A Multi-Level Theory of Post-Adoptive Adaptation and Organisational Change in Enterprise System Implementation: The Case of CRM

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Abstract

The implementation of a new enterprise system is a major change event for end-users. Users must adapt themselves to learn and understand the new enterprise system as well as engage with the system in their work practices. In addition, organisations need to modify organisational processes and structures to support the new enterprise system. Past research has largely focused on initial organisational adoption decisions concerning an enterprise system. However, there has been little research concerning the use of the enterprise system and the associated change process in the post-adoption stage.

This study addresses this gap by developing a multi-level theory of post-adoptive adaptation and organisational change associated with enterprise system implementation in organisations. This study focuses on enterprise system implementation in the context of the Customer Relationship Management (CRM) system. The research questions are: (1) How do organisational changes unfold in enterprise system implementation in the context of CRM systems? (2) How do individuals adapt to an enterprise system in the context of CRM systems at the post-adoptive stage?

The study adopted a qualitative interpretive case study method to develop a multi-level theory. Multiple sources of data including interviews and supporting documents were collected and analysed in order to understand individuals' adaptation behaviours and organisational changes in the post-adoption stage of enterprise system implementation. This study employed an embedded multiple-case design and multi-level analysis. Semi-structured interviews were conducted with 43 participants in three different types of business organisations: innovative office automation solutions, an insurance business, and a hospital. The participants were management, users, and IT support staff.

Three concurrent data analysis processes (data reduction, data display, and conclusion drawing and verification) were conducted to analyse data and to build a multi-level theory. In addition, the data analysis processes were carried out to identify critical events and gaps which occurred during the change process. During the data analysis stage, low-level codes, interpretive codes, and pattern codes were developed to answer the research questions and build theory. Within-case and cross-case analysis was conducted to explore individuals' adaptation behaviours and organisational change in each organisation and compared with the other organisations to identify similarities and differences.

The study develops new knowledge based on how an integrated theoretical perspective using coping theory and a socio-technical perspective can inform ICT-enabled changes in organisations. The findings revealed five core pattern codes. The pattern codes of changing structure of work, consequences of CRM implementation, and transparency tool and control mechanism revealed organisations change. The pattern codes of adaptation behaviours and factors influencing adaptation behaviours reflected individual adaptation. These two levels of analysis were interrelated.

This research contributes to the literature of user adaptation, organisational change, and enterprise systems by presenting a multi-level theory of post-adoptive adaptation and organisational change following enterprise system implementation. The results showed that organisations changed their structure of work after enterprise system implementation, which led to the generation of gaps in socio-technical components and consequences. The generation of gaps had a significant impact on individual adaptation behaviours. The findings will assist organisations in providing appropriate resources and support for successful enterprise system implementations at the post-adoption stage.

Table of Contents

Abstract i

Table of Contents iii

List of Figures x

List of Tables xi

Attestation of Authorship xiii

Acknowledgements xiv

Chapter 1: Introduction 1

1.1 Rationale and Significance of the Study 1

1.2 Research Objectives 5

1.3 Research Questions 5

1.4 Research Methodology 6

1.5 Thesis Contributions 7

1.6 Thesis Structure 8

Chapter 2: Literature Review 10

2.1 Introduction 10

2.2 Post-adoptive Behaviour and User Adaptation 12

2.2.1 Post-adoptive behaviour 13

2.2.2 User adaptation 14

2.3 Theoretical Foundation 19

2.4 Coping Theory 20

2.4.1 Fundamental arguments in coping theory 20

2.4.2 Coping theory in IS research 22

2.5 A Socio-technical Perspective 25

2.5.1 Fundamental arguments in the socio-technical perspective 26

2.5.2 A socio-technical perspective in IS research 27

2.6 Enterprise System: Customer Relationship Management (CRM) 33

2.6.1 What is CRM? 33
2.6.2 CRM modules and CRM vendors 35
2.6.2.1 CRM modules 35
2.6.2.2 CRM vendors 37
2.6.3 Overview of Customer Relationship Management (CRM) research 37
2.7 Chapter Conclusion 46
Chapter 3: Research Methodology 47
3.1 Introduction 47
3.2 Research Paradigm and Approach 49
3.2.1 Ontological assumptions 49
3.2.2 Epistemological assumptions 50
3.2.3 Interpretive approach 51
3.3 Case Study Design 51
3.3.1 Unit of analysis 53
3.3.2 Case study selection 53
3.4 Data Collection 56
3.4.1 Data sources 56
3.4.1.1 Documentations 57
3.4.2 Research sites 58
3.4.2.1 Participant recruitment process 58
3.4.2.2 Overview of interview process 58
3.5 Data Analysis 59
3.5.1 Data analysis technique 60
3.5.1.1 Data reduction 60
3.5.1.2 Data display 64
3.5.1.3 Conclusion drawing and verification 64
3.5.2 Data analysis of critical events, gaps, and consequences 65
3.5.3 Within-case analysis 67
3.5.4 Cross-case analysis 68
3.5.5 Multi-level analysis 68

3.6 Chapter Conclusion 69
Chapter 4: Organisational Contexts of Case Study Sites 70
4.1 Introduction 70
4.2 The RC Case 71
4.2.1 Background of the organisation 71
4.2.2 The organisation's IT system infrastructure 72
4.2.3 History of CRM implementation in RC 73
4.2.4 Participant information 74
4.3 The HP Case 76
4.3.1 Background of the organisation 76
4.3.2 The organisation's IT system infrastructure 77
4.3.3 History of CRM implementation in HP 78
4.3.4 Participant information 79
4.4 The BI Case 80
4.4.1 Background of the organisation 80
4.4.2 The organisation's IT system infrastructure 80
4.4.3 History of CRM implementation 81
4.4.4 Participant information 82
4.5 Chapter Conclusion 84
Chapter 5: Analysis and Findings: RC Case 85
5.1 Introduction 85
5.1.1 CRM use in the RC case 85
5.1.2 The structure of pattern codes in the RC case 87
5.2 Pattern Code: Changing Structure of Work 87
5.2.1 Reshaped technology-enabled work processes 89
5.2.2 New centralised team 92
5.2.3 User-system-process interaction constraint 94
5.2.3.1 Data quality governance 94

5.2.3.2 Mismatch for sales professionals' occupational identities 96
5.3 Pattern Code: Transparency Tool and Control Mechanism 97
5.3.1 Information clarification 98
5.3.2 New rules 99
5.4 Pattern Code: Consequences of CRM Implementation 100
5.5 Pattern Code: Adaptation Behaviours 101
5.5.1 Resistance behaviour 102
5.5.2 Avoidance behaviour 105
5.5.3 Adaptation effort behaviour 106
5.6 Pattern Code: Factors Influencing Adaptation Behaviours 107
5.6.1 Individual characteristics, attitudes, and users' perception 109
5.6.2 Organisational policy and support 113
5.6.3 Social influence 118
5.6.4 Lack of CRM expertise and subcultural mismatch 119
5.7 Theoretical Models 121
5.7.1 Theoretical model of organisational change 122
5.7.1.1 Gaps between socio-technical components 125
5.7.2 Theoretical model of individual adaptation 131
5.7.3 Theoretical model of multi-level change 133
5.8 Chapter Conclusion 135
Chapter 6: Analysis and Findings: HP Case 136
6.1 Introduction 136
6.1.1 CRM use in the HP case 136
6.1.2 The structure of pattern codes in the HP case 138
6.2 Pattern Code: Changing Structure of Work 138
6.2.1 Reshaped technology-enabled work processes 140
6.2.2 Integrated work systems 143
6.2.3 User-system-process interaction constraint 144
6.2.3.1 Lack of customisation 144

6.2.3.2 Slow connection to CRM server 146
6.3 Pattern Code: Consequences of CRM Implementation 147
6.4 Pattern Code: Adaptation Behaviours 148
6.4.1 Resistance behaviour 149
6.4.2 Avoidance behaviour 151
6.4.3 Adaptation effort behaviour 151
6.4.4 Self-satisfaction adaptation behaviour 152
6.5 Pattern Code: Factors Influencing Adaptation Behaviours 154
6.5.1 Individual attitudes and users' perception 156
6.5.2 Task-technology constraints 158
6.5.3 Organisational policy and support 160
6.5.4 Social influence 164
6.6 Theoretical Models 165
6.6.1 Theoretical model of organisational change 165
6.6.1.1 Gaps between socio-technical components 171
6.6.2 Theoretical model of individual adaptation 177
6.6.3 Theoretical model of multi-level change 178
6.7 Chapter Conclusion 180
Chapter 7: Analysis and Findings: BI Case 181
7.1 Introduction 181
7.1.1 CRM use in the BI case 182
7.1.2 The structure of pattern codes in the BI case 186
7.2 Pattern Code: Changing Structure of Work 186
7.2.1 Reshaped technology-enabled work processes 188
7.2.2 Integrated work systems 190
7.2.3 Customer-centric data focus 192
7.2.4 User-system-process interaction constraint 193
7.2.4.1 Customisation limitations 193
7.2.4.2 Limited user experience with off-the-shelf software 195

7.2.4.3 Mismatch between the CRM system and work practices 195
7.3 Pattern Code: Consequences of CRM implementation 197
7.3.1 Conflict among users 197
7.3.2 Effect on work performance 198
7.4 Pattern Code: Adaptation Behaviours 200
7.4.1.1 Resistance behaviour 201
7.4.1.2 Avoidance behaviour 203
7.4.1.3 Adaptation effort behaviour 204
7.4.1.4 Self-satisfaction adaptation behaviour 206
7.5 Pattern Code: Factors Influencing Adaptation Behaviours 207
7.5.1.1 Individual characteristics, attitudes, and users' perception 209
7.5.1.2 Task-technology constraints 212
7.5.1.3 Organisational policy and support 214
7.5.1.4 Social influence 219
7.6 Theoretical Models 220
7.6.1 Theoretical model of organisational change 220
7.6.1.1 Gaps between socio-technical components 226
7.6.2 Theoretical model of individual adaptation 231
7.6.3 Theoretical model of multi-level change 232
7.7 Chapter Conclusion 234
Chapter 8: Discussion 235
8.1 Introduction 235
8.2 Building the Theory 235
8.2.1 Changing structure of work 235
8.2.2 Consequences of CRM implementation 238
8.2.3 Transparency tool and control mechanism 240
8.2.4 Adaptation behaviours 241
8.2.5 Factors influencing adaptation behaviours 243
8.2.6 Relationship among the pattern codes 244
8.3 Theoretical Integration 246

8.3.1 Organisational change 246
8.3.2 Individual adaptation 249
8.3.3 Multi-level theory 255
8.4 Chapter Conclusion 258
Chapter 9: Conclusion 259
9.1 Introduction 259
9.2 Summary of the Research Presented in this Thesis 259
9.3 Research Contributions 264
9.3.1 Theoretical contributions 264
9.3.2 Practical contributions 266
9.4 Limitations and Future Research 268
9.5 Chapter Conclusion 269
References 271
Appendix 1: Indicative Interview Questions 294
Appendix 2: Ethic Approval 299
Appendix 3: Participant Information Sheet 301
Appendix 4: Consent Form 305
Appendix 5: Interview Question Form 307
Appendix 6: Coding Construction of RC Case 308
Appendix 7: Coding Construction of HP Case 312
Appendix 8: Coding Construction of BI Case 315

List of Figures

Figure 2.1 Coping theory and a socio-technical perspective: underlying theories for this study 19

Figure 3.1 The research process in this study 48

Figure 3.2 Data analysis process from codes to critical events, gaps, and consequences 67

Figure 5.1 Pattern codes structure in the RC case 87

Figure 5.2 Organisational change model in the RC case 123

Figure 5.3 Individual adaptation model in the RC case 131

Figure 5.4 Theoretical model of multi-level change associated with CRM implementations in the RC organisation 134

Figure 6.1 Pattern codes structure in the HP Case 138

Figure 6.2 Organisational change model in the Thai Marketing department 166

Figure 6.3 Organisational change model in the Contact Centre department 168

Figure 6.4 Organisational change model in the e-mail correspondence team 170

Figure 6.5 Individual adaptation model in the HP case 177

Figure 6.6 Theoretical model of multi-level change associated with CRM implementations in the HP case 179

Figure 7.1 Pattern codes structure in the BI case 186

Figure 7.2 Organisational change model in contact centre of Motor Claim, Non-Motor Claim departments, and Personal Line Business Unit 221

Figure 7.3 Organisational change model for AE and underwriter staff 224

Figure 7.4 Individual adaptation model in the BI case 231

Figure 7.5 Theoretical model of multi-level change associated with CRM implementations in the BI case 233

List of Tables

Table 2.1 Selected Studies that Apply Coping Theory in IS Research 22

Table 2.2 Selected Studies that Apply a Socio-technical Perspective in IS Research 28

Table 2.3 Selected CRM Studies – Individual Level 38

Table 2.4 Selected CRM Studies – Organisation Level 42

Table 4.1 Information on the Three Cases 70

Table 4.2 Participant Information in the RC Case 75

Table 4.3 Participant Information in the HP Case 79

Table 4.4 Participant Information in the BI Case 83

Table 5.1 Coding Construction of Changing Structure of Work Pattern Code 88

Table 5.2 Coding Construction of Transparency Tool and Control Mechanism Pattern Code 97

Table 5.3 Coding Construction of Consequences of CRM Implementation Pattern Code 100

Table 5.4 Coding Construction of Adaptation Behaviours Pattern Code 102

Table 5.5 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code 108

Table 5.6 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008) 128

Table 6.1 Coding Construction of Changing Structure of Work Pattern Code 140

Table 6.2 Coding Construction of Consequences of CRM Implementation Pattern Code 147

Table 6.3 Coding Construction of Adaptation Behaviours Pattern Code 149

Table 6.4 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code 154

Table 6.5 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008) 173

Table 7.1 Coding Construction of Changing Structure of Work Pattern Code 187

Table 7.2 Coding Construction of Consequences of CRM Implementation Pattern Code 197

Table 7.3 Coding Construction of Adaptation Behaviours Pattern Code 201

Table 7.4 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code 208

Table 7.5 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008) 227

Table 8.1 Summary of Changing Structure of Work Pattern Code in the Three Cases 236

Table 8.2 Summary of Consequences of CRM Implementation Pattern Code in the Three Cases 239

Table 8.3 Summary of Transparency Tool and Control Mechanism Pattern Code 240

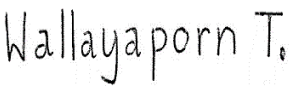
Table 8.4 Summary of Adaptation Behaviours Pattern Code in the Three Cases 242

Table 8.5 Summary of Factors Influencing Adaptation Behaviours Pattern Code in the Three Cases 243

Table 8.6 Summary of Organisational Change in the Three Cases 248

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.



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Chapter 1: Introduction

1.1 Rationale and Significance of the Study

User adaptation to new IT in the work setting has been part of information system (IS) research for almost two decades (Kashefi, Abbott, & Ayoung, 2015). Previous IS research in the area of user adaptation allows us to better understand how users react and respond to new IS in different ways such as with acceptance, resistance, and avoidance. Nevertheless, prior research on user adaptation has paid little attention to different types of user adaptation behaviours associated with new IS at the individual level (Kashefi et al., 2015). More research is needed to study the user adaptation process in order to provide a deeper understanding of how users adapt to new IS implementation (Burton-Jones & Straub Jr, 2006; De Guinea & Webster, 2013; Straub Jr & Burton-Jones, 2007; Sun, 2012).

Implementation of new IS in the workplace alters the nature of work, requiring users to learn new ways of performing their jobs (Patrickson, 1986; Pulakos, Arad, Donovan, & Plamondon, 2000; Thach & Woodman, 1994). Users must adapt themselves to learn and understand new IS as well as adopt the system in their work practices. Each user responds or adapts to new IS implementation in different ways. The lack of user acceptance becomes a major barrier to the success of new IS implementation (Davis, 1993). In addition, unsuccessful adaptation generates significant financial and opportunity costs to an organisation and causes some employees to feel dissatisfied with their job (Markus, 2004).

This study focuses on enterprise system implementation in the context of Customer Relationship Management (CRM) systems. An enterprise system is a commercial software package that includes Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Supply Chain Management (SCM), and others (Markus, Tanis, & Van Fenema, 2000). The enterprise system implementation process is considered to be a complex process that impacts on organisations, processes, tasks, knowledge and skills, and relationships with clients and suppliers (Wognum, Krabbendam, Buhl, Ma, & Kenett, 2004). Organisations that implement an enterprise system are required to make changes in their business, modify their business processes, and restructure their organisations to obtain benefits from the new system (Davenport, 1998).

Approximately 70% of CRM projects have resulted in either losses or no bottom-line improvements in company performance, raising the importance of the need to understand events and other elements that affect CRM implementation outcomes (Dimitriadis & Stevens, 2008). CRM implementation has had a 63% fail rate based on a survey in the US by Merkle Group Inc. (2013). This failure can potentially be attributed to organisations tending to focus on the system itself without being concerning with the issues of integrating culture, processes, people, and technology within and across the organisational context (Finnegan & Currie, 2010).

It is argued that technical issues are not the most important issues in CRM implementation (Finnegan & Willcocks, 2007). The main issues of CRM implementation are related to organisational change and disruption, changes in the business (Schwartz, 2002), and technology misfit (Finnegan & Willcocks, 2006). Lack of appropriate technology use is one of the failure factors of CRM implementation (Zablah, Bellenger, & Johnston, 2004). Therefore, the enterprise system (in this study, the CRM system) is an interesting context to examine individual adaptation and organisational change in the post-adoption stage of system implementation.

This study adopts six stages of the IT implementation process – initiation, adoption, adaptation, acceptance, routinisation, and infusion – from Cooper and Zmud (1990). Out of these six stages, the study specifically focuses on the three stages of adaptation, acceptance, and routinisation. At the post-adoption stage, individuals commence using the enterprise system to support and accomplish work tasks.

Coping theory and its extensions (Beaudry & Pinsonneault, 2005; Fadel & Brown, 2010) provide the foundation for this study in its search to understand how users adapt to new enterprise system implementation. Beaudry and Pinsonneault (2005) define user adaptation as the cognitive and behavioural efforts to cope with IT events that occur in the work environment. They proposed the Coping Model of User Adaptation (CMUA) to study user adaptation as well as explain individuals' post-adoptive reactions to IS. The CMUA model sheds light on how users cope with a disruptive event associated with new IS implementation. This study defines adaptation as individuals' cognitive and behavioural efforts to manage change associated with the disruptive event of new enterprise system implementation that occurs in their work environment.

In terms of the organisation's perspective, new IS implementation helps to improve efficiency, effectiveness, and employees' job performance in organisations (Davis, 1993). IS implementation is considered as part of the organisational change process (Markus & Tanis, 1999). However, the introduction of a new system tends to bring a disruptive workplace change (Orlikowski, 2000). The degree to which users adapt to a new IS system can impact not only the efficiency of the operations at the individual level, but also organisational performance (Bruque, Moyano, & Eisenberg, 2008).

The introduction of new IS implementation requires changes elsewhere in the organisation. These include changes in work processes, work practices, relationships between different professional work groups, roles, skills, and other capacities of the system users (Clegg & Shepherd, 2007). This study also focuses on organisational change associated with the disruptive change of implementing a new enterprise system in an organisation.

In this study, the socio-technical perspective is used to understand the emergent process of change and to scrutinise components that affect organisational changes after enterprise system implementation. Specifically, Leavitt's (1964) concept of the socio-technical system offers a broad framework to understand changes in an organisation through new enterprise system implementation. Additionally, Lyytinen and Newman (2008) extended Leavitt's (1964) socio-technical system model which enables this study to focus on micro-level processes to identify gaps or misalignment that occur during the adaptation process.

One particular type of enterprise system examined in this study is the CRM system. Business functions such as human resource management, strategic planning, accounting, and administration are shaped by information and communication technology (ICT). Increasingly, businesses rely on ICT to manage documents, process business transactions, and make decisions. An aspect that has gained importance in the last decade is the use of ICT to create and maintain long-term relationships with customers. The adoption of the CRM strategy involves a transformation from a product-centric to a customer-centric business environment, where all of the organisation's existing processes must be freshly examined from the perspective of the customers (Currie & Guah, 2007).

CRM is used to increase the scale and scope of customer service (Kotorov, 2002). Davenport (2001) states that CRM systems are tools, technologies, and procedures to

manage and improve the relationships with customers, prospects, and business partners in an organisation. Past research has largely focused on initial adoption decisions regarding CRM. For instance, a study by Vella, Caruana, and Pitt F. (2012) examined the effect of behavioural inhibition systems and behavioural activation systems on users' intention to adopt CRM systems. However, there has been little research concerning the use of CRM and the associated change process in the post-adoption stage.

Much of CRM research has focused on the implementation process and outcomes associated within organisations. There have been few studies which examine post-adoption behaviours at an individual level (Avlonitis & Panagopoulos, 2005; Chen & Wang, 2015; Dong, 2012; Hsieh, Rai, & Xu, 2011; Son & Han, 2011). There have also been few studies that have focused on post-adoption change at an organisational level (Dong, 2010; Josiassen, Assaf, & Cvelbar, 2014; Peltier, Zahay, & Lehmann, 2013; Sebjan, Bobek, & Tominc, 2014). Although some studies have focused on individuals who work in organisations, few have concentrated on individual employees' actions (Jones, Sundaram, & Chin, 2002). It is also important to note that because of the lack of previous research, there is little understanding of the implications of CRM implementation for individuals and organisations simultaneously. Moreover, there has been a lack of CRM research using multi-level analysis.

This thesis adds new knowledge to the current enterprise system research in the context of the CRM system by developing a multi-level theory to deepen understanding of both individual adaptation and organisational change in the post-adoption stage of enterprise system implementation. Previous studies have focused on the initial adoption of CRM systems and organisational performance. However, there is a lack of in-depth, multi-level analysis that explains the way in which individuals adapt to new CRM systems and organisational change during the change process of enterprise system implementation.

Klein and Kozlowski (2000) suggest that there has been a lack of multi-level studies that can provide a rich understanding of phenomena that unfold across levels in an organisation. Most research has focused on individual adaptation to CRM implementation. However, the organisational perspective is crucial to the study of individual adaptation; for example, organisational change after adopting the CRM system significantly influences individual adaptation. In this research, coping theory and a socio-technical perspective are used to inform the empirical development of the multi-level

theory of post-adoptive adaptation and organisational change in enterprise system implementation.

1.2 Research Objectives

The main objective of this study is to provide a better understanding of the change process in enterprise system implementation through a multi-level analysis of individual adaptation and organisational change. To achieve this, the research explores how users respond and adapt to new enterprise system implementation in organisations, and the organisational change associated with enterprise system implementation. This research focuses on the post-adoption stage of enterprise system implementation.

The study's empirical context is Thailand. The three participating organisations in this research are in Thailand because there is a lack of study on multi-level theory of post-adoptive adaptation and organisational change associated with enterprise system implementation in developing countries. In addition, I have contact with organisations in Thailand, which provides greater research options. The study focuses on differences in organisational contexts in post-adoptive adaptation and organisational change in three different types of industry businesses. However, it does not specifically focus on the role of national culture and organisational culture. Specifically, the objectives set out for this study are as follows:

- To develop a multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation in the context of CRM systems.
- To investigate post-adoptive adaptation behaviours and factors that influence adaptation behaviours in enterprise system implementations in the context of CRM systems.
- To reveal organisational changes in the post-adoption stage of enterprise system implementations in the context of CRM systems.

1.3 Research Questions

Coping theory and a socio-technical perspective are used to develop empirical inquiry concerning individuals' post-adoptive adaptation towards an enterprise system and associated changes in organisations from enterprise system implementation. Coping theory can be useful to deepen an understanding of how users respond to and adapt to enterprise system implementation in the post-adoption stage. A socio-technical perspective can be used as a lens to study organisational changes and individuals' work

practices toward new enterprise system implementation. Specifically, the main research questions guiding this study are:

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**
- **How do individuals adapt to an enterprise system in the context of CRM systems at the post-adoptive stage?**

This study adopts a qualitative interpretive case study method towards building a multi-level theory of individual adaptation and organisational change in enterprise system implementation. Participants involved in this study came from three different types of organisation (insurance, hospital, and innovative office automation solutions). These participants were management, end-users, and IT support staff. Three sets of interview questions were designed for each group of interviewees. The main reason to interview a different group of participants was to obtain rich information from the perspectives of the organisation, users, and IT staff.

1.4 Research Methodology

The case study method is appropriate to investigate a contemporary phenomenon in a real life context when the events and context are not clear (Yin, 2009). This research aims to build theory from the case studies. This study employs the embedded multiple-case design and multi-level analysis (Yin, 2003).

An interpretive approach is an appropriate approach to develop a rich understanding of individuals' adaptation towards enterprise systems in organisations as well as to understand how organisational change influences users' behaviours. In terms of ontology, I agree with the constructionist position as my ontological position. From my point of view, the social world is a subjective reality and cannot be measured in terms of objective reality. Hudson and Ozanne (1988) and Walsham (1993) argue that our knowledge of reality, including the domain of human action, is socially constructed and subject to interpretation by human actors. This study focuses on individual adaptation and organisational change, which is a socially constructed process. "People can adapt their understanding to a new situation" (Becker, 1982, p. 521). In other words, people can learn new things and adapt to particular situations all the time.

The units of analysis in this study include both organisational and individual levels. Group or a department level of analysis was not considered appropriate because of the nature of

CRM usage in the studied organisations. CRM systems are usually used by a small group of users in specific departments, for example, the Marketing department, Sales department, and Contact Centre department (Moutot & Bascoul, 2008). In this study, there was a small number of CRM users in each department within the three participating organisations. For example, one of the organisations had only two to three CRM users in the Thai Marketing department. A small number of users was not seen as likely to generate rich data regarding individual adaptation and organisational change for a group/department level of analysis in the study.

During the data collection stage, semi-structured interviews were conducted. Supporting documents were also used to verify participants' quotes. In terms of case study selection, this study adopted a theoretical sampling strategy to select the cases. Three organisations across different industries were selected to increase the likelihood of finding different adaptation behaviours, different organisational changes, and contextual differences that may influence those behaviours. According to Eisenhardt (1989), there is no ideal number of cases, but it should not be more than 10 cases. Research sites are selected to maximise variation as well as to enable cross-case comparison (Guba & Lincoln, 1989).

This study uses three concurrent data analysis activities proposed by Miles and Huberman (1994). Within-case and cross-case analysis is conducted to explore individuals' adaptation behaviours and organisational change in specific organisations and results are compared with other organisations to identify similarities and differences. The study also adopts multi-level analysis at both the organisational level and individual level to understand users' adaptation associated with enterprise system implementation and to provide a richer meaning of organisational change.

1.5 Thesis Contributions

This research contributes to an understanding of multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation in general and CRM implementation in particular. The results are useful to reveal how users react and handle the introduction of new and complex enterprise systems in organisational contexts. In addition, the results reveal how an organisation changes after adopting the enterprise system. Specifically, this study develops and extends IS theory by revealing a multi-level theory of individual adaptation and organisational change in the post-adoption stage of enterprise system implementation. The study develops new knowledge based on how an integrated theoretical perspective using coping theory and a socio-technical perspective

can inform ICT-enabled changes in organisations. Research findings may assist organisations in providing appropriate resources and support for employees during the change process.

1.6 Thesis Structure

The thesis is organised into nine chapters. Chapter 1 presented the rationale and significance of this study, the research objectives, the research questions, the research methodology, and the thesis contributions of this study. An outline of the remaining chapters is presented below.

Chapter Two – Literature Review

The literature review chapter presents post-adoptive behaviour and user adaptation, two theories of coping theory and a socio-technical perspective, and relevant research on customer relationship management (CRM). Chapter 2 also presents the theoretical framework which is used to guide this study.

Chapter Three – Research Methodology

The research methodology chapter describes and justifies the research methodology of this study. This study adopts an interpretive case study methodology to answer the research questions. Sections in this chapter include the research paradigm and approach, the case study design, a description of data collection, and data analysis.

Chapter Four – Organisational Contexts of Case Study Sites

Chapter 4 provides the context of the case studies and describes the background of the three organisations. It also provides information on the participants who participated in this study. The history of CRM implementation in each organisation is discussed and each organisation's IT system infrastructure is also explained to provide a better understanding of the organisation's IT system before the implementation of the enterprise system.

Chapter Five – Analysis and Findings: RC Case

Chapter 5 provides the results of within-case analysis of the RC case and presents the pattern codes which emerged from the interview data. The theoretical models are also presented in this chapter.

Chapter Six – Analysis and Findings: HP Case

Chapter 6 provides the results of within-case analysis of the HP case and presents the pattern codes which emerged from the interview data. The theoretical models are also presented in this chapter.

Chapter Seven – Analysis and Findings: BI Case

Chapter 7 provides the results of within-case analysis of BI case and presents the pattern codes which emerged from the interview data. The theoretical models are also presented in this chapter.

Chapter Eight – Discussion

The discussion chapter presents the pattern codes and the relationship among them. It also discusses the relationship of the findings with the extant literature. Theoretical integration is discussed at the two levels of individual adaptation and organisational change. Lastly, the multi-level theory is presented in this chapter.

Chapter Nine – Conclusion

Chapter 9 summarises the research presented and discusses the theoretical and practical contributions of the study. The thesis concludes by outlining the limitations of the study and discussing future research opportunities.

Chapter 2: Literature Review

2.1 Introduction

This chapter begins with a review of the IS literature in the area of individual adaptation and organisational change. In the following section, a literature review of post-adoptive behaviour and user adaptation is presented. Coping theory and the socio-technical perspective that are used to ground the empirical inquiry are also reviewed and discussed. The last section presents the relevant literature of CRM system implementation and the implications for individuals and organisations.

In the IS literature, the theoretical foundation that is used to investigate individual adaptation includes the Technology Acceptance Model (TAM) (Davis, 1989), the modified TAM2 (Venkatesh & Davis, 2000), the Theory of Planned Behaviour (TPB) (Ajzen, 1991), Adaptive Structuration Theory (DeSanctis & Poole, 1994), the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Eishbein & Ajzen, 1975), the Unified Theory of Acceptance and Use of Technology (UTAUT) Model (Venkatesh, Morris, Davis, & Davis, 2003) and others.

However, these theories have some limitations in the study of user adaptation. TAM and TRA focus on the factors involved in the initial reaction of users (e.g., users' attitudes and intentions) rather than factors involved in user engagement with IS in the post-adoption stage of IS implementation (Jones et al., 2002). In addition, TAM lacks factors to examine the social and individual perspective (Agarwal & Prasad, 1997; Bagozzi, 2007; Hu, Chau, Sheng, & Tam, 1999; Legris, Ingham, & Collerette, 2003). Lastly, the traditional Technology Acceptance Model focuses on pre-adoptive behaviours rather than post-adoptive behaviours in relation to a complex enterprise system such as Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), and Supply Chain Management (SCM) (Jasperson, Carter, & Zmud, 2005).

The traditional technology acceptance model is appropriate to study initial users' reaction to IS implementation. Nevertheless, this study investigates individuals' adaptation at the post-adoption stage of enterprise system implementation. Coping theory is used as a theoretical lens to study individual adaptation behaviours in the empirical context of CRM implementation. Further information on the use of coping theory in this study is discussed in sections 2.2.2, and 2.4.

The theoretical foundation which is widely use to investigate IT-enabled organisational change in IS research includes Institutional Theory, Institutional Logics, and Socio-technical Theory. Scott (2005; 2008) states that institutional theory aims to explain the deeper and more resilient aspects of how institutions are created, maintained, changed, and dissolved. IS researchers have applied institutional theory to examine the implications of the introduction of new management practices and technologies in terms of how they are implemented and acted upon in organisations (Ansari, Fiss, & Zajac, 2010; Orlikowski & Barley, 2001; Westphal, Gulati, & Shortell, 1997).

Some IS research has applied institutional theory to study IS implementation (Mignerat & Rivard, 2009; Wang & Swanson, 2008; Worthen, 2002), adoption decision (Hillebrand, Nijssen, & Nijholt, 2011), assimilation (Liang, Saraf, Hu, & Xue, 2007), innovation (Hargrave & Van de Ven, 2006), organisational change (Avgerou, 2000) (Currie & Guah, 2007; Thornton & Ocasio, 2008), and misalignments between enterprise systems and organisations (Soh & Sia, 2004; Svejvig, 2009). Much research on institutionalisation process focuses on an organisational level analysis. Previous studies, which have used institutional theory as a theoretical lens to view change, have not paid much attention to individual level analysis (e.g., individual work practices) within IT-enabled organisational change. This study aims to investigate organisational change at both the organisational level and the individual level.

Another theoretical concept is institutional logics. Institutional logics is a concept that relates broader institutions associated with organisational and societal levels with individual practices (Berente & Yoo, 2012; Friedland & Alford, 1999). According to Thornton, Ocasio, and Lounsbury (2012), the institutional logics perspective emphasises the process that institutions enact in practice through their logics and the relationship of these logics and individuals' identities. Institutional logics link institutions and actions, and provide a bridge between a macro structure perspective (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) and micro process approaches (Zucker, 1991). Institutional logics can be used to investigate the interaction between enterprise systems and organisations' structures and processes as well as to identify and explain misalignment problems in IS implementation (Svejvig, 2009). Some information system (IS) studies apply the notion of institutional logics to study organisational change associated with new information systems (Currie & Guah, 2007; Gosain, 2004; Lyytinen, Newman, & Al-Muharfi, 2009; Yoo, Lyytinen, & Berente, 2007).

Institutional theory and institutional logics are organisational level theories and concepts that are widely known to be inapplicable in the study of micro-level changes. These two theories are useful to study organisational change using organisational level analysis; however, they have some limitations when studying IT-enabled organisational change. Institutional theory has a lack of norms and institutional and cultural factors needed to examine individual behaviours (Khalil, 1995).

In summary, some IS research has used institutional theory and institutional logics to study organisational change at the post-adoptive stage of IS implementation. Nevertheless, these two theories are not applicable when investigating change using micro-level analysis (e.g., the investigation of critical events and gaps between socio-technical components). This study uses a socio-technical perspective as a theoretical lens to study organisational change associated with new enterprise system implementation. A socio-technical model enables an understanding of dynamic changes and multi-level changes at the macro-level (e.g., organisational structure and policy), the micro-level (individuals' work practices), and the social level (e.g., the relationship among project participants) by revealing the interaction among socio-technical components.

Indeed, the four components (task, structure, technology, and actor) of the socio-technical model allow a better understanding of the changes in the social system and technical system. Furthermore, a socio-technical perspective can be used to explain critical events which occur during the change process and lead to the generation of gaps between components. These gaps can also generate expected and unexpected consequences of enterprise system implementation. Further information concerning the use of a socio-technical perspective in this study is presented in section 2.5. The next section discusses post-adoptive behaviour and user adaptation literature.

2.2 Post-adoptive Behaviour and User Adaptation

This section starts with a review of the research on post-adoptive behaviours following the implementation of an IS, followed by a discussion on user adaptation. The stage of IS implementation that leads to an adoption decision is termed the pre-adoption stage, while the stage following an adoption decision is termed the post-adoption stage (Karahanna, Straub, & Chervany, 1999). In other words, the pre-adoption stage explains how individuals form favourable or unfavourable attitudes toward the IS, and then decide whether to adopt or reject it (Rogers, 1983). Individuals form their beliefs based on past experience in the post-adoption stage (Fazio & Zanna, 1981).

The stage in which users begin to use the CRM system to support their work is regarded as post-adoptive behaviour or post-adoptive use. In this study, post-adoptive behaviour occurred after the CRM system had been installed in the organisations. There are continuous adjustments and improvisations in IS use. In other words, users can adapt and change their behaviours in IS use (Barki, Titah, & Boffo, 2007; Sun, 2012).

2.2.1 Post-adoptive behaviour

IS research has largely focused on IS adoption and the initial adoption stage of IS implementation rather than the post-adoption stage (Eder & Igbaria, 2001; Zhu & Kraemer, 2005). Although individuals may be required to use an installed system, their post-adoptive usage behaviours are largely voluntary as the individual decides the extent of this usage as well as the effort invested in learning about the new installed system (Hsieh & Zmud, 2006).

Previous studies in post-adoptive behaviours have revealed that there are different types of post-adoptive behaviours such as continuance intention use, deep usage, effective use, and so on. Jasperson et al. (2005, p. 531) defined post-adoptive behaviour as "the myriad feature adoption decisions, feature use behaviours, and feature extension behaviours made by an individual user after an IT application has been installed, made accessible to the user, and applied by the user in accomplishing his/her work activities". The ways in which individuals use an IS have been identified as critical for linking organisational investments with their corresponding benefits.

Jasperson et al. (2005) proposed a two-level model of post-adoptive behaviour. The first level evaluates an individual's cognitions and behaviours regarding feature adoption, use, and extension. The second level evaluates the organisational environment in which the individual's cognitions and behaviours occur. Jasperson et al. (2005) state that users develop a history of prior use behaviours which influence post-adoptive behaviours. The prior use behaviours may become routine over time, which leads to them becoming habit and habit may develop to become post-adoptive use behaviours.

Other concepts of post-adoptive system usage behaviours include "continuance intention", which refers to the intention to continue using the IS (Bhattacherjee, 2001). Schwarz (2003) proposed the concept of "deep usage", which refers to the extent different features of the technology are used. Ahuja and Thatcher (2005) introduced the concept of "trying to innovate with IT". They suggest that trying to innovate with IT is related to the

investigation of post-adoptive IS behaviours in that individuals try to find new patterns of technology use.

Burton-Jones and Grange (2012) proposed the concept of "effective use", which refers to the use of a system in a way that helps attain the goals of using the system. Saeed and Abdinnour (2013) introduced the post-adoption IS usage stage, with reference to Cooper and Zmud's (1990) six stages of initiation, adoption, adaptation, acceptance, routinisation, and infusion. Saeed and Abdinnour (2013) focus only on users' post-adoptive behaviours in the three stages of routinisation, infusion, and extension.

The result of this study reveals that some users tend to remain in their comfort zone, while others may explore the IS to investigate what it has to offer. In summary, these different types of post-adoptive behaviours (e.g., continuance intention use, deep usage, effective use, among others) provide a deeper understanding of how individuals use an IS in the post-adoption stage of new IS implementation.

2.2.2 User adaptation

User adaptation occurs during the post-adoption stage. This study employs Cooper and Zmud's (1990) six stages of the IT implementation process: initiation, adoption, adaptation, acceptance, routinisation, and infusion. However, the study focuses only on the three stages of adaptation, acceptance, and routinisation, as the first two stages of initiation and adoption are considered as the initial adoption stage. Based on Cooper and Zmud (1990), the initiation stage is the stage in which the organisations evaluate organisational problems/opportunities and IT solutions. The adoption stage is the stage in which organisations make a decision to invest resources necessary to accommodate the implementation effort.

The stages of adaptation, acceptance, routinisation, and infusion are considered as the post-adoption stage. Based on Cooper and Zmud (1990), the adaptation stage is the stage in which the IS is available for use in an organisation and users are trained both in the new work processes and in the IS. The acceptance stage is the stage in which the new IS employed in organisational works and users are induced to commit to IS usage. The routinisation stage is the stage that usage of the IS system is encouraged as a normal activity. The infusion stage is the stage in which the IS system is used to obtain increased organisational effectiveness. In the post-adoption stage, individuals commence using the

IS to support and accomplish work tasks, while individuals adapt to the new IS in different ways.

For several decades, prior research has focused on the user perspective in terms of adjustment, appropriation, and adaptation to IT implementation. For instance, Tyre and Orlikowski (1994) investigated the episodic pattern of technological adaptation by users and examined the initial adaptation stage. The results showed that the initial stage of adaptation is very important as for a limited time it represents an opportunity for users to adapt to the new technology and change their adaptation behaviours. It appears that further adaptation is rare unless some unusual event or discovery triggers subsequent episodes of adaptation activity. Subsequent episodes of adaptation occur only occasionally, and typically last only a short time (Tyre & Orlikowski, 1994).

