of change (Change), this three phase longitudinal case study examined the change management of the implementation of a new Information System within a statutory authority.

Results from the current study show that the addition of the six step model (Change) adds appreciably to the TAM (Attitude) in the prediction of general service satisfaction and perceived implementation success. Findings also show the temporal salience of the factors of the six step model and the TAM in the prediction of these dependent variables. The current research supports previous work by Davis (1989) and Thompson, Higgins and Howell (1994) who stated that initially people are motivated to use an Information System by affect, but will in time be more concerned with usefulness as habit formation occurs. The current study found that during the pre-implementation phase, commitment through communication and vision are critical to the change process. However, as the change moves into the implementation phase, consensus becomes most important. The shift in factors salient during the change process is what the author refers to as the temporal progression proposition. Strengths and limitations of the current study and recommendations for future research are discussed.

Table of contents

Chapter 1: Introduction	1
Chapter 2: Information Technology implementation and acceptance	9
Theory of Reasoned Action.....	10
Technology Acceptance Model.....	14
System design features	21
Modifications to the Technology Acceptance Model.....	22
Individual differences.....	30
Prior experience.....	30
Computer anxiety and self-efficacy.....	31
Personal flexibility.....	32
Discretionary and non-discretionary usage	33
Chapter 3: Change management	36
Change management process	36
Task alignment	38
Six steps to change management.....	39
1. Mobilize commitment to change through joint diagnosis of business problems.	39
2. Develop a shared vision of how to organise and manage for change.....	41
3. Foster consensus for the new vision, competence to enact it, and cohesion to move it along.	42
4. Spread revitalization to all departments without pushing it from the top.	43
5. Institutionalize revitalization through formal policies, systems and structures.....	44
6. Monitor and adjust strategies in response to problems in the revitalization process.	45
Summary	46
Chapter 4: Current research setting	47
The current system in operation.....	47
Reasons prompting the change of Information System	48
Impetus behind the current research.....	49
Hypotheses	49

Temporal sequencing	50
Chapter 5: Method – Phase I pre-implementation	52
Participants	52
Materials	52
Questionnaire measures	53
Procedure	62
Chapter 6: Results – Phase I pre-implementation	63
Descriptive statistics	63
Analysis of the relative contribution of the components of Attitude and Change	70
Chapter 7: Discussion – Phase I pre-implementation	72
Variance accounted for by Attitude and Change in the dependent variable	72
Variance accounted for by the components of Attitude	72
Variance accounted for by the components of Change	73
Limitations	74
Chapter 8: Method – Phase II implementation	76
Participants	76
Materials	77
Questionnaire measures	77
Procedure	78
Chapter 9: Results – Phase II implementation	80
Descriptive statistics	80
Analysis of the relative contribution of the components of Attitude and Change	92
Chapter 10: Discussion – Phase II implementation	98
Variance accounted for by Attitude and Change in the dependent variables	98
Satisfaction with the BSG	98
Relative contribution of Attitude and Change	98
Implementation success	99
Relative contribution of Attitude and Change	99
Information Systems success	100
Relative contribution of Attitude and Change	100
Limitations	101

Chapter 11: Method – Phase III post-implementation	102
Participants	102
Materials	103
Questionnaire measures	103
Procedure	103
Chapter 12: Results – Phase III post-implementation	104
Descriptive statistics	104
Analysis of the relative contribution of the components of Attitude and Change	115
Chapter 13: Discussion – Phase III post-implementation	121
Variance accounted for by Attitude and Change in the dependent variables	121
Satisfaction with the BSG	121
Relative contribution of the components of Attitude and Change	121
Implementation success	122
Relative contribution of the components of Attitude and Change	122
Information Systems success	123
Relative contribution of the components of Attitude and Change	124
Chapter 14: Temporal sequencing	126
Satisfaction with the BSG	126
Implementation success	129
Information Systems success	131
Chapter 15: Overall discussion	135
Consequences and practical implications of the current research	135
Strengths and limitations of the current research	136
Recommendations and possibilities for future research	138
References	140
Appendix A – Phase I introduction letter from the DHA	154
Appendix B – Phase I introduction letter from the University of Canberra	155
Appendix C – Phase I informed consent	156
Appendix D – Phase I questionnaire	157

Appendix E – Phase II introduction letter from the DHA	165
Appendix F – Phase II introduction letter to continuing participants from the University of Canberra	166
Appendix G – Phase II introduction letter to new participants from the University of Canberra	167
Appendix H – Phase II informed consent	168
Appendix I – Phase II questionnaire	169
Appendix J– Phase III Introduction Letter from the DHA	178
Appendix K – Phase III introduction letter to continuing participants from the University of Canberra	179
Appendix L – Phase III introduction letter to new participants from the University of Canberra	180
Appendix M – Phase III informed consent	181
Appendix N – Phase III questionnaire	182

Table of figures

<u>Figure 2.1.</u>	The Theory of Reasoned Action (Fishbein & Ajzen, 1975).....	11
<u>Figure 2.2.</u>	Technology Acceptance Model (TAM) (Davis, 1989).	15
<u>Figure 2.3.</u>	Revised Technology Acceptance Model (Davis, Bagozzi & Warshaw, 1989).....	24
<u>Figure 2.4.</u>	Technology Acceptance Model incorporating enjoyment (Davis, Bagozzi & Warshaw, 1992).....	25
<u>Figure 2.5.</u>	Temporal adjustments to the Technology Acceptance Model	28
	(Igarria et al. 1994).....	28
<u>Figure 3.1.</u>	Six step model of change management as applicable to an Information Technology setting (Beer, Eisenstat, & Spector, 1990).....	39
<u>Figure 14.1.</u>	Independent variables against satisfaction with the BSG over time.	128
<u>Figure 14.2.</u>	Independent variables against implementation success over time...	130
<u>Figure 14.3.</u>	Predictor variables against Information Systems success over time.	
		133