IS researchers have studied user adaptation making use of different terms, for example, adaptation, reinvention, adjustment, and appropriation. According to Tyre and Orlikowski (1994, p. 99), adaptation refers to "the adjustments and changes following the new IT implementation. Adaptation may concern the physical aspects of the technology as well as the procedures, beliefs, knowledge, or relationships of the users." Leonard-Barton (1988, p. 253) defines adaptation as "the reinvention of the technology and the simultaneous adaptation occurring at multiple levels within the organisation".

Boudreau and Robey (2005, p. 13) describes reinvention as "users [who] deviated from prescribed work processes and 'tweaked the system' to make it respond to their needs". Through such tweaking (also called "work around"), users find a way to use the system that suits their work processes, and helps them to better understand and control the system. In other words, users attempt to understand how the system works and invent their own ways to use the system to suit their work processes.

In terms of adjustment, Majchrzak and Cotton (1988) and Majchrzak, Rice, Malhotra, King, and Ba (2000) focus on users' perceptions and attitude adjustment toward IT implementation. Adjustment refers to "the psychological processes that occur over time as the individual, and those in their social world, manage, learn from and adapt to the multitude of changes" (Brennan, 2001).

Orlikowski (1996, p. 69) defines appropriation as "the continuous, progressive, mutual adjustment accommodations, and improvisations between the technology and the users". Orlikowski (1996) investigated how users appropriate a new technology into their work

practices. The adaptations and adjustments that users enact over time have a significant transformation effect on organisational practices and structures (e.g., changes in the nature and texture of work, patterns of interaction, distribution of work, evaluation of performance, mechanism of coordination, forms of accountability, and change in the nature of knowledge). The study also revealed that individuals can adjust their work routines over time (Orlikowski, 1996).

Previous IS studies have explained users' adaptation to IS use and examined factors that influence adaptation behaviours. For instance, the theory of Adaptive System Use (ASU) was introduced by Sun (2012). This theory focuses on users' behaviour of modifying the features of a system in an adaptive manner. Sun (2012) categorises how users adapt to IS use at the system feature level into two dimensions: revising the content of features in use and revising the spirit of features in use. Revising the content of features in use refers to "a user's revisions regarding what features are included in his/her features in use or, more explicitly, what features are used" (Sun, 2012, p. 455). There are two sub-dimensions of revising the content of features that consist of trying new features (Barki et al., 2007; Jasperson et al., 2005) and substituting features (Madhavan & Ravipreet, 1997; Parthasarathy & Bhattacherjee, 1998). Revising the spirit of features in use refers to "a user's revisions regarding how features in his/her features in use are used" (Sun, 2012, p. 456). It consists of feature combining and feature repurposing.

The finding of Sun's (2012) study showed that users revise their use of system features in response to triggers under the influence of contextual factors (novel situation, discrepancy, and deliberate initiative). A novel situation refers to "experience with unfamiliar things that consists of new tasks, other people's use, and changes in system environment". Discrepancy refers to the fact "the outcomes of system use are different from what were expected". Deliberate initiative refers to requiring a user "to revise his/her use of system features" (Sun, 2012, p. 461). In other words, users' adaptation behaviours may change over time and are triggered by situational conditions.

Adaptation behaviours may be influenced by several factors such as individual characteristics, individuals' technology perception, organisational factors, and social influence factors. The individual characteristics factor includes individual attitude, innovativeness, satisfaction, self-determination, and self-efficacy and may affect adaptation behaviours (Hsieh & Wang, 2007; Jones et al., 2002; McNally & Griffin, 2010; Mills & Chin, 2007; Ng & Kim, 2009; Wu & Wu, 2005). The individual technology

perception factor includes perceived usefulness, perceived ease of use, and perceived enjoyment and may also impact on adaptation behaviours (Hsieh & Wang, 2007; Jones et al., 2002).

The perceived ability to learn, use, and interact with IS has an influence on how individuals interact with IS (Compeau & Higgins, 1995a, 1995b). When employees perceive that an IT system is important to them, they are likely to learn its features (Bala & Venkatesh, 2015). Implementation of a new IS in the workplace alters the nature of work, requiring users to learn new ways of performing their jobs (Patrickson, 1986; Pulakos et al., 2000; Thach & Woodman, 1994). In terms of organisational factors, training effectiveness is defined as the degree to which an individual believes that the training provided during the IT implementation is adequate to work with the IT system (Aiman-Smith & Green, 2002). If employees have adequate knowledge of the new system as well as a better understanding of how it fits into their work processes and how they can use it to accomplish their tasks, they are likely to believe that they have the ability and resources to understand and work with it (Bala & Venkatesh, 2015). Organisational policy factors also include mandatory use (Brown & Starkey, 2000; Chen & Popovich, 2003; Jeyaraj & Sabherwal, 2008; Leonard-Barton, 1988) and organisational support (Kim & Kankanhalli, 2009). In terms of social influence factors, if management and work colleague support the new IT system, users are likely to respond with positive adaptation behaviours towards it (Bala & Venkatesh, 2015; Igbaria, Zinatelli, Cragg, & Cavaye, 1997; Venkatesh & Davis, 2000; Venkatesh et al., 2003).

In summary, even though IS research has used different terms to study user adaptation, such research has shed light on how users adapt, change, or modify their behaviours toward a new IS. Previous IS research in the area of user adaptation allows researchers to better understand how users react and respond to a new IS in different ways, for example, with acceptance (Pollard, 2003; Venkatesh et al., 2003), avoidance (Boudreau & Robey, 2005; Hwang, 2005; Liang & Xue, 2009, 2010), and resistance (Boudreau & Robey, 2005; Joshi, 1991; Kim & Kankanhalli, 2009; Lapointe & Rivard, 2005; Marakas & Hornik, 1996; Markus, 1983; Robey, Ross, & Boudreau, 2002). However, prior research on user adaptation has not paid much attention to investigating different types of user adaptation behaviours associated with a new IS at the individual level (Kashefi et al., 2015). This study reveals different types of individual adaptation behaviours.

It is also important to note that individual adaptation behaviours can change over time depending on the trigger events and factors that influence their behaviours. Indeed, individuals are likely to positively adapt to a new IS if they perceive benefits in that system (Bala & Venkatesh, 2015; Moore & Benbasat, 1991; Venkatesh et al., 2003). In contrast, individuals may refuse to use the new IS if they have a negative attitude towards it (McNally & Griffin, 2010; Wu & Wu, 2005). Some individuals may attempt to adapt their behaviours to use the new IS regarding obtaining adequate support from management as well as adequate and useful training (Bala & Venkatesh, 2015; Venkatesh et al., 2003).

User adaptation needs further study regarding the user adaptation process in order to provide a deeper understanding of how users adapt to new IS implementation (Benbasat & Barki, 2007; Burton-Jones & Straub Jr, 2006; De Guinea & Webster, 2013; Straub Jr & Burton-Jones, 2007; Sun, 2012). The degree to which users adapt to a new IS can impact not only the efficiency of the operations at the individual level, but also affect organisational performance (Bruque et al., 2008).

In IS research, some researchers have used coping theory as a theoretical lens to examine the user adaptation process in IS development projects or in IS implementation (Bala & Venkatesh, 2015; Beaudry & Pinsonneault, 2005; Kim & Kankanhalli, 2009). Coping theory is useful to examine how individuals respond to a new IS in the post-adoption stage and to investigate the entire process of individual adaptation (Beaudry & Pinsonneault, 2005). The coping process starts from users determining an event, assessing the importance of an event, and determining the level of control they have over the situation. Individuals respond with different coping efforts to deal with the situation (Beaudry & Pinsonneault, 2005).

However, coping theory is not able to explain the dynamic process of adaptation in the coping process, such as changes from one type of adaptation behaviour to another. The adaptation process is a dynamic process and individuals may reappraise the situation according to incidents and triggers that influence their adaptation behaviours at the specific time (Beaudry & Pinsonneault, 2005). Another limitation of coping theory is that the primary appraisal occurs when individuals evaluate the potential of an event and assess its personal importance and relevance. Individuals may appraise an event to be either a challenge or a threat (Lazarus & Folkman, 1984). However, Beaudry and Pinsonneault (2005) criticise coping theory and argue that users may perceive an event to

be both an opportunity and a threat due to the multifaceted nature of IT events. Further information related to using coping theory to study the user adaptation process is discussed in subsection 2.4.2. The next section presents an overview of the theoretical foundation that informs this study.

2.3 Theoretical Foundation

Coping theory and a socio-technical perspective provide the theoretical foundation for this research. Coping theory is useful in understanding how users respond to and adapt to CRM implementation in the post-adoption stage. A socio-technical perspective can be used as a lens to study changes in interactions between socio-technical components, organisations, and individuals' work practices at the post-adoptive stage of new CRM implementations. Figure 2.1 presents an integration of the two theories that inform this study.

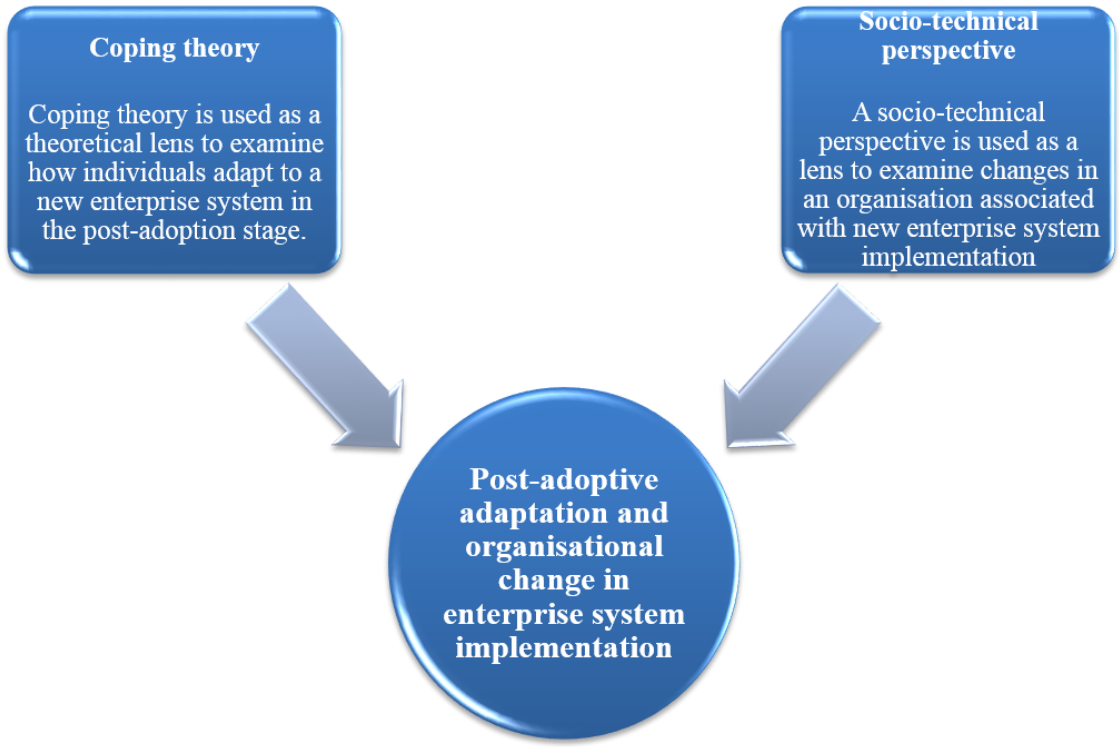

Figure 2.1 Coping theory and a socio-technical perspective: underlying theories for this study

2.4 Coping Theory

In this section, the different aspects of coping theory, which is developed from psychology to explain how people deal with stress, are discussed. In the next subsection, coping theory in IS research is reviewed and discussed.

2.4.1 Fundamental arguments in coping theory

Lazarus and Folkman (1984, p. 141) define coping as "constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person". The concept of coping was developed in the 1960s to deal with stress (Lazarus, 1993). Nilsson (2007, p. 9) argues that "these cognitive and behavioural efforts are constantly changing as a function of continuous appraisals and reappraisals of the person-environment relationship". Early on, research primarily focused on coping as reflecting a person's traits or styles. Lazarus and Folkman (1984, p. 193) define coping traits as "properties of persons that dispose them to react in certain ways".

In the late 1970s, a major new development in coping theory shifted the emphasis away from a person's traits or styles. Coping was introduced as a process that changes over time and in accordance with the situational contexts in which it occurs (Lazarus, 1993). Research on coping as traits and styles focuses on identifying predisposition variables. In contrast, research on coping as a process examines situational factors such as cognitive appraisals of stressful situations (Lazarus & Folkman, 1984) and coping resources (Antonovsky, 1979).

Viewing coping as a process, (Lazarus & Folkman, 1984, p. 142) state that "coping is … a shifting process in which a person relies on one form of coping, such as defensive strategies, and other times on problem-solving strategies, as the status of the person-environment relationship changes". Individuals cope with disruptive events by following through two stages: appraisal and coping effort. Primary and secondary appraisals are two forms of appraisal that occur within the coping process.

The primary appraisal occurs when individuals evaluate the potential of an event and assess its personal importance and relevance (Lazarus & Folkman, 1984). Individuals may appraise an event to be a challenge or a threat (Lazarus & Folkman, 1984). The secondary appraisal occurs when individuals assess the importance of an event and

determine the level of control they have over the situation as well as evaluate the coping resources available to them (Lazarus & Folkman, 1984).

During the coping process, individuals perform different actions associated with coping efforts to deal with the situation. Two coping dimensions are problem-focused coping and emotion-focused coping (Lazarus & Folkman, 1984). Problem-focused coping aims to solve, reconceptualise, or minimise the effects of a stressful situation. On the other hand, emotion-focused coping changes one's perception of the situation in order to regulate emotional responses to the problem as well as reduce emotional distress (Lazarus & Folkman, 1984).

In this study, coping as a process is used to inform user adaptation behaviour in information system usage. Coping theory provides a framework for understanding how individuals respond to disruptive events in their environments (Beaudry & Pinsonneault, 2005; Lazarus & Folkman, 1984). For example, individuals may confront an event that may disrupt their work routines such as a new IT implementation. The notions of coping and adaptation are interrelated. Coping is also referred to as "adaptive" defense mechanisms (Parker & Endler, 1996). Lazarus (1993, p. 237) refers to adaptation as "the effectiveness of coping in improving the adaptation outcome". This definition infers that coping is a subset of adaptational activities that involve effort (Lazarus & Folkman, 1984).

Beaudry and Pinsonneault (2005, p. 496) define adaptation as "the cognitive and behavioural efforts exerted by users to manage specific consequences associate with a significant IT event that occurs in their work environment". This study defines adaptation as individuals' cognitive and behavioural efforts to manage change associated with a disruptive event of a new enterprise system implementation that occurs in their work environment.

Coping theory draws on the field of psychology to explain how individuals deal with a negative event such as stress (Lazarus, 1993). Some IS researchers have adopted coping theory to understand user adaptation toward new IS implementation. IS research has used the term adaptation in the study of individual adaptation rather than coping, and this perspective is also used in this study. The following subsection examines coping theory and its use in IS research.

2.4.2 Coping theory in IS research

In the IS context, some researchers extend coping theory and the coping process to explain IS phenomena including technology acceptance, IS perceptions, and user adaptation to new IS implementation. Many studies have focused on individual behaviours such as user resistance and avoidance. Table 2.1 below lists selected studies that apply coping theory in IS research.

Table 2.1 Selected Studies that Apply Coping Theory in IS Research

Research focus	Study context	References
Coping Model of User Adaptation (CMUA)	Develops the integrative Coping Model of User Adaptation (CMUA) to explain user adaptation toward new IS implementation	Beaudry and Pinsonneault (2005)
User resistance to IS implementation	Develops a model to explain user resistance by integrating the Technology Acceptance and Resistance Models with the status quo bias perspective	Kim and Kankanhalli (2009)
Avoidance of information technology threats	Develops the Technology Threat Avoidance Theory (TTAT) by examining how users go through two cognitive processes: threat appraisal and coping appraisal	Liang and Xue (2009)
IS perceptions and IS appraisal	Integrates coping theory with IS acceptance theories and investigates how IS perceptions influence cognitive IS appraisal	Fadel and Brown (2010)
A threat avoidance perspective	Adopts the research model of Technology Threat Avoidance Theory (TTAT) to enhance an understanding of personal computer users' IT threat avoidance behaviour	Liang and Xue (2010)

Research focus	Study context	References
Technology adaptation behaviours and job outcomes	Integrates the Transaction Model of Stress and Coping and the CMUA model to investigate technology adaptation behaviours and employee job outcomes	Bala and Venkatesh (2015)

Coping theory has emerged as a promising framework to explain individuals' post-adoptive reactions to IS (Beaudry & Pinsonneault, 2005; Fadel & Brown, 2010). Beaudry and Pinsonneault (2005) developed the integrative Coping Model of User Adaptation (CMUA) from coping theory to explain users' adaptation through their responses to new IS implementation. The fundamental premise of CMUA is that the introduction of a new technology or the modification of an existing one can bring about changes that are perceived by users as novel (Louis & Sutton, 1991) and can constitute a disruption in organisations (Lyytinen & Rose, 2003).

According to Beaudry and Pinsonneault (2005), individuals will appraise an IT event based on two dimensions of perceived consequences (e.g., opportunity or threat), and perceived control over the situation. At the stage of primary appraisal, users determine an IT event as an opportunity or a threat. The stage of secondary appraisal may involve three types of controls (work, self, and technology). Based on primary appraisal and secondary appraisal, individuals will engage in one of four different adaptation strategies: benefits maximising, benefits satisfying, disturbance handling, and self-preservation. The adaptation behaviours will affect three types of individual-level outcomes: individual efficiency and effectiveness, minimisation of the negative consequences of an IT, and restoring personal emotional stability.

Fadel and Brown (2010) integrated CMUA with the Unified Theory of Acceptance and Use of Technology (UTAUT) by examining how adoption-related IS perceptions influence individual-level post adoptive IS appraisal. In particular, they developed a theoretical model from the appraisal stage (primary appraisal and secondary appraisal) (Lazarus & Folkman, 1984). In addition, they extended the work of Beaudry and Pinsonneault (2005) by adding a set of IS perceptions and outcomes (benign/positive, harm, threat, challenge) to understand various user reactions to an IS.

Additional studies have extended CMUA to investigate user resistance to IS implementation (Kim & Kankanhalli, 2009), avoidance of information technology threats (Liang & Xue, 2009), and the IT threat avoidance behaviours of personal computer users (Liang & Xue, 2010). Kim and Kankanhalli (2009) integrated the technology acceptance and resistance literatures with the status quo bias perspective to understand user acceptance and resistance prior to a new IS implementation. The results showed that perceived value (perceived benefits relative to costs of new IS implementation) and organisational support can reduce user resistance.

Liang and Xue (2009) developed the Technology Threat Avoidance Theory (TTAT) to study individuals' cognitive processes to avoid IT threats. The results showed that users can use both problem-focused and emotion-focused coping to reduce IT threats. For example, users perceive an IT implementation as a threat. They try to avoid the IT to minimise the negative consequences of IT implementation, and emotion-focused coping helps user to restore emotional stability through this lack of focus on controlling the source of the threat (i.e., IT implementation).

Liang and Xue (2010) studied personal computer users' IT threat avoidance behaviour where security behaviour was voluntary by testing a research model derived from Technology Threat Avoidance Theory (TTAT). The findings showed that perceived threat, safeguard effectiveness (perceived benefits), safeguard cost (physical and cognitive efforts such as time, money, inconvenience and comprehension), and self-efficacy influence avoidance motivation, which determines avoidance behaviour.

Bala and Venkatesh (2015) developed a model of technology adaptation behaviours based on coping theory (Lazarus & Folkman, 1984) and CMUA (Beaudry & Pinsonneault, 2005) to investigate how employees adapt to new information technology implementation and how adaptation behaviours influence employee job outcomes. The result showed that employees perform four different technology adaptation behaviours (exploration-to-innovation, exploitation, exploitation-to-revert, and avoidance) based on whether appraised is regarded as an opportunity or a threat and whether employees have perceptions of control toward IT. Additionally, the findings showed that adaptation behaviours affect job outcomes (job performance and job satisfaction). The two adaptation behaviours (exploration-to-innovation and exploitation) have a positive impact on job outcomes. In contrast, the other two adaptation behaviours (exploitation-to-revert and avoidance) have a negative impact on job outcomes.

There are several limitations in the previous studies. For instance, the studies of Beaudry and Pinsonneault (2005) and Fadel and Brown (2010) did not examine factors that may play an important role in shaping the coping process and appraisal outcomes. For example, individual characteristics such as commitment, self-efficacy, gender, age, and experience may influence adaptation outcomes (Fadel & Brown, 2010).

The study of Bala and Venkatesh (2015) fulfilled the research gaps of CMUA work and the prior research of Liang and Xue (2009) by examining the antecedents of technology adaptation behaviours and cognitive appraisals. Nevertheless, there are also limitations in this study in that the researchers did not examine a number of factors that influence adaptation behaviours such as individual characteristics, users' attitudes, users' perceptions, organisational policy, and task.

To address the research gaps as well as contribute novel insights into user adaptation, this study focuses on how factors influence different types of adaptation behaviours after enterprise system implementation. These factors include the individual perspective, the organisational perspective, and the social perspective.

In this study, coping theory is used as an appropriate lens to investigate individual adaptation to new CRM implementation in the post-adoption stage. By defining user adaptation as a coping process, researchers can study a wide range of user responses including how users restore emotional stability, modify their tasks, reinvent and adapt the technology, or even resist it. The two stages of the coping process allow researchers to understand individual adaptation from the initial stage of adaptation and understand how users confront and adapt to new IS implementation. Coping theory and its extensions (Beaudry & Pinsonneault, 2005; Fadel & Brown, 2010) provide the foundation for this study to understand how users adapt to new CRM implementation. The following section presents the socio-technical perspective that informs this study.

2.5 A Socio-technical Perspective

In this section, the fundamental arguments of the socio-technical perspective, which focus on social change and organisational change, is discussed. In the next subsection, a socio-technical perspective in IS research is reviewed and discussed.

2.5.1 Fundamental arguments in the socio-technical perspective

Originally, Leavitt's socio-technical (S-T) system model synthesised the main contours of theories of organisational change "as a kind of sharp caricature of underlying beliefs and prejudices about important dimensions of organisations" (Leavitt, 1964, p. 55). These components include actors (e.g., project participants and stakeholders) and their characteristics and attributes; tasks which refer to what and how work is accomplished; structure which represents institutionalised rules and arrangements; and technology including hardware, software and tools (Leavitt, 1964). This model is useful for investigating change in the context of an organisation. Leavitt (1964) states that components of an organisation's system are interdependent, they affect each other, and the change of one component leads to organisational change.

The socio-technical perspective was introduced as a promising perspective to study IT and social change in organisations including private and public organisations (Kling & Lamb, 1999). A socio-technical system consists of two subsystems: the social system and the technical system. Generally, the social system consists of two components: actor and structure such as culture, norms, skills, and values (Cummings, 1978; Leavitt, 1964). The technical system consists of tasks and technology (Kwon & Zmud, 1987; Lyytinen & Newman, 2008).

Social systems are the result of continuous evolution involving emergent changes and behaviour that cannot be easily predicted because they depend on coincidences and situations (Fischer & Herrmann, 2011; Suchman, 1987). Technical systems are engineered to provide anticipatable and reliable interactions between user input and the system's output which can be used to support human needs and to enhance their capabilities (Fischer & Herrmann, 2011).

These four socio-technical components (actors, tasks, structure, and technology) build up the core of an organisation from a social, technical, organisational, and strategic perspective (Morton, 1991). Bloomfield and Vurdubakis (1994) state that all of the components, especially technology, structure, and actors are socially constructed. An information system is embedded into a social context and both adapts to, and helps to reshape social worlds through its design, development, and uses (Avgerou, 2000; Kling, 1980; Land & Hirschheim, 1983; Orlikowski, 1992; Walsham, 1993).

In the IS implementation context, a radical shift toward change in organisations requires employees to develop the technical and educational qualifications that will be needed in the future (Bass, 1964). Additionally, the implementation of a new IS in the organisation has a significant impact on organisational policies, organisational structure, financial performance, and employees' working practices (Doherty & King, 2005; Markus & Robey, 1983).

In this study, the socio-technical perspective is used to understand an emergent process of change and to scrutinise components that affect organisational changes after enterprise system implementation. Specifically, the socio-technical perspective is a useful lens to investigate change in the four components which mutually shape each other and which affect organisations (e.g. organisational structure and policy), individuals (e.g. work practices), and social aspects (e.g. relationship among project participants). Furthermore, the socio-technical perspective can be used as a lens to examine consequences of new IS implementation which may occur during the change process.

2.5.2 A socio-technical perspective in IS research

In the IS context, a socio-technical perspective has been applied to examine the IS development process and IS implementation to provide a richer vocabulary for a process of change. Selected IS research that applies a socio-technical perspective largely studies information system development and organisational change following IS implementation as shown in Table 2.2. The selected studies mainly utilise Leavitt's socio-technical (S-T) system model or focus on organisational change, which is related to this study.

Table 2.2 Selected Studies that Apply a Socio-technical Perspective in IS Research

Research focus	Study context	References
Proposes feedback-rich framework that explicates information system development process	Studies social and organisational factors using the longitudinal case study approach to examine an emergent process of change in professional practice	Luna-Reyes, Zhang, Gil-García, and Cresswell (2005)
A critical success factor of organisational and technical changes in information system development projects	Draws on the socio-technical and capability-based perspectives and uses a systematic multi-stage approach to develop measurement scales of information system development projects	Lee and Xia (2005)
Manages socio-technical integration in information systems development	Uses the socio-technical approach to examine four types of integration: external and internal stakeholder integration, and internal and external technical integration	Bygstad (2006)
Proposes a Punctuated Socio-technical IS Change (PSIC) model to examine IS change at multiple levels	Fills the gaps of socio-technical systems by developing a Punctuated Socio-technical IS Change (PSIC) model that adopts process theory and considers IS change as a multi-level and punctuated sequence of socio-technical events	Lyytinen and Newman (2008)
Applies PSIC model to study the ERP implementation process	The model accounts for ERP institutionalisation by examining the interactions between socio-technical elements in the implementation system, the work system, and the organisational and environment context which together account for the outcome	Lyytinen et al. (2009)

Research focus	Study context	References
Proposes a meta model for addressing the gap between the technical and socio-technical views of systems in organisations	Clarifies the work system framework and builds a clearer conceptual basis of tools and methods to improve communication and collaboration between business and IT professionals	Alter (2009)
Develops a research framework of factors that affect effective emergency management	Applies a socio-technical theory in the context of emergency management to establish research framework incorporating people, technology, structure, and task factors	Kim, Sharman, Cook-Cottone, Rao, and Upadhyaya (2012)
Studies the emergent change process in information systems development	Draws on theories of situated action and socio-technical change to produce a narrative explanation of the emergent change process that occurs in the IS development projects	McLeod and Doolin (2012)

Luna-Reyes et al. (2005) studied an emergent process of change in professional practice by examining social and organisational factors. They developed a feedback-rich framework that explains the IS development process. A feedback-rich framework offers an alternative view to the factor approach in socio-technical information system development (ISD) processes to explain the recursive interactions among practice, organisation, requirements, and functionality. The framework shows that the macro-phenomena in ISD are the result of the micro interactions among participants and artefacts used in the social process.

Lee and Xia (2005) developed a measurement scale of information system development projects (ISDP) along two dimensions (response extensiveness and response efficiency) to examine the critical success factor of organisational and technical changes. Their results revealed that there is a negative relationship between response extensiveness and response efficiency. In other words, while ISDP teams mainly respond extensively to business changes, they are much less efficient in dealing with business changes than technology changes.

Lyytinen and Newman (2008) extended Leavitt's (1964) socio-technical system and proposed a Punctuated Socio-technical IS Change model (PSIC) as a sensitising device to explain complex IS changes and outcomes. Traditionally, socio-technical thinking asserts that systems remain stable due to their low component variation and strong mutual interdependencies. Occasionally, when any one component becomes incompatible with others due to increased variation (e.g., malfunctioning, learning, and replacement), a structural misalignment or a gap can be observed – a property of a system that affects the systems' behaviour and its set of responses (Lyytinen & Newman, 2008).

Lyytinen et al. (2009) applied the PSIC model to analyse the ERP implementation process at a multi-level including the implementation system (implementation plan and action), the work system (business structure and process), and the organisational and environment context. The study examined the institutionalisation outcome and looked specifically at the micro-level processes that seek to stabilise the ERP artefact. The finding showed that ERP institutionalisation is nonlinear. Furthermore, their study also examined gaps or mismatches triggered by internal changes or external events which occur during the implementation process such as changing the implementation approach or configuring a new type of ERP necessary to carry out the translation. Most gaps emerge through unanticipated events.

McLeod and Doolin (2012) drew on theories of situated action and socio-technical change to produce a narrative explanation of the emergent change process that occurs in an IS development project. They suggest that IS development may not be a straightforward process, but emerges less than predictably over time through complex socio-technical interactions with unanticipated events and unintended consequences.

Bygstad (2006) focused on managing socio-technical integration in information system development. The objective of information system development is to build a working socio-technical network. Therefore, the study adopted a socio-technical perspective to investigate the integrations between a new IS and existing large information infrastructures and business processes. The study built on a socio-technical perspective and identifies four types of integration: external and internal stakeholder integration, and internal and external technical integration. Internal refers to internal aspects of a project such as managing project teams. External refers to external aspects of a project such as aligning the project with business needs, modelling with future users, and using external components and other systems. Stakeholder integration is "a management activity that

aims at facilitating cooperation between people and organisations, and helping them work together to create value" (Bygstad, 2006). Technical integration refers to "a management activity to assemble components and systems in a way that make the resulting system work as intended" (Bygstad, 2006). Bygstad's (2006) finding showed that internal stakeholder and technical integration are well supported by traditional project management techniques and software engineering frameworks. In contrast, external stakeholder and technical integration are not well supported.

Alter (2009) proposed a meta-model to address the gap between technical and socio-technical views of systems in organisations in order to improve communication between business and IT professionals. The meta-model can reformulate and extend elements of the work system from a socio-technical perspective. The meta-model consists of 31 concepts that sometimes arise within the work system framework. The work system framework includes nine elements that relate to how a work system operates at a particular time, for example, who the customers are, what products and services are produced, what are the major processes and activities, and so on. The model helps to identify and organise many concepts and their relationships that are essential to understand IT-reliant work systems. The use of the meta-model helps to evaluate the "as is" work system, and propose improvements for future use.

Kim et al. (2012) applied a socio-technical theory consisting of four components to investigate four factors (task, technology, people, and structure factors) that impact on emergency management systems. The results showed that training and support positively affect emergency management self-efficacy and effective emergency management. Task-technology and information sharing also have a positive impact on effective emergency management. However, the findings suggest that the structure factors do not show a significant relationship with effective emergency management. Structure factor includes leadership, labour and logistics. Furthermore, they suggest that human factors are an essential factor in conducting effective operations.

Previous IS research that has adopted a socio-technical perspective has allowed researchers to understand change through the interactions of the four socio-technical components after implementing new IS systems, leading to the modification of organisational structures and work processes. A socio-technical perspective highlights both the complexity and the uncertainty involved in the process of technologically involved change (Sawyer & Jarrahi, 2014). A socio-technical perspective requires an

understanding of dynamic organisational processes, the events that occur during that time, actors' intentions, and the features of technologies (Sawyer & Jarrahi, 2014). In other words, the IS implementation process involves several aspects of organisations, work processes, work practices, individuals, social influence, and performance that are crucial, complex and impact on each other.

However, there are several limitations in previous studies that have utilised the socio-technical perspective when examining IS, especially enterprise systems. Most IS studies have adopted a socio-technical perspective to examine IS development projects rather than IS implementation. Additionally, most IS studies have used a socio-technical system model to study change process either in individuals or organisations. "Although technology and organisational structures may change, the rights and needs of the employee must be given as high a priority as those of the non-human parts of the system" (Mumford, 2006, p. 338). In other words, we cannot focus only on the macro-level of organisational change. We also need to focus on individuals who constitute an important part of the change process as well.

This study uses a socio-technical perspective as a lens to study the organisational change involved in enterprise system implementation. Specifically, Leavitt's (1964) concept of a socio-technical system offers a broad framework to understand changes in an organisation through new enterprise system implementation. Additionally, Lyytinen and Newman's (2008) study that extends Leavitt's (1964) socio-technical system model enables the identification of gaps or misalignments that occur during the implementation process. Mutual change in the four components can be examined and the critical events and gaps can be identified. The critical events, which occur during the change process, lead to the generation of gaps between components. These gaps can lead to the generation of consequences that occur during the post-adoption stage of CRM implementation.

There are also a limited number of studies that have examined multi-level change in enterprise system implementation. This study addresses this gap by combining a socio-technical perspective and coping theory to develop a multi-level theory of post-adoptive adaptation and organisational change in the post-adoption stage of enterprise system implementation.

2.6 Enterprise System: Customer Relationship Management (CRM)

This section begins with a review of enterprise systems in the context of CRM systems which are the focus of this study. The following subsection presents an extant literature review on the background and conceptualisation of CRM including various definitions and perspectives of CRM. Then, various modules of CRM and the information of CRM vendors are presented. The last subsection presents an overview of CRM research at an individual level and organisational level.

Sawyer and Southwick (2002, p. 264) define enterprise systems as "characterised by a suite of integrated software modules and a common database used to help manage a company's human resources, financials, and the service and/or manufacturing processes". Enterprise systems are commercial software packages that include Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), Supply Chain Management (SCM), and others (Markus & Tanis, 1999). One particular type of enterprise system examined in this study is that of the Customer Relationship Management software (CRM) system.

The enterprise system implementation process is considered to be a complex process that impacts organisations, processes, tasks, knowledge and skills, and relationships with clients and suppliers (Wognum et al., 2004). In this study, the CRM system is considered to be an enterprise system. Organisations that implement an enterprise system are required to make changes in their business, modify their business processes, and restructure their organisations to obtain the benefits of the new system (Davenport, 1998).

2.6.1 What is CRM?

This subsection provides the different definitions of CRM in the literature and identifies the definition of CRM that is used in this study. The review of relevant literature on CRM is highlighted along with existing research gaps.

CRM has its roots in relationship marketing which aims to build a long-term relationship with customers (Light, 2003; Pulde, 1999). CRM was referred to as "Customer Relationship Management" in the late 1990s (Nairn, 2002).

The first CRM software was introduced in the late 1980s and early 1990s. Bergeron (2002) states that CRM appeared around 1997 and aimed to redefine the customer-company relationship through computer-based tools. Over the last two decades, CRM has

proved to be a useful information system, especially in making intelligence use of customer information in the business world (Gebert, Geib, Kolbe, & Brenner, 2003; Kevork & Vrechopoulos, 2009; Ling & Yen, 2001; Ngai, 2005).

A number of definitions of CRM exist within the extant literature relating to management, marketing, information system academia, and integration of information systems and management (Payne & Frow, 2005; Zablah et al., 2004). According to Payne (2002), Wilson, Daniel, and McDonald (2002), Xu, Yen, Lin, and Chou (2002), Chen and Popovich (2003), Kincaid (2003), Reinartz, Krafft, and Hoyer (2004), and Ryals (2005), CRM implementations integrate people, processes, and technology by using information and leveraging the Internet and applications in order to understand and maximise the relationships with customers and suppliers. Kutner and Cripps (1996) consider CRM as data-driven marketing.

From a strategic perspective, Armstrong and Kotler (2003) state that CRM is the process that builds and maintains profitable customer relationships. Swift (2001) considers CRM as an enterprise approach that aids in understanding customer behaviour and improving customer acquisition, retention, and loyalty as well as increasing firm profitability. Hobby (1999) defines CRM as a management approach that enables organisations to identify, attract, and increase retention of profitable customers by managing relationships with them.

Buttle (2009) defines CRM as a core business strategy that combines internal processes and functions and external networks to focus on targeted customers based on high-quality customer and information technology. Kellen (2002) defines CRM as a business strategy to gain a long-term relationship with customers by delivering customer value and business value simultaneously. Glazer (1997) states that CRM attempts to provide a strategic bridge between information technology and marketing strategies aimed at building long-term relationships and profitability. This requires information-intensive strategies.

Similarly, Ling and Yen (2001) define CRM as a strategy that combines a set of processes and systems to build profitable long-term relationships with individual customers. Parvatiyar and Sheth (2001) define CRM as a comprehensive strategy for acquiring and retaining selective customers. CRM requires the integration of marketing, sales, customer service, and supply chain functions to deliver customer value. Overall, these various definitions emphasise the business value of CRM.

Other authors define CRM from an information system perspective. Recently, the success of a CRM project mostly depends on the use of technology. Information technology plays an important role in CRM systems. CRM systems can be viewed as information systems that focus on customers (Bull, 2003). Davenport (2001) states that CRM systems are tools, technologies, and procedures to manage and improve the relationships with customers, prospects, and business partners in an organisation.

Bibiano and Pastor Collado (2006, p. 1) define a CRM system as "a sort of information system technology which is part of the more general category of enterprise systems that also includes enterprise resource planning and supply chain management systems". They also state that "a CRM system can be viewed as an enterprise information system that includes all business processes in sales, marketing, and after-sale service that involve the customer".

From another perspective, CRM is defined as a consolidation of both strategic usage and technology toward embracing an integrative view (Bose, 2002; Goodhue, Wixom, & Watson, 2002; Payne & Frow, 2005; Stefanou, Sarmaniotis, & Stafyla, 2003; Tan, Yen, & Fang, 2002). For instance, CRM is an integration of technologies and business processes used to satisfy the needs of a customer during any given interaction (Bose, 2002). Payne and Frow (2005) state that CRM usage involves strategy and technology that unite the potential of relationship marketing and information technology.

This study combines the definitions of CRM from Bibiano and Pastor Collado (2006) and Davenport (2001) and refer to a CRM system as an enterprise system that integrates tools, technologies, and procedures to allow organisations to maintain relationships with customers by delivering value and satisfaction.

2.6.2 CRM modules and CRM vendors

2.6.2.1 CRM modules

CRM systems include tools and online modules for sales automation, customer service, and marketing automation (Chang, Yen, Young, & Ku, 2002; Moutot & Bascoul, 2008). CRM systems can serve different groups of people from different departments in the organisation (e.g., marketing, contact centre, sales, among others); for example, sales force automation can be used in the Sales department to support sales tasks (Moutot & Bascoul, 2008).

The objective of sales automation is to allow the sales professionals to concentrate more on selling products and less on administrative tasks (Chen & Popovich, 2003). Generally, the CRM system is used as a centralised database to store and maintain information concerning customers, products, and competitors, and to share this information among users in the organisations. Order placement and tracking are integrated, so that each customer's sales activities can be monitored and tracked. This provides information on individual customers including all contact information and sales history. Also, all sales professionals can access the system in order to obtain that information. Therefore salesforce automation greatly empowers sales professionals within the organisation (Xu et al., 2002).

The customer service module is one of the major modules in the CRM system. The customer service module offers the necessary facilities to enhance the effectiveness of customer support and communication with customers (Bohling et al., 2006; Stockdale, 2007; Xu & Walton, 2005). The customer service module allows the organisation to use technology for customer care. This module allows firms to manage contact centres, establish knowledge databases, and monitor a customer's activities to provide better service (Chang et al., 2002). The functions of tracking, monitoring, and measuring customer service responses in the customer service module are used to improve the organisation's abandonment rate. Based on the use of efficient functions, customer problems can be solved efficiently through proactive customer support (Xu et al., 2002). In other words, the useful functions in the CRM system assist the organisation to respond to customers' enquiries in an efficient way.

The marketing automation module is commonly used in the Marketing department. Generally, the Marketing department uses the module as an analytical tool in order to analyse customers' behaviours to serve individual customer' needs. Marketing intelligence, a customer database and interactive communication technologies are combined to enable companies to understand and address customers' individual needs better (Xu et al., 2002). The marketing automation module includes the functions of lead management, campaign execution, and marketing collateral management. The marketing module allows organisations to focus on increasing customer retention and loyalty, and providing accountability for marketing efforts (Chang et al., 2002). From another perspective, customer data can be used to create the most effective marketing campaigns to cross-sell and attract new customers (Xu et al., 2002).

2.6.2.2 CRM vendors

According to the study of Chang et al. (2002), CRM vendors can be classified into three categories: large-enterprise vendors, mid-market vendors, and back-office CRM vendors. These three different types of vendor match different sized installations. In this study, the large-enterprise vendors are considered. All three organisations in the study are large-sized businesses that selected only large-enterprise vendors to implement CRM systems in their organisation.

According to a report from Gartner (2015), Salesforce is the largest CRM vendor with the largest revenue in sales, customer service and support segments of CRM. Salesforce dominates the worldwide CRM market with a 19.7% market share. SAP has the second-largest market share at 10.2%, while Oracle has a 7.8% market share. Gartner found that revenue from the CRM software market grew 12.5% from 2014 to 2015. The organisations that participated in this study were RC, HP, and BI. Further information on these three organisations is provided in Chapter 4. The RC organisation selected Salesforce CRM because of the reputation of its sales automation module which is widely used all over the world. The HP organisation selected Oracle's Seibel CRM and the BI organisation selected Microsoft Dynamics CRM that received the fourth-largest market share in 2014.

During the period of this study, the RC organisation had implemented only the sales automation module. The HP organisation had implemented the marketing module and the customer service module. Lastly, the BI organisation had implemented all the main modules, that is, the sales automation, customer service, and marketing modules. Further information regarding organisational CRM implementations is described in Chapter 4.

2.6.3 Overview of Customer Relationship Management (CRM) research

Since this research aims to develop a multi-level theory of post-adoptive adaptation and organisational change associated with CRM implementation, the literature review focuses on CRM research at both individual and organisation levels. Table 2.3 summarises the selected CRM studies that focus on individuals, and Table 2.4 summarises the selected CRM studies that focus on organisations.

Table 2.3 Selected CRM Studies – Individual Level

Theme	Research focus	References
Adoption	Users' adoption	Ojiako, Chipulu, Maguire, Akinyemi, and Johnson (2012) ,and Vella et al. (2012)
	Users' responsiveness	Gefen and Ridings (2002)
	Users' attitude	Jaber and Simkin (2016), and Wu and Wu (2005)
	Users' attitude and intention toward mandated CRM use	McNally and Griffin (2010)
Post-adoptive changes	Post-adoptive behaviour	Avlonitis and Panagopoulos (2005), Chen and Wang (2015), Hsieh et al. (2011), and Kim, Lee, Wang, and Mirusmonov (2015)
	CRM use and users' satisfaction	Hsieh, Rai, Petter, and Zhang (2012), and Kim et al. (2015)
Implementation Process	Users' involvement	Corner and Rogers (2005), and Zablah et al. (2004)
	Users' commitment to change	Shum, Bove, and Auh (2008)
	Users' emotion and technology acceptance	McCalla, Ezingeard, and Money (2003)
	Users' satisfaction	Kim, Kim, and Park (2010)

From the review, it can be concluded that a number of studies have examined users' adoption, responses, attitudes, and perceptions (Ojiako et al., 2012; Vella et al., 2012). In their study, Ojiako et al. (2012) found that individuals' perceptions of a new IT become progressively more negative over time. In other words, individual behaviour towards mandated technology adoption may deteriorate progressively over time. Gefen and Ridings (2002) studied the responsiveness of the implementation team to requests and queries by users. Their result showed that responsiveness helps develop user confidence in the implementation team and the belief that they can support and successfully implement a new system.

Wu's (2005) study focused on users' attitude. The study integrated the Technology Acceptance Model (TAM) with Innovation Diffusion Theory (IDT) and an IS innovation model to predict system use of e-CRM innovation in organisations. Wu found that potential users need a period of time to change their attitudes in order to accept new e-CRM technology.

Jaber and Simkin (2016) focused on the adoption process of CRM by examining organisational factors (clear objectives and goals, performance measurement, customer segmentation, knowledge management) and employees' perceptions. Their result showed that these four organisational factors have a significant impact on employees' perceptions and actual implementation of CRM within an organisation. For example, top management should set clear objectives and goals for CRM implementation. As a result, employees can have an initial idea regarding the potential of CRM system within an organisation.

McNally and Griffin (2010) focused on users' attitudes and intentions in mandated use of a new CRM system. They employed the theoretical lens of attitude-intention models to explore the role of attitudes in IT use when use is mandatory. They added two new constructs of attitude to attitude-intention models relating to the support of customers and the intention to support customers. The analysis from contact centre agents showed that individuals' attitude toward a CRM system and individuals' attitudes toward supporting customers are an important consideration in mandatory contexts. The study also revealed that both attitudes and intentions are important factors in CRM system use. For instance, individuals' attitude toward CRM use and customer service attitudes are positively associated with the intention to support customers.

However, past studies have paid little attention to post-adoptive changes. For instance, a number of studies have evaluated technological effects on post-adoptive behaviours (Avlonitis & Panagopoulos, 2005; Chen & Wang, 2015; Hsieh et al., 2011; Kim et al., 2015). Avlonitis and Panagopoulos (2005) drew on the integration of the Technology Acceptance Model (TAM) and the IS Success Model (DeLone & McLean, 1992) to examine CRM acceptance antecedents and consequences in a sales force setting. The results showed that salespeople that perceive a CRM system as easy to use and useful in conducting activities are more likely to adopt it as well as use it in daily activities. The results also showed that a salesperson's beliefs regarding the ease of using CRM and CRM usefulness have an influence on sales performance.

Hsieh et al. (2011) drew on sensemaking theory to develop a model to understand the antecedents, contingencies, and consequences of employees' extended use of CRM. The researchers found that quality signals at the two levels of technology and the work system (technology quality at the technology level and customer service quality at the work system level) positively affect extended use of CRM. The work system refers to the customer service work system. They also found that extended use can enhance service employees' capacity to satisfy customers, which in turn contributes to their performance outcomes.

Chen and Wang (2015) proposed a theoretical model to understand the importance of adaptive behaviour in mediating the relationship between CRM system use and individual employees' service performance. The proposed model draws from the theory of adaptation and the theory of IT post-adoption.

Kim et al. (2015) proposed a model in the context of mobile customer relationship management (m-CRM) to examine the relationships between m-CRM characteristics (information quality, system quality, and service quality) and employees' personal performance through the mediating effects of user satisfaction and system use. The result showed that the three types of quality had significant effects on employees' personal performance through employee satisfaction and system use. The results also showed that employees felt satisfied and perceived the benefit of an m-CRM system regarding information quality, system quality, and service quality. Moreover, employees' performance improved if m-CRM characteristics, user satisfaction, and system use were appropriately managed.

Studies of post-adoptive changes at the individual level have focused on aspects of mandatory use and user satisfaction. Hsieh et al. (2012) investigated how user satisfaction with CRM use impacts customer service quality in the organisational context. The researchers focused on mandatory CRM use and front-line employees' (contact centre) user satisfaction. The researchers found that front-line employees' user satisfaction with mandated use has a positive impact on employee service quality. They suggest that organisations should balance users' satisfaction with CRM use to manage the quality of services.

A number of studies have focused on aspects of the implementation process that involve employees' or users' emotion and technology acceptance (McCalla et al., 2003), user involvement in the implementation stage (Corner & Rogers, 2005; Zablah et al., 2004), user commitment to change (Shum et al., 2008), and user satisfaction (Kim et al., 2010). Most of these studies have emphasised business benefits and successful CRM implementation. The findings have shown that employees' commitment to change and their adaptation to new technology are important in the successful implementation of CRM. Additionally, Zablah et al. (2004) and Kim et al. (2010) found that technology, process, and people are significant resources for successful CRM implementation in organisations.

In summary, most CRM research at the individual level has largely focused on the adoption stage and initial users' reactions including users' adoption, responses, attitudes, and perceptions of the implementation process. There have been few studies that have focused on the post-adoption stage of CRM, especially post-adoptive CRM usage behaviour where the CRM system is mandated. Previous research has not fully shed light on CRM use in terms of a full understanding of users' experience associated with new CRM implementation. A deeper understanding that takes into account individuals' adaptation behaviour toward a new CRM system is needed in IS research.

Table 2.4 Selected CRM Studies – Organisation Level

Theme	Research focus	References
Adoption decision	Antecedents of CRM adoption	Alshawi, Missi, and Irani (2011), Awasthi and Sangle (2012), Chavoshi, Sim, and Hee (2015), Chuchuen and Chanvarasuth (2011), Firth and Lawrence (2006), Hillebrand et al. (2011), Hung, Hung, Tsai, and Jiang (2010), Karakostas, Kardaras, and Papathanassiou (2005), Ko, Kim, Kim, and Woo (2008), and Zegordi and Fakhredaei (2011)
Post-adoptive changes	Antecedents of CRM use	Dong (2010); (Dong, 2012), Josiassen et al. (2014), Peltier et al. (2013), and Sebjan et al. (2014)
Implementation process and outcome	CRM Implementation process	Adebanjo (2008), Fjermestad and Romano Jr (2003), Labus and Stone (2010), and Kim and Pan (2006)
	Successful implementation of CRM	Baashar and Mahmood (2014), Bohling et al. (2006), Boon, Corbitt, and Parker (2002), Chen and Popovich (2003), Duque, Varajao, Vitor, and Dominguez (2013), Elghany, Khalifa, and Elsalam (2012), Garrido-Moreno, Lockett, and García-Morales (2014), Iriana, Buttle, and Ang (2013), Jayam and Radha (2013), Lin, Lin, Huang, and Kuo (2006), Mehta (2013), Saeed, Grover, Kettinger, and Guha (2011), Rababah (2013), and Wilson et al. (2002)

Theme	Research focus	References
Implementation process and outcome	CRM success factors	Dhaka and Nahar (2014), Elghany et al. (2012), Kamalian, Ya'ghoubi, and Baharvand (2013), Kheyri, Mardi, and Mahzoun (2012), Letaifa and Perrien (2007), Mao-qin, Ling, and Qi (2011), Mehta (2013), Jones, Martin, Nguyen, and Waring (2013), Olupot and Kituyi (2013), Steel, Dubelaar, and Ewing (2013), and Taruna (2015)
	CRM use and organisation performance	Al-Refaie, Tahat, and Bata (2014), Ali, Habidin, Jamaludin, Khaidir, and Shazali (2013), Ashraf, Hamyon, Khan, Jaafar, and Sulaiman (2015), Becker, Greve, and Albers (2009), Chang, Park, and Chaiy (2010), Javanshir, Soltani, Yeganegi, and Jafari (2013), Law, Ennew, and Mitussis (2013), Richard, Thirkell, and Huff (2007), and Zablah, Bellenger, Straub, and Johnston (2012)

Several studies have investigated CRM adoption and implementation at an organisational level (Alshawi et al., 2011; Awasthi & Sangle, 2012; Chavoshi et al., 2015; Chuchuen & Chanvarasuth, 2011; Firth & Lawrence, 2006; Hillebrand et al., 2011; Hung et al., 2010; Karakostas et al., 2005; Ko et al., 2008; Zegordi & Fakhredaei, 2011). Most studies have examined factors that influence CRM adoption such as organisational factors, technology factors, and data quality (Alshawi et al., 2011), technology factors, organisational factors, and external factors (e.g., competitive pressures, pressure from trading partners such as buyers and suppliers, and the role of government) (Chuchuen & Chanvarasuth, 2011).

Chavoshi et al. (2015) investigated organisational characteristics, technology characteristics, and environmental factors in terms of telecommunication and finance

companies that have both low and high intention to adopt CRM. Chuchuen and Chanvarasuth (2011) examined the relationships between the perceived benefits of e-CRM and organisational performance. The study proposed an integrated model that incorporates both organisational and information system factors which have a direct influence on CRM system adoption in the healthcare industry (Hung et al., 2010). Zegordi and Fakhredaei (2011) found that adopter characteristics, environmental hostility, and perceived CRM characteristics have positive effects on the organisational intention to adopt CRM.

Few studies have focused on post-adoptive changes in organisations. Dong (2010) developed a conceptual model to examine the role of IT governance in the post-adoption stage of CRM use and organisational performance. The result showed that CRM use generates operational and strategic benefits in customer-oriented business processes, which leads to improved organisational performance. (Dong, 2012) drew on the structuration theory of technology assimilation and the IT governance literature to examine decision execution mechanisms of IT governance in post-adoption stages of CRM diffusion. The study concluded that CRM use generates operational and strategic benefits that can improve firm performance.

Josiassen et al. (2014) investigated the effects of five CRM dimensions (CRM activity investments, relative CRM expenses, information generation, information dissemination, and responsiveness) on the firm performance. The results showed that the CRM dimensions have highly diverse effects on firm performance. They also showed that information generation and information dissemination improve firm performance. However, CRM investments and CRM expenses do not result in positive performance.

Peltier et al. (2013) examined the relationship between organisational learning processes, data quality, and CRM success in the form of customer and business performance. Their study expanded the focus of CRM success by investigating data quality and performance effects through an organisational lens. They found that data quality is a critical factor driving superior customer relationship efforts leading to financial success. Data quality also impacts both customer and business performance. Sebjan et al. (2014) developed a conceptual model based on the Technology Acceptance Model (TAM). The study examined the set of organisational factors (process orientation, technological orientation, and innovative orientation) that may influence the effective use of CRM solutions at the organisational level.

Despite claims that CRM contributes positively to organisational performance (Krasnikov, Jayachandran, & Kumar, 2009), some researchers have cautioned that only 16.1% of more than 1,700 organisations worldwide report that CRM system usage can increase revenues in their organisations, while 83.9% underutilise CRM tools that they have in place (Dickie, 2009). In addition, there are various factors that influence the success of CRM including individuals' ability to use CRM systems, differences among beliefs and attitudes, the IT and business culture gap, organisations' perceptions toward benefits and the importance of CRM system, and CRM software utilisation (Limsarun & Pacapol, 2010).

Overall, much of CRM research has focused on the implementation process and outcomes associated with organisations. Few studies have examined CRM post-adoption at an individual level and organisational level. In addition, most CRM studies have focused on factors that shape initial adoption, while few studies look into post-adoptive behaviours. Previous research has paid little attention to underlying routines carried out by individuals that develop and form orientation at the organisational level (Winter & Nelson, 1982). In other words, previous research has not focused on users' work routines at the individual level and which impact the organisational level. Although some studies have focused on individuals who work in organisations, few concentrate on individual employees' actions (Jones et al., 2002).

It is also important to note that previous research has paid little attention to the effects of CRM implementation on individuals and organisations simultaneously. Multi-level studies are useful to better understand organisational change and individual adaptation behaviour in response to new enterprise system implementation. These two levels are interrelated and lead to an understanding of the change process which occurs during the post-adoption stage of enterprise system implementation. Klein and Kozlowski (2000) suggest that there has been a lack of multi-level studies that can provide a rich understanding of phenomena that unfold across levels in an organisation. This research aims to address the gap in the current CRM literature by developing a deeper understanding of both individual adaptation and organisational changes in post-adoption adaptation in enterprise system implementation.

2.7 Chapter Conclusion

This chapter provided a review of prior research regarding post-adoptive behaviour, user adaptation, and organisational change. The definitions of adaptation were provided. Literature that has used socio-technical perspectives and coping theory as a theoretical foundation are critical reviewed in this study. An overview of CRM systems including several definitions of CRM from different perspectives, useful information regarding CRM modules and CRM vendors, and an overview of CRM research at the individual and organisational level were discussed. The next chapter, Research Methodology, is justified and discussed.

Chapter 3: Research Methodology

3.1 Introduction

This chapter describes and justifies the research methodology adopted in this study. This study adopts the interpretive approach to build theory from case studies. The chapter begins with an overview of the research process. This is followed by a presentation of the research paradigm and the approach that guided the study. Next, the case study design is described. Lastly, the data collection and data analysis used throughout the study are described in detail. The research process conducted in this study is presented in Figure 3.1.

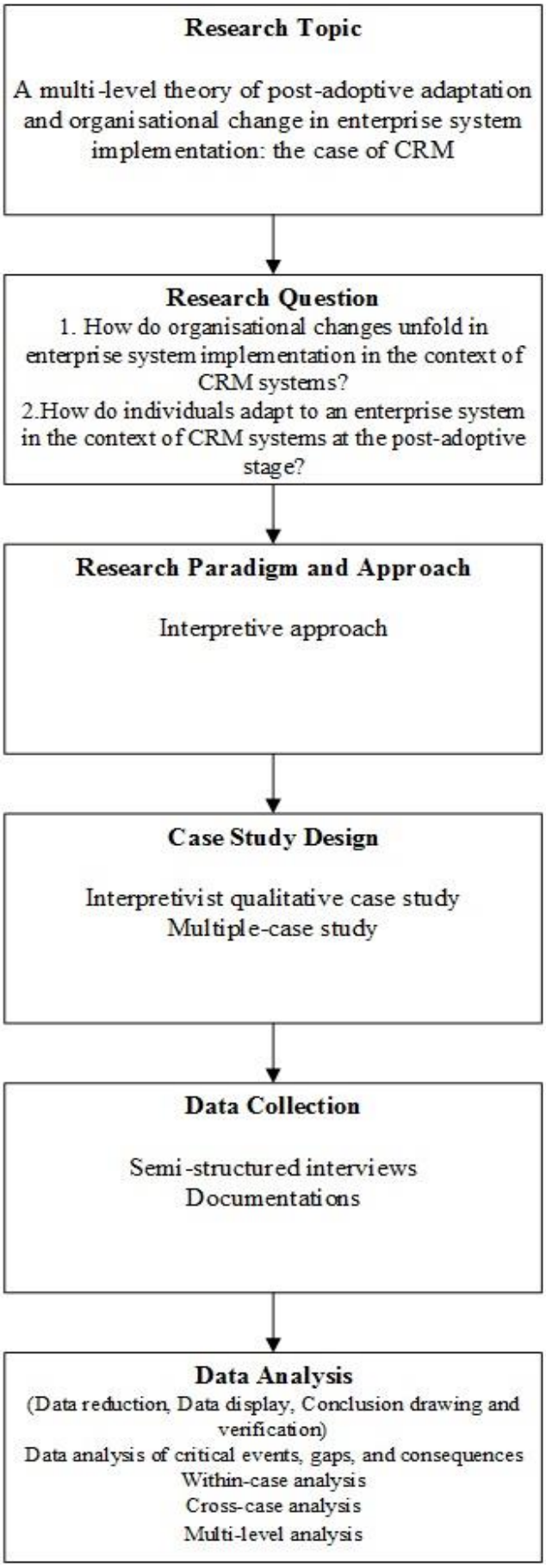

Figure 3.1 The research process in this study

3.2 Research Paradigm and Approach

A research methodology must normally be aligned with an appropriate research paradigm. A research paradigm is a set of assumptions about how things work. Researchers employ a research paradigm to define their beliefs as well as an underlying philosophical assumption. For example, Guba (1990, p. 17) defines that "a research paradigm is a set of beliefs and feelings about the world and how it should be understood and studied". A research paradigm combines three set of beliefs: ontology (how the world is made up and what is real), epistemology (assumption about knowledge and how researchers discover that knowledge), and methodology (how knowledge can be obtained) (Guba & Lincoln, 1994).

In terms of research methodology, qualitative research methods are designed to enable researchers to understand people, and social and cultural phenomena (Myers, 1997). In this study, the qualitative approach allowed me to discover and develop an in-depth understanding of individuals' attitudes, perceptions, and adaptation to new information systems. Kaplan and Maxwell (1994) argue that the goal of understanding participants' views within their social and institutional context is mostly lost when textual data are quantified. Therefore, a qualitative approach was considered more appropriate to develop an in-depth understanding of individual adaptation and organisational change following CRM implementation. The following subsection presents the underlying ontological and epistemological assumptions, and interpretive approach in this research.

3.2.1 Ontological assumptions

Ontology concerns the nature of reality (Hudson & Ozanne, 1988). The social world has multiples realities which are constructed by human actors. The researcher can view the world from two perspectives: objectivism or constructionism. Objectivism allows the researcher to view the world as an objective reality in which social phenomena exist as external facts beyond our reach or influence. Alternatively, constructionism perceives the world as a subjective reality, which is related to the social construct and influence of the researcher himself/herself. Constructionism recognises the influence of the researcher in the research process (Bryman & Bell, 2011). The researcher's role is to discover data and determine the theory they imply (Charmaz, 2006). This philosophy of research allows the researcher to become part of the discovery process.

From my point of view, the social world is a subjective reality and cannot be measured in terms of objective reality. In the study, my ontological position is that of a

constructionist. I view my research problem as one which has no external reality. It is an emergent reality that is in a continuous state of construction and reconstruction (Bryman & Bell, 2011). This study focused on individual adaptation, which is a socially constructed process. "People can adapt their understanding to a new situation" (Becker, 1982, p. 521). In other words, people can learn new things and adapt to particular situations all the time.

3.2.2 Epistemological assumptions

I chose interpretivism as my epistemological assumption. According to Hudson and Ozanne (1988), the knowledge generated from interpretivism is perceived through socially constructed and subjective interpretations. In this study, I explored individuals' adaptation behaviours associated with new CRM implementation in the organisational context. In other words, I did not use hypotheses to understand objective reality or to predict causes and effects. My goal was to understand users' perceptions and users' points of view, and to investigate particular circumstances associated with new enterprise system implementation in the post-adoption stage.

Hudson and Ozanne (1988) and Walsham (1993) argue that the interpretive method develops from the position that our knowledge of reality including the domain of human action is socially constructed and subjected to interpretations by human actors. "Our theories concerning reality are ways of making sense of the world, and shared meanings are a form of intersubjectivity rather than objectivity" (Walsham, 2006, p. 320). Individuals seek an understanding of the world and develop subjective meanings of their experiences. These meanings are directed toward certain objects or things which are varied and multiple.

From my point of view, the investigation of individual adaptation behaviour was to understand how individuals adapted to new IS implementation, and to examine factors that influenced those adaptation behaviours. The interpretive method offered the potential to investigate participants' stories and their experience. According to Guba and Lincoln (1994), researchers should interact with participants in order to expose subjective perspectives from individual's interpretations of reality. In other words, researchers can choose appropriate methodologies to interact with participants in order to understand their attitudes, experience, and opinions. In this research, I used the interview method to find out participants' opinions and perceptions in various contexts.

3.2.3 Interpretive approach

Interpretive researchers rely on participants' views of the situation being studied to gain a better understanding of individuals' thoughts. Interpretive researchers also expose subjective perspectives from individuals' interpretations of reality (Guba & Lincoln, 1994). Reality is complex and multi-layered in nature. It is interpreted and constructed by how individuals interact with others and the way they perceive social situations (Guba & Lincoln, 1994). Walsham (1995, p. 75) states that "social issues related to computer-based information systems has led some IS researchers to adopt empirical approaches which focus particularly on human interpretations and meanings".

This research adopted the qualitative interpretive case study method to examine multi-level theory associated with CRM implementation in organisations. An interpretive approach was an appropriate approach to develop a rich understanding of individuals' adaptation towards the CRM system in organisations as well as to understand how organisational change influenced users' behaviours. Interpretive case study research aims to understand the nature of phenomena from the point of view of participants and seeks to elicit meanings from behaviour in the social context (Cavaye, 1996). In summary, I used an interpretive approach as my paradigmatic position along with a constructionist approach as my ontological position, and an interpretivist approach as my epistemological assumption.

3.3 Case Study Design

The case study method is appropriate to investigate a contemporary phenomenon in the real-life context, especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2003). In other words, the case study method is used to offer a rich explanation of a social phenomenon. According to Eisenhardt (1989, p. 534), "the case study is a research strategy which focuses on understanding the dynamics present within a single setting".

There are some differences between the views of Yin (1989) and Walsham (1995) based on their underlying research epistemology. Yin (1989) adopts a positivist stance in describing case study research, but his view that case studies are a preferred research strategy to answer "how?" and "why?" questions would also be accepted in the interpretive approach. Dyer and Wilkins (1991) and Dubé and Paré (2003) argue that studies that use the positivist approach develop clear constructs and testable propositions. Walsham (1995) focuses on the interpretivist case study method and theory building from

this method. This study adopted an interpretivist case study method in order to build a multi-level theory from the case studies. Constructs and propositions are not proposed in the theoretical framework in this study. This study does not aim to test and confirm a priori theory. The low-level codes, interpretive codes, and pattern codes are built to produce a multi-level theory of post-adoptive adaptation and organisational change in this study.

Dyer and Wilkins (1991) also state that the positivist approach focuses on cases numbering from 4 to 10, but any description of the cases lacks depth if it focus on surface data rather than deeper social dynamics. This study adopted the interpretive approach by providing an organisational context related to users' CRM usage, the characteristics of the organisations, individual behaviours, and other factors that contributed towards developing a rich understanding of individuals' adaptation towards the CRM system in organisations and an understanding of how organisational change influenced users' behaviours.

The case study strategy consists of three main steps: case study design, case study selection, and case study analysis (Eisenhardt, 1989; Yin, 1994). Case study design involves identifying the unit of analysis, identifying criteria for case selection, determining an appropriate number of cases, selecting an appropriate data collection method, and designing data collection instruments. In this study, the case study design involved the decision to use multiple case studies and the preparation of interview questions.

This study employed the embedded multiple-case design that involves multiple cases and multi-level analysis (Yin, 2003). A multiple-case design was regarded as more appropriate than a single-case design because a single case approach is suitable for testing the boundaries of well-formed theory or examining an extreme or a unique case. The benefits of adopting a multiple-case design in this study were related to the need to identify a variety of adaptation behaviours as well as organisational changes according to different organisational contexts. The results revealed the similarities and differences of change based on different business types. For case study selection, I adopted a theoretical sampling strategy. The last step was case analysis. Within-case and cross-case analysis were conducted.

3.3.1 Unit of analysis

The unit of analysis can be any bounded phenomenon such as an individual, dyad, group, role, process, project, activity, event, organisation, nation, intervention, or geographical location (Miles & Huberman, 1994). In this study, the unit of analysis included both organisational and individual levels. The organisational level is considered as macro-level analysis. Macro-level analysis focuses on a large-scale unit such as organisations, populations, and societies (Markus & Robey, 1988). Organisational level analysis in this study was related to the research question of how organisational changes unfold during the change process of CRM implementation. The individual level considered as micro-level analysis. Micro-level analysis focuses on individuals and small groups (Markus & Robey, 1988). In this study, individual level analysis was related to the research question of how individuals adapt to the CRM system.

Both levels of analyses allowed me to better understand the interaction between individuals, the CRM system, and organisations, and the relationship among them. CRM implementation affected organisations in terms of reshaping the work processes and work systems. CRM implementation also affected individuals. Individuals adapted to CRM implementation by responding in different ways. This study also examined the relationship between the individual level and organisational level. It was found that both the individual level and the organisational level were interrelated.

3.3.2 Case study selection

Theoretical sampling strategy was adopted to select case studies (Patton, 1990). Cases were not randomly selected. “Theoretical sampling simply means that cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs” (Eisenhardt & Graebner, 2007, p. 27).

Before the interview stage, there were four criteria involved in choosing participating organisations. Firstly, organisations needed to have implemented customer relationship management (CRM) systems within the past three years. Secondly, organisations needed to be medium or large-size businesses, such as banking, telecommunication, insurance, and automobile industries, since this size organisation is the most typical CRM user (Srivihok & Batanov, 2005).

In terms of scales of implementation, CRM implementation in Thailand usually involves a selection of modules that include direct sales lead and information management

systems, sales force automation (SFA) systems, and contact centre and customer service systems (Mirani, Moore, & Weber, 2001). The third criterion was that the selected organisations needed to be using the main modules such as customer service, sales automation, and marketing automation modules. Lastly, the selected organisations needed to be currently using the CRM systems.

All participants from the three participating organisations were in a similar stage of CRM usage. Most users had used the CRM systems for 1-3 years. These three participating organisations had completed the CRM implementation with the main modules including customer service, sales automation, and marketing automation modules. Before the interview, I checked with participants to confirm that the selection criteria were matched. Therefore, these three cases should be comparable in terms of their stage of CRM use.

Case studies were conducted in Thailand, which is my home country. In this study, 'a case' refers to an organisation that participated in the study. There were several reasons to select Thailand as a research site. I had five years working experiences within different type of industries in Thailand and I had a deep understanding of Thai culture including Thai organisational culture. This experience would assist me to understand the characteristics of Thai end-users as well as to more easily understand the organisational culture and work environment in Thailand. The interviews were conducted in Thai. Thai is my mother tongue. There were no language barriers during the interviews. Therefore, the participants felt comfortable to share their opinions. The interview environment had a friendly and relaxed atmosphere.

Previous studies have revealed that national culture and organisational culture have an impact on enterprise system implementation. Krumbholz and Maiden (2001) found that organisational culture has an impact on enterprise system implementation, stating that "diverse implementation problems can be caused by a mismatch between a small set of core values indicative of a customer's organisational culture" (Krumbholz & Maiden, 2001, p. 185). Shah, Bokhari, Hassan, Shah, and Shah (2011) also found that organisational culture plays an important role in enterprise system implementation and impacts the success of the implementation.

In terms of national culture, Molla and Loukis (2005) found that successful enterprise system implementation depends on the compatibility between the host culture and the adopter culture. When a Western developed enterprise system is implemented in a country

where the culture differs greatly from that of the developer, the system requires localisation in order to be successful (Srivastava & Gips, 2009).

Even though, national culture and organisational culture influence enterprise system implementation, this study focuses mainly on organisational contexts in three different types of industry businesses to build a multi-level theory of post-adoptive adaptation and organisational change. This study does not aim to examine cross-cultural differences in individual adaptation and organisational change. The study's empirical context is Thailand. Therefore, national culture is not the main focus of this study.

Organisational context (e.g., characteristics of organisations, users' CRM usage, and individual behaviours) is considered as an important context in this study because the objective of this study is to reveal a variety of adaptation behaviours as well as organisational changes according to different organisational contexts to build a multi-level theory. Therefore, organisational context is a more appropriate context for this study than a specific focus on the role of organisational culture.

Three organisations across different industries were chosen. According to Eisenhardt (1989), there is no ideal number of cases, but there should be no more than 10 cases. Research sites should also be selected to maximise variation as well as to enable cross-case comparison (Guba & Lincoln, 1989). Organisations from different industries allowed me to extend the findings to understand situations in a broad range of organisations, and to increase understanding of the adaptation process of organisational CRM use (Harris & Sutton, 1986). According to Lyytinen and Rose (2003), companies of different sizes and in different industries can help minimise potential bias in the study and maximise the variation in firm characteristics in the sample. The different industries may provide different results of users' adaptation behaviours in different socio-technical environments. A multiple-case design enables researchers to analyse data across cases to verify that findings are not merely the result of idiosyncrasies of one particular research setting (Miles & Huberman, 1994).

3.4 Data Collection

Data collection in this study involved collecting organisational supporting documents as well as interview data at research sites.

3.4.1 Data sources

Case studies are meant to help in providing the researcher with a holistic understanding of the phenomenon being investigated (Eisenhardt, 1989). Methods of data collection commonly used in case study research consist of documentation, archival records, interviews, direct observation, participant observation, and physical artefacts (Yin, 2003). In this study, I used interview data to understand individuals' adaptation behaviours and organisational change in the post-adoption stage of CRM systems. I also used supporting documents such as organisational IT system infrastructure model documents, implementation plans, and user manuals to verify participants' quotes.

Semi-structured interviews were conducted in this study. Using this interview technique, the interviewer prepares a series of questions that are in the general form of an interview schedule but the sequence of the questions can vary (Bryman & Bell, 2011). In other words, semi-structured interviews have flexibility, and the sequence of interview questions can be changed during the interview sessions. Participants were selected based on their experience of using the CRM system in their daily work routines and also their ability to give me rich information relating to the adaptation and change that occurred during CRM implementation.

The interview questions were developed from a theoretical framework that included two theories of coping theory and a socio-technical perspective. The interview contained questions about participants' work experience and educational background, their experiences related to information technology, their perception toward CRM systems, their CRM use, their related adaptation, and organisational change. The main questions were related to individuals' post-adoptive adaptation behaviours in response to CRM implementation, as well as organisational change. There were three different sets of interview questions – one set for end-users, one set for IT support staff, and one set for management. Each set of questions was appropriate for the different groups of participants. The main reason to interview different groups of participants was to obtain rich information relating to the perspectives of the organisation, users, and IT staff.

During the interviews, I asked participants additional questions beyond the prepared interview questions in order to obtain rich details on individual adaptation and organisational change associated with CRM implementation. Walsham (1995) suggests that if interviewers direct an interview too closely, and refuse to allow participants to express their views except in response to questions, the data obtained may lose aspects of sensitive and rich interpretation.

The interview schedule depended on the availability and schedules of participants. For instance, I had to interview users and management on the same day despite the fact that they may have come from different teams or departments. When interviewing management, I interviewed managers and management level staff such as marketing managers, customer relationship management managers, IT managers, and management directors who played a vital role in CRM decision-making process.

According to Alvesson (1995), data from managerial and technical experts can help eliminate possible managerial bias when only managers are included in interviews. I asked for organisational documents to assist me in understanding each organisation's implementation process, from software selection to installation and expectations associated with CRM systems. I also interviewed users and other support personnel such as help desk staff and IT support staff to gain a better understanding of CRM usage, problems, and the adaptation process.

3.4.1.1 Documentations

Relevant organisational documents which I obtained from the participating organisations were used to examine organisational change and individual adaptation to CRM. The organisational documents assisted me to understand the history of the organisation, the history of CRM implementation, organisational structure, and the organisation's IT system infrastructure which affected organisational change after CRM implementation. For example, organisational structure in the BI case in this study was very complex. Altogether, three departments and five business units within this organisation participated in this study.

Bryman and Bell (2011) suggest that, in case-study research, documents can be used to explain actions, past managerial decisions, and the history of organisations. Documentation enables a researcher to corroborate data by providing specific details that

enable the researcher to cross-check information obtained from an interview or other data methods (Yin, 2003).

3.4.2 Research sites

Three organisations were selected as research sites: a hospital organisation, an insurance organisation, and an innovative office automation solutions organisation. The innovative office automation solutions organisation (RC case) and the insurance organisation (BI case) were located in Bangkok, Thailand. The hospital organisation (HP case) was located in Chonburi province, Thailand. Further background information on these three organisations is presented in Chapter 4.

3.4.2.1 Participant recruitment process

Theoretical sampling guided the selection of participants. Participants were selected according to the likelihood that they could offer theoretical insight. In this study, the number of participants was not pre-defined and not limited. I interviewed the participants until theoretical saturation was reached. Theoretical saturation is the point at which incremental learning is minimal because researchers are observing phenomena seen before (Glaser & Strauss, 1967). It was possible to request additional participants to participate in the interviews until theoretical saturation was reached. The cases aimed to maximise theoretical depth in the cases themselves. Once the data from the participants were no longer adding more concepts, rather, the data were repeating the existing concepts, the interview sessions were concluded.

3.4.2.2 Overview of interview process

The interview process for all three organisations involved the same process. All of the interview sessions were in-depth, one-on-one interviews. The study focused on in-depth interviews to obtain insightful information from participants' real experiences and perceptions.

During the interview sessions, I created a relaxed atmosphere to allow interviewees to express their perceptions and ideas as much as possible. I had interview questions pre-organised, nevertheless, I allowed interviewees to ask questions and to express their opinions. The sequence of interview questions moved back and forth according to participants' stories at that time.

Each interview session began by obtaining verbal consent from the participants regarding information sharing and the use of a voice recorder during the interview session. The next

step involved introducing myself as the interviewer and outlining the background and purpose of the study. At that time, I allowed the participants to ask further questions. An interview question form and consent form were provided to all participants. The interview question form provided brief information about the research topic and the purpose of this research at the top of the form. I asked participants to fill out the consent form with their personal information including demographic information, job position/department, the number of working years in the organisation, and education background. They were then asked to sign the form. Examples of interview question form and consent form are provided in the Appendix 4 and 5.

After the introduction section was finished, I asked general questions regarding participants' job descriptions, job duties, and work routines. Questions relating to participants' perceptions of CRM implementation were then posed. The duration of interview sessions ranged from one hour to three hours depending on the stories that participants needed to share. The length of interviews also depended on the number of additional questions.

During the data collection period, I reflected on short notes taken during the interviews and listened to the audio-recorded files to find interesting concepts or similarities and differences that emerged from participants' responses. This technique enabled me to ask additional questions in following interviews to gain insight into the previous stories.

3.5 Data Analysis

The purpose of data analysis was to find empirical evidence to build a theory based on the two research questions of the study. In the study, I adopted three concurrent data analysis processes (data reduction, data display, and conclusion drawing and verification) as proposed by Miles and Huberman (1994) to analyse interview data as well as build theory. Within-case and cross-case analysis was conducted to investigate individuals' adaptation behaviours and organisational change in a specific organisation and to compare them with other organisations to identify similarities and differences. Multi-level analysis was conducted at both the individual level, and at the organisational level within this study.

3.5.1 Data analysis technique

Qualitative research generates a large amount of data because of its dependence on text in the form of media such as field notes, interview transcripts, or documents (Bryman, 2008; Creswell, 2009). Notably, case study research tends to produce large volumes of data that are not readily amenable to mechanical manipulation, analysis, and data reduction (Yin, 2003). The case study can produce large volumes of data because a case study can consist of several interviews. The length of each interview session can be long depending on the number of interview questions and the conversations between the interviewer and interviewee. Qualitative data analysis is about words, not numbers (Miles & Huberman, 1994).

3.5.1.1 Data reduction

According to Miles and Huberman (1994), data reduction is the process of selection, focusing, simplifying, abstracting, and transforming the data. Data reduction can occur continuously throughout the research project. Data reduction occurs before the data collection commences such as generating a conceptual framework, devising research questions, and setting up interview questions. During the interview stage, data can be reduced by writing summaries. Data reduction can be described as " a form of analysis that sharpens, sorts, focuses, discards, and organises data in such a way that final a conclusion can be drawn and verified" (Miles & Huberman, 1994, p. 11). During the data analysis stage, data reduction can occur in the coding period.

Huberman and Miles (1994) suggest creating a start list of codes prior to interview sessions commencing by using the theoretical framework, research questions, problem statement and/or key variables. In this study, the data reduction commenced prior to going to the research sites. The theoretical framework, that included coping theory and a socio-technical perspective, narrowed down the scope of the research by focusing on these two theories only. As a result, irrelevant data collected from the fieldwork was eliminated. During the interview process, data reduction was achieved by making short notes. This method helped me to find relevant concepts relating to research questions from short notes that I took during the interview sessions.

In this study, the primary data source was the audio-recorded interview. During the data collection stage, some interview data were transcribed into a Word document. Before data were transcribed, I listened to recorded files once before starting to transcribe the data. This technique assisted me to understand the whole context. The transcription process

was not finished during the data collection stage because of time limitation. I finished some parts of interview transcriptions after data were collected. Data were transcribed into the template and were sorted by interview questions. All interview transcriptions were in the same format. Once all transcriptions had been finished, the interview transcriptions were uploaded into Nvivo and organised into case folders in order to perform within-case analysis.

In this study, Nvivo 10 was used to manage, analyse, and display data. Nvivo is a computer-assisted qualitative data analysis software (CAQDAS). Nvivo has been used by several researchers in both IS and business fields. Myers (2013) pointed out that researchers who employ qualitative data analysis should use good CAQDAS to help coding, searching, and retrieval of texts. I used Nvivo to assist me in terms of recording, coding, searching, condensing, linking the data, and displaying the data. Nvivo is considered as an appropriate tool for the analysis of textual interview transcripts (Bazeley & Jackson, 2007; Richards, 1999).

During the data analysis stage, the coding process began to develop low-level codes, interpretive codes, and pattern codes to answer the research questions and build theory. According to Braun and Clarke (2006), writing is part of analysis and should begin at phase one with note-taking of ideas and a potential coding scheme. While I focused on reading the whole data set, I also took short notes about interesting ideas, similar concepts, discovered patterns, as well as useful points in order to group pattern codes for the next step.

Data analysis is an iterative process that can move back and forth as needed throughout the data analysis process (Braun & Clarke, 2006). The iterative analytic process can result in the establishment of patterns and themes as each unit of raw data goes through a systematic comparison with all the previous units of data (Miles & Huberman, 1994)

The analysis process began with reading and re-reading the interview transcripts to acknowledge and familiarise myself with the entire data. This process allowed me deeper understanding and I was able to identify emerging ideas from respondents. Furthermore, I could also investigate the respondents' feelings, perceptions, emotions, and experiences from the data. I transcribed every participants' words including non-word sounds such as "umm". The use of "umm" expresses doubt or uncertainty or fills a pause when hesitating in speaking. I was able cross-check by listening to the audio-recorded files again. At this

stage, I continually read through the data to organise it into specific groups as well as to identify a meaningful set of data that was related to the research questions.

Coding was applied to combine interesting ideas and meaningful data into low-level codes, interpretive codes, and pattern codes that related to the research questions and objective of the research. In the coding stage, I ensured that the entire data were covered by using line-by-line coding and by moving back and forward to read through the data set carefully. The coding process contained several rounds of coding to obtain higher level concepts. If some sentences or wordings in the data were not related to the research questions and theoretical framework, they were eliminated. The coding process was performed seperately for each of the three organisations.

In the first stage, coding was initiated by identifying and coding participants' words extracted from the interview transcripts. Coding was applied to combine interesting ideas and meaningful data into low-level codes. Similar coded data was then placed into specific groups and differences or similarities were noted. At the initial stage of coding, there were 288 low-level codes across three cases. In Chapters 5-7, Analysis and Findings, a number of low-level codes are merged in terms of similar meaning, and are eliminated in case of irrelevant concepts. The final list of low-level codes is presented in these chapters.

In the second stage, the interpretive codes were developed based on the theoretical framework (Miles & Huberman, 1994). The theoretical framework in this study included coping theory and a socio-technical perspective. These two theories were used as a lens to examine adaptation behaviours and organisational changes after CRM adoption. This step generated interpretive codes by grouping different low-level codes into relevant interpretive codes. Irrelevant low-level codes and irrelevant interpretive codes were eliminated. The irrelevant codes were the codes that had not given meaningful concepts related to the theoretical framework and main research questions.

For instance, the ***Resistance behaviour***[1] interpretive code reflected a pattern of behaviour in which individuals were unwilling to adapt to the new enterprise system implementation. Some users resisted using the new enterprise system, especially in the initial stage of post-adoption. Individuals desired to use their preferred tools (e.g., paper

[1] The pattern codes, interpretive codes, and low-level codes are represented in **bold font**, ***bold italic font***, and *italic font*, respectively, throughout the thesis.

calendar, Google calendar, paper notes, among others) or their preferred work systems in their work practices. Individuals attempted to find a way to finish their work tasks without using the enterprise system. Low-level codes that belonged to the resistance behaviour interpretive code needed to present different resistance behaviour, for example, *unfamiliar with the system, unwilling to change work routines and work practices, refused use, individual system attachment, felt overwhelmed, felt worried, a complaint about the system, too many functions,* and so on.

In the last stage, the pattern codes were developed. In this stage different interpretive codes were grouped into relevant pattern codes. In this phase, I identified which codes were pattern codes and which codes were interpretive codes. For instance, the **adaptation behaviours** pattern code described the way that users adapted to new CRM implementation. Interpretive codes that belonged to the adaptation behaviours pattern code needed to present different adaptation behaviours, for example, ***resistance behaviour; avoidance behaviour; adaptation effort behaviour; and self-satisfaction adaptation behaviour*.**

Pattern codes should describe the meaning of a group of different interpretive codes at a higher level. In this step, the researcher should decide interpretive codes and group the interpretive codes into appropriate pattern codes. Linking the pattern codes together facilitates the elaboration of the theoretical framework (Miles & Huberman, 1994). In this study, the results of findings revealed that there were two groups of pattern codes, which were able to answer the two main research questions concerning individual adaptation and organisational change. Individual adaptation reflected how individuals responded to CRM implementation. Organisational change reflected how organisations responded to CRM implementation. Also, all pattern codes were mutually linked to each other according to the underlying phenomenon relating to the study of CRM implementation at the post-adoption stage.

The last process was reviewing and refining pattern codes. The review process ensures that generated pattern codes relate to research questions and the theoretical framework that guides the study. In order to refine pattern codes, pattern codes need to be accurate, meaningful, and relevant to the entire data set. The identification of pattern codes is dependent on the theoretical framework and analytic approach of the study. In other words, pattern codes should reflect the meaning of the entire group of interpretive codes and the pattern codes should have meaning by themselves to answer the research

questions (Miles & Huberman, 1994). During this stage, I investigated similar pattern codes to form higher level of abstract as well as to discover the relationship between pattern codes and interpretive codes. Overall, there were five pattern codes, and 18 interpretive codes, which are presented in Chapter 8. Further information regarding the coding construction of pattern codes, interpretive codes, and low-level codes is presented in the Appendix 6, 7, and 8.

3.5.1.2 Data display

Data display is the second stage of Miles and Huberman's (1994) data analysis technique. "Data display is an organised, compressed assembly of information that permits conclusion drawing and action" (Miles & Huberman, 1994, p. 11). In other words, data display is a preparation step to draw a conclusion. Data display is a method of presenting qualitative data in an easily understood and compact way. According to Miles and Huberman (1994), data displays are a major method of validing qualitative analysis. In a qualitative case study, there are large amounts of information including interview scripts and documentations. These large quantities of information need to be organised in an accessible format. There are different ways to present qualitative data such as using graphs, charts, or networks.

Nvivo provides data visualisation features to display codes and the relationship among them such as word tree, graph, cluster analysis, tree map, and others. In this study, I used the tree map feature to view all codes. I also used the export list feature to export all codes in Excel format. This technique assisted me to view different levels of codes clearly and manage them efficiently. It is important to note that Nvivo was only used as an analysis tool. It did not substitute my actual analysis process; rather, it helped me to code, organise, and display all the interview data in an efficient way.

3.5.1.3 Conclusion drawing and verification

The last stage of data analysis is conclusion drawing and verification. "The conclusion is also verified as the analyst proceeds" (Miles & Huberman, 1994, p. 11). The conclusion is the meaning of the analysed data. Miles and Huberman (1994) suggest that researchers should draw conclusions lightly with an open mind and a degree of scepticism until they become more explicit and verified. In this study, once the coding process was finished, I began to write the draft of the Analysis and Findings chapters to ensure that generated pattern codes were related to the research questions and the theoretical framework that guided the study.

Verification can occur anytime. It can be during the writing, when replicating findings in another data set, or during discussion among peer. The meanings emerging from the data have to be tested for their plausibility, their sturdiness, their confirmability in order to make sure that they are valid (Miles & Huberman, 1994). In this study, conclusions were verified by the theoretical framework and research questions. Pattern codes needed to relate to the theoretical framework and be able to answer the research questions. For instance, the **changing structure of work** pattern code described the way organisations changed their organisational structure or structure of work processes after adopting new CRM systems. This pattern code was relevant to addressing the research question: how do organisational changes unfold in enterprise system implementation in the context of CRM systems? Also, it was necessary to confirm that all coding evidence was matched the pattern codes by going back and forth to view coding again and again.

In the Analysis and Findings chapters, I present the findings according to the pattern codes. While writing these Analysis and Findings chapters, I modified my writing several times to ensure that there was adequate evidence to support the pattern codes. The name of the pattern codes needed to be accurate, meaningful, and reflective of the entire coding evidence. For instance, the pattern code **consequences of CRM implementation** reflected the expected and unexpected consequences which occurred during the change process of CRM implementation. The interpretive codes ***conflict among users, and effect on work performance*** formed the pattern code of **consequences of CRM implementation**.

3.5.2 Data analysis of critical events, gaps, and consequences

The previous section presented the adoption of three concurrent data analysis processes adapted from Miles and Huberman (1994) and presented a coding process to obtain low-level codes, interpretive codes, and pattern codes. The data analysis process was carried out to identify critical events, gaps, and consequences which occurred during the change process involved in CRM implementation. The analysis of critical events, gaps, and consequences is relevant to address the research question: how do organisational changes unfold in enterprise system implementation in the context of CRM systems?

This study adopted the model of Lyytinen and Newman (2008) to explain changes by revealing critical events, gaps, and consequences allowing a better understanding of events and socio-technical gaps that occurred during the post-adoption stage of CRM implementation. The critical events were presented to explain how a changed outcome

emerged. The change would not have happened without the event. The critical events led to the generation of gaps among four interrelated socio-technical components. These gaps led to the generation of consequences resulting from CRM implementation which occurred during the change process.

Lyytinen and Newman (2008, p. 595) define critical incidents (critical events) as "events that affect system states in ways which can threaten or significantly decrease or change their performance". In this study, a critical event was defined as an intended event or unintended event that led to the generation of gaps between four socio-technical components. These gaps affected in both of individual adaptation and affected organisational performance and work performance during the post-adoption stage of CRM implementation.

Lyytinen and Newman (2008, p. 613) define a gap as "a property of a system state that affects systems' behaviour and its repertoire of responses. A gap is any situation in the system, if left unattended, that will deteriorate the system's performance, or threaten its long-term survivability." In this study, a gap was defined as a misalignment between the socio-technical components, driven by critical events.

The critical events were identified from either low-level codes, interpretive codes, or pattern codes. For instance, the critical events of the new requirement to input customer information was from low-level codes. This critical event led to the generation of gaps between the task-actor components and task-structure components, which led to the generation of consequences that effected work performance. The critical event of setting up new rules to identify sales boundaries was from an interpretive code, which led to the generation of a gap between structure-actor components regarding users' dissatisfaction because of losing benefits. The critical event of increasing transparency of information was from a pattern code, which led to the generation of a gap in technology-actor components. This gap created conflicts among sales professionals. The data analysis process from codes to critical events, gaps, and consequences is presented in Figure 3.2.

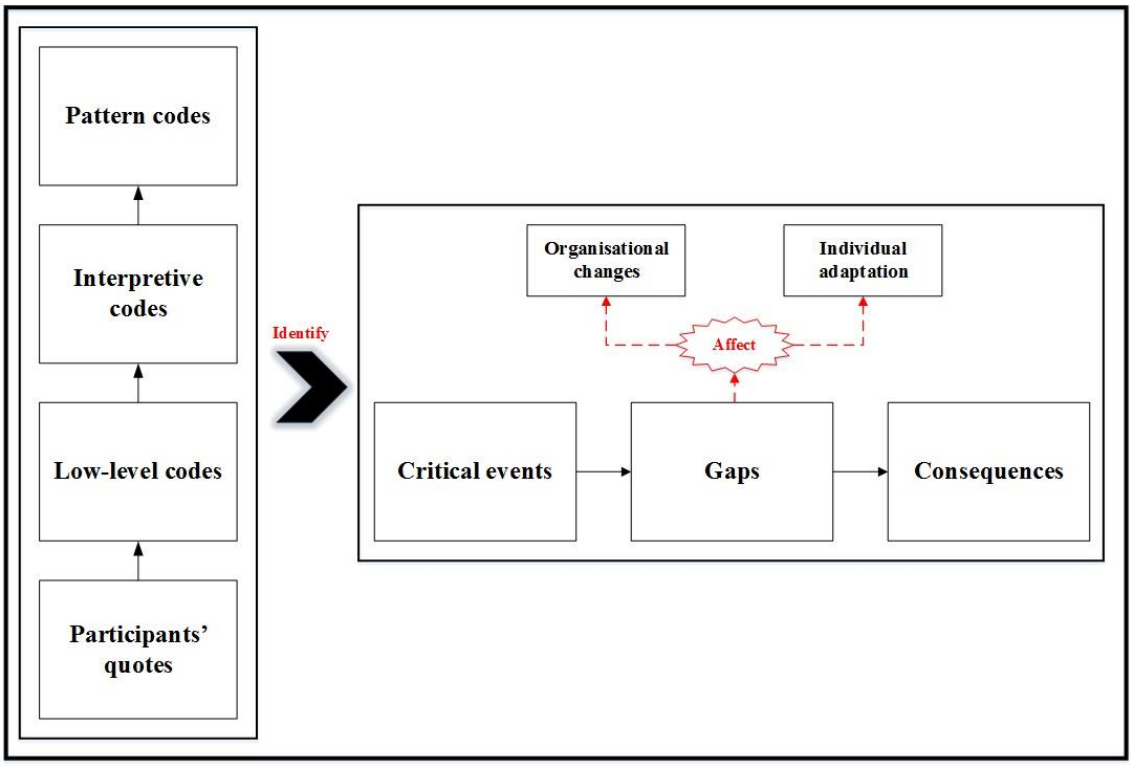

Figure 3.2 Data analysis process from codes to critical events, gaps, and consequences

3.5.3 Within-case analysis

According to Eisenhardt (1989), within-case analysis allows researchers to understand rich contexts and unique patterns in each case. "Single-case research typically exploits opportunities to explore a significant phenomenon under rare or extreme circumstances" (Eisenhardt & Graebner, 2007, p. 27). The purpose of within-case analyses is to develop detailed case study descriptions, and identify relevant categories in each case study before conducting a cross-case analysis (Eisenhardt, 1989).

In this study, there were three cases from different industry types. Case description information for the three cases is provided in Chapter 4. This case description information allowed me to familiarise myself with the case as an independent unit. According to Eisenhardt (1989), the first phase of data analysis should describe each case in detail to allow researchers to familiarise themselves with the case itself.

Each case had different organisational contexts, organisational structures, and work processes. The differences in organisational contexts showed similarities and differences regarding organisational change after CRM implementation. Also, individual adaptation

behaviours from each case emerged in the within-case analysis. The analysis and findings of the three cases discussed in Chapters 5, 6, and 7.

3.5.4 Cross-case analysis

Cross-case analysis enables researchers to enhance the probability of capturing novel findings of the data (Eisenhardt, 1989). In other words, cross-case analysis finds similarities and differences from each case study to build up a higher level of analysis. The cross-case analysis involves comparing, contrasting, or combining data from all cases to improve the robustness, generalisability, and applicability of findings, and the theory based on those results (Yin, 2003). Multiple-case studies typically provide a stronger base for theory building (Yin, 1994).

In this study, the results of findings from cross-case analysis were used to build theory relating to the research questions. The cross-case analysis in this study showed the similarities and differences in individual adaptation behaviours and organisational change that emerged from the data and was based on different organisational contexts. The result of the findings was then discussed with extant literature.

3.5.5 Multi-level analysis

The study adopted multi-level analysis at both the organisational level and the individual level to find different perspectives regarding the post-adoption stage of CRM implementation in the organisation. The reason to examine both levels was because the goal of this study was to simultaneously investigate organisational change and individuals' adaptation in the post-adoption stage of CRM implementation. Generally, the multi-level perspective is used to examine phenomena that unfold across levels in organisations to provide a richer meaning in organisations (Burstein & Miller, 1978).

A multi-level theoretical model identifies how different phenomena at different levels are linked, providing a more vibrant portrait of the organisational life and making explicit the relationships between constructs that are previously unlinked (Klein & Kozlowski, 2000). In other words, multi-level analysis was useful to understand users' reactions associated with CRM implementation and to provide a richer meaning of organisational change.

Organisations invest a large amount of money in installing the CRM systems; however, there has been a previous lack of multi-level analysis of CRM implementation. This study is a multi-level analysis that links the individual level and the organisational level at the post-adoption stage of CRM implementation and therefore adds to the literature by

investigating multi-level change at both the individual and organisational level. It provides richer meanings to organisations in terms of how to deal with organisational change that may occur during the implementation process. Furthermore, management are more able to understand how end-users adapt to CRM implementation.

3.6 Chapter Conclusion

This chapter provided the research paradigm, the research methodology, and the research design that guides the study to answer the research questions. The study adopts an interpretive approach to building theory from case studies. The case study design, data collection, and data analysis, were fully explained in this chapter. The justification of the research method and the interpretive approach were also provided in this chapter. In the next chapter, information regarding the three case studies is presented.

Chapter 4: Organisational Contexts of Case Study Sites

4.1 Introduction

This chapter presents the organisational contexts of three organisations: RC, HP, and BI. All three organisations are different regarding industry types and organisational contexts. BI implemented the CRM system in the entire organisation. RC and HP implemented the CRM system in specific departments.

Each case is presented separately to portray the organisational background and their individual CRM implementations. The information on each organisation includes the background of the organisation, the organisation's IT system infrastructure, the history of CRM implementation, and participant information. Table 4.1 presents the information on the three cases.

Table 4.1 Information on the Three Cases

	RC Case	HP case	BI Case
Industry types	Innovative office automation solutions	Hospital	Insurance
No. of employees	Approximately 2,000	Approximately 1,300	Approximately 1,400
No. of participants	14	11	18
CRM software package used	Salesforce CRM	Seibel CRM	Microsoft Dynamics CRM 2011
Departments implementing CRM system	Sales and Marketing Department	Thai Marketing, Overseas Marketing, and Contact Centre	Motor-Claims Department, Non-Motor Claims Department, and five business units[2]

[2] Business units refer to subunits within departments which represent specific business channels, for example, Agent Business Unit, Broker Business Unit, Financial Business Unit, Commercial Lines Business Unit, and Personal Lines Business Unit.

As shown in Table 4.1 above, three organisations used different CRM products to improve sales performance and customer service. RC selected Salesforce CRM to use in the organisation because of the reputation of the sales automation module and its wide use all over the world. RC needed to increase sales amounts rather than focus on customers' perspectives. HP selected Oracle's Seibel CRM. BI selected Microsoft Dynamics CRM, which received the third-largest market share in 2014.

There were various reasons why the organisations used different products. Firstly, the integration of the CRM system and existing IT infrastructure was a reason to select appropriated products. In other words, products were chosen depending on how well the CRM system integrated with existing IT infrastructure. For example, HP preferred to use Oracle products which were well suited to their IT infrastructure. Also, it was easier to customise the system. Secondly, the products were chosen based on the features of the system. For example, the Marketing department in HP required the use of Business Intelligence to analyse customers' information. They believed that Seibel CRM was able to meet their requirements and were able to install the Oracle Business Intelligence feature in the CRM system. Lastly, CRM vendor was another reason to select the products. All three organisations considered the reputation and service of CRM vendor.

4.2 The RC Case

The presentation of the RC case commences with a background of the organisation to better understanding its business type. In the next subsection, the organisation's IT system infrastructure is presented to explain how the CRM system was integrated into the existing IT system infrastructure. Then, the history of CRM implementation is presented with information regarding the implementation process and implementation plan. Additionally, the objective of CRM implementation is also presented. Participant information is presented in the last subsection.

4.2.1 Background of the organisation

The RC Group is a global organisation that has offices in a number of countries with approximately 80,000 staff in 150 offices around the world. The organisation is located in Bangkok, Thailand and has approximately 2,000 staff working there. The RC Group was founded in 1936 as an innovative office automation solutions organisation. It is an industry leader in innovative office automation, equipment, and electronics. The RC Group has the largest market share in Europe and the USA. The RC organisation in Thailand is a subsidiary of the RC Group and has been operating for 35 years. It is the

national distribution company for a broad range of office automation products such as copiers, facsimiles, and printers.

The participants in this case were employees who worked in Bangkok, Thailand. I contacted the CRM supervisor in the RC organisation before I went to collect data at the research site. The CRM supervisor was responsible for all CRM activities and I received the official agreement of both the CRM supervisor and the director to conduct interviews. I had semi-structured interviews with management staff, users, and IT support staff according to three sets of interview questions that were designed for each group of interviewees. Apart from interview data, I obtained organisational documents relating to the organisation's IT system infrastructure, the implementation plan, and the user manual.

4.2.2 The organisation's IT system infrastructure

The organisation had two previous systems which were used by the entire organisation. These were the ERP system and the in-house system (RIS system). The organisation used the RIS system to maintain customer information and create invoices. This in-house system is still in use for creating invoices. The RIS system was previously used in various departments within the organisation such as the Sales department (generating invoices), the Accounting department (tracking customer invoices), and the Warehouse department (ordering products). The ERP system was used for checking product stocks in the warehouse. There were two-way information flows among the CRM, RIS, and ERP systems. The information exchanged among these systems was customer information, the status of customers' accounts such as closed status (to generate invoices in the RIS system), and forecast information about parts (to order products to stock them in the warehouse).

Regarding General IT use in the Sales department, previously, sales professionals had idiosyncratic ways of maintaining data. A number of sales professionals used Excel to produce monthly sales reports. To manage their schedules, they used various tools to maintain records of appointments and to remind them about their activities. Some of these tools were a paper calendar, Google calendar, and calendar in Lotus Notes. Some used simple applications like Excel to maintain records of customers' information.

After CRM implementation, the CRM system was integrated into the existing IT system infrastructure. The CRM system became the core system of the IT platform. The organisation used the CRM system as a front system to input customer information and

create sales forecasts before the data was transferred to the RIS system and the ERP system. The CRM system was used only in the Sales department.

4.2.3 History of CRM implementation in RC

The main objective of CRM implementation is to increase sales revenues and centralise customer information. The interview sessions were conducted in September 2014. During the time of the interview, the RC organisation was using Salesforce CRM (the sales automation module).

All users in the organisation were sales professionals and the organisation had a software license for approximately 120-130 users. The organisation commenced CRM implementation in 2010. The CRM system was implemented in phases according to the business unit. In other words, the CRM system went live to each business unit under the Sales department at different times. The Sales department was divided into three units according to the type of products and locations. These units included Business Solution Development (IT products and Brand products), Business Solution Outsourcing (Software and Service), and Sales Bangkok (Branded products). Branded product refers to a product which is made by or manufactured from their organisation and labels have the organisational symbol on it.

At the time of the interview, CRM implementation was not fully completed. The organisation planned to implement the CRM system to other sales teams under the Sales Bangkok business unit, which is a government account sales team, and the Priport sales team. Government account sales team refers to a sales team which sells products and services to government businesses. Priport refers to digital duplicators or digital copier machines. Additionally, the organisation also further planned to implement the CRM system in upcountry branches.

The organisation hired CRM vendor to be responsible for CRM implementation. It was CRM vendor practice to contact the CRM team to determine users' requirements before customising the CRM system to suit organisational business processes. The RC organisation hired a new CRM team to be responsible for all CRM activities. The CRM team had the central role of convincing users to use the CRM system. In addition, the team had the sole authority to verify and approve customer accounts created by sales professionals. The CRM team were also responsible for solving problems related to CRM use.

CRM vendor also worked with the organisation's IT team to understand the organisation's IT system infrastructure. After CRM implementation, the CRM team spent approximately four months on training sessions for all business units. Each business unit spent approximately two to three days to complete the entire training session. The CRM team also customised user manuals to suit work processes for each business unit.

4.2.4 Participant information

Data were collected from 14 participants made up of four managers, six users, two CRM support staff, and two IT support staff. This study used three sets of interview questions relating to the different roles of the participants. The main reason to interview participants with different roles was to obtain rich information from both the perspective of the organisation and the perspective of the users. For example, interview questions for managers were related to the management and organisation's point of view, including how they perceived organisational change after adopting the CRM system, and how managers assisted users to adapt to the new CRM system. Interview questions for users were related to their adaptation toward the new CRM implementation and how their structure of work and work practices changed after using the CRM system. IT support questions focused on the implementation process and how IT support staff supported users to adapt to the new CRM system. Table 4.2 below presents participant information in the RC case.

Table 4.2 Participant Information in the RC Case

Participants	Job Position	Departments	Types of Participants	Work Experience in this Organisation (Year)
RC01	Account Manager	Sales	User	17
RC02	System Engineering	Marketing	User	2
RC03	Sales	Sales	User	1.5
RC04	Sales	Marketing	User	3
RC05	Sales	Sales	User	5
RC06	Senior Account Manager	Sales	User	4
RC07	Senior CRM	Sales	IT support	7
RC08	CRM supervisor	Sales	IT support	2
RC09	Software Quality	IT	IT support	9
RC10	Programmer	IT	IT support	3
RC11	Outsourcing Services	Marketing	Management	7
RC12	Administrator Supervisor	Sales	Management	11
RC13	Sales Manager	Sales	Management	30
RC14	Sales Supervisor	Sales	Management	13

4.3 The HP Case

4.3.1 Background of the organisation

The HP organisation was founded in 1990 as a seaside holiday destination hospital in Thailand and is located on the Eastern seaboard in Chonburi province. Chonburi is a holiday destination choice of many Thais and international tourists. A majority of patients are foreigners and tourists. Forty percent of patients are international tourists and the hospital provides interpreters fluent in 20 different languages to service these international patients.

The organisation is a premier tertiary healthcare provider and is one of 30 locations run by the hospital group. It has approximately 1,300 staff, with approximately 100 specialist doctors. In 1990, the hospital had only 100 beds. Today the organisation has grown to include 400 beds to serve patients in the eastern region of Thailand. This organisation is a for-profit organisation. Therefore, the organisation needs to provide better services in order to increase its revenues. Healthcare systems in Thailand and New Zealand are different. There are a large number of hospital in Thailand (321 hospitals) including both private and public hospitals. In contrast, most hospitals in New Zealand are public hospitals.

Interviews were conducted in the HP organisation in Chonburi, Thailand. The participants were employees of the hospital. (I had previously worked in one of the subsidiary hospitals of this hospital group in 2011). I contacted CRM vendor, which had implemented the CRM system in this organisation. I then made contact with the Thai marketing manager of this hospital, who was responsible for the CRM system project, and asked permission to conduct interviews with staff. I then received official agreement from the director of the hospital. I proceeded to conduct semi-structured interviews with management staff, users, and IT support staff according to three sets of interview questions designed for each group of interviewees. As well as interview data, I obtained organisational documents relating to the CRM system including IT system infrastructure documents, implementation plan documents, and the user manual.

The HP organisation had previously attempted to implement a CRM system (PeopleSoft CRM) in 2004; however, this attempt was unsuccessful. The IT team implemented PeopleSoft CRM in the entire organisation, however users refused to use the system as they lacked understanding of how it could assist them to improve their work activities.

4.3.2 The organisation's IT system infrastructure

The organisation had an existing main system called TrakCare that was used to maintain customer information including customer records and history throughout the entire organisation. Customer information was shared across the organisation depending on the level of authority to view and modify the data.

Before CRM was introduced, there were several other existing systems that users from different departments used. For example, contact centre staff used in-house applications developed by the IT department to complete their work tasks. One of these applications allowed staff to record customers' voices, while another was used to make appointments and search for customer information.

Thai marketing staff used the TrakCare system to obtain customer information directly as well as from other departments including the IT department in order to create a marketing campaign and analyse customer behaviour. In the Overseas Marketing department, the e-mail correspondent team used Lotus Note and Microsoft Outlook applications to communicate with overseas customers. This team also used the TrakCare system to view doctors' timetables, make appointments, and search for customer information.

Following the introduction of CRM, the system became a centralised database to collect all customer information and to maintain it in the CRM database. CRM was integrated in a different way in each department. In the Contact Centre department, it was used as a front system, while in the Thai Marketing department, CRM was used as an analysis tool and used to create marketing activities based on information from the CRM system. The e-mail correspondent team (the team that I interviewed), who were under the Overseas Marketing department, used the CRM system as a communication tool to communicate with overseas customers. The CRM system was integrated with the main hospital system (TrakCare) by embedding a red heart icon into the TrakCare system. This allowed further viewing of customer information regarding their preferences or to record customer information used in the front office by registration officers and ward nurses. TrakCare, therefore, was still used to maintain customer information including customer records and histories. The CRM system was also used with TrakCare to maintain customer information for future marketing activities.

4.3.3 History of CRM implementation in HP

The main objective of CRM implementation was to achieve customer data integration across the entire hospital, enhance customer services, increase customer loyalty, and increase customer retention rate. The data were collected in September 2014. During the time of the interviews, the HP organisation was using the Seibel CRM system. The modules the organisation chose to use in this system were the marketing automation module and the customer service module. The marketing automation module provides firms with lead management, campaign execution, and marketing collateral management functions. The customer service module allows firms to manage contact centres, establish knowledge databases, and monitor customer activities to provide better service (Chang et al., 2002). The HP organisation chose to call these modules by different names to suit the organisation's activities and processes. These modules were the e-mail correspondent module, the marketing module, and the contact centre module. The e-mail correspondent module was used to reply e-mails from foreign customers by using a template and generating a serial number (SR number) to track and maintain these emails as records. The marketing module was used to analyse customer data, create marketing campaigns, and group customer segmentation. The contact centre module was used to record customer information and identify customers.

CRM implementation commenced in 2011. The IT department organised a pilot implementation in three departments (Thai Marketing Department, Overseas Marketing Department, and Contact Centre Department) before further implementation in other departments or other touch points such as reception, registration, and ward. At the time of the interviews, CRM implementation was not fully completed. In terms of CRM usage, Thai marketing used only the marketing module. Overseas marketing used the marketing module and the e-mail correspondent module. The contact centre used only the contact centre module.

In 2010, the IT department spent a year preparing IT infrastructure, data cleansing, data loading, and so on. According to the IT manager, after CRM implementation, the organisation had three training stages (overall picture of the CRM system, super-user training, and end-user training). CRM vendor provided customised training workshops to each group of users from three departments.

In summary, the CRM implementation in the HP organisation was a well-organised procedure because the organisation had had experience relating to CRM implementation

10 years previously. However, some issues occurred in the post-adoption stage. These issues will be discussed in Chapter 6.

4.3.4 Participant information

Three departments participated in this research: the Thai Marketing Department, the Overseas Marketing Department, and the Contact Centre Department. Data were collected from 11 participants that included four managers, six users, and one IT support person. Table 4.3 provides participant information in the HP case.

Table 4.3 Participant Information in the HP Case

Participants	Job Position	Departments	Types of Participants	Work Experience in this Organisation (Year)
HP01	Senior Officer	Contact Centre	User	7
HP02	Senior Officer	Contact Centre	User	6
HP03	E-mail Correspondent	Overseas Marketing	User	3
HP04	Team leader	Overseas Marketing	User	9
HP05	Marketing Executive	Thai Marketing	User	4
HP06	Product Development	Thai Marketing	User	6
HP07	Strategic Officer	IT	IT support	8
HP08	Manager	Overseas Marketing	Management	10
HP09	Executive Manager	Thai Marketing	Management	10
HP10	Head of Department	Contact Centre	Management	9
HP11	Executive Office Manager	Management Office	Management	12

4.4 The BI Case

4.4.1 Background of the organisation

The BI organisation was founded in 1947 as one of the leading insurance companies in Thailand. The organisation is headquartered in Bangkok, Thailand. It engages in non-life insurance business in Thailand. It provides a wide range of general insurance policies, for example, car insurance policy, home insurance policy, fire insurance policy, and more. It has approximately 1,400 staff across the entire organisation.

The participants, in this case, were employees in Bangkok, Thailand. The organisation operates in multiple locations throughout Thailand. I received the contact details of the IT director from my ex-boss. I sent an e-mail asking permission to conduct in-depth interviews with participants in this organisation and I received an official agreement from the IT director. The IT director asked the IT manager to assist me regarding interview schedules and support me during the data collection stage. I conducted semi-structured interviews with management staff, users, and IT support staff according to three sets of interview questions that were designed for each group of interviewees. Apart from interview data, I obtained organisational documents including the implementation plan and the user manual for the CRM system.

4.4.2 The organisation's IT system infrastructure

Before CRM was introduced, the organisation had two existing systems in use called BKI app and e-Surveyor app. BKI app was mainly used for generating insurance policies and maintaining customer information, and was used throughout the organisation. e-Surveyor app was developed by the IT department and was used by contact centre staff under the Motor-Claims department. Through e-Surveyor, contact staff assigned jobs to surveyors who went to meet customers at the scene of a car accident. The organisation is still using both BKI app and e-Surveyor applications to accomplish organisational activities.

After the introduction of CRM, the system was integrated with the two existing systems in the organisation – BKI app and e-Surveyor app. Integration with BKI was achieved by embedding icons into the CRM system. When users needed to view further information in each insurance policy, they were able to click an icon. The icon was linked to each product module under BKI app. Integration with e-Surveyor began by inputting or updating information in the CRM system and then that information was transferred to the e-Surveyor app.

The CRM system became a centralised database to collect customer information and maintain it in the CRM database. The CRM system was used as a front system in the Contact Centre department. Account executives and underwriter staff used CRM as a systematic and efficient tool to accomplish their work tasks. For example, underwriter staff used the CRM system to assist in the task of insurance policy renewal and also for case management when assigning cases to responsible departments or responsible persons. Case management was utilised when staff answered customer phone calls. If the cases were related to other departments or business units, case management was used to assign those cases to the responsible persons or responsible teams. Additionally, account executive staff used the CRM system to replace the manual work of visit plan. Further information on this topic will be provided in Chapter 7.

4.4.3 History of CRM implementation

The main objective of the BI organisation in implementing the CRM system was to centralise customer information and become more customer focused in order to improve customer services. CRM implementation commenced in April 2012. The data for this study were collected in September and October 2014. During the time of the interviews, the BI organisation was using Microsoft Dynamics CRM 2011.

The CRM modules used by the organisation were sales automation, customer service, and marketing automation. However, the organisation customised these three standard modules into six modules to suit organisational activities. The six customised modules were the phone call and case management module, the renewal module, the visit plan module, the marketing and sales module, the CRM on Mobile module, and the Web Partner Management module.

The phone call and case management module was used to maintain customer information by manually keying data into the CRM system, and also used to assign jobs to other team members in the same department or different departments. The renewal module was used to manage insurance policies that were due to expire in the next two or three months, by informing customers that it was time to renew these policies. The visit plan module was used to plan monthly or weekly visit plans and also to write visit plan reports. The marketing and sales module was used to create a marketing campaign and customer segmentation. The CRM on Mobile module could be used by management and staff to access information in the CRM system when they were visiting customers outside. The

Web Partner Management module provided supporting information to partners or brokers who were dealing with the organisation.

In total, there were three phases of CRM implementation. In the first phase, the phone call and case management module was implemented. In the second phase, the marketing and sales module and the renewal module were implemented. In the third phase, the organisation had planned to implement CRM on Mobile and Web Partner Management modules. However, during the implementation, top management requested another urgent phase. Therefore, the organisation added phase 0.5 called the visit plan module. At the time of the interviews, phase one and two had been completed. Phase three was in the process of implementation. After CRM implementation, the organisation had three training sessions (IT training, super-user training, and end-user training). All training sessions were provided by Vendor Company.

CRM implementation affected the entire organisation. In particular, the modules chosen affected organisational work processes and organisational structure. For example, in terms of work processes, the CRM system was used to input customer information and send case management instead of sending e-mails to responsible persons. The organisational structure changed, whereby instead of viewing customer information through insurance policies, information was viewed from the individual customer's perspective. In other words, the implementation of CRM meant that the organisation now viewed customer information using customer-centric data rather than product-centric data.

4.4.4 Participant information

Three departments (Motor Claims Department, Non-Motor Claims Department, and Information Technology Department) and five business units (Agent Business Unit, Broker Business Unit, Financial Business Unit, Commercial Lines Business Unit, and Personal Lines Business Unit) participated in this research. All of these departments used the CRM system. Data were collected from 18 participants that included seven managers, eight users, and three IT support staff. Table 4.4 shows participant information in the BI case.

Table 4.4 Participant Information in the BI Case

Participants	Job Position	Departments	Types of Participants	Work Experience in this Organisation (Year)
BI01	Specialist	Financial Business Unit	User	10
BI02	Assistant Team Leader	Agent Business Unit	User	9
BI03	Assistant Team Leader	Commercial Lines Business Unit	User	4
BI04	Renewal	Personal Lines Business Unit	User	9
BI05	Underwriter	Personal Lines Business Unit	User	4
BI06	Team Leader	Financial Business Unit	User	20
BI07	Specialist	Broker Business Unit	User	13
BI08	Senior Account Executive	Commercial Lines Business Unit	User	20
BI09	Application Development	IT	IT support	2
BI10	Vice President	IT	IT support	22
BI11	IT Manager	IT	IT support	19
BI12	Assistant Vice President	Commercial Lines Business Unit	Management	24
BI13	Assistant Vice President	Non-Motor Claims Department	Management	25
BI14	Assistant Vice President	Personal Lines Business Unit	Management	21

Participants	Job Position	Departments	Types of Participants	Work Experience in this Organisation (Year)
BI15	Team Leader	Motor Claims Department	Management	19
BI16	Vice President	Financial Business Unit	Management	30
BI17	Vice President	Motor Claims Department	Management	30
BI18	Team Leader	Motor Claims Department	Management	23

4.5 Chapter Conclusion

This chapter focused on the organisational contexts of the case study sites and provided rich information regarding the organisational contexts of all three organisations. The chapter described the background of each organisation, the organisation's IT system infrastructure, the history of CRM implementation, and participant information. The following chapter presents the analysis and findings of the RC case.

Chapter 5: Analysis and Findings: RC Case

5.1 Introduction

In this chapter, discovered pattern codes are introduced. These pattern codes are a higher level of the abstract that was built up from interpretive codes and low-level codes to reveal a coagulation of similar interpretive codes. In this study, a qualitative approach was used to reveal low-level codes, interpretive codes, and pattern codes. Prior to collecting the data, a theoretical framework, which was built from coping theory and a socio-technical perspective, was created and used as a guidance for this study. Interview questions were created by using the theoretical framework. During the interview sessions, additional questions were allowed in order to obtain insight and rich data from participants.

The study used two theories as a lens to analyse the data. Coping theory was used as a theoretical lens to investigate how users adapted to new CRM implementation in the post-adoption stage. A socio-technical perspective was used to study the emergent process of change and socio-technical components that affected organisational changes after new CRM implementations. This study also allowed new and emergent concepts which emerged from participants' quotes in order to identify interpretive codes and pattern codes. This chapter presents the pattern codes and the relationship among them that emerged from the interview data.

5.1.1 CRM use in the RC case

In Chapter 4, the organisational IT system infrastructure in the RC case was described to provide information in terms of previous system use and CRM system integration. This chapter provides further information in terms of CRM use. The work tasks of sales professionals in the RC organisation were related to selling products and services to customers in order to meet sales targets. In this subsection, the brief introduction of CRM use in the organisation along with participant quotes are provided to understand the current organisational work practices, workflow, and work processes associated with the new CRM system in each department.

Use of the new CRM system was mandatory in the RC organisation. Sales professionals used the CRM system to complete their work tasks. For instance, sales professionals used the sales forecast feature in order to plan and stock products in the warehouse. Customer information and sales forecast information were transferred to the RIS system and then to the ERP system. CRM technology could be used to assist in producing efficient and

systematic workflow in real time. Users' explanations of their work tasks and their use of the CRM system is presented as follows:

> *The main task of using the CRM system is to input sales activity information and forecast sales in order to generate monthly and quarterly reports. Sales professionals must generate a sales forecast in order to order products in advance to stock in our warehouse. (RC05)*

> *The big problem in our organisation was related to lack of products in the warehouse. Sales professionals input information in the CRM system in order to forecast the products to stock in the warehouse. The information in the CRM system provides all details of product codes and configuration details. We are able to use those data to forecast products. (RC12)*

Sales professionals used the CRM system to forecast sales, and to enter and update sales opportunities and activities. Although sales information was forecast, the forecast needed to be based on accurate information as much as possible. Therefore, users needed to pay more attention to the information that they were inputting into the system. Previously, sales professionals created a monthly sales forecast report to meet the monthly sales target amount without basing their forecast on the most relevant information. They submitted the monthly report to their supervisor without sharing it with other staff. After the introduction of the CRM system, all sales forecast information was shared within the team, depending on individual's level of authority to view the data.

> *We need to input correct information regularly into the CRM system. I try to put correct information in as much as possible. (RC03)*

One participant also explained about inputting accurate data into the CRM system.

> *From my point of view, we need to record accurate information into the CRM system because that data are shared with other staff. It should be correct information. (RC11)*

The next subsection presents the structure of pattern codes along with interpretive codes in the RC case.

5.1.2 The structure of pattern codes in the RC case

The research findings reported in this chapter relate to the two research questions as presented earlier:

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**
- **How do individuals adapt to an enterprise system in the context of the CRM system at the post-adoptive stage?**

In the following section, low-level codes, interpretive codes, and pattern codes in the RC case are presented. All pattern codes were derived from lower level codes (e.g., interpretive codes, and low-level codes) that were supported by interview data. Five main pattern codes and interpretive codes are displayed in Figure 5.1. The pattern codes, and interpretive codes are represented in a rectangle shape, and an ellipse shape, respectively.

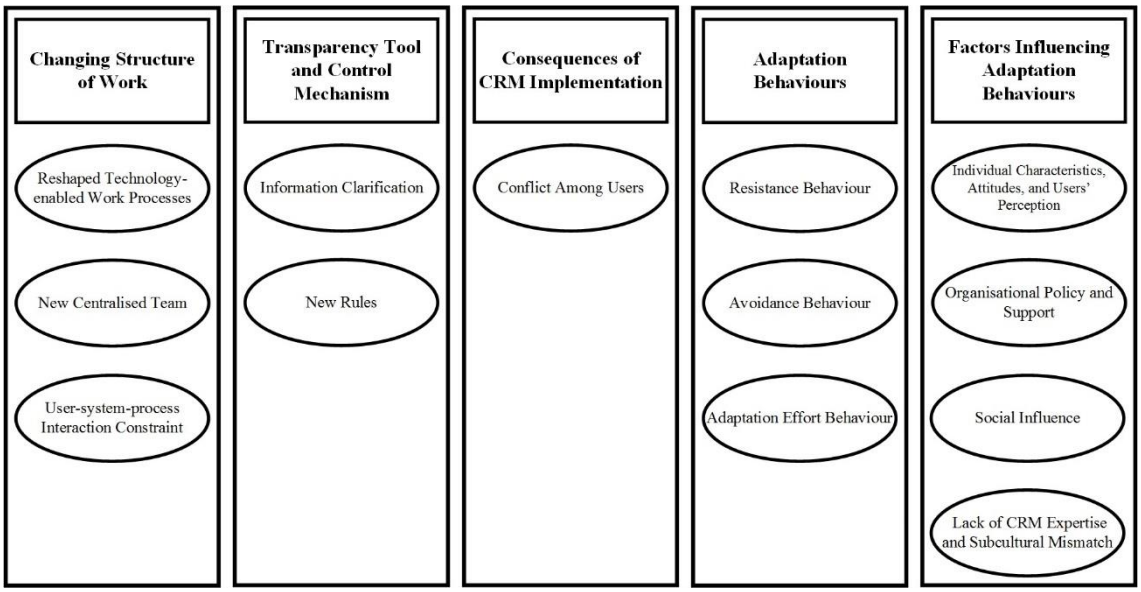

Figure 5.1 Pattern codes structure in the RC case

5.2 Pattern Code: Changing Structure of Work

The pattern code **changing structure of work** includes three interpretive codes ***(Reshaped technology-enabled work processes, New centralised teams, and User-system-process interaction constraint).*** The **changing structure of work** pattern code describes the way organisational changes occurred in the RC organisation after adopting a new CRM system based on using a socio-technical perspective as a lens to view these changes. The structure of work changed from the previous work processes associated with

new CRM implementation. The CRM system was a useful system to the organisation in terms of systematic workflow. Managers were able to monitor their activities from the CRM system. One participant explained that the new CRM system changed their structure of work. According to one participant,

> *We just changed the way we work. However, we did not change our procedure of work. Everything remained the same, but the CRM system helped everything become clearer, recordable, data accessible, checkable. Every transaction was recorded in the system. (RC06)*

Table 5.1 Coding Construction of Changing Structure of Work Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(used CRM as front system, integrated with existing systems)* Reshaped work processes *(additional work processes, systematic workflow, prepared customers' information, input customers' information, checked with DBD database to confirm organisation names)*	Reshaped technology-enabled work processes	Changing structure of work
Sole authority to verify accounts, systematically create accounts, support all tasks associated with CRM system	New centralised team	

Low-level codes	Interpretive codes	Pattern codes
Data quality governance *(unplanned cleansing data, manually input customers' data into the CRM system)* Mismatch for sales professionals' occupational identities *(focused on selling products, avoided administration tasks, inadequate support of users' needs)*	User-system-process interaction constraint	Changing structure of work

In the table of coding construction, the low-level codes are presented in parentheses. It is important to note that the codes could be built from very low-level codes or low-level codes depending on the interview data from participants. Therefore, it was possible to build up some pattern codes from three levels of coding.

5.2.1 Reshaped technology-enabled work processes

Reshaped technology-enabled work processes is an interpretive code that presents the low-level codes of *reshaped work systems* and *reshaped work processes*. Before CRM implementation, the RC organisation did not have a centralised information system to keep customer information. Many sales professionals had their own idiosyncratic ways of maintaining data by using Excel to manage, maintain data, and produce monthly reports.

To manage their schedules, sales professionals used various tools to keep records of appointments and remind them about their activities. Some of these tools were a paper calendar, Google calendar, and calendar in Lotus Notes. Some used simple applications like Excel to keep records of customer information. The previous work system was product-centric; that is, it focused on selling products and services with less concern with keeping customer information for further use to create good relationships with customers. One participant stated that,

> *Each sales officer had his/her Excel file and kept it separately in his/her folder without sharing with others. (RC03)*

Before CRM was introduced, the organisation had an information system called RIS that its sales professionals used to keep customer information and accounts and to create invoices. After CRM implementation, users utilised both the CRM system and the RIS system; that is, they continued to create invoices through the RIS system. Prior to CRM, users created customer accounts in the RIS system. Once CRM was implemented, the CRM system replaced the customer account feature in the RIS system. The CRM system has a variety of features to provide efficiency and systematic tools. On its implementation in the organisation, sales professionals were able to input both customer information and forecast information into each account. They created account and sales opportunities under each account in the new CRM system and then data was automatically transferred to the RIS system in order to create invoices.

> *There is an additional work process. Users must input customers' information in the CRM system before generating orders in the RIS system. (RC07)*

The CRM system has specific terms or language to describe work processes and workflows such as sales opportunity and sales activities. For example, "sales opportunity" is defined as a contact or an account which has been qualified. In other words, sales professionals contacted and visited their customers in order to identify their requirements. This means that those customers were likely to buy products or services and sales professionals input customers' requirements into the CRM system. "Sales activity" is defined as an activity which occurs during the meeting with customers. Sales professionals input all activities under each customers' accounts.

> *Data in the CRM system is used to produce reports for regional managers. The data that sales professionals enter into the system is presented at management level. After that, management level uses this information to present to regional managers. (RC01)*

In order to create customer accounts, the organisation bought a database of registered organisation names from the Department of Business Development (DBD) in Thailand in order to confirm that customers' organisation names were exactly matched with the

registered names on DBD database. Sales professionals needed to check the organisation names from the DBD database before creating customer accounts in the CRM system.

> *We can search customers' information from our database. The organisation bought a database of registered organisation names from the Department of Business Development (DBD). We also check the customers' list from the DBD database in order to access potential customers. (RC13)*

A participant described the way he created new customer accounts in the new CRM system.

> *Once we create customer accounts, we must check the organisations' names on the DBD database first in order to create the correct names in the CRM system. This additional process leads to spending more time on creating customer accounts. (RC11)*

In terms of managers' tasks, middle managers or supervisors had an additional work process in their work routines. Management could use the data from the CRM system to monitor staff activities. The participant quoted below supported the low-level codes of the *additional work process*. Furthermore, the participant also reflected on how the organisation used the CRM system as a tool to control and monitor employees' activities.

> *Sales professionals must create activity plans daily in advance. The latest deadline to submit activity plans is in the morning that day. When I am on the way to the office every morning, I capture the activity plan screen of each staff member in the CRM system and share that screenshot in the line group. All staff are able to see their activities and their colleagues' activities in the team that day. The activity status is distinguished by colour. For example, red colour means visit customers, blue colour means attend a training session. If staff do not update any information, it shows as blank information. Those staff then hurry to input their activity plan or explain it to me. I use this activity plan as a calendar to view my staff's activities. It is very useful to view staff activity plans. Before CRM implementation, I did not know my staff's activities. (RC12)*

In terms of work processes, the CRM system was an additional system to use as a front system. A front system in this case is defined as the first work system that users must use prior to accessing other systems to complete the entire work processes. The main purpose of the CRM system was to use it as a centralised customer database, accessible anywhere anytime. Data in the CRM system could assist in terms of analysing further customer data including up-selling and cross-selling.

The CRM system was an essential system to eliminate all duplicate data. The customer accounts were approved by the CRM team prior to adding customer information to the accounts in order to eliminate duplicate accounts. After that, users created invoices by using the RIS system. After they had finished their work process to create invoices in the RIS system, the next process involved the ERP system. The ERP system was used in another department to check product stocks in the warehouse. The CRM officer and IT support person explained the whole work processes associated with the CRM system and RIS system. The participants quoted below supported the low-level codes of *integrating the CRM system with existing systems,* and *using CRM as a front system*.

> *It is a two-way synchronisation. IT officers migrate data from the CRM system to the RIS system. After users have generated invoices in the RIS system, the data is transferred back to the CRM system in order to update information in the CRM system such as the status of sales accounts. (RC08)*

> *Sales professionals use the CRM system as a front system. Sales professionals put sales activities information into the CRM system. Once sales opportunity has changed the status to closed status, all data is transferred to RIS system. We perform order processing under the RIS system. Sales professionals access the RIS system in order to generate invoices or make further requirements. (RC09)*

5.2.2 New centralised team

New centralised team is an interpretive code to reflect the changing structure of work after CRM implementation. The organisation hired a new CRM team, and all the team members were new employees. A participant explained the role of the CRM team:

> *The CRM team is an additional team to our organisation. It is a new role to encourage users to use the CRM system. (RC02)*

> *The CRM team is a coordinator team to support us regarding verifying accounts. (RC04)*

The CRM team had a central role in convincing users to use the CRM system. In addition, the team had the sole authority to verify customer accounts after sales professionals created customers' accounts and submitted them to the CRM team to get approved. The CRM team also had the responsibility of solving problems related to CRM use. If sales professionals created new customer accounts or asked for verification of existing accounts, they would send requests to the CRM team. The CRM team was an additional role that was responsible for all CRM activities.

> *The CRM team is a centralised team to monitor and verify customers' accounts in the CRM system. Sales professionals must send a request to the CRM team to verify new accounts. It takes time to wait for approval from the CRM team. Previously, we were able to input customers' information without verification. (RC14)*

The new CRM team became a centralised team to control activities within the CRM system. This new team led to changes in the rules regarding control and sole authority. Work processes under the Sales department were changed according to new additional processes to deal with the CRM system. The responsibility of the CRM team also included creating reports and managing the CRM dashboard to present information to the management level. The CRM dashboard feature was used to present a collection of reports which enabled users can pull data from CRM database.

> *After users learn how to use the CRM system, the role of the CRM team is to control and monitor customers' accounts. The CRM team is also responsible for creating reports and the dashboard in the system. CRM staff provide control and support regarding the opening of new accounts. (RC08)*

In addition, the CRM team had the sole authority to make decisions regarding the owners of customers' accounts. The owners of the customers' accounts were defined as persons authorised to sell products to those customers as well as to manage or update activities in their accounts. Previously, two or more sales professionals sold products to the same customers. The CRM team was subsequently responsible for making such decisions.

> *We have the sole authority to make decisions regarding the owners of customers' accounts. (RC08)*

After CRM implementation, the organisation added criteria regarding account owners to assist the CRM team to decide on the appropriate account owners. The additional criteria focused on sales authority and customers' accounts. According to one participant,

> *The organisation set up new criteria to consider the authority of sales professionals and the sales team regarding sales boundaries. (RC12)*

The participant further explained the criteria regarding account owners.

> *There were several criteria to decide who would be owners of the accounts. For example, my team is responsible for the business types of hospital, hotel and logistics. If we would like to sell products to the hotel industry, we could ask the CRM team to verify our accounts without asking permission from the other sales teams. In another case, if the customers have sub-organisations and their business type is not in our area, we need to ask permission from another sales team who have the authority to sell product in that district. However, we must prove that our products (photocopiers) were set up in the hotel. (RC12)*

5.2.3 User-system-process interaction constraint

User-system-process interaction constraint is an interpretive code of the **changing structure of work** pattern code to explain how the new CRM system affected users and work processes. There are two low-level codes including *(Data quality governance, and mismatch for sales professionals' occupational identities)*

5.2.3.1 Data quality governance

Data quality governance is a low-level code relating to the ***user-system-process interaction constraint*** that occured after CRM implementation. It affected sales professionals' work practices. During the implementation process, the organisation did not cleanse data before migrating those data to new the CRM system. All of the raw data from the RIS system were migrated to the CRM system. As a result, there were duplicate accounts in the current CRM database.

> *We did not cleanse data from the RIS system. As a result, we found duplicate accounts in the CRM system. Some customers' accounts had*

> *five duplicate accounts. We have been in the process of cleansing duplicate accounts until now. (RC08)*

One participant described the issue of cleansing data. Duplicate accounts remained in the CRM system. Some users called duplicate accounts "shadow accounts". A shadow account could be viewed from two perspectives. One was related to creating the accounts intentionally hidden to sell the products. Another perspective was related to creating the accounts unintentionally. Before CRM was implemented, the organisation did not use the DBD database to check the name of registered organisations. Some users were able to create incorrect names or misspell the organisations' names. To do so, other accounts were created in the RIS system.

> *At the moment, the cleansing of data is still in process. We have duplicate accounts or what we call "shadow accounts". It is a serious issue that needs to be solved as soon as possible. However, we have informed the CRM team about this issue several times, but the issue has not been solved yet. (RC06)*

The cleansing of data was still in the progress. The organisation was unable to solve all the issues. The duplicate accounts could only be eliminated case by case.

> *In terms of the duplicate accounts in the CRM system, we need to solve the issue case by case. We need to cross check with the Financial department to select only one account. This issue occurs with existing customers only. We do not have human resources responsible the data cleansing task only. (RC08)*

Another issue occurred after CRM system implementation; some customer accounts were lost in the process of migrating data to new the CRM system. Sales professionals had to manually enter their customer accounts and wait until the CRM officer approved those accounts.

> *During the period of transferring data from the previous system to the CRM system, some data were lost. I need to put my own customers' accounts manually into the CRM system. I have a hundred accounts to put into the CRM system. All accounts need to be approved by the CRM team. My task is to sell products not an administration job. At the*

moment, I have not completed inputting all of my customers' accounts. (RC05)

Another participant explained the process of manually entering customer accounts into the CRM system by using his individual record file as base information.

I must manually put my own customers' accounts into the CRM system. I have my record in an Excel file. I check customers' accounts from the CRM database. If I can't find my customers' accounts, I have to add new accounts. (RC03)

The data quality governance issue could be considered as a critical event. This critical event led to the creation of a gap between sales professionals' tasks and CRM technology. Sales professionals had to manually input data into the system. This event also impacted on individual adaptation behaviours. Individuals felt overwhelmed dealing with the task.

5.2.3.2 Mismatch for sales professionals' occupational identities

Mismatch for sales professionals' occupational identities is another low-level code relating to ***user-system-process interaction constraint*** that occurs after CRM implementation. Sales professionals' perception toward sales task mainly focused on selling products and services to meet their sales target amount. Sales staff in this organisation perceived that the CRM system did not fit with the core identity of sales professionals. One participant stated that sales professionals attempted to avoid administration work.

The main task of sales is to sell products. We avoid administration tasks. We learned how to use the required functions that relate to our job description. We use only the required features to finish tasks. (RC05)

Another participant explained his previous work process, comparing it with the new process in the CRM system. The participant perceived that the CRM system was mismatched for sales professionals and inadequately supported their needs.

I used Google Calendar as the main tool. When customers wanted to make an appointment, I checked my calendar on Google Calendar. I input customers' information such as name, phone number, contact details (address) in the calendar. However, the CRM system works

conversely. We are supposed to have a customer database first. If we do not have a customer account yet, we must start by creating one. The CRM system does not support sales professionals' work tasks. (RC04)

I have attempted to use the CRM system instead of Google Calendar. However, the CRM system does not serve my requirements and sales professionals' work. The list of customers is shown from A-Z instead of shown by visiting dates. It is difficult to select customers that we want to follow up. (RC04)

5.3 Pattern Code: Transparency Tool and Control Mechanism

The **transparency tool and control mechanism** pattern code explains two interpretive codes of ***information clarification,*** and ***new rules***. According to findings, increased transparency was the low-level code that emerged after using the CRM system in the organisation. The result showed that the CRM system was a "transparency tool" to create less ambiguity in sales activities among sales professionals. Information was shared within the Sales department and among sales teams with a different level of authorisation to view data.

Besides the transparency tool, the CRM system was used as a control mechanism in the organisation. For example, management used the CRM system to monitor and to control sales professionals to input customers' information regularly. In another example, the organisation set up new rules to control work practices in daily work. The new rules were related to sales authority and owner of accounts.

Table 5.2 Coding Construction of Transparency Tool and Control Mechanism Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Centralised database, filter system, information sharing, authority to sell products, monitor sales professionals' activities	Information clarification	Transparency tool and control mechanism
Sales authorisation, sales' district boundaries, required input customers' information into the CRM system, control work practices	New rules	

5.3.1 Information clarification

Information clarification means that the CRM system helps to clarify customers' information regarding sharing customers' data and the authority to sell. After CRM implementation, sales professionals in the RC organisation had to enter customers' data into the CRM system. The information was shared within the Sales department and verified by the CRM team. Information transparency or the degree of visibility and accessibility of information increases the transparency in work practices (Granados, Gupta, & Kauffman, 2010; Lu, Gupta, Ketter, & Heck, 2014; Schilhavy & Iyer, 2007; Zhu, 2002). In other words, sales professionals could no longer sell products across other sales professionals' districts.

> *It was like cleaning underneath a rug that had rubbish. CRM was like a cleaner. Now, all sales professionals have to enter customer information into the CRM system. All customer accounts must be approved by the CRM team. We now know who has the authority to sell to which customers. (RC06)*

> *Information in the CRM system shows that I went to visit a customer and had activities 1 2 3. We are able to trace from this system. (RC05)*

Another participant also confirmed that,

> *Since CRM implementation, all information is shown on the system and who has authority to sell those accounts. (RC08)*

One participant stated that the CRM system was used as the front system to distinguish data according to the issue of selling across the district:

> *The CRM system has both of advantages and disadvantages. In my opinion, it eliminates or reduces the sales across districts' issue because customers' accounts must be approved by CRM team before sales professions can manage those accounts. (RC05)*

5.3.2 New rules

The ***new rules*** described the way the organisation eliminated the problem according to increased transparency in the post-adoption stage of CRM implementation. Increased transparency could be considered as a critical event that led to the creation of a gap between sales professionals and CRM technology. It caused conflicts among users, which was an unexpected situation that emerged among sales professionals after using the CRM system. The main conflict was related to owners of customer accounts. Further information concerning conflicts is discussed in section 5.4.

To address the conflicts, management set up new rules to prevent cross-selling across districts. Top management set up these rules with several criteria that considered account owners, business type and sales' district boundaries. Based on the critical event of setting up the new rules, it generated a gap or misalignment between organisational structure and sales professionals. Sales professionals perceived that they lost their individuals benefits.

The organisation set up new rules of sales authority and owners of accounts with several criteria in order to eliminate the conflicts in the sales community. These rules were used for CRM officers to decide whether sales professionals met the criteria to be the owners of those accounts or not.

> *Management set up several criteria and new rules to serve the CRM system. (RC06)*
>
> *In the beginning, the CRM team got confused regarding conflicts occurring in the Sales department. Management set up new rules to solve those conflicts. Nowadays, the CRM team applies rules to work with sales professionals. (RC12)*

CRM officers became an essential part of the Sales department. New rules were set up not only to eliminate the conflicts but also to prevent cross-selling across districts in the future. CRM officers also described the authority to sell products and services of each sales teams. The organisation set up sales district boundaries. Sales district boundaries were defined as a boundary area in which each sales professional team was able to sell their products. In this organisation, sales boundaries were divided by district areas and customers' business types. The sales professionals were not allowed to sell products across their assigned district areas.

> *Each team has their sales boundary. Another team cannot sell products across the boundary. (RC08)*

5.4 Pattern Code: Consequences of CRM Implementation

The pattern code of **consequences of CRM implementation** includes an interpretive code of ***conflict among users***.

Table 5.3 Coding Construction of Consequences of CRM Implementation Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Loss of benefits, used to hidden sale of products, sales community conflict, affected relationship among sales professionals	Conflict among users	Consequences of CRM implementation[3]

Conflict among users explains that unexpected consequences occurred in the post-adoption stage of CRM implementation. Using the previous system, the organisation allowed sales professionals to create customer accounts in the RIS system. As a result, some of the data in the database were duplicated. The participant quoted below described that sales professionals were able to create their accounts in the RIS system prior to the introduction of the CRM system.

> *Some sales officers did not use a search function to search the existing customer accounts in the RIS system. They were able to create their customer account without using the search function. (RC01)*

Another participant also mentioned the issue of creating a duplicate account in the previous system (RIS system). As the result, some sales professionals used this gap to make hidden sales.

> *If one character of customer account was wrong or missing, it could be another account. Previously, some sales professionals used this gap to make hidden sales. No one would check it. (RC07)*

[3] Please note that the consequences of the CRM implementation pattern code is used for all three cases. Nevertheless, the interpretive code can be similar or different among the three cases.

After the introduction of CRM, the customer information became transparent information. The increased transparency of sales and customer information contributed to the conflict in the sales community. The conflict occurred among sales professionals across the departments and this affected their relationships. These conflicts meant that they did not communicate with each other. Some sales professionals thought that others were stealing their customer accounts without informing them.

> *There was a conflict within the organisation. It was like an internal conflict of interest that had never happened before. (RC06)*

One participant explained that the conflicts between sales professionals related to customer accounts:

> *There was a conflict within the sales community. Users were able to search customers' accounts in the CRM system. It showed details of account owners. Previously, the data was not shared with others. (RC07)*

Another participant described that the conflicts occurred when the new CRM system was implemented in the organisation.

> *We now know who had the authority to sell to which customers. (RC08)*

To conclude, three main pattern codes **(changing structure of work, transparency tool and control mechanism,** and **consequences of CRM implementation)** are findings which emerged from the interview data and aided in studying organisational changes after CRM implementation in the organisation. Based on findings that emerged from the interview data, a theoretical model of organisational change is presented in section 5.7.1. This theoretical model in the RC case addresses the main research question of "How do organisational changes unfold in enterprise system implementation in the context of CRM systems?"

5.5 Pattern Code: Adaptation Behaviours

As established in the literature review chapter, most previous empirical research has largely focused on the initial adoption stage of CRM implementation. Few studies have focused on the post-adoption stage. This thesis attempts to fill this gap by focusing on post-adoptive adaptation behaviours in organisational CRM implementation. The pattern code of **adaptation behaviours** includes three interpretive codes ***(resistance behaviour,***

***avoidance behaviour, and adaptation effort behaviour)*.** Adaptation behaviours describe the way that users adapt to new CRM implementation.

Table 5.4 Coding Construction of Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
individual system attachment, individual work system preferences, a complaint about the system, unwilling to change work routines and work practices, refuse to use the system	Resistance behaviour	Adaptation behaviours
minimal usage, mismatch for sales professionals' work practices, disregarding input of customers' information, irregular updated data, incomplete input data, avoided administration tasks	Avoidance behaviour	
acceptance and open minded, attempted to change, attempted to learn, attempted to use some features, adjusting work routines and work practices, used socialisation feature	Adaptation effort behaviour	

5.5.1 Resistance behaviour

Resistance behaviour is a pattern of behaviour which individuals were unwilling to adapt to the new enterprise system implementation. Some users resisted using the new CRM system, especially in the initial stage of post-adoption. Individuals desired to use preferred tools or preferred work systems in their work practices. Individuals attempted to find a way to finish their work tasks without using the CRM system. Resistance behaviour, in this case, was revealed in different ways such as a complaint about the system, preference of using the previous systems, unwilling to change work routines and work practices, and refuse to use the system.

The evidence showed that some users resisted using the new CRM system, especially in the initial stage of post-adoption. One of the CRM team members also explained users' reaction toward the CRM system at the beginning of adaptation. Some users refused to use the system at all.

> *In the initial post-adoption stage, some users resisted using the CRM system by never logging into the system (RC07)*

When the CRM system was implemented in the organisation, some users resisted adopting it. One participant explained her initial response to the CRM system and also explained the situation in the organisation:

> *We accepted that most users resisted using CRM system at the beginning of the post-adoption stage. Even though we were middle management staff, we resisted using the CRM system because of the difficulty and unclear purpose of using the system. (RC12)*

She also described the unwillingness to change during the implementation stage and post-adoption stage:

> *We thought that it wasted our time and meant we would lose the opportunity to sell products. That was a reason for resistance. (RC12)*

She described in-depth that users considered the CRM system to be a complex system. Also, some users were unwilling to change their work routines. They perceived that the new CRM system had a negative effect on their work routines.

> *We explained to users how to use CRM systems. Users perceived that it made their life difficult. (RC12)*

Individual system attachment is another low-level code of resistance behaviour. Individual system attachment refers to individual attachments to their preferred systems. Most users were attached to the previous working system or attached to the previous work practices. They were unwilling to change, learn, and adapt to the new CRM system.

> *Each sales officer had his/her Excel file and kept it separately in his/her folder. (RC03)*

When CRM was introduced to the Sales department, some users were unwilling to change and accept the new system. A sales manager who used the CRM system described that,

> *Sales professionals used the previous system for a long period. If anything new came to change their life, they would always resist that thing. (RC13)*

Another management staff also emphasised the low-level code of *individuals' work system preferences*. Some users were unwilling to change their work practices. They compared the CRM system with the previous tool. They could accomplish their tasks without using the CRM system.

> *Some people complained about using the new CRM system. Why did I need to fill out information and update information in the CRM system? Our routine work was overload. We could use Excel to accomplish our tasks. (RC14)*

There was another type of users called a "super user". In this study, a super user is defined as a person who has technology background knowledge and in-depth understanding of work processes under their team or department. Generally, super users were expected to share their knowledge regarding the CRM system with other users. Super users were nominated from management in each department. In this case, a super user was a sales professional and also in charge as an administrator of the CRM system in the Business Solutions and Outsourcing department. The super user took care of all issues relating to the CRM system. He explained that,

> *Users familiar with the existing work system preferred to use their work system. They were unwilling to change their work system. (RC03)*

Individual system attachment was also identified by one participant:

> *We are not interested in the new CRM system. Sales professionals prefer to use their working system. Users are unwilling to input data into the system. (RC01)*

To conclude, resistance behaviour is a pattern of behaviour in which individuals resisted change and the adaptation associated with the new CRM implementation. Individuals preferred to use their previous work systems to accomplish work tasks. They were unwilling to change their work routines and work practices.

5.5.2 Avoidance behaviour

Avoidance behaviour is a pattern of behaviour which individuals were only willing to use the new enterprise system minimally. If it was necessary to use the system, users would choose only appropriate CRM features in order to accomplish their work tasks. Individuals attempted to limit use of the system in order to lessen the impact on their work routines and minimise adjustments to their work practices. Avoidance behaviour, in this case, was revealed in different ways such as irregularly updated data, incomplete input data, and avoidance of administration tasks. One participant explained that some users avoided using the CRM system by irregularly updating data in the CRM system.

> *Some users avoid using the CRM system by failing to update information in the system regularly. They rarely update information in the system. We are able to track users' activities by checking the last modified status of those users' accounts. (RC14)*

A management staff member explained that some sales professionals who worked under his team avoided using the CRM system by disregarding customer information input into the system or information related to sales forecasts. Some users input incomplete data into the CRM system and did not update all sales activities.

> *I closely monitor their reports every week. However, some users avoid using the CRM system. If they do not input any information, the report shows blank detail. I chase them up by sending an e-mail and asking them what they did last week. I ask them why they don't have any activities recorded in the CRM system. (RC11)*

All of the end-users were sales professionals. They worried about time-consumption and lost the opportunity to sell products and services. The occupational aim of sales professionals was to avoid paperwork, and avoid administration tasks. According to one participant, sales professionals did less paperwork and focused on selling products only:

> *The main job description of sales professionals is to sell products. We attempt to avoid administration work. Therefore, we learn and use only the necessary functions in the CRM system. As I told you, I have a hundred customers. I focus on selling products to those customers only. I am not an administration staff member responsible for inputting data into the system. It is not my responsibility, but I must do it. (RC05)*

5.5.3 Adaptation effort behaviour

Adaptation effort behaviour is a pattern of behaviour which individuals attempted to learn in order to use the new CRM system in their work routines. Individuals put effort into learning the new CRM system. Individuals learned from the training sessions or user manuals provided by the organisation. Individuals used functions in the CRM systems based on what they had learned in the training sessions. Nevertheless, individuals were not willing to explore the features or functions of the system beyond their scope of work. Individuals needed to learn the new CRM system because they had to use the system to accomplish tasks. Adaptation effort behaviour, in this case, was revealed in different ways such as in attempting to learn and use the system, accepting changes and open mindedness, adjusting work routines and work practices, and using socialisation functions.

One participant explained the low-level codes of *acceptance and open-mindedness* needed to meet the organisation's objective. He aimed to adapt new CRM systems to his work practices.

> *We must be open-minded and accept the new CRM system. We should understand the purpose of implementing the CRM system first and adapt to new additional processes after CRM implementation. (RC04)*

One participant attempted to adapt to the new system as much as possible. In order to deal with the new tasks required by using the CRM system, he adjusted his work routine:

> *We are employees and work in the organisation. Therefore, we must accept new assigned tasks. It is not impossible for us to get everything that we want, but we must adapt to the system. I attempt to use the CRM system on a daily basis. (RC05)*

Users attempted to learn, adapt, and use the new CRM system. Participants described that the look and feel of the CRM system was similar to the Facebook application. A participant also pointed out specific functions (e.g., the chat function) inside the application which were able to motivate users to use the application:

> *If we post our group's picture on the home page, it eliminates the feeling of boredom in using the application. (RC03)*

Another participant explained that users attempted to change behaviours in order to adapt to the new CRM implementation by using socialisation functions.

> *We have set up group chat and share information in the group; users enjoy using the CRM system. It is similar to using the Facebook application. Since using the chat function, users have begun to change their behaviours from resistance to attempting to use the CRM system instead. (RC11)*

A participant explained that he used only features that were learnt in the training session:

> *The CRM team explained how to use the CRM system. I use the CRM system based on what I learnt in the training sessions. I use only the features that were taught in the training session in order to accomplish tasks. (RC01)*

5.6 Pattern Code: Factors Influencing Adaptation Behaviours

Factors influencing adaptation behaviours refer to factors that influenced individuals' adaptation at the post-adoption stage of implementation. The pattern code of **factors influencing adaptation behaviours** was built up from four related interpretive codes ***(Individual characteristics, attitudes, and users' perception; organisational policy and support; social influence;*** and ***lack of CRM expertise and subcultural mismatch).***

The ***individual characteristics and attitudes*** factor includes the low-level codes of *attitude* and *age*. ***Users' perception*** factor includes the low-level codes of *perceiving a mismatch with sales professional*s' *occupational identity* and *perceived benefits*, among others. The ***organisational policy and support*** factor includes the low-level codes of the *form of mandate* and *training*, among others. CRM implementation is an organisational policy that comes from the top management level. Another factor, ***social influence*** is presented as motivation from management and CRM team members to individual users.

The ***lack of CRM expertise and subcultural mismatch*** factor relates to the fact that the new CRM team could not understand the CRM system well and found it difficult to adapt to the organisational culture, especially the sales professional subculture, at the initial stage of CRM implementation. The lack of CRM expertise could be considered as a critical event which led to the development of a gap between CRM team members and CRM technology. This event also impacted on individual adaptation behaviours.

Individuals likely responded with resistance behaviour because of a lack of trust in the capability of the CRM team.

Table 5.5 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Individual characteristics and attitudes *(positive attitudes, negative attitudes, users' ages)* Users' perception *(perceived a mismatch with sales professionals' occupational identity, inadequate response users' needs, complex system, perceived benefits [more efficiency, more flexibility, saved meeting time, saved time to do report, accessible anywhere anytime], information sharing, perceived some parts of CRM system' interface as similarity to hedonic application, individual benefit lost)*	Individual characteristics, attitudes, and users' perception	Factors influencing adaptation behaviours
Organisational policy *(mandatory used, forms of mandate, tactics of motivating users, closely monitored users, policy to centralised customers' database, policy to increase sales amount)* Organisational support *(procedural software training, customised training session, small group training session, provided tips and tricks)*	Organisational policy and support	

Low-level codes	Interpretive codes	Pattern codes
Motivation from management *(attempted to be a role model, convinced users to use the CRM system)* Motivation from CRM team members *(motivational campaigns, interactive activities)*	Social influence	Factors influencing adaptation behaviours
Lack of CRM expertise *(lacked expertise associated with CRM system, unclear purpose to set up CRM team)* Subculture mismatch *(lacked understanding of sales professionals' subculture, lacked trust from users, seniority)*	Lack of CRM expertise and subcultural mismatch	

5.6.1 Individual characteristics, attitudes, and users' perception

Individual characteristics, attitudes, and users' perception was one of the factors that influenced adaptation behaviours. Individual characteristics and attitudes that included *users' attitudes*, and *users' ages* affected the adaptation to new technology. *Users' perception* included several low-level codes that included *perceiving benefits from the new CRM system, perceiving some parts of the CRM system's interface as similar to the hedonic application,* and *perceiving a mismatch in sales professionals' occupational identities*, among others.

Users' attitudes toward the CRM system after implementation in the organisation affected adaptation behaviours. A CRM officer revealed that there were two groups of people who had a good attitude to the new CRM system and another group who resisted using the system:

> *At the initial post-adoption stage, one group of people had a positive reaction toward the new CRM system in terms of its usefulness and supportive aspects. On the other hand, another group of people totally resisted, complained, and never logged on to the system. (RC08)*

Some users resisted using the new system because of a negative attitude and never attempted to use the system. A management staff member explained how users' attitude affected resistance behaviour:

> *Some users perceive the CRM system as a difficult system because they have never used the system before. They are unwilling to use the system. (RC12)*

In the RC organisation, there were various ranges of age. In the young generation, most of them had technology experience and loved to learn new things. However, some older users preferred to use the technology they were familiar with such as basic office applications. Some were not willing to learn new technology and a complex system such as the CRM system. IT support and management staff explained how users' age affected adaptation behaviours:

> *The CRM system is not an issue for younger generation users. However, it is difficult for older users. Some older users need help regarding how to use the system. (RC10)*

> *If users are in the category of Generation Y, they enjoy using new technology. In contrast, users of Generation X (aged between 30 and 40 or above) are unwilling to accept new technology. At the initial post-adoption stage, they avoided using the system. (RC12)*

In terms of ***users' perception***, the low-level code of *perceiving a mismatch in sales professionals' occupational identities* was related to users' perception. Sales professionals' perception toward sales tasks was to focus mainly on selling products and the services needed to meet their sales target amount. Some sales professionals perceived that the CRM system was mismatched with sales professionals' occupational identity. One participant stated that sales professionals avoided administration tasks and learning about the new CRM system:

> *The task of sales is to sell products. We avoid administration tasks. We use the system but only the necessary functions that relate to our job descriptions. (RC05)*

Another participant described his previous work process and compared it with the new process in the CRM system. The participant perceived that the CRM system was a mismatch for sales professionals and inadequately supported their needs.

> *I have tried to use the CRM instead of Google calendar. However, the CRM system doesn't match sales professionals' work tasks. (RC04)*

Users' perception of new technology such as the perceived benefits of the CRM system affected their adaptation behaviours. Some felt that there were individual benefits as well as organisation benefits. One participant perceived the benefits of the CRM system and aimed to learn the new technology:

> *I thought that the CRM system that organisation needed us to use must have beneficial tools. Therefore, I attempted to learn about this CRM system. I realised that it was not difficult. Then, I told my colleagues to try to use it as well. (RC12)*

The CRM system could be accessed anywhere, anytime. Management could closely monitor their staff. Sales professionals were able to log on to the system by using a web browser when they visited customers outside. It was very convenient to access customer information through the system rather than carrying a hard copy of customer information to visit customers. A management staff member described the ability to access the CRM system anywhere, anytime.

> *Previously, I brought a hard copy of customers' profiles when I met customers. Now, I log on to the CRM system to view customers' data. (RC12)*

Sales professionals also described accessing the CRM system anytime, anywhere and updating and viewing customers' information.

> *We can access and update customers' information in the CRM system when we are outside the organisation. We don't need to use Excel files anymore. (RC02)*

> *We can access the system by using a web browser. It is very comfortable to work outside such as in a coffee shop. We can take a photo of customers' name cards and put them into those customers' accounts. The system is an efficient tool to access the customer database. (RC06)*

Sales professionals usually worked outside visiting current customers and potential customers in order to achieve individual targeted sales amounts. The CRM system could be used to support sales professionals' lifestyle. Sales professionals explained the benefits of the CRM system:

> *I was impressed with the accessibility feature anywhere, anytime. Sales professionals mostly spend time outside the organisation. It is very easy to access the system anywhere. (RC05)*

> *The organisation allows sales professionals to access the CRM system outside the organisation in order to input customer information. (RC01)*

A management staff member also confirmed the benefits of the CRM system:

> *This CRM system allows my team to be an efficient mobile team. (RC11)*

Some users perceived some parts of the CRM system interface as similar to a hedonic application such as a Facebook application. A hedonic application is an application in which users perceive the device as pleasure-oriented, encouraging them to maximise its use (Wakefield & Whitten, 2006). This concept allowed users to change their perception of the CRM system, which led to changes in adaptation behaviours. Users attempted to learn and adapt to the new CRM system because of its socialisation features and its attractive interface. Participants described that look and feel of the CRM system as similar to the Facebook application and this motivated users to enjoy using the CRM system.

> *The CRM system interface is similar to the Facebook application interface. The CRM system does not look like a work application. It helps users to become familiar with this application regarding its look and feel. (RC03)*

Another low-level code of users' perception is related to *individual benefit loss* which influences individual adaptation behaviours. Some users showed resistance behaviour toward the new CRM system because of loss of individual benefits. After CRM implementation, the CRM system became a centralised database to share customer information. Some users lost their benefits in the case of hidden sales.

Prior to CRM implementation, hidden sales occurred in the sales professionals' department. Sales professionals were able to create new customer accounts without having a person to monitor those accounts. Sales professionals could create a duplicate account in order to sell products without obtaining permission from the previous account owners. In other words, the duplicated accounts led to two or more sales professionals selling products in the same organisation. More information regarding hidden sales is mentioned in the section 5.3 on the transparency tool and control mechanism pattern code. Management revealed that,

> *Actually, the CRM system helps us to work more efficiently. However, some users have a bad perception of the new CRM system regarding the loss of benefits. If the organisation had not implemented the CRM system, they would receive more benefits. Once CRM was implemented, the organisation set up new rules regarding the boundaries of sales districts. (RC12)*

> *The disadvantage of CRM is the transparency of information. Everyone is able to view customers' information in the CRM system. It is difficult to hidden sell products. (RC12)*

5.6.2 Organisational policy and support

Organisational policy and support is a part of organisational influence associated with new CRM implementation. Top management set up a policy that all individuals in the Sales department must use the CRM system to complete their work tasks. Users were forced to use the CRM system. One sales professional described his perception regarding organisational policy from top management.

> *Top management forced us to use the CRM system. We must learn how to use it until we can use it. (RC05)*

At the initial stage of post-adoption, top management was not overly strict regarding system usage. Some users attempted to avoid using the system. Top management created a policy whereby managers were to manage staff by using their own techniques.

> *Top management had a policy whereby middle management had to force users to use the CRM system. Middle management used their own techniques to force users to use the system such as motivation. (RC12)*

Later on, a new tactic was introduced. Top management changed the original tactic after realising that soft force was inadequate. Some users still resisted or avoided using the new system. Therefore, all sales professionals were forced to use the CRM system to accomplish their total work process. Sales professionals had to create accounts and opportunities under each account in the new CRM system. The data was automatically transferred to the RIS system in order to create invoices. The RIS system was used in various departments within the organisation such as the Sales department (generating invoices), Accounting department (tracking customer invoices), and the Warehouse department (ordering products). The consequences of resisting usage meant that it was not possible to create invoices in the RIS system to complete the whole process of sales professionals' tasks. A sales manager said that,

> *It was a policy from top management. We must use the CRM system. Users can't generate customer orders without using the CRM system as a front system. Users must access the CRM system first. There is no shortcut to generate orders without using the CRM system. (RC13)*

One participant also confirmed that users had to use the CRM system to create invoices in another system:

> *Sales staff are able to create orders by inputting sales opportunities in each customer account first. These sales opportunities transfer to the RIS system to generate orders. (RC07)*

Top management forced sales professionals to put all sales information into the CRM system to view reports and used this information to create further management strategy. A sales professional explained that,

> *Top management increased the degree of mandate regarding inputting customers' information into the CRM system. Division managers and*

direct management prefer to view customer information in the CRM system. (RC05)

After users had adapted to the new CRM system, they were able to use the CRM system more easily. Top management set up other policies. Management explained about updating account information in the CRM system. If users did not update their own customer accounts, their supervisors or managers would have the authority to remove those accounts and assign those accounts to another sales professionals.

Top management said that we invested money in implementing the CRM system. We needed to obtain benefits from the application as much as possible. We forced users to use the system. If customer accounts were inactive, supervisors or managers would have the authority to remove an owner from those accounts. (RC12)

Top management used different tactics to mandate use. They closely monitored sales professionals to meet the target of visiting customers.

Sales amounts were not reached as expected, so top management asked the CRM team to send a report concerning visiting customers. Top management set up a new condition of visiting customers in each sales professionals' team. Sales professionals must now visit customers in at least 12 organisations per week. Middle management must clarify to top management if sales professionals under their team are unable to meet the condition. (RC12)

Another team manager also described that top management had set up another form of mandate to monitor sales professionals regarding visiting customers:

Based on the new condition of visiting customers, we have to monitor our staff closely. (RC13)

A team manager explained that CRM officers generated a report from the CRM system to show a monthly statistical summary to top management. The management level needed to monitor and use those data to generate further jobs such as strategic planning, sales analysis, and stock preparation.

The organisation has not set up punishment rules yet. In my opinion, the punishment rules might happen shortly. Nowadays, the CRM team

> *sends a summary report of CRM usage to top management such as the top 20 users to log in, the top 10 who never log in, and reports of visiting customers. (RC12)*

> *From a management point of view, the system helps to view the big picture of business in real time. It saves time no longer having to ask information from sales professionals. We compare sales amount targets with sales amounts at that time. It helps us to do sales analysis. (RC14)*

A sales professional described that management viewed weekly and monthly reports in the CRM system.

> *Middle management told me that there is no requirement to send an Excel report weekly or monthly. Sales professionals are able to input information into the CRM system instead. The manager views all information in the CRM system to create strategic planning. (RC02)*

A user from the Business Solution Outsourcing department explained his responsibility toward new tasks in the CRM system. In this department, middle management closely monitored his staff in terms of inputting customer information and updating their activities regularly. The management checked reports from staff once a week.

> *If the boss would like to view information on Monday, sales professionals must send those data to the boss on Friday. (RC02)*

A middle management staff member also said that he monitored staff closely when using the CRM system.

> *The team manager asked me to set up an automatic process to pull reports from the CRM system and send the reports to his e-mail address once a week. Therefore, the team manager can view activities of each staff member. If staff do not put information into the system, it will show a blank report. (RC11)*

> *I encourage users by sending an e-mail once a week. I sent an e-mail to warn them to input and update customer data into the CRM system. I would like to let them know that this is a part of their regular tasks. (RC11)*

In terms of organisational support, the organisation provided a customised software training session that suited the work processes. The training session is called "procedural software training". Procedural software training is defined as organisational support to educate users how to use a new system. Training helps users develop an accurate perception of different features of an IT (Barki & Hartwick, 1994; Sharma & Yetton, 2007). The organisation provided a training session to all users. The CRM officer explained that the CRM team provided a customised training session for each sales team to suit their tasks as much as possible:

> *We set up a training session for each team associated with their previous work processes. For example, each team had their processes such as SME and Corporate sales. They now have a similar process, but it has some different points. We had to create different versions of the manual to serve each team and provide different training sessions. (RC08)*

Users explained that they perceived the procedural software training session as a useful support to learn how to use the system. They learned how to use features on a regular basis to accomplish their work processes.

> *Training was useful. We brought lessons that we learned from training to do our work. The training helped us to understand how to use the CRM system more easily. At that time, the CRM team explained the benefits of CRM toward our work. The next section was a computer workshop that taught us how to use the programme. (RC01)*

> *Training was very beneficial. In the beginning, we did not know how the CRM system could help our work. The CRM team explained the benefits and functions of the application. We learned how to use the application as well. It was very useful. (RC02)*

IT support explained that the CRM team provided a customised training workshop to each group of users to demonstrate all work processes from the beginning until the end of the workflow (generate invoices) which was transferred to another system (RIS system).

> *Training was useful. Users learned all work processes of the CRM system including workflow until generating orders in the RIS system. (RC07)*

In addition, the CRM team said that they also provided tips and tricks to use the system to complete tasks within a short period.

> *Users learned how to use the application including tips and tricks to work faster to generate orders. We attempted to teach step by step. However, we knew sales professionals' occupational identity and that they needed a shortcut to accomplish their tasks. We taught the shortcut way to them as well. (RC08)*

5.6.3 Social influence

Motivation from management and the CRM team was one of the social influences in terms of users' adaptation toward the new CRM system. Management staff convinced and motivated users to use the new CRM system. Some parts of the social influence factor are similar to the organisational support of management. Nevertheless, the social influence factor was considered beyond management's responsibility in terms of motivating their staff to use the CRM system such as being a role model in using the CRM system. The social influence factor affected adaptation behaviours by encouraging users to use the new system.

One management staff member stated that she attempted to be a role model in using the new CRM system. She learned and used the new CRM system and then introduced an easy way to use it and useful features to her staff:

> *For my team, I attempted to convince my staff to use the CRM system. It is not a difficult system. I learned and got familiar with the system before I introduced it to my staff. I tried to find easy and fun parts of the system and introduced them to my staff. (RC12)*

Furthermore, management aimed to change users' attitude and helped them to feel comfortable in using the new system by comparing it with Facebook's functions.

> *I came up with a slogan of, "If you love to update information on Facebook, you should update information in the CRM system as well." I asked my staff to remember this slogan. (RC12)*

The CRM team motivated users to use the new system by updating news that related to their business (competitor news, technology updates, and so forth) on the main page of the CRM system. To do that, the CRM team aimed to communicate with users and aimed

to make the CRM system more attractive. They also set up a chat room to obtain feedback from users including allowing users to share their ideas of using the CRM system. One user described that the homepage in the CRM system was a user-friendly interface. He explained that he used the non-taught feature in the CRM system as well.

> *Nowadays, the CRM team puts competitors' news into the homepage of the CRM system. The interface of the homepage is similar to Facebook' interface. We also use Chat features to chat with the CRM team. (RC05)*

The CRM team motivated users to use the new system by creating a campaign. A CRM officer stated that,

> *My tasks are divided into two parts. One is taking care of the CRM system. Another task is promoting the CRM system to users and training them to use it correctly. (RC08)*

> *We aimed to encourage users to use the CRM system. We encouraged them to put customer information into the system and avoid using Excel by creating a campaign. We gave the award to those who put correct data into the system and updated information regularly. (RC08)*

5.6.4 Lack of CRM expertise and subcultural mismatch

Lack of CRM expertise and subcultural mismatch is defined as a misalignment between sales professional subculture and the new CRM team. Organisational culture was vital in terms of users' adaptation behaviours. Based on the findings of the organisation, the organisation hired a CRM team before implementing the new CRM system. The CRM team did not understand the organisational culture, especially the sales professional subculture. There are distinct subcultures inside an organisation such as a professional subculture, an administrative subculture, and a customer interface subculture (Hofstede, 1998). The lack of CRM expertise and subcultural mismatch could lead individuals to display resistance behaviour.

In terms of the lack of CRM expertise, the main role of the CRM team was to convince users to use the new CRM system. At the initial post-adoption stage, sales professionals were not open-minded about accepting this new CRM team. They did not understand the purpose of setting up a new CRM team that had unclear tasks. Sales professionals did not

trust that this CRM team could support them with adapting to the new system. This circumstance led to resistance to using the system.

> *Another task of the CRM team was to convince users to use the system. They had to learn the organisational culture, traditional background, and sales professionals' individual characteristics. The CRM team spent a long time learning all these things. (RC06)*

The CRM team members had no knowledge or expertise with the CRM system prior to implementation. This case was a special case in terms of hiring a new CRM team without knowledge regarding the CRM system or the organisational culture. The participant quoted below was from the CRM team:

> *I had never heard about the CRM system before. When the organisation hired me as an employee in the organisation, they required me to take care of this system. (RC08)*

During the implementation, CRM officers had to adapt themselves to a new environment and learn about the organisational culture and the CRM system at the same time.

> *During the change process, it was not easy to learn the new system. The CRM team did not have the experience to convince users to use the system. The organisation hired a new CRM team that were new employees. They did not have information regarding organisational structure, previous systems, cultural background, and work processes. The CRM team had to learn everything new such as previous work processes. Users had to adapt to the new CRM team and the new CRM system. The CRM team had to learn and adapt to the new environment as well. (RC06)*

At the initial stage of post-adoption, the CRM team members could not assist or encourage users to use the system since they had no knowledge about existing sales professionals and lacked any level of expertise in the CRM system. After that, CRM officers attempted to learn the new technology and understand sales professionals' tasks including their working processes to customise the CRM system to serve their needs.

> *The CRM system had several features to support sales business. However, the CRM team did not understand sales business and had no*

> *experience with the CRM system. The CRM team had to learn two things at the same time. It was very difficult for them during the change process. (RC05)*

In this chapter, subculture mismatch is defined as cultural misalignment between sales professionals and the CRM team regarding a lack of understanding of sales professionals' subculture. The CRM team did not know who the most influential person in the department was who could motivate users to use the system. Furthermore, when the conflicts occurred in the Sales department, the CRM team did not know how to solve the problem.

> *The CRM team did not understand cultural background in the sales community. They did not know the traditional background and sales professionals' individual characteristics, especially those of middle managers and senior staff. When the conflict occurred, they could not find the proper way to solve those issues. (RC06)*

> *In the beginning, the CRM team was confused regarding conflicts occurring in the Sales department. The CRM team attempted to solve those issues. However, the issues were not solved because they did not understand the culture inside the Sales department. (RC12)*

To conclude, individual adaptation has two main pattern codes of adaptation behaviours and factors influence adaptation behaviours. According to findings that emerged from the interview data, a theoretical model of individual adaptation is presented in the subsection 5.7.2. This theoretical model in the RC case addresses the main research question of, "How do individuals adapt to an enterprise system in the context of CRM systems at the post-adoptive stage?"

5.7 Theoretical Models

This section begins with the presentation of a theoretical model of organisational change. The theoretical model of organisational change adopts the socio-technical model to present change in four components which are driven by critical events. Additionally, the consequences of implementing the new CRM system are also presented. The gaps between socio-technical components are then discussed. The critical events lead to the generation of gaps between four socio-technical components.

Next, a theoretical model of individual adaptation is presented and discussed. The theoretical model of individual adaptation presents different individual adaptation behaviours and explains how factors shape those adaptation behaviours. Finally, a multi-level theoretical model is presented to understand the multi-level change associated with new CRM implementation in an organisational context.

5.7.1 Theoretical model of organisational change

In this study, a socio-technical perspective is used as a lens to investigate organisational changes including structure, technology, actors, and process changes after CRM implementation. The study provides a deep analysis of four interacting socio-technical components at the organisational level and individual level. The introduction of the CRM system can transform and readjust all components of the existing socio-technical system.

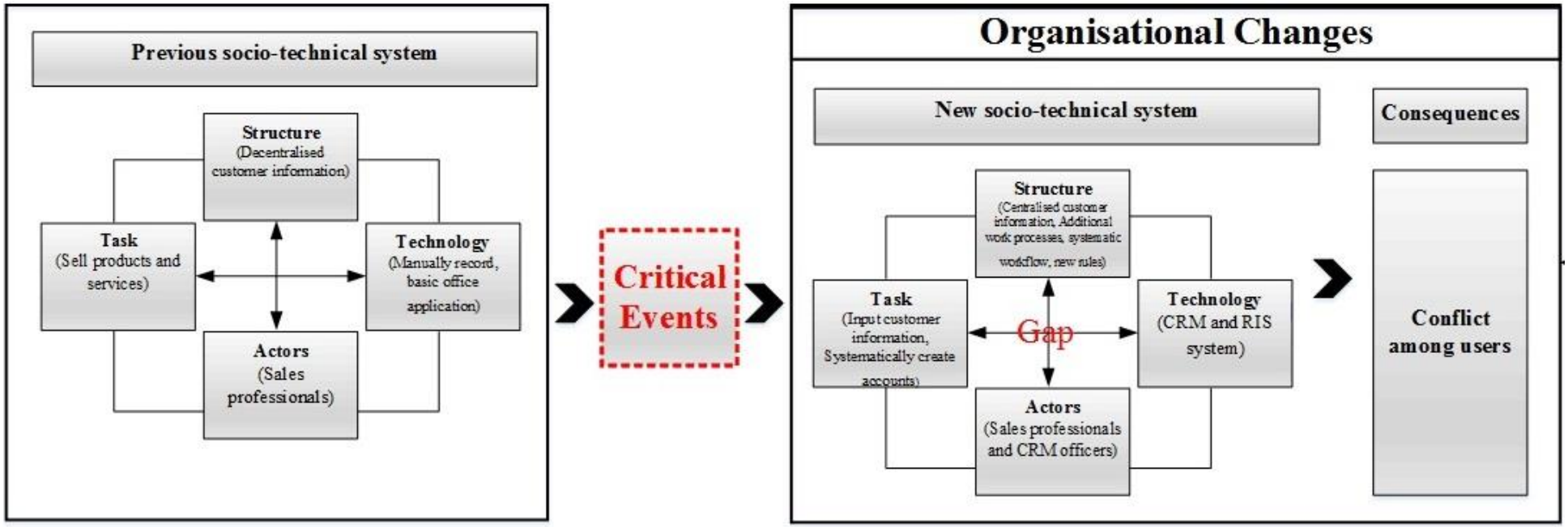

Figure 5.2 Organisational change model in the RC case

As seen in Figure 5.2, the previous structure of work in the RC organisation focused on selling products and services by using basic office applications to keep customer information without sharing information with other sales professionals. Sales professionals used their preferred work systems to accomplish their work tasks. Previously, individuals were able to choose their work systems depending on each preference. Individuals did not focus on maintaining customer information in the system. Therefore, customer information in the organisation was fragmented.

As a result, the new CRM system changed organisational structure, work processes, work systems, and individual practices in the organisational context. The socio-technical system changed including tasks *(input customer information and systematically create accounts)*, structure *(centralised customer information, additional work processes, systematic workflow, and new rules)*, technology *(CRM and RIS system)*, and actors *(sales professionals and CRM officers)*.

Sales professionals had the new additional task of inputting customer information into the CRM system. Individuals' work activities had changed from using the IT artefact feature to using two systems to accomplish their work tasks. Organisational work processes now included using CRM as a centralised database. For example, there was an additional work process to use the CRM system as a front system to input customer information, produce sales forecasts, and create sales activities.

Indeed, the task of inputting customer information into the CRM system had a significant impact on sales professionals' work practices. This event could be considered as a critical event. The critical event, which occurred after CRM implementation, generated gaps between four socio-technical components. The critical events that led to the generation of these gaps will be presented in the next subsection.

In terms of structure, management set up new rules to support and solve conflicts that occurred during the change process. New rules had been embedded in the work system. The organisation also had another structural change in terms of an additional work process to input customer information into the CRM system. In terms of technology, the new CRM system was integrated with the existing systems. Work activities changed according to the use of the IT artefact feature. Sales professionals could access the CRM system to view customer information anytime, anywhere without carry a hard copy of customer

profiles. Sales professionals and the CRM team could access the CRM system to generate reports from the CRM system.

Management could also view information from the CRM system and use that information to create further strategic tasks. The organisation set up the CRM team which was able to support all activities related to the CRM system and maintain the CRM system. The organisation set up the new CRM team to verify customer accounts and support sales professionals associated with new tasks. Work practices changed regarding new tasks in the CRM system.

During the change process, conflicts occurred in the sales professionals' community. This finding is defined as consequences which extends Leavitt's socio-technical model (1964). By adding consequences it is possible to understand various concerns that may occur after CRM implementation. The main consequence of CRM use was conflict among users. The increased transparency of sales and customer information contributed to conflict in the sales community. The conflict occurred among sales professionals across the departments which affected their relationships.

5.7.1.1 Gaps between socio-technical components

Leavitt's socio-technical model that synthesises the socio-technical components and their connections to analyse the general mechanisms and outcomes associated with such change (Leavitt, 1964) is discussed in this subsection. In this study, the relationship between four socio-technical components and critical events that occur in the post-adoption stage of CRM implementation are also discussed in this subsection. The critical events are presented to explain how a changed outcome emerged. The change would not have happened without the event. A critical events can generate gaps between four socio-technical components (Lyytinen & Newman, 2008).

The socio-technical model assumes that an organisation will remain stable due to mutual interdependencies of those components. Occasionally, the situation may change the stability of the components. The stability may be broken due to change in any of the components. This misalignment between components may affect organisational performance and work performance. The misalignment between socio-technical components that emerging in the post-adoption stage of CRM implementation in the RC organisation are presented and described in this subsection.

The gaps presented in Table 5.6 allowed us to understand the phenomenon of misalignment among four socio-technical components, which occurred in the post-stage of CRM implementation. The CRM implementation effected the social and technical system. A socio-technical system consists of two subsystems: the social system and the technical system. The social system consists of two components: actor and structure (Cummings, 1978; Leavitt, 1964). The technical system consists of task and technology (Kwon & Zmud, 1987; Lyytinen & Newman, 2008). Social systems are the result of continuous evolution involving emergent changes and behaviour that cannot be easily predicted because they depend on coincidences and situations (Fischer & Herrmann, 2011; Suchman, 1987).

Technical systems are engineered to provide anticipatable and reliable interactions between user input and the system's output which can be used to support human needs and to enhance their capabilities (Fischer & Herrmann, 2011). In this study, the technical aspect could be the events related to task and technology. There were several events which effected work performance and work practices. New CRM technology generated gaps between task and technology and affected existing work routines. For example, users had to input customer information manually into the CRM system because of duplicate accounts and data loss.

The study presents the critical events to explain the gaps and consequences which occurred after CRM implementation. The gaps were not only affected at the organisational level but also at the individual level regarding adaptation behaviours. There were several events which led users to respond with different behaviours.

Table 5.6 presents the gaps between socio-technical components that occurred during the post-adoption stage. Five critical events in the RC organisation led to the generation of gaps between socio-technical components. The critical events of a new requirement to input customer information into the CRM system and the new CRM team's lack of expertise and understanding of sales professionals' culture led to the generation of a gap between the task-actor and actor-technology components, respectively. These two critical events affected users' adaptation behaviours. Users were likely to express resistance or avoidance behaviours in response to these events. Another critical event was the setting up of new rules which led to the generation of a gap between structure-actor components regarding users' dissatisfaction because of losing benefits.

The critical event of data quality governance led to the generation of a gap in the technology-task components, and created the additional task of manually inputting customer data into the system. Additionally, this event created a gap in technology-actor components, which led users to respond with resistance or avoidance behaviour. Another critical event of increasing transparency of information led to the generation of a gap in technology-actor components, and created conflicts among sales professionals.

Table 5.6 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008)

Socio-technical component	Definition	Event	Gaps between components
Task	Task describes the goals, purpose, and the way in which the work gets done within the organisation. In this study, a task refers to individuals' responsibilities as part of their duties which need to be finished.	Sales professionals are required to input customer information into the CRM system	***Task-Actor*** New tasks led users to respond with avoidance or resistant behaviour. Sales professionals believed that the task was mismatched for sales professionals – sales professionals should not responsible this kind of administration work. Their main task was focusing on selling products only.
Actor	Actors include project participants and stakeholders who deliver the project. The actors may include vendors, IT officers, and system development, managers, and maintainers. In this study, actors include top management, managers, users, CRM support team, and IT officers.	The new CRM team lacked expertise associated with the CRM system and lacked understanding regarding sales professionals' culture.	***Actor-Technology*** The issues of lack of CRM expertise and subcultural mismatch led users to respond with resistance behaviour because of a lack of trust in aspects of the capability of CRM team.

Socio-technical component	Definition	Event	Gaps between components
Structure	The structure covers systems of communication, systems of authority, and systems of workflow. It also covers the behavioural dimension, for example, the patterns of behaviour as actors communicate, exercise authority, or work. In this study, structure describes structure of work, for example, the structure of workflow (e.g., additional work processes and systematic workflow), data management structure (e.g., decentralised and centralised customer information), organisational rules, and individuals' authorisation.	The critical event of setting up new rules to identify sales boundaries occurred because of conflicts among sales professionals.	***Structure-Actor*** New rules led to users' dissatisfaction regarding losing benefits to sell hidden products across districts.

Socio-technical component	Definition	Event	Gaps between components
Technology	Technology includes software and hardware technology, tools, design methods, and ICT infrastructure. In this study, technology includes work systems, hardware and software technology, and ICT infrastructure which individuals use to accomplish their work tasks. The Concrete Technology in this study is the CRM system and existing systems that integrate with the new CRM system.	The critical event of the data quality governance issue including duplicated data and customer data loss occurred during the data migration stage.	***Technology-task*** The critical event of data quality governance issue affected users' task. Data was not well prepared in terms of data cleansing and data migration. Users must manually input customer data into the system as well as solve duplicated accounts case by case. ***Technology-Actor*** Users chose to input customers' data manually into the system – leading to resistance or avoidance behaviour.
		After the CRM implementation, the CRM system was a "transparency tool" that stopped ambiguity in sales activities among sales professionals. Information was shared within Sales department and among sales teams with a different level of authorisation to view data.	***Technology-Actor*** The critical event of increased transparency led to the development of conflicts among sales professionals.

5.7.2 Theoretical model of individual adaptation

The model posits four main factors that influence adaptation behaviours ***(individual characteristics, attitudes, and users' perception; organisational policy and support; social influence; and lack of CRM expertise and subcultural mismatch).*** Adaptation behaviours can be changed depending on factors, and situations that occur at a particular time. In this case, there were three adaptation behaviours ***(resistance behaviour, avoidance behaviour, and adaptation effort behaviour).***

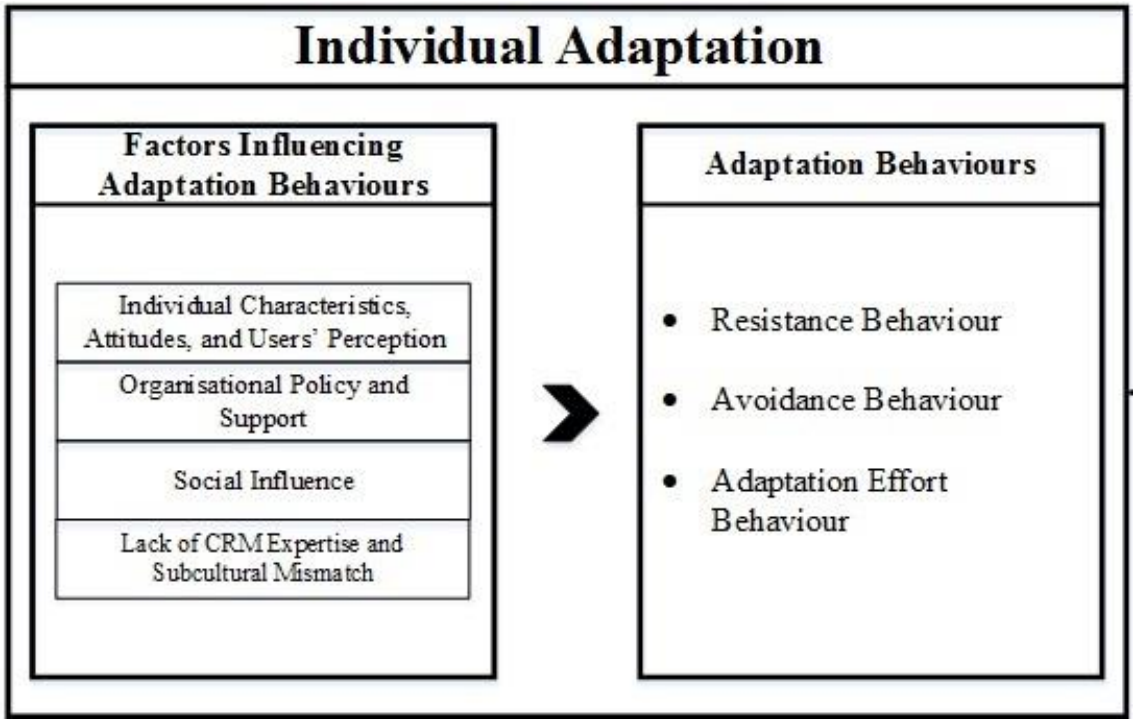

Figure 5.3 Individual adaptation model in the RC case

Factors influencing ***resistance behaviour*** included ***individual attitudes, organisational policy, organisational support,*** and ***lack of CRM expertise and the subcultural mismatch*** factor. For example, some users had a negative attitude toward new CRM implementation at the beginning of the post-adoption stage; they were likely to resist using the system. Another factor related to organisational policy of mandatory use. At the time of the study, the CRM usage was completely mandated. All sales professionals had to use the CRM system as a front system to input customer information and forecast sales to create invoices in the RIS system. Sales professionals could not create invoices without completely inputting all required information in the CRM system. The different forms of mandate affected different types of individuals' adaptation behaviours. For example, top management were not too strict regarding CRM system usage at the initial stage of post-

adoption, a time in which users tended to resist using the new CRM system. Users preferred to use existing work systems such as Excel.

A factor in ***organisational support*** is related to procedural software training. At the beginning of CRM post-adoption, the CRM team provided general knowledge associated with the CRM system. Most users resisted using the CRM system based on the unclear purpose of using the system. The RIS system provided similar functions regarding inputting customer information and creating customer accounts. Another factor was ***lack of CRM expertise and subcultural mismatch***. The new CRM team could not understand the organisational culture, in particular the sales professionals' subculture. Some sales professionals resisted adapting to the new CRM system because they did not trust the new CRM team based on their lack of knowledge of the CRM system and lack of understanding associated with sales professionals' subculture.

Several factors influenced ***avoidance behaviour*** including ***organisational policy*** and ***users' perception*** factor. Factors influencing avoidance behaviour related to organisational policy of mandatory use; top management changed the form of the mandate by using tactics to force users to use the CRM system. For example, top management asked middle managers to use their own tactics to force users to use the CRM system. Some managers asked users to input customer information into the CRM system instead of submitting weekly or monthly reports. This form of mandate led users to respond with avoidance behaviour. Some users were not fully using the system.

Another factor involved was that some sales professionals perceived that the CRM system was mismatched with sales professionals' occupational identities. They perceived that under the new CRM system they were not administrators. The new requirement of inputting customer information was not perceived as sales professionals' tasks. They avoided inputting all information into the CRM system.

Organisational support, social influence, individual attitudes, and ***users' perception*** affected ***adaptation effort behaviour***. The factor ***organisational support*** relating to procedural software training influenced ***adaptation effort behaviour***. The CRM team provided tips and tricks to finish tasks within a short time during the training session. This support led some sales professionals to attempt to learn and use the CRM system.

Another factor was ***social influence*** related to motivation from management. For instance, some managers preferred to be role models and introduced some parts of the

CRM system' interface as similar to a hedonic application. The CRM system included socialisation features such as a chat feature. Users attempted to adapt to the new CRM system and use those features. Other factors of ***individual attitude*** (e.g., *a positive attitude*) and ***users' perception*** (e.g., *perceived benefits*) led users to perform ***adaptation effort behaviour***.

5.7.3 Theoretical model of multi-level change

Figure 5.4 represents a theoretical model of multi-level change associated with CRM implementation in the RC organisation. The study uses coping theory and a socio-technical perspective as a theoretical framework to examine multi-level changes associated with CRM implementations in organisations. Multilevel analysis is useful to understand users' adaptation associated with CRM implementation and to provide a richer meaning of organisational changes. All five pattern codes in this chapter address the main research questions mentioned earlier in this chapter. The pattern codes of adaptation behaviours and factors influencing adaptation behaviours address the question of individual adaptation. The remaining pattern codes of changing structure of work, transparency tool and control mechanism, and consequences of CRM implementation address the question of how an organisation changes after implementing the CRM system.

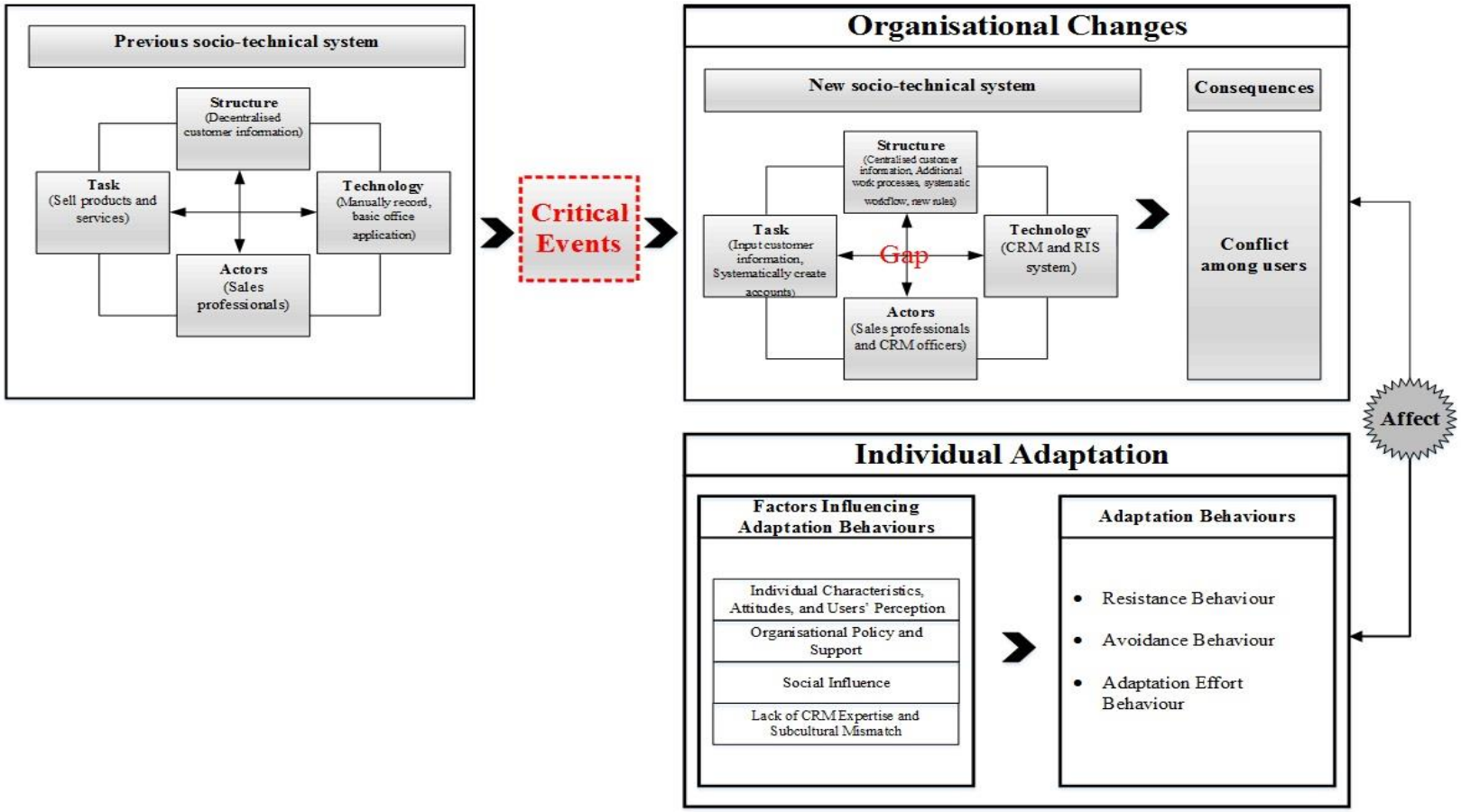

Figure 5.4 Theoretical model of multi-level change associated with CRM implementations in the RC organisation[4]

[4] The information provided in the figures 5.4, 6.6, and 7.5 presented only pattern codes and interpretive codes. However, there were differences in the detail of low-level codes among the three organisations.

The results showed that individual adaptation behaviours were interrelated with organisational changes. After CRM was implemented, a new form of the socio-technical system developed in the organisation. All four components changed in terms of changing structures of work. In terms of individual adaptation behaviours, three adaptation behaviours emerged from the interview data. Both the individual level and the organisational level were interrelated. For example, the critical event of the data quality governance issue occurred during the data migration stage. This critical event affected users' tasks. Users had to manually input customers' data into the system as well as solve duplicated accounts case by case. In addition, this event also led users to respond with resistance or avoidance behaviours.

5.8 Chapter Conclusion

In this chapter, five main pattern codes **(changing structure of work, transparency tool and control mechanism, consequences of CRM implementation, adaptation behaviours,** and **factors influencing adaptation behaviours)** emerged from the interview data in the RC organisation. Each pattern code was derived from interpretive codes, low-level codes, and findings based on rich evidence from participants. In the analysis section, a theoretical model of multi-level change was presented to examine organisational changes and individual adaptation in the post-adoption stage of CRM implementation. The next chapter will discuss the findings from the HP organisation.

Chapter 6: Analysis and Findings: HP Case

6.1 Introduction

The CRM implementation in the HP organisation commenced in 2011. The organisation firstly implemented the CRM system in three departments: Thai Marketing, Overseas Marketing, and the Contact Centre departments. The Thai Marketing department was responsible for local marketing. The overall responsibility focused on increasing revenues, developing new products, creating campaigns, and marketing activities. The Overseas Marketing department was responsible for overseas marketing. The overall responsibility focused on foreign customers, both potential and existing. The Overseas Marketing department had an e-mail correspondence team responsible for responding to inquiries from foreign customers. Pseudonyms are used for participants to protect their privacy.

Before CRM was introduced, the organisation had its own healthcare information system called "TrakCare" that was used by the whole organisation. The TrakCare system was used for maintaining patient information including patient records and history. The patient information was shared across the whole organisation depending on the level of authority to view the data.

6.1.1 CRM use in the HP case

The new CRM system was a mandatory system. Users had to use the new CRM system to complete their work tasks. Marketing officers used the CRM system as a customer database to analyse customer data, create marketing campaigns, and for customer segmentation. The main objective was to increase customer loyalty and increase customer retention rate.

> *I use the campaign management feature and the Oracle business intelligence feature in the CRM system. The business intelligence feature is used to export data from the CRM system. I export data in Excel file format, after that I manually filter data again to obtain the data that I actually need. (HP05)*

> *We export data from the CRM database to create a campaign. We select a channel of distribution according to a group of customers. (HP06)*

> *The CRM system has been integrated with other systems. We use the CRM system for customer segmentation such as the VIP group. We create customer segmentation to provide services to suit each group of customer. (HP01)*

The e-mail correspondent team under the Overseas Marketing department used the CRM system to reply to e-mails from foreign customers by using a template and generating a serial number (SR number) to track and keep the emails as a record. The SR number is defined as a number that is automatically generated by the system when users reply to a new e-mail from customers. The SR numbers can be used to track records. The CRM system completely replaced the previous system (Lotus Notes and Microsoft Outlook).

> *We use the CRM system to reply to e-mails instead of Microsoft Outlook. We use data to analyse the incoming e-mails, the number of response e-mails, and the number of return customers. Previously, we manually counted those statistics. The CRM system helps us with this feature. (HP04)*

> *I don't use Outlook anymore. I feel it is unnecessary. Normally, as soon as we receive an e-mail from the patient, we reply to the e-mail right away. It is just an appointment. When we have the SR number, we put it in the record of the client. Now, whenever the patient makes an appointment, we just copy and paste the SR number. So, we are able to track the emails. So far, we haven't had any problems with the change because we reply to those e-mails right away. (HP03)*

The Contact Centre department used the CRM system to record and view customers' information. The CRM system could be accessed to view customer information such as names and telephone numbers. The CRM system was integrated with the CISCO IP phone to recognise customers' names.

> *The new phone system is called "CISCO". CISCO was installed in March last year. CISCO is integrated with the CRM system to display customer names from the database. This feature helps us to identify the customer and improve the speed of service. (HP01)*

6.1.2 The structure of pattern codes in the HP case

The pattern codes and interpretive codes in the HP case are presented in the Figure below. All pattern codes are derived from lower level codes (e.g., interpretive codes and low-level codes) that are supported by the interview data. Four main pattern codes and interpretive codes are displayed in Figure 6.1. The pattern codes and interpretive codes are represented in a rectangle shape and an ellipse shape, respectively.

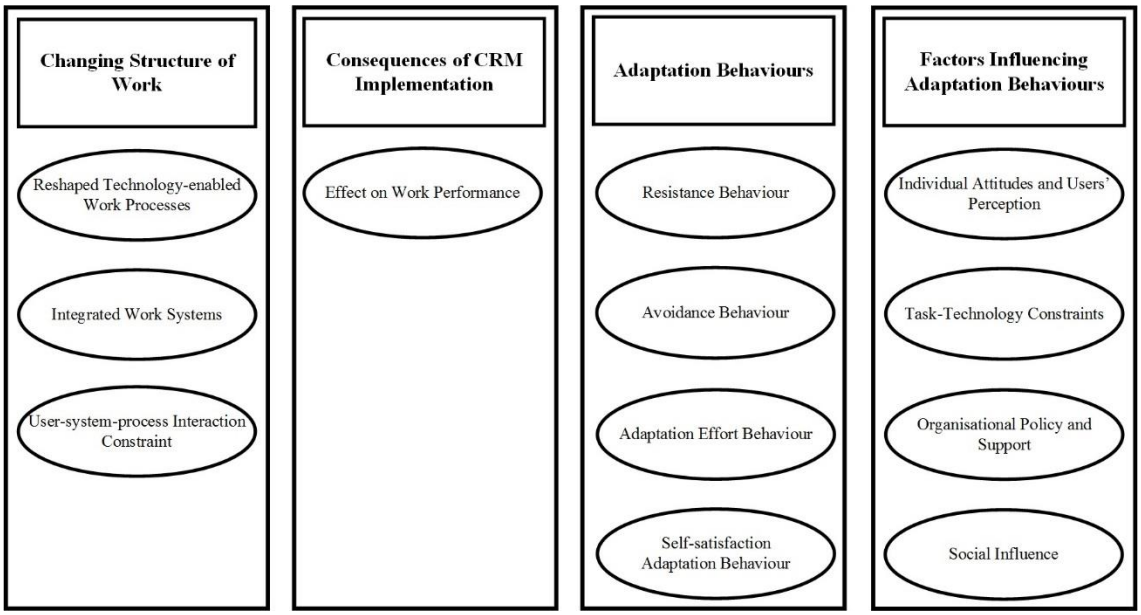

Figure 6.1 Pattern codes structure in the HP Case

6.2 Pattern Code: Changing Structure of Work

The pattern code **changing structure of work** includes three interpretive codes ***(reshaped technology-enabled work processes, integrated work systems,*** and ***user-system-process interaction constraint)*****.** The **changing the structure of work** pattern code describes the organisational changes that occurred after adopting the new CRM system based a socio-technical perspective as a lens to view these changes. The HP organisation used the CRM system to record customer information, develop campaign management, analyse customer information, segment customers, and to identify customers through the Contact Centre department. The main purpose of using the CRM system was to integrate data as well as improve customer services. Data integration meant combining customer information from different sources to use those data as valuable information to analyse customer behaviours in order to increase sales amount. The

organisation used the CRM system as a centralised database to maintain all records of customer information.

A participant from the e-mail correspondence team under the Overseas Marketing department explained the main purpose of using the CRM system in her department:

> *Top management introduced the CRM system to our department. He requires us to maintain customer information and analyse those data. (HP04)*

Another participant from the Marketing department described the main reason for introducing the CRM system in the Marketing department. The Thai Marketing manager was a decision-maker who decided to implement the CRM system in the organisation:

> *The CRM system allows us to analyse customer data efficiently. We perceived the benefits of the system. It was the main reason that we adopted the CRM system to use in our Thai Marketing department. (HP09)*

Table 6.1 below presents the coding construction of the **changing structure of work** pattern code which includes low-level codes and interpretive codes.

Table 6.1 Coding Construction of Changing Structure of Work Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(embedded with existing systems, completely replaced previous work systems)* Reshaped work processes *(additional work processes, systematic workflow, input customers' data, updated customers' information)*	Reshaped technology-enabled work processes	Changing structure of work
Integrated with other existing systems, integrated two systems to view further customer information	Integrated work systems	
Lack of customisation *(lacked system workflow adjustment, unsuitable for work processes, too many unnecessary menus, too many features)* Slow connection to CRM server *(slow server response, server location issue, system hang)*	User-system-process interaction constraint	

6.2.1 Reshaped technology-enabled work processes

Reshaped technology-enabled work processes is an interpretive code that presents the reshaped work systems and reshaped work processes associated with implementing the new CRM system. Previously, Contact Centre officers used several in-house systems developed by the IT department to complete their work tasks including a contact centre system, which was used to record customers' voices to improve the quality of service and keep statistic according to the type of services (e.g., making appointments or asking for

general information to generate a report). The TrakCare system was previously used to make appointments and search for customer information. Another system was used for viewing doctors' schedules to make appointments. There were other systems which were used to provide all information according to customer requirements.

> *Previously, we used the in-house contact centre system and other systems such as doctor schedule viewing, and recording inbound calls. Once CRM was implemented, the inbound calls recorder system was uninstalled in the department. We also used the TrakCare system to search for customers' names based on their phone numbers. Sometimes, it took five to six minutes of search time. Sometimes, I couldn't find customers' names. The CRM system is a really good tool to search for customers' names. (HP02)*

A user from The Contact Centre department described that the CRM system became an additional work process:

> *The previous system provided only basic features. Now, we use the previous system to record inbound calls only and used the CRM system to support other tasks such as identifying customers and searching for customer information. (HP01)*

The e-mail correspondence team, under the Overseas Marketing department, previously used the Lotus Note and Microsoft Outlook applications to communicate with overseas customers according to their enquiries. They used the CRM system to replace the previous work systems to perform tasks. Nonetheless, additional work processes were needed in the CRM system such as creating e-mail templates and generating serial numbers.

> *Previously, I used the Lotus Notes system to reply to overseas customers' e-mails. Currently, I use the CRM system instead of the Lotus Notes application. (HP04)*

In the HP organisation, the CRM system became another working system, embedded with existing work processes, integrated with other existing systems, and replacing the previous work systems in their work setting. For previous work practices, Thai Marketing officers needed to collect all customer data by asking IT support to export all required data from several systems in Excel file format. Additionally, they also asked for customer information from other departments as well. Thai Marketing staff usually asked for

information from the check-up team. This team was responsible for providing services to patients who needed a medical examination. The CRM system became an additional work system.

> *We used to request customer information from the IT department and another department. However, we sometimes had to wait for a while because the check-up team was always busy taking care of customers. (HP05)*

> *Even though the CRM system has become an additional work system, we can obtain useful information from the CRM system. (HP06)*

A participant also described that the implementation of the CRM system was adding another working system to the daily work routines:

> *Actually, it was not a big deal to adapt to the new CRM system. However, we must accept that it is not a substitutional system – it is an additional system. (HP10)*

A management staff member also explained that the CRM system was an additional work system:

> *The CRM system is an additional system. Therefore, users must use it as a part of their work routines. (HP11)*

> *In terms of the work process, it has absolutely affected previous work processes. It has changed users' work routines and processes. For example, front office staff used to view information from TrakCare only. After CRM was introduced, front office staff had to open another system to view customers' details and customers' preferences. They have an additional work process. However, the organisation receives benefits regarding improved services (beyond customers' expectations). (HP11)*

From another perspective, users stated that the CRM system was embedded in their work processes.

> *It just adds one more step in the work process. Normally, we replied to customers with an email only. Since the CRM system has been*

implemented, we have needed to create an SR umber and input information. We have an additional step. (HP04)

There is an additional task related to the CRM system that has become my current main task. The main task is using the business intelligence feature in the CRM system to obtain customer information from the CRM database. I am the only one person that has the authority to access the database. It has become my additional task. (HP06)

6.2.2 Integrated work systems

The CRM system was integrated with other existing systems in the organisation, especially the main system (TrakCare). This integration affected users' structure of work including front office staff (registration officers and ward nurses) and back office staff (marketing officers). A management staff member explained the ways front office staff worked with the CRM system and TrakCare system:

The CRM system was integrated with the TrakCare system by embedding an icon into the TrakCare system. We use both the TrakCare and CRM systems. Front office staff (registration staff and staff nurses) input and update information into the TrakCare system. In addition, they are able to click on the icon to open the CRM system in order to view customer information. (HP08)

Staff nurses (ward-based) view customers' preferences from the CRM system. Front office staff such as staff nurses input customer information related to customers' preferences into the CRM system. Sometimes, they write customers' preferences and characteristics on paper. The marketing staff pick up those papers and input the information into the system. (HP09)

In terms of viewing information, staff nurses are able to view customer information in the CRM system. For example, they are able to view individual inpatient's information related to medical reports and individual preferences. Staff nurses are able to input information into the CRM system as well. (HP09)

> *The CRM system has been integrated with the TrakCare system by embedding a red heart icon into the TrakCare system. Outpatient and inpatient staff click on the icon to view customers' preferences such as likes and dislikes lists. Inpatient staff assist in inputting information into the system. (HP10)*

The integration of the CRM system and the TrakCare system changed work practices in terms of maintaining relationships with customers in order to increase customer satisfaction. Apart from providing healthcare services, the organisation had a policy of focusing on improving the quality of services. Thai Marketing staff created a 'special occasion' campaign. The staff asked permission and agreement from doctors to be involved in this campaign. Doctors could view further customer information concerning customer preferences and their special occasions such as a birthday.

> *We can pull customer information related to a special occasion such as birthday from the CRM system to display a pop-up window in the TrakCare system. When doctors open a patient's profile, they can see pop-up window information regarding the customer's birthday message alert. Doctors can greet the patient with special words such as a happy birthday greeting. We receive good feedback from customers. (HP05)*

6.2.3 User-system-process interaction constraint

User-system-process interaction constraint is an interpretive code of the **changing structure of work** pattern code that explains how the new CRM system affected users and work processes. There are two low-level codes of the user-system-process interaction constraint *(lack of customisation and slow connection to the CRM server)*

6.2.3.1 Lack of customisation

Lack of customisation is a low-level code of the ***user-system-process interaction constraint*** that occured after CRM implementation. This organisation was in one of 30 locations run by the hospital group. The CRM system had been implemented in a subsidiary hospital previously. Therefore, this organisation adopted the same workflow and system interface as the subsidiary hospital. Even though the implementation team adopted the requirements of users and customised some parts to adjust the CRM system to suit organisational processes, the customisation did not cover all users' requirements.

However, most features and interfaces were completely adopted from the subsidiary hospitals.

This organisation was a smaller size business when compared with subsidiary hospitals that had implemented the CRM system. Therefore, some unnecessary features and menus were inappropriate for use in this organisation. For example, the checklist menus of customer inquiries were the same lists as the subsidiary hospitals. Checklist menus refer to a list of things to be checked such as types of inquiries (general inquiries, patient inquiries, and appointment inquiries). Some checklist menus needed to be eliminated because they did not relate to the organisation's work processes. The lack of customisation could be considered as a critical event which led to the development of a gap between CRM technology and actors, and technology and structure components. This critical event impacted on users' work practices and adaptation behaviours. A management staff member from the Contact Centre department stated that,

> *During the implementation period, the implementation team did not collect enough requirements regarding workflow and user interface from the Contact Centre department. The implementation team collected requirements from the subsidiary hospital that implemented the system before our hospital. However, our workflow was not the same as the subsidiary hospital. After CRM was implemented, it was difficult to adjust to our requirements later on. (HP10)*

She also complained that the system workflow and features did not match their work processes. There were too many checklist menus which were really unnecessary. The amount and variety of their tasks were not exactly the same as those of the subsidiary hospital:

> *We have a few subsidiary hospitals in Bangkok. In the Contact Centre department, their tasks are more varied than our tasks. They have a drop-down list of customer enquiry categories – approximate one-hundred lists. The system interface and features are not suitable for our work processes. Our job scale is smaller than their scale. (HP10)*

An IT support staff member described the fact that they had adopted the same system interface, system workflow, features, and a list of menus that applied to every subsidiary hospital:

> *We sent our requirements to the implementation team. Our requirements were based on users' requirements in the department. However, the implementation team adopted a pattern from the subsidiary hospital. Therefore, the implementation team did not adjust things much. Our hospital and subsidiary hospital use a similar pattern. (HP07)*

6.2.3.2 Slow connection to CRM server

A slow connection to the CRM server is another low-level code of the user-system-process interaction constraint that occurred after CRM implementation. The CRM system server location affected work practices. The critical event of the location of the CRM server led to the development of a gap between technology and tasks. This critical event therefore affected work performance. Participants from the e-mail correspondence team explained that,

> *Hanging around. If you need to search for an e-mail according to its SR number, you have to wait for 5, 10, 15 minutes. (HP03)*

> *The server is located in Bangkok. It affects our work performance because of speed. We must respond to customers' e-mails as soon as possible. Using the CRM system instead of Microsoft Outlook, sometimes leaves us hanging around. It wastes our time. (HP04)*

A contact centre officer also explained the situation of the slow server:

> *The CRM server is located in Bangkok. According this server location, the system is slow and we have to wait around sometimes. (HP10)*

The IT support manager and officers described in detail the slow speed when accessing the CRM server. The CRM server and the Hospital Information System (HIS) server were not located in the same place. As a result, it took time to synchronise data from the HIS system and the CRM system. It was not real time data. The perception of users toward the slow process was related to the effect on their work performances.

> *The CRM system server is located in Bangkok. We need to access the server via a wan link. Access via the CRM system involves delay for a while. In addition, the hospital in-house system is located here.*

Therefore, the data from the HIS system and the CRM system are not real time data. The data is updated daily. (HP11)

The problem with the CRM system is its slow response. The CRM system is a web-based system. When the CRM system is slow to respond, Internet Explorer is left waiting. As a result, it affects all hospital systems as well. All hospital systems are web-based systems. Users must restart their computer. (HP07)

6.3 Pattern Code: Consequences of CRM Implementation

The pattern code of **consequences of CRM implementation** includes an interpretive code of ***effect on work performance***.

Table 6.2 Coding Construction of Consequences of CRM Implementation Pattern Code

Low-level codes	Interpretive codes	Pattern codes
increased abandoned calls, increased talk time, effect on KPIs, risk of patient misidentification	Effect on work performance	Consequences of CRM implementation[5]

There is a consequence identified as an effect on work performance. The CRM system affected individuals' work performance through an increase in abandoned calls in the Contact Centre department. The new requirement to input customers' information into the CRM system could be considered as a critical event which led to the development of gaps between task-actor and task-structure components. The human resources were inadequate. Therefore, users resisted or avoided using this feature. In addition, it affected work performance. A management staff member from the Contact Centre department stated that,

Previously, I used only the TrakCare system. After CRM was introduced, I must use both systems. I must input information into the TrakCare system and then, I must also input information into the CRM

[5] Please note that the title **consequences of CRM implementation** as a pattern code is used for all three cases. Nevertheless, the interpretive code can be similar or different among the three cases.

> *system as well. It affects my work performance. It takes a minute to one and half minutes to complete all processes. (HP10)*

> *It increases talk time and also affects my KPI. It also increases abandoned calls as well. (HP10)*

Another participant from the Contact Centre department explained that using the CRM system included a risk of misidentifying customers:

> *The disadvantage of the CRM system is related to misidentifying customers. For example, an overseas customer may use a hotel number to call us. Another customer might use a hotel phone as well. We might misunderstand and identify the wrong customer. Another example is related to the same name and surname. Some families use the same name and surname for both mother and daughter, but they have a different middle name. In the CRM system, it does not display the middle name. (HP01)*

A user from the Overseas Marketing department explained another example of the effect on individuals' work performance – that is, the number of response e-mails to customers.

> *Before, we sent approximate forty response e-mails to customers a day. After CRM replaced Microsoft Outlook, it increased our workload because of having to input information into that e-mail. We can only reply to about half that number of e-mails now. (HP04)*

To conclude, the pattern code of **changing structures of work,** and **consequences of CRM implementation** emerged from interview data in the study organisational changes after CRM implementation in the organisation.

6.4 Pattern Code: Adaptation Behaviours

The pattern code of 'adaptation behaviours' includes four interpretive codes ***(resistance behaviour, avoidance behaviour, adaptation effort behaviour, and self-satisfaction adaptation behaviour)***. Adaptation behaviours describe the way that users adapted to new CRM implementation.

Table 6.3 Coding Construction of Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
unfamiliar with the system, felt overwhelmed, felt worried, unwilling to change work routines and work practices, refused use, individual system attachment	Resistance behaviour	Adaptation behaviours
avoided using the function of inputting customer information to minimise abandon calls, minimal usage	Avoidance behaviour	
learning by repetition, learning effort, acceptance and open-minded, complexity of the system, difficult to use, repeated use	Adaptation effort behaviour	
willing to adapt, satisfaction, impression, pride, felt proud to use the professional programme, preferred to use, maximise benefits	Self-satisfaction adaptation behaviour	

6.4.1 Resistance behaviour

Resistance behaviour, in this case, was revealed in different ways such as unfamiliarity with the system, feeling overwhelmed, feeling worried, unwilling to change work routines and work practices, and refusing use. One manager explained users' initial resistance toward the new CRM implementation.

> *During the initial post-adoption stage, users resisted using the CRM system. (HP11)*

When the CRM system was implemented in the organisation, some users resisted adapting to the system. One participant explained her initial response to the CRM system. She totally refused to use the new CRM system:

> *At the beginning, I resisted using the CRM system. I did not attempt to accept the new CRM system (HP01)*

Another participant described her initial resistance toward the CRM system. She felt worried about using the CRM system because of her unfamiliarity with the system:

> *There were several work systems on the toolbar, not only TrakCare and the CRM system. Initially, I was not familiar with the CRM system. I felt worried about it. (HP02)*

A participant from the Contact Centre department described her feeling during her first training in the use of the CRM system. She resisted using the new CRM system. She preferred to use the previous work systems (in-house systems and the TrakCare system) instead. She was unwilling to change her work routines and work practices. She also felt overwhelmed regarding several features in the CRM system that were introduced during the training session. Some features were not related to her tasks. Based on several features, the critical event of unnecessary information provided in the training session led to the development of a gap between users and CRM technology, which led users to respond with resistance or other negative behaviours.

> *During the training session, I resisted using the CRM system. I thought that we already had appropriate systems to work with. Our previous systems were alright. When I participated in the training session, I felt overwhelmed regarding features in the CRM system. Did I need to do all the tasks? I felt resistance in using it. (HP02)*

Contact centre officers needed to use several systems to respond to customers' inquiries. The nature of the Contact Centre department was to answer customers' phone calls as much as possible and avoid abandoning calls. An IT support staff member explained the initial response of users, especially users from the Contact Centre department who were concerned about system overload as well as an increased workload. Some users refused to use the CRM system:

> *Our organisation used several work systems. Users were likely to resist using the CRM system. (HP07)*

To conclude, resistance behaviour is a pattern of behaviour which was expressed in the organisation by an unwillingness to change and adapt to CRM implementation.

Individuals preferred to use their previous work systems to accomplish work tasks. Sometimes, individuals felt worried and overwhelmed with the changes related to CRM implementation. They were unwilling to change their work routines and work practices.

6.4.2 Avoidance behaviour

Avoidance behaviour, in this case, meant that some users were partially willing to use some of the required features of the CRM system. A participant explained her adaptive behaviour toward the new CRM system in her work setting. She attempted to limit her use of the CRM system to accomplish her work tasks. She avoided using the function of inputting customer information:

> *Based on time limitation, the phone call load, and human resources limitations, we can't finish work on time. I feel that I force myself too much. Therefore, I use only some functions in the CRM system. (HP02)*

The head of the Contact Centre department described that sometimes contact centre staff used the system minimally to complete their work on time. They fulfilled only the required task of responding to customer inquiries or making appointments for customers. They skipped the task of updating or inputting customer information into the CRM system. Some users partially used the CRM features.

> *Initially, top management provided policy regarding the full use of the CRM system. I completely motivated my staff to use the system. However, we use only some features relating to limitations and workload. We only minimally use the required functions. (HP10)*

Some users attempted to finish work on time. Therefore, they used only the required features in the system to finish their works on time.

> *The CRM system affects KPIs, increases talk time, and increases abandoned calls. Therefore, we avoid using some functions such as inputting customer information into the system. (HP10)*

6.4.3 Adaptation effort behaviour

Adaptation effort behaviour, in this case, was revealed in different ways such as learning by repetition, learning efforts, and repeated use. Some users in this organisation perceived the CRM system as a complex system and difficult to use. A participant described how

she adapted to using the CRM system despite the complexity of the CRM system. She attempted to learn to use the CRM system by using repetition, and repeated use.

> *It's confusing. Where to go? What to do? We were trying to handle it. The time went by – every day when you used it you got used to it and familiar with it. Everything, if it was your first time, it was difficult. You did not expect that but later on, if you were familiar wih it, it was ok. (HP03)*

Another participant felt impressed with the CRM system. Nonetheless, the complexity of the system meant she had to learn more. She put effort into learning how to use the system.

> *The CRM system is a complex system. It was difficult to use the system at first. In contrast, I felt impressed with the system because it made me learn more. I tried to learn to use it in several ways. Firstly, I attended the training class and read from the training manual. I did not understand when I used it. Later on, I asked for assistance from IT support. I understood more. (HP05)*

6.4.4 Self-satisfaction adaptation behaviour

Self-satisfaction adaptation behaviour is a pattern of behaviour relating to the perception of satisfaction and pride, whereby individuals were willing to adapt to the new system and were enthusiastic about using it. When the CRM system was implemented in the organisation, these individuals had a positive perception and took pride in it. Individuals perceived the benefits of the system that assisted them to work efficiently. They trusted the potential of the CRM system features. The new CRM system made them feel proud to use it in the organisation. Self-satisfaction adaptation behaviour, in this case, was revealed in different ways such as a willingness to adapt and the desire to use the system.

Below is an explanation from a user regarding her positive impression and the pride she felt in using the CRM system. The participant expressed her positive impression by comparing the system with a famous telecommunication organisation in Thailand. That organisation had implemented the CRM system in its Contact Centre department. It had a famous reputation regarding successful CRM implementation.

> *I feel really impressed by the CRM system. The system is a special system to assist my work. When customers call us, it displays a pop-up*

> *window with customer information. I feel that our organisation has the same system as big organisations such as AIS (a large telecommunication organisation in Thailand). I feel really happy. (HP01)*

Another participant described her impression of using a professional system such as the CRM system. The CRM system made her feel proud to use it in the organisation.

> *The organisation has implemented the CRM system. I feel that the organisation has upgraded to the next step regarding use of a worldwide system. The organisation uses the CRM system to manage several things in the organisation. I feel very proud to use the CRM system because all top organisations use this system. I feel like our organisation is successful and uses the worldwide standard system. (HP06)*

Some participants described their enthusiastic behaviour toward the CRM system. They described the perceived benefits of the system.

> *We couldn't wait to use this system. The CRM system is a supportive tool to help us when analysing customer behaviours and managing the customer database. (HP05)*

> *I really like CRM system. I have worked in this department for nine years. I have seen a lot of changes. This CRM system really supports us. For example, it was very difficult to ask for customers' information. After we started using the CRM system, customers complimented us. Customers felt that it was much easier for them. They felt surprised at how we knew their names. (HP02)*

Another participant felt similarly impressed with the benefits of the system. The CRM system assisted users in terms of saving time by doing parallel work, and there was more efficiency in teamwork.

> *We have three staff responsible for different products in our team. We divide our responsibilities to work in the CRM system. One staff member is able to export data from the database by using the business intelligence feature. Another staff member is able to create campaign*

management. We work as a team to do parallel jobs. We don't need to wait. We are able to do the parallel work. (HP06)

6.5 Pattern Code: Factors Influencing Adaptation Behaviours

The pattern code of **factors influencing adaptation behaviours** in the HP case includes four interpretive codes ***(individual attitudes and users' perception, task-technology constraints, organisational policy and support, and social influence)*.** Users expressed four different adaptation behaviours based on factors that affected them at a particular time.

Table 6.4 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Individual attitudes *(positive attitudes, negative attitudes)* Users' perception *(complex system, perceived benefits [more efficiency, easy to coordinate with other departments, recognised and identified customers, improved the quality of services, increased customer satisfaction], suitable for users' work processes)*	Individual attitudes and users' perception[6]	Factors influencing adaptation behaviours
system overload, workload, time and human resource limitations, the organisational rule associated with time limitation to finish tasks, slow connection to CRM server	Task-technology constraints	

[6] The term ***individual attitudes and users' perception*** interpretive code is slightly different from the RC case and BI case. The finding revealed that there was no low-level codes of individual characteristics in the HP case.

Low-level codes	Interpretive codes	Pattern codes
Organisational policy *(mandatory use, data integration, customer-centric focused, pilot implementation, required system, policy to improve customer satisfaction, policy to improve the quality of services)* Organisational support *(procedural software training, user manual, customised training session, small group training session, on-the-job training, management committee support team)*	Organisational policy and support	Factors influencing adaptation behaviours
Motivation from management *(convinced and motivated users to use the CRM system, coordinated between staff and IT support, regular meetings associated with CRM system usage among CRM users)* Motivation from work colleagues *(shared knowledge and experience regarding CRM usage, worked as a team, supported work colleagues)*	Social influence	

6.5.1 Individual attitudes and users' perception

Individual attitudes toward the CRM system affected adaptation behaviours. Thai Marketing management staff revealed that adaptation to the CRM system depended on users' attitudes.

> *If we have a good attitude toward CRM system, we know that it is not affecting our work practices. We believe that we can handle it. Also, the system assists us in aspects of marketing strategy. (HP09)*

Some users had a negative attitude toward the CRM system at the initial stage of post-adoption. This negative attitude had the potential to affect adaptation behaviours.

> *I had a negative attitude during the training session. I attempted to listen, but I felt depressed that I could not understand at all. (HP02)*

Users' perception of new technology such as the perceived benefits of using the CRM system affected adaptation behaviours. In this interpretive code, the low-level code of perceived benefits is explained in terms of being a factor that influences adaptation behaviours. Participants explained the low-level code of perceived benefits that affected their adaptation behaviours. There were individual benefits and organisational benefits. Some participants perceived the benefits of the CRM system and preferred to use the CRM system. Some participants viewed the CRM system as an essential element to accomplish work tasks. The interview quotations below support the low-level code of the perceived benefits of the CRM system.

> *The CRM system has assisted us in different ways such as understanding customers' needs, and creating campaigns according to customers' preferences. (HP08)*

> *We could have performed our tasks without using the CRM system. However, I felt that I lacked essential tools to help my work. (HP01)*

> *I really like the function of recognising customers. It really supports us. Sometimes, customers can't spell their names correctly but we can view their names in the CRM system. (HP02)*

> *I feel happy using the CRM system in terms of effective information to improve our work tasks. (HP05)*

The CRM system provided benefits to the organisation. According to evidence, contact centre officers perceived the benefits of the CRM system in their department in terms of improving customer services.

> *Customers are impressed with the new CRM system. They feel surprised that we know their names without informing us. I feel that the CRM system is very useful. I prefer to use it (HP01)*

> *Customers are impressed that we recognise their names. However, we must double check their birth dates as well. (HP02)*

Another perception from marketing officers, relating to benefits for the organisation, was the low-level codes of increased revenue and improvement in the quality of services.

> *The CRM system has benefits for the organisation. The number of loyal customers is increasing. The system supports us to finish our tasks more quickly than the previous system. I prefer to use the system to help in finishing my tasks. The system also affects our customers. Customers feel happy with our services. (HP05)*

> *The CRM system assists us in terms of increasing revenue and increasing the number of loyal customers. We use the system to create marketing campaigns. The front office staff can improve the quality of services by meeting individual customer's needs, especially in a group of VIP customers. Front office staff are able to provide good services without asking customers for information. Customers feel that they are important persons. (HP08)*

For the low-level code of data analysis, the CRM system was able to support the organisation in analysing individual customer's behaviours. The information in the CRM system was used to create campaign management suited to each customer. The organisation focused on meeting individual customers' needs to increase customers' satisfaction. A marketing officer explained that,

> *The CRM system assists us in analysing customer information and to focus on a group of customers, not mass marketing. I am impressed with the features in the CRM system. I have tried to learn several useful features in the CRM system to support my work. (HP06)*

> *We can improve our services. For example, we have created activities such as birthday greetings for loyalty customers. Doctors give birthday presents to those loyal customers. Customers feel happy. I feel happy to use the system as well. (HP05)*

A management staff member also discussed analysing customer behaviours:

> *We are able to view each customer's in-depth information. We are able to analyse individual customer's behaviour. (HP09)*

6.5.2 Task-technology constraints

The ***Task-technology constraints*** factor describes circumstances in which the new CRM system affected users' tasks and work practices, and explains how the low-level codes of workload, time limitation, and slow connection to the CRM server influenced adaptation behaviours.

'Workload' refers the amount of work to be done in a specific period. A manager from the Contact Centre department explained that users had a lot of work to do. They also needed to use at least five or six systems a time to accomplish their work tasks. For example, users had to open several systems such as the TrakCare system, the CRM system, and the doctor schedule appointment system to make a medical appointment. Some users felt overwhelmed with the number of systems that they had to use.

> *Based on one phone call, I need to input information into the CRM system and then, input information into the TrakCare system. Moreover, I have to view doctors' schedules if customers ask about the schedules. We use several systems in the Contact Centre department. I use approximately five to six systems a time. I think that it is too many systems to work on. (HP10)*

Contact centre officers had to use several systems to respond to customers' inquiries. An IT support staff member explained the initial response of users, especially users from the Contact Centre department; they were concerned about system overload and the workload.

> *We use several work systems. Users were initially likely to resist using the CRM system. In the Contact Centre department, contact centre staff receive a lot of phone calls and use several monitors to complete their*

> *tasks. If we ask them to input information into the CRM system, it increases their workload. That was the reason for resistant behaviour in the initial post-adoption stage. (HP07)*

An IT support staff member explained the difficulty of multitasking in the Contact Centre department. Users had to focus on talking with customers while they parallel inputted customer information into the CRM system at the same time. The difficulty of multitasking and workload affected work performance:

> *I get feedback from contact centre staff regarding work speed, workload, and multi-tasking. Users must talk with customers and input information at the same time. If they have to input information into the CRM system, they can't finish the task on time. (HP07)*

Time limitation is a low-level code under ***task-technology constraints*** which affects to adaptation behaviours. A participant explained in-depth regarding time limitation and the organisation's expectations that she complete her work tasks:

> *After we finish a call, we must close a job within one minute. The organisation has set up the system to allow us to have only a minute to finish a task per call. After that, the system automatically closes our job and is ready to pick up another phone call. If we have the potential to finish a job earlier or finish the job during the talking time, we are able to click the ready button to pick up another phone call. (HP02)*

Another low-level code is called *slow connection to the CRM server*. Individual users provided feedback to IT support concerning the slow connection to the CRM server according to the location of the CRM server. This slow connection to the CRM server significantly affected their work performance.

> *Once I receive phone calls from customers, it takes a while to open the customer pop-up window to show their numbers and names. I have to count 123. The slow response might relate to a large amount of customer information in the database. (HP02)*

6.5.3 Organisational policy and support

One participant mentioned that CRM had been implemented according to a policy from top management. Users had to use the CRM system as a required system in the organisation.

> *Users must use the CRM system. It is similar to the TrakCare system that is widely used in the whole organisation. (HP08)*

> *Actually, I don't not want to use the CRM system. Top management forces us to use the system. Top management needs us to use the system to keep records and to use those records for analysis. (HP04)*

The marketing manager also described that top management mainly focused on data integration in order to analyse customer data and improve customer satisfaction. The CRM system was selected to use for this purpose:

> *Top management put forward a policy to use the CRM system to focus on data integration. (HP09)*

The organisation implemented the CRM system (PeopleSoft CRM) in 2004. In 2011, the organisation decided to implement Siebel CRM. The main reason for the reimplementation of the CRM system was to improve services. Further information regarding the unsuccessful implementation of Peoplesoft CRM was provided in Chapter 4. The executive office manager in the IT department explained that the CRM system assisted the organisation to improve the quality of services:

> *We perceive benefit in the CRM system. It helps us to improve our service. (HP11)*

Based on the failure in using the CRM system in 2004, the IT manager decided on a pilot implementation of Siebel CRM in three departments.

> *The experience of unsuccessfully implementing Peoplesoft CRM ten years ago affected every touch point (the whole organisation). Therefore, the new CRM system was implemented in three pilot departments (Thai Marketing department, Contact Centre department, and Overseas Marketing department). We did not implement the CRM system in other departments in the first year. (HP11)*

Later, top management developed a new policy to expand the CRM system to include the front office staff such as registration staff, staff nurses (ward-based), and doctors. CRM was then integrated with the main hospital system (TrakCare) by embedding the red heart icon into the TrakCare system to view and record individual customers' preferences (as discussed in the section 6.2 on changing structure of work). The integration of two systems began at the initial stage of implementation within the three departments. Front office was then required to use the CRM system to improve the quality of services. The introduction of CRM to front office staff did not have a big impact on their work processes because the CRM system was embedded in the TrakCare system. The embedded icon in the TrakCare system assisted the front office staff to slowly adapt to the new CRM system.

> *We commenced implementing the CRM system in the front office such as at the registration counter and then expanded to other departments. We also began to implement other modules as well. Some front office departments such as pre-care or care for patients have not implemented the CRM system yet. (HP11)*

In terms of organisational support, the organisation provided a customised training session related to software training that was suited to the work processes. The training session in this study is called "procedural software training". Procedural software training was one of the factors that affected adaptation behaviours. Training sessions assisted users to adapt to the new CRM system. The organisation provided a training session to all users in three departments who were involved with the CRM system. An IT manager described that the organisation had three training stages (overall picture of CRM system, super-user training, and end-user training). Super users shared their knowledge of the CRM system with end-users in their team.

> *We trained managers or team leaders about the overall picture of the system and then, we trained super users. In the last stage, we trained end users regarding CRM system usage. (HP11)*

End-users perceived the procedural software training session as useful support in learning how to use the system. They learned how to use features on a regular basis to accomplish their work processes.

> *The organisation provided a training session to users. It helped us to understand how to use the system. Therefore, I slowly adapted to the new system by learning from the training session provided by the organisation. (HP01)*

> *The training helped me to adapt to the new CRM system. They provided a brief session to introduce CRM information and trained us in its use. They trained us in a couple weeks. (HP03)*

Some users preferred both the procedural software training and the user manual. Users were able to use the user manual after training finished to remind them how to use functions and features in the CRM system.

> *We would not have any idea how to use the CRM system without training. If we did not use the system after training, we would forget it. Therefore, the user manual helped us to learn and reminded us. I repeatedly used the system until I got familiar with the workflow in the system. (HP04)*

> *Training was useful. However, I preferred to use the manual and self-learn. I repeatedly used the system again and again. During the training session, I could not understand the IT language. The time was also limited to ask questions during the training class. The user manual was able to support me to be self-learning. If I could not understand some parts, I would ask my boss. (HP02)*

During the end-user training session, the vendor provided a customised training workshop to each group of users from different departments to demonstrate all work processes that were suited to the specific work tasks of each department.

> *Training sessions were divided according to modules. We had an e-mail correspondence module, a contact centre module, and a marketing module. Each session took a day, except the contact centre module. The contact centre needed a week for training. The training team monitored and taught the contact centre staff how to use the system. If an issue occurred during that time, the implementation team could immediately solve the issue. (HP07)*

Another low-level code is called *management committee team.* The top management level focused on improving services by using the CRM system. Top management set up a management committee team which collaborated with managers in each department. They had regular meetings to discuss the CRM project. The new management committee team had an important role in maximising the benefits in the CRM system.

Furthermore, top management provided authority to the Thai marketing manager, who was a member of the management committee team, to act as a CRM leader to motivate and support users to use the CRM system. The organisation set up the committee team prior to CRM implementation to brainstorm among committee members and generate an implementation plan. The new management committee team explained the organisational change in terms of focusing mainly on existing customers rather than focusing on selling new campaigns to new customers.

> *The organisation set up a management committee team to support the CRM system. This management committee team was comprised of top management, middle management staff, and team leaders that were able to use the CRM system. The marketing manager was also a member of the management committee team. The management committee team had regular meetings regarding CRM projects. This team attempted to support CRM users if they requested anything related to the CRM system such as implementing more features or modules, customising the system to suit users' work practices, and so on. That means the CRM system is really important to the organisation. (HP06)*

> *The Thai marketing manager was a leader who set up each meeting. She asked all managers from each team such as the contact centre manager, customer service manager, and so forth to discuss CRM projects. For example, the organisation focused on VIP customers to improve services to this VIP group. Previously, we focused only on politicians and the royal family. Currently, we need to create a group of VIP customers. Management committee members discussed the projects that related to the CRM system. Furthermore, middle management put effort into assisting CRM users as much as possible. (HP01)*

6.5.4 Social influence

The ***social influence*** factor affected adaptation behaviours by encouraging users to use the new system. Managers accepted the policy of mandatory use from top management. Therefore, managers attempted to motivate their staff to use the CRM system regularly.

> *The head of the department taught us how to use the system. She gave us an information sheet. Our head of the department was there to introduce the system. After that, she asked us to observe her. A week later, she allowed us to send a simple e-mail to customers. (HP03)*

A participant stated that she needed assistance from her boss.

> *I had to learn the TrakCare and CRM system at the same time. I joined the organisation recently. I needed to learn about the database in the TrakCare system first. When I exported data from the CRM system, I always asked my boss or work colleagues to check those data. (HP05)*

The head of the Contact Centre department was also a user of the CRM system. She had a duty to communicate with staff in the team and also to coordinate with IT staff in terms of customisation.

> *I totally understand my staff because we use the same system. If my staff had any issues related to CRM usage, I communicated with them and discussed those issues with the implementation team. (HP10)*

The Marketing department worked as a team. They had regular meetings to discuss CRM activities.

> *My work colleagues and the boss are always helpful and always supportive. I always ask their opinion related to my export data. Sometimes, my work colleague has a different perspective. She suggested that I view data in a different way to analyse customers' behaviours. (HP05)*

> *We have a meeting regarding CRM activities once a month. We organised a workshop in our team to share experiences about the CRM system. (HP05)*

Another marketing officer also explained about working as a team as well as supporting each other.

We always support each other in our team. Even though we are responsible for different tasks, we always help each other. (HP06)

6.6 Theoretical Models

This section begins with the presentation of a theoretical model of organisational change. Also, the critical events leading to the generation of gaps between four socio-technical components are discussed. The gaps between the socio-technical components are also discussed. Next, a theoretical model of individual adaptation is presented and discussed. Finally, a multi-level theoretical model is presented to understand the multi-level change associated with new CRM implementation in an organisational context.

6.6.1 Theoretical model of organisational change

In this study, a socio-technical perspective is used as a lens to investigate organisational changes including structure, technology, actors, and process changes after CRM implementation. The study has deepened analysis of the four interacting socio-technical components, the gaps between socio-technical components, and the consequences that occur during the post-adoption stage.

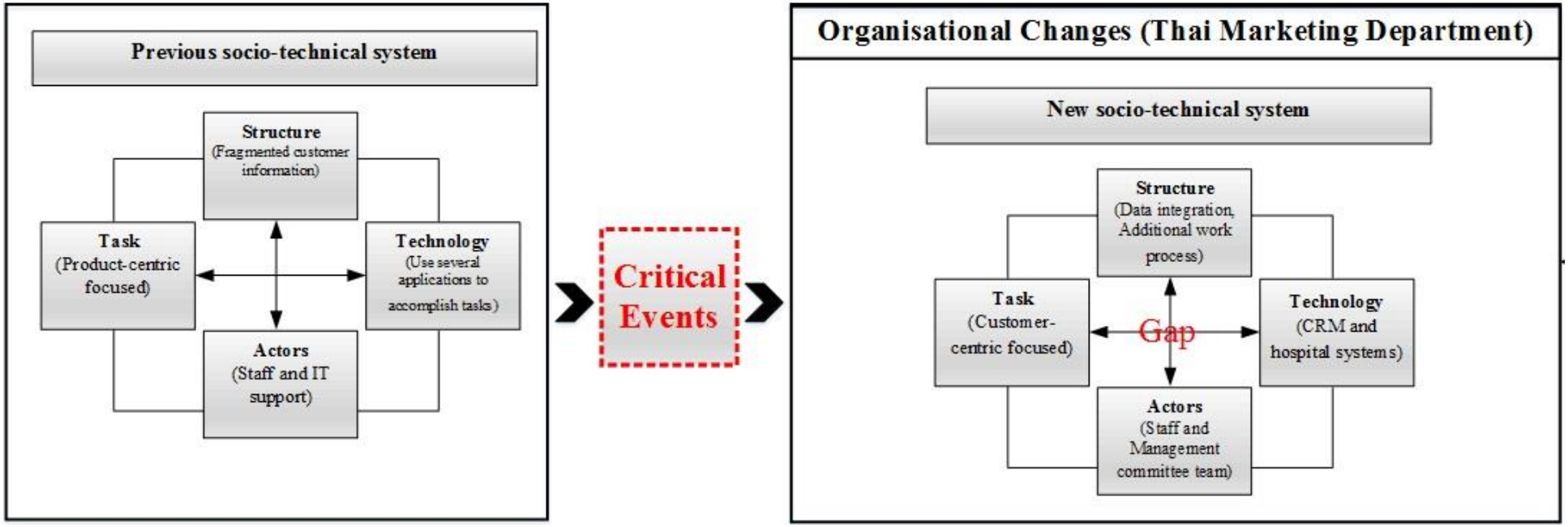

Figure 6.2 Organisational change model in the Thai Marketing department[7]

[7] The findings related to the Thai Marketing department revealed that the CRM system had no effected on their work performance.

As seen in Figure 6.2, the socio-technical system changed in the Thai marketing department including tasks *(customer-centric focused)*, structure *(data integration, additional work process)*, technology *(CRM and hospital systems, real-time information)*, and actors *(staff and management committee team)*. Marketing officers used the CRM system as a centralised database and used information from the database to analyse customer behaviours in order to launch marketing campaigns which were suitable for each group of customers. After CRM implementation, a customer-centric focus was adopted by focusing on individual customer preferences. The organisation had a policy of increasing the retention and acquisition rate. At the beginning of CRM usage, the Thai marketing staff focused on increasing retention rates. Thai marketing staff focused on existing customers to analyse individual customers' behaviour in order to meet their needs.

In terms of structure, the CRM system integrated customer information from other systems and input more details about customers such as individual preferences. Previously, customer information was fragmented. Marketing officers had to collect customer information from various systems and several departments to create marketing campaigns. After the introduction of the CRM system, data integration was introduced in the organisation. The CRM system became an additional work system to analyse customer information and create systematic campaigns. Work processes were changed in terms of using CRM as a centralised database. For example, contact centre staff needed to access the CRM system as a front system prior to accessing other systems. Work routines were changed in terms of additional tasks relating to the CRM system. For example, front office staff needed to check customer preferences in the CRM system to serve customers individual needs.

In terms of the technology component, the technology used in the Marketing department changed after CRM implementation. The business intelligence tool inside the CRM system was used to gather, store, analyse and access customer information. Users were able to access customers' database without asking for information from the IT department. Previously, marketing staff had to request information from IT department or other departments. Sometimes, users used several systems to gather information. Work activities changed based on use of the CRM system. Users could access the CRM system to view real-time information. In terms of the actors, the organisation set up a new management committee team after implementing the CRM system. The team was able to support all activities related to the CRM system and maintain the CRM system.

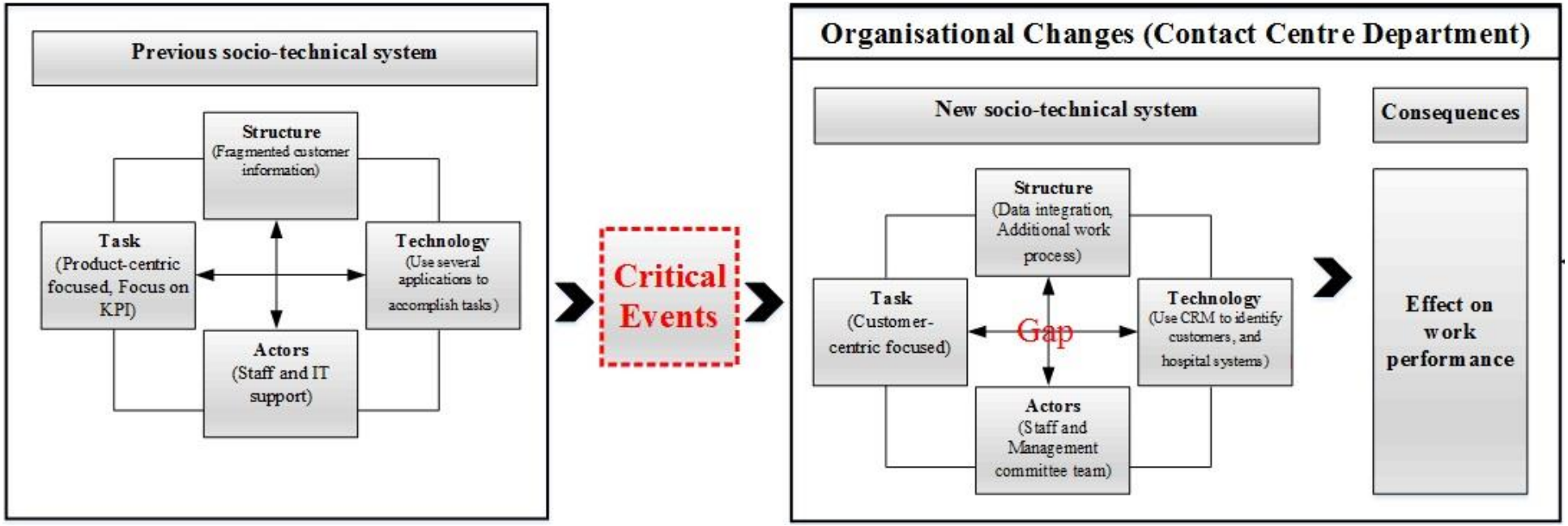

Figure 6.3 Organisational change model in the Contact Centre department [8]

[8] There were four low-level codes under the ***effect on work performance*** interpretive code: *increased number of abandoned calls, increased talk time, effect on KPIs,* and *risk of patient misidentification*.

As seen in Figure 6.3, the socio-technical system created changes in the Contact Centre department including tasks *(customer-centric focused)*, structure *(data integration, additional work process)*, technology *(use of CRM to identify customers and hospital systems)*, and actors *(staff and management committee team)*. The organisation installed the CRM system in the Contact Centre department. The main purpose was to improve customer services. Data in the CRM system was integrated with the TrakCare system. Previously, contact centre staff focused on completing tasks on time and also focused on their KPIs (Key Performance Indicators) only. They did not input customer information into the system.

In terms of structure, customer information was fragmented in the previous work system. Contact centre officers used in-house systems developed by the IT department. In addition, users used several systems to respond to customer inquiries. After the CRM system had been introduced, it integrated customer information from other systems. The Contact Centre department used the CRM system as a front system to identify and recognise customers. Work processes were changed regarding use of the CRM as a front system. The CRM system created additional tasks in terms of inputting and updating customer information.

In terms of the technology component, the technology used in the contact centre changed after CRM implementation. The CRM system was used to identify customers. It was convenient to use the CRM system to find information rather than using several systems. In terms of actors, the organisation set up a new management committee team after implementing CRM. The team could support all activities related to the CRM system and maintain the CRM system.

Interview transcript data from the contact centre team and the e-mail correspondence team revealed an additional concept – consequences – which extended Leavitt's socio-technical model (1964). This concept helped in understanding various concerns that occurred after CRM implementation. The main consequence of CRM implementation was the effect on work performance. After CRM system had been adopted in the Contact Centre department, it affected users' KPIs and work performance in terms of longer talk time and an increase in abandoned calls. It also affected the KPIs and work performance of the e-mail correspondence team. An organisational changes model relating to e-mail correspondence is presented and discussed in the next paragraph.

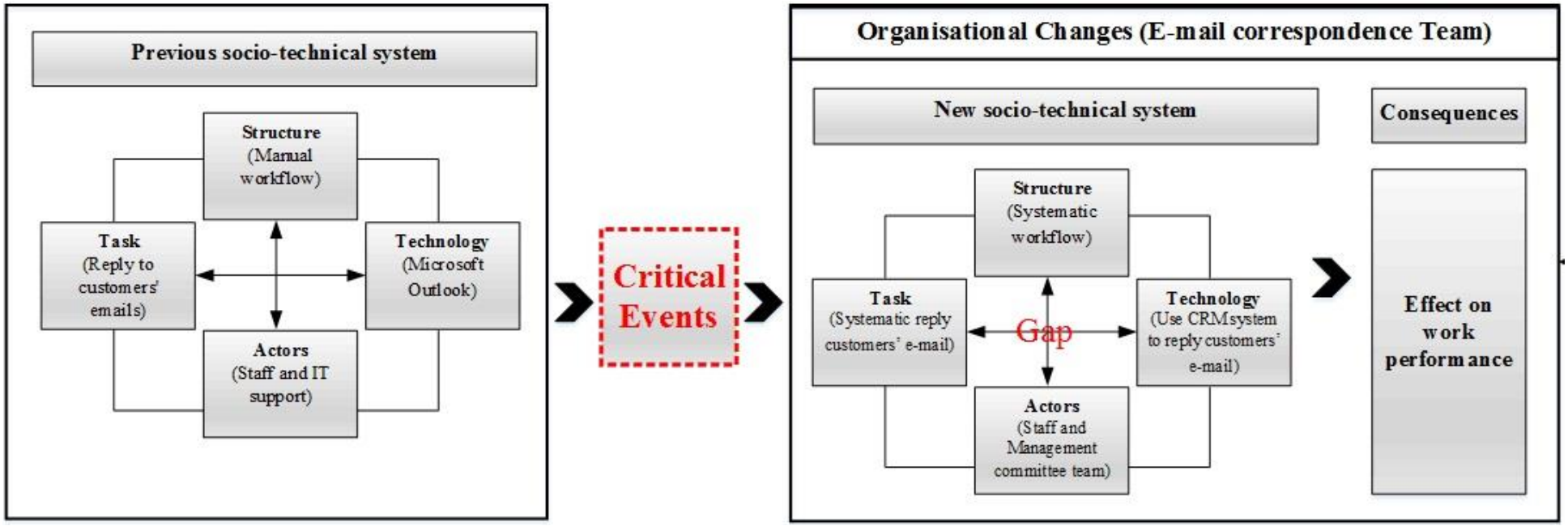

Figure 6.4 Organisational change model in the e-mail correspondence team [9]

[9] There was a low-level code of *effect on KPIs* under the ***effect on work performance*** interpretive code.

According to Figure 6.4, the socio-technical system changed in the e-mail correspondence team after CRM implementation. This involved changes in tasks *(systematically reply to customers' e-mails)*, structure *(systematic workflow)*, technology *(using the CRM system to reply to customers' e-mails)*, and actors *(staff and management committee team)*. The organisation installed the CRM system in the e-mail correspondence team and users used the CRM system to completely replace Microsoft Outlook when replying to the e-mails of overseas customers.

In terms of structure, the team had technology-mediated workflow instead of manual workflow. The main purpose was to systematically tracking records in terms of customer enquiry categories such as general enquiries, making an appointment, and so on. Previously, users used Microsoft Outlook and manually tracked records. Work processes were changed regarding the use of an e-mail template to respond to customers' inquiries as well as generating SR numbers to track records.

In terms of the technology component, the technology used in the team changed after CRM implementation. The CRM system was used to reply the e-mails of overseas customers instead of Microsoft Outlook. Work activities were changed according to use of the IT artefact feature. In terms of actors, the organisation set up a new management committee team after implementing CRM. The team was able to support all activities related to the CRM system as well as maintain the system. After the CRM system had been adopted by the e-mail correspondence team, it affected work performance (e.g., KPIs).

6.6.1.1 Gaps between socio-technical components

Table 6.5 presents the gaps between socio-technical components that occurred during the post-adoption stage. There were five critical events in the HP organisation which led to the development of gaps between socio-technical components. The first critical event was the replacement of the existing work system used by the e-mail correspondence team. The team had previously used the Outlook application which was now superseded by the CRM system, leading to the development of a gap between structure-task components and the effect on work performance. The second critical event was the new requirement to input customer information into the CRM system in the Contact Centre department, leading to the development of a gap between structure-task components. This also generated a gap between task-actor components in terms of users being likely to resist or avoid inputting customer information into the system because of time and human resource limitations.

The third critical event was the location of CRM system server, which also affected work performance by generating a gap between technology-task components.

The fourth critical event was related to providing unnecessary information during the end-user training session, leading to the development of gaps between actor-technology components, whereby users felt overwhelmed and confused by all the features they needed to understand, which led to resistance or avoidance behaviours. Lastly, a lack of customisation led to the development of gaps between technology-structure components, which led to difficulty in accomplishing work tasks because of too many menu lists. This also generated a gap between technology-actor components, which led to resistance or avoidance behaviours

Table 6.5 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008)

Socio-technical component	Definition	Event	Gaps between components
Task	Task describes the goals, purpose, and the way in which the work gets done within the organisation. In this study, a task refers to individuals' responsibilities as part of their duties which needed to be finished.	Contact Centre officers were required to input customer information into the CRM system.	***Task-Actor*** Users resisted or avoided inputting customer information because of time and human resource limitations. Some users minimally used some features to finish work on time. ***Task-Structure*** The number of contact centre staff was inadequate to support the task at the initial stage of post-adoption. It led to an increase in abandoned calls and effected on work performance.

Socio-technical component	Definition	Event	Gaps between components
Actor	Actors include project participants and stakeholders who deliver the project. The actors may include vendors, IT officers, and system development, managers, and maintainers. In this study, actors included top management, managers, users, management committee team, and IT officers.	End users' training session provided unnecessary information which was not related to their tasks.	***Actor-Technology*** Some users felt overwhelmed and confused when trying to understand all features which led users to respond with resistance or avoidance behaviour.

Socio-technical component	Definition	Event	Gaps between components
Structure	The structure covers systems of communication, systems of authority, and systems of the workflow. It also covers the behavioural dimension, for example, the patterns of behaviour as actors communicate, exercise authority, or work. In this study, structure described structure of work, for example, the structure of workflow (e.g., additional work processes, and systematic workflow), data management structure (e.g., decentralised and centralised customer information), organisational rules, and individuals' authorisation.	The e-mail correspondence team had to use the CRM system instead of the previous work system (Outlook application). It completely changed the structure of work.	***Structure-Task*** Existing workflow was affected and the work steps were increased. After CRM implementation, users had to create SR numbers and input information. In addition, work performance was also affected in terms of numbers of response e-mails to customers.

Socio-technical component	Definition	Event	Gaps between components
Technology	Technology includes software and hardware technology, tools, design methods, and ICT infrastructure. In this study, technology included work systems, hardware and software technology, and ICT infrastructure which individuals used to accomplish their work tasks. The Concrete Technology in this study was the CRM system and existing systems that were integrated with the new CRM system.	The location of the CRM system server led to slow access to the database. Furthermore, data between the HIS system and the CRM system were not real time data.	***Technology-task*** As a result, work performance was affected. This led to increased time needed to finish tasks.
		The organisation adopted the same workflow and system interface as the subsidiary hospitals. In other words, there was a lack of customisation to suit existing work processes.	***Technology-Structure*** Too many menu lists were adopted from the subsidiary hospitals and were inappropriate to assist users to accomplish their tasks. ***Technology-Actor*** The complicated menu lists led users to respond with avoidance behaviours.

6.6.2 Theoretical model of individual adaptation

The model below posits four main factors that influence adaptation behaviours ***(individual attitudes and users' perception, task-technology constraints, organisational policy and support, and social influence)***. Adaptation behaviours can be changed depending on factors and situations that occur at a particular time. In this case, there were four adaptation behaviours ***(resistance behaviour, avoidance behaviour, adaptation effort behaviour, and self-satisfaction adaptation behaviours)***.

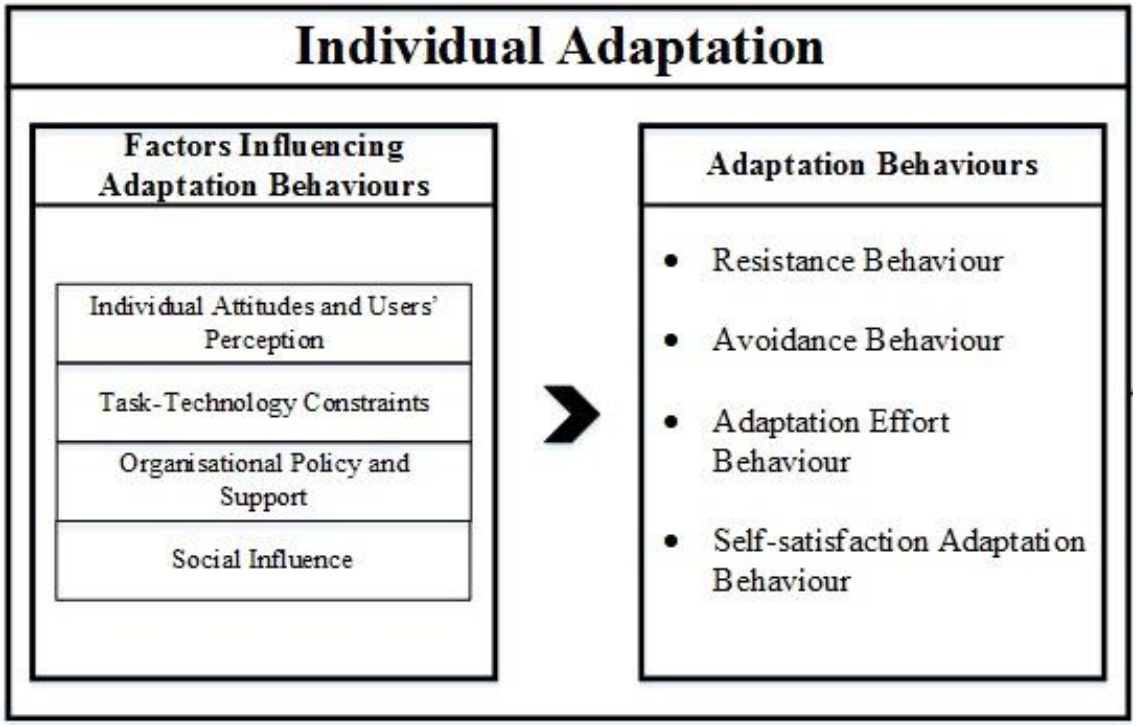

Figure 6.5 Individual adaptation model in the HP case

Factors influencing resistance behaviour included ***individual attitudes, task-technology constraints,*** and ***organisational policy.*** Some users had a negative attitude towards the new CRM implementation at the beginning of the post-adoption stage; they were likely to resist using the system. Some users resisted using the CRM system because of workload or system overload, which was a low-level code from ***task-technology constraints.*** Another factor that affected resistance behaviour was ***organisational policy***. It was mandatory to use the new system. Some users resisted the organisational policy of using the CRM system at the initial stage of CRM implementation.

A number of factors influenced avoidance behaviour including ***organisational policy*** and ***task-technology constraints.*** According to organisational policy, contact centre officers

had to use the CRM system as a front system to identify customers and to input customer information into the system. However, contact centre officers used only the required function of identifying customers rather than using all functions, with some avoiding inputting customer information into the system. The task-technology constraints factor including workload, system overload, and time and human resource limitations which led to users' avoidance behaviour.

Another behaviour was adaptation effort behaviour. The factors of ***individual attitudes and users' perception***, ***organisational support,*** and ***social influence*** affected adaptation effort behaviour. Some users perceived the new CRM system as a complex system. One participant explained that the complexity of the system persuaded her to learn more. She attempted to adapt to the new CRM system. The ***organisational support*** factor that influenced adaptation effort behaviour was related to training. Users perceived that the procedural software training session was a useful support to learn how to use the system. One participant described that procedural software training helped her to adapt to the new CRM system. ***Social influence*** was also a factor that affected adaptation effort behaviour by encouraging users to use the new system. For example, Thai marketing officers worked as a team. In the department, users supported each other and shared knowledge according to features in the CRM system. This kind of support led to other users attempting to learn more.

Individual attitudes and users' perception affected self-satisfaction adaptation behaviour. There were two sub-factors under individual attitudes and users' perception – *attitude and perceived benefits* – that affected this type of adaptation behaviour. Perceiving the CRM system to be a worldwide standard system, some users felt impressed and proud to use the system. Another factor was perceived benefit. For example, a contact centre officer had her own personal preference regarding benefits of the CRM system – being able to identify customers. She felt strongly satisfied regarding this feature and preferred to use the system.

6.6.3 Theoretical model of multi-level change

Figure 6.6 represents a theoretical model of multi-level change associated with CRM implementation in the HP organisation. The study uses coping theory and a socio-technical perspective as a theoretical framework to examine multi-level changes associated with CRM implementations in organisations. All four pattern codes in this chapter address the main research questions discussed in Chapter 5.

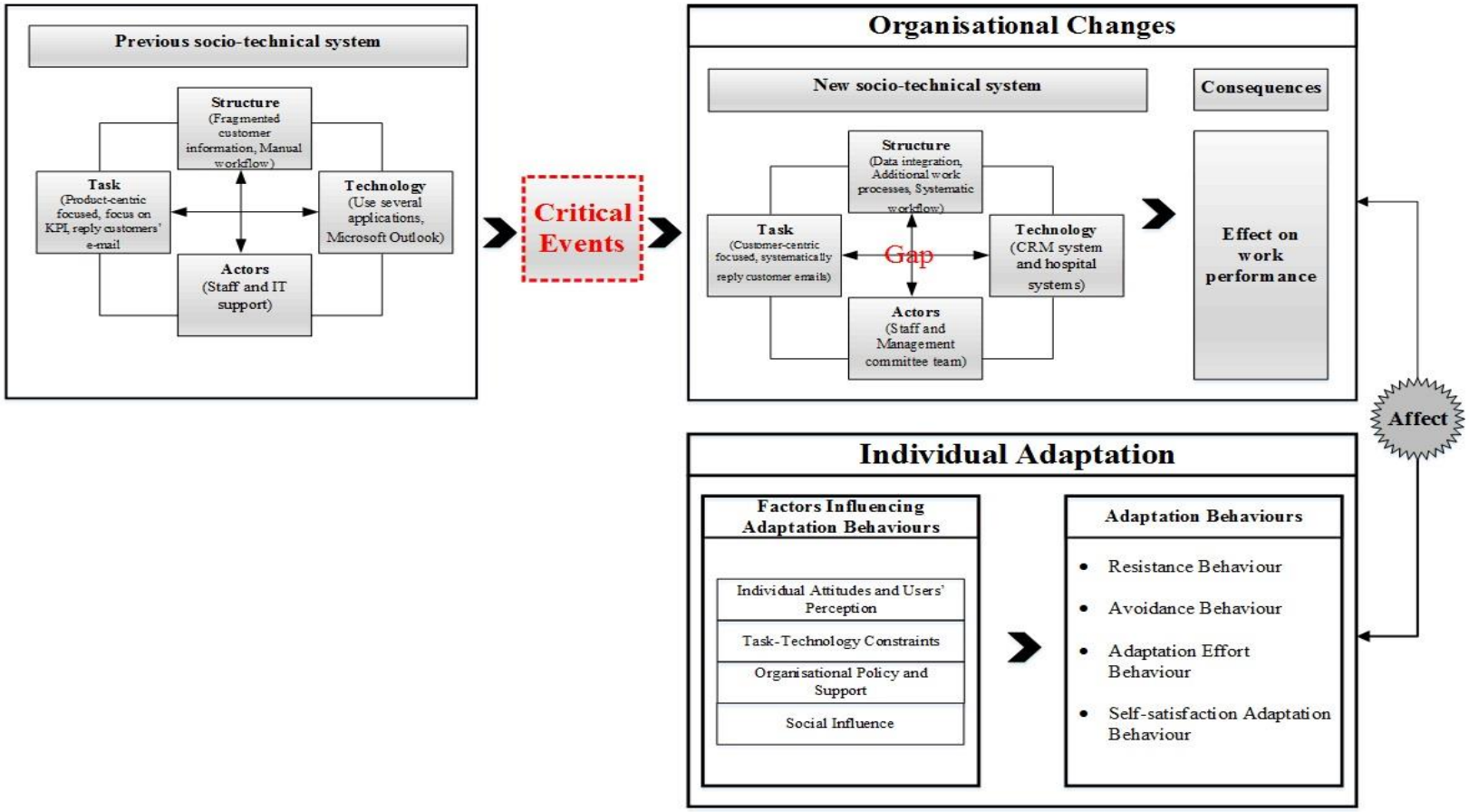

Figure 6.6 Theoretical model of multi-level change associated with CRM implementations in the HP case [10]

[10] There were four low-level codes under the ***effect on work performance*** interpretive code: *increased number of abandoned calls, increased talk time, effect on KPIs,* and *risk of patient misidentification*.

The results of the study showed that individual adaptation behaviours were interrelated with organisational changes. After CRM was implemented, a new socio-technical system occured in the organisation. All four components of task, structure, technology, and actors changed in terms of the changing structure of work. Four adaptation behaviours emerged from an analysis of the interview transcriptions. Both the individual level and organisational level were interrelated; for example, the result of CRM implementation affected work performance in the Contact Centre department and within the e-mail correspondence team. As a result, users responded with avoidance behaviour. In another example, structure change relating to the additional work process in the Contact Centre department led users to respond with avoidance or resistance behaviour.

6.7 Chapter Conclusion

In this chapter, four main pattern codes **(changing structure of work, consequences of CRM implementation, adaptation behaviours,** and **factors influencing adaptation behaviours)** emerged from the interview data in the HP organisation. Each pattern code was derived from interpretive codes, low-level codes, and findings based on rich evidence from participants. In the analysis section, a theoretical model of multi-level change was presented to examine organisational changes and individual adaptation in the post-adoption stage of CRM implementation. The next chapter will represent the findings from the BI organisation.

Chapter 7: Analysis and Findings: BI Case

7.1 Introduction

Data from the BI organisation in Bangkok, Thailand were collected from September 2014 to October 2014. There were three phases of implementation of the CRM system. In the first phase, the module 'Phone call and Case Management' was implemented. This module was used to maintain customer information by manually keying data into the CRM system. The Phone Call and Case Management module was also used to assign tasks to other team members in the same department or different departments.

The CRM system was integrated with the phone system. When customers called in, a pop-up window appeared showing customers' names and phone numbers. When users answered customers' phone calls but the cases were related to other departments or business units, they needed to create a case and assign that case to the responsible persons or responsible teams. For example, if a customer needed to claim medical insurance, he/she called the Contact Centre department which did not have the authority to claim medical insurance. The contact centre staff member needed to create a case and send it to the Personal Line department.

In the second phase, the 'Marketing and Sales module' and the 'Renewal module' were implemented. The Marketing and Sales module was used to create a marketing campaign and customer segmentation. The Renewal module was implemented to manage insurance policies which were due to expire in the next two to three months, by informing customers to renew them.

In the third phase, the organisation planned to implement 'CRM on Mobile' and 'Web Partner Management' modules. The organisation needed to install the CRM system on mobile phones so that it could easily be used for management and for staff to access information in the CRM system. This was especially the case for account executives (AE) who viewed and updated customer information in the CRM system when they visited customers outside. During the interview period, users accessed the CRM system by logging in via a web browser or accessing it on mobile phones. The current version of CRM system on mobile, however, did not support all activities or tasks. The menu in the application did not display the full features. The IT department decided to install an updated version of CRM on mobile. The updated version was able to show all features.

The Web Partner Management module was used to offer supporting information to partners or brokers who dealt with the organisation for example, banks. Banks provided home loan to bank customers; however, for their house insurance needs, the banks transferred the cases to the BI organisation to provide insurance services.

During the implementation of the CRM system, top management requested another urgent phase – 'Visit Plan'. The organisation called the phase 0.5 because they had implementing Phase 1 at that time. Nonetheless, the top management preferred phase 0.5 to go live prior to phase 1. Visit Plan entails users submitting their plans to visit customers to their mangers or team leaders in advance in order to get approval. Visit Plan is used for planning monthly or weekly visit plans and also used to write visit plan reports. At the time of data collection, phase one and two of CRM implementation had been completed. Phase three had not commenced at that time.

In total, 18 participants from three departments (Motor Claims department, Non-Motor Claims department, and Information Technology department) and five business units (Agent Business Unit, Broker Business Unit, Financial Business Unit, Commercial Lines Business Unit, and Personal Lines Business Unit) participated in this research. The structure of the BI organisation was complicated, with both departments and business units. The business units were organised according to business channels such as agents, brokers, financial institutions, organisations, and individual customers. These business units were stand-alone units and not under any departments.

7.1.1 CRM use in the BI case

It was mandatory to use the new CRM system in the organisation in order to complete work tasks. Contact Centre officers, account executives (AE), and underwriter officers used the Phone Call and Case Management module to recognise customers when they called, maintain customer information, and assign tasks to other teams. However, some business units did not integrate the CRM system with the IP phone system. Therefore, the CRM system did not show a pop-up window that identified customers' names and numbers. Users had to use the search function in the CRM system to search for customers' names in order to input the information.

For the units that used the Phone Call and Case Management module, the general workflow began with an automatic pop-up window showing customers' phone numbers, names, and other details when users received calls. Users would input customers' request

details into the system. If users were responsible for those cases or able to solve those problems, the process would be completed. When users were not able to handle those cases, they input request details into the system as much as possible and forward the case to the responsible persons or responsible business units by using the Phone Call and Case Management module in the CRM systems. The responsible person or responsible business units were identified by the type of insurance (Motor Claims and Non-Motor Claims) and business units (Agent Business Unit, Broker Business Unit, Financial Business Unit, Commercial Lines Business Unit, and Personal Lines Business Unit).

After the cases had been forwarded to a responsible person, senders and receivers were able to track the status of the cases until the status changed to 'closed'. The main objective was to improve customer services and to follow up customer inquiries in each process. Technology allowed staff to work more efficiently and more systematically. The participant quotations below explain the work processes involved in using the Phone Call and Case Management module:

> *The organisation needed to improve customer service. To improve the long waiting service issue, we use the CRM system to help in terms of receiving phone calls and sending cases to responsible persons. We need to use the system as one-stop service to reduce the work process of individual staff members. (BI04)*

> *If my customer needs to claim insurance, I contact the claims customer service unit by using the case management feature in the CRM system. The case is sent to the claims customer service unit. After that, the manager assigns the case to the appropriate responsible person in the team. The claim officer has to consider and approve an application. Once I open a case with the CRM system, I can track the status of that case until the status changes to closed status. (BI03)*

> *I try to record customer information as much as possible. For example, I input the customer's name and insurance policy number. In case of call loads, I send the case to the surveyor first and input the information later. (BI05)*

A management staff member from the Commercial Lines Business Unit explained that the Phone Call and Case Management module was a required module in his business unit:

> *The phone call module is a required module, which we must use in my business unit. Once customers contact us, I must access the CRM system in order to search for their information. I also need to put additional information into the system and forward the case to the responsible person. (BI12)*

Motor-claim contact centre officers used the Phone Call and Case Management module and the three main systems – BKI app, e-Surveyor app, and the CRM system to complete their tasks. There were two possible scenarios. The difference between these two scenarios related to the claim time. Therefore, the work processes were slightly different. In the first scenario, customers called motor-claims contact centre staff to claim insurance some time after an accident had happened. In other words, customers called the contact centre staff when they were not at the scene of the car accident. The process started by using the CRM system to input and update customer information or search for customer information. Then, the information was transferred to the e-Surveyor app to add further information relating to the accident. After that, the information was transferred to the BKI app in order to claim the insurance. The work process was finished after issuing the claim to customers.

In the second scenario, customers made contact from the scene of the car accident. The work process began by inputting or updating information into the CRM system. The information was then transferred to the e-Surveyor app where accident information was recorded and forwarded to the case to surveyors who would meet customers at the scene of the car accident.

> *In the case of current car accident, the work process finishes at the e-Surveyor application (a surveyor is sent to meet the customer at the scene of the car accident). In a different type of car accident (crashed into a wall or pole), we must issue an insurance claim. We use the BKI app to handle this task. (BI05)*

Account executive officers and underwriter officers used Visit Plan module to input their visit plan into the CRM system in advance and submit it to the manager or team leader in order to get approval before visiting customers. After they had visited the customers, users

also needed to write a report for their manager or team leader. This module did not change their work process but the CRM system was used to manage their visit plan report so that it was more systematic.

> *I create a monthly visit plan and send it to my boss. After I have visited customers, I create a summary of my visit report and propose activities for the next visit plan. (BI03)*

A number of account executive officers and underwriter officers also used the Renewal module. The process began by creating a list of renewal notices that were due to expire in two months and these were transferred to the CRM database. The list of renewal notices could be viewed in the Sales module, located under the opportunity menu in the Sales module. Managers or team leaders would assign tasks to their staff by using the CRM system. For example, if they had 100 renewal notices, the team leader might assign 50 to one staff member and another 50 to another staff member. After the team leader had assigned these tasks to staff members, staff members could view the lists in their CRM accounts. Staff might send renewal notices to customers by using e-mail, phone calls, or post. Once customers had decided to renew their insurance, their names were removed from the list. It took approximately one to two days to remove customers' names as there was no real-time update. The process was finished when users had issued insurance policies using the BKI app.

A participant explained the process involved in accomplishing work tasks associated with using the Renewal module:

> *With the Renewal module, the CRM system assists in displaying all upcoming expired insurance policies. My task involves sending a renewal notice to the individual customer, not passing through a broker. I use the renewal report in the CRM system as a control sheet to remind me. Normally, the list of upcoming expired insurance policies transfers to the CRM system. I use this list to send an e-mail to customers. I can check the status in the system. (BI03)*

To conclude, each department and business unit used similar or different CRM modules to accomplish the work tasks. The next subsection presents the structure of pattern codes along with interpretive codes in the BI case.

7.1.2 The structure of pattern codes in the BI case

The pattern codes and interpretive codes in BI case are presented in Figure 7.1. All pattern codes were derived from lower level codes (e.g., interpretive codes, and low-level codes) that were supported by interview data. Altogether, Figure 7.1 shows four main pattern codes and interpretive codes represented in a rectangle shape and an ellipse shape, respectively.

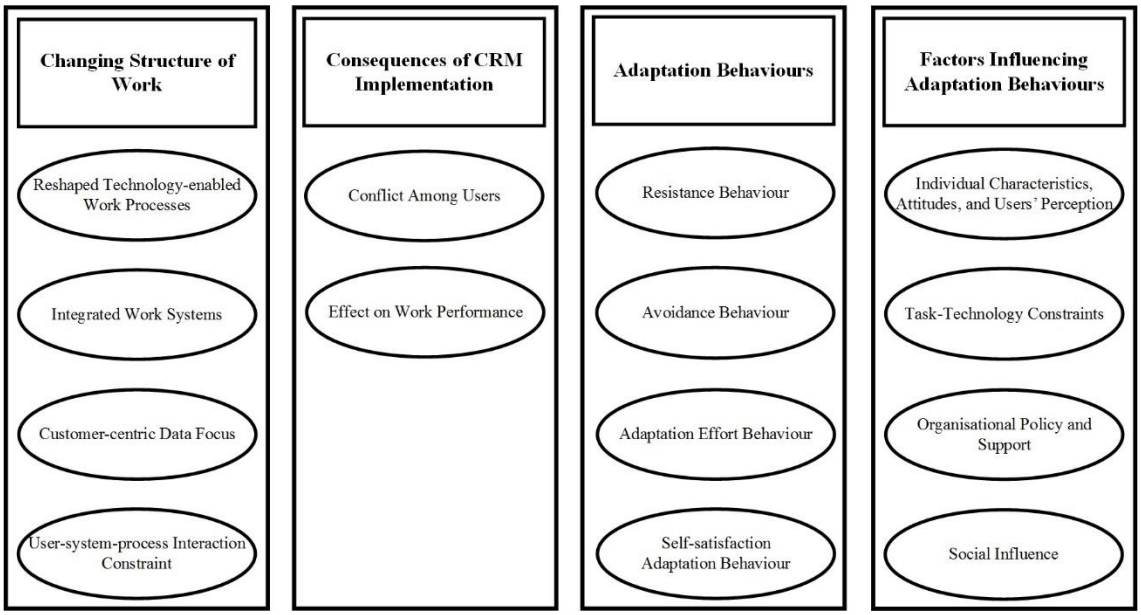

Figure 7.1 Pattern codes structure in the BI case

7.2 Pattern Code: Changing Structure of Work

The pattern code of **changing structure of work** includes four main interpretive codes ***(reshaped technology-enabled work processes, integrated work systems, customer-centric data focus,*** and ***user-system-process interaction constraint).***

Table 7.1 Coding Construction of Changing Structure of Work Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(embedded with existing systems, completely replaced previous work systems, changed the system of communication among business units)* Reshaped work processes *(additional work processes, systematic workflow, input customer information, updated customers' information)*	Reshaped technology-enabled work processes	Changing structure of work
Integrated with other existing systems, integrated with the phone system	Integrated work systems	
Stored customer data, changed the way to view customer information, focused on customers' perspective, able to view all insurances per customer account	Customer-centric data focus	
Customisation limitations *(complicated workflows, system workflow adjustment limitations, mismatch of the terminology in the CRM system, too many features)* Limited user experience with off-the-shelf software *(lacked experience with off-the-shelf software,*	User-system-process interaction constraint	

Low-level codes	Interpretive codes	Pattern codes
unfamiliar with the interface of enterprise package system) Mismatch between CRM system and work practices *(unsuitable for business type, difficult to obtain in-depth customer information)*	User-system-process interaction constraint	Changing structure of work

7.2.1 Reshaped technology-enabled work processes

Reshaped technology-enabled work processes is an interpretive code that presents the reshaped work systems and reshaped work processes resulting from CRM system implementation. In the post-adoption stage, the CRM system did not totally change previous work processes; instead, the CRM system was embedded in the work processes. In the BI organisation, the CRM system became another working system, embedded with existing work processes, integrated with other existing systems to assist users to perform their tasks efficiently, and replaced the previous work systems in their work setting.

Participants described that using the CRM system added another process in their daily work routines. Nevertheless, the CRM system was able to streamline the work processes in terms of eliminating the step of asking for information from other departments to create a report. Users could obtain the required customer information in the CRM system themselves. The participant quotation below describes the *additional work process:*

> *Using the CRM system creates one more step in the work process. However, with complete implementation, the CRM system will reduce some steps. For example, we won't need to ask for reports from other business units. (BI01)*

The following quotations support the low-level codes of *additional work process and updated customer information:*

> *From users' point of views, the CRM system is an additional task. In terms of Visit Plan, some users made a note or verbally informed their boss in the past. Since CRM adoption, users have needed to put Visit Plan information into the CRM system. However, some users have said that their boss can't see the information that they put into the system because of a technical issue. But this is because their bosses are not familiar with the system. Sometimes, their boss can't find that information and therefore it doesn't get approved. The process is not complete. (BI02)*

> *Since the initial post-adoption stage, as part of the Phone Call and Case Management module, users have had to input information into the CRM system. Then, users have to input the exact same information repeatedly into other systems such as e-Surveyor and BKI app. The reason is due to incomplete integration between the CRM system and other systems. It involves additional work processes. (BI02)*

A management staff member from Commercial Lines Business Unit also confirmed that the CRM system became an additional work process:

> *We have an additional work. We shifted from manual work to work on the system. We need to record everything into the CRM system. (BI12)*

Participant perceived the CRM system as an additional system in their working routines. Previously, one participant took notes when customers called in or when he got notification from contact centre staff via e-mail. Following that, he issued insurance claims by using the BKI app.

> *Presently, some users don't not accept the CRM system because it has an additional process. Previously, insurance claims were dealt with by making a note and using the BKI app. Since CRM implementation, we have used the same process, but the CRM system has become an additional system. Some users would prefer not to use the system. (BI06)*

In terms of *replacing previous work systems*, all participants perceived the Visit Plan module as a system which replaced the previous manual work. The previous visit plan system was replaced by using the CRM system to record information.

> *Previously, we did our visit plan by using paper and sent it to the boss to approve it. Nowadays, instead of using paper, we input information into the CRM system. (BI08)*

In another example of *replacing previous work systems*, users had to change from using e-mail or taking notes to using the system to assign cases to responsible persons. There was incongruence between management priority and employees' practices. For example, management preferred to view information in the CRM system. Users had to input all records into the system. However, users perceived that inputting information into the system was wasting time when they were trying to finish work tasks. The participants' quotations below show support of the low-level codes of *replacing previous work features or work systems, and changing the pattern of communication among business units:*

> *The Phone Call and Case Management module has changed our work practices a lot. It isn't possible for the CRM system to make things faster than sending paper notes or making phone calls. However, the CRM system enables us to track records. Top management are concerned about tracking records. We must use the CRM system. From my point of view, it is really time-consuming to use this module. (BI01)*

> *We changed the pattern of communication among business units. Previously, we took paper notes or made a phone call to inform other staff about customer enquiries or customer requests. Now, we use the CRM system to assign cases to other staff. (BI12)*

7.2.2 Integrated work systems

The CRM system was integrated with other existing systems in the organisation, especially the main system (BKI app) and the e-Surveyor app. This integration affected users' structure of work including contact centre staff, underwriter staff, account executive staff, and other staff in business units.

The organisation was still using the existing systems to accomplish organisational activities. CRM was integrated with the main system (BKI app) by embedding icons into the CRM system. When users needed to view further information in each insurance policy, they were able to click on an icon. The icon was linked to each product module under the BKI app. IT support staff described integrating the CRM system with the existing systems:

> *The CRM system was integrated with the existing system (BKI app). We created icon buttons in the CRM system to open another system (BKI app). The main reason is to be able to issue an insurance policy in the BKI app. The CRM system is not used to issue insurance policies. When users need to modify information in the insurance policy, they must click the icon button in the CRM system to open the BKI app. (BI09)*

> *We integrated the CRM system and the BKI app. When users put information into the CRM system, they can click the icon to submit that information to the BKI app. We use an application that can send value from the CRM system to the BKI app to avoid re-inputting the same information. We haven't changed their work process. We have tried to create less impact for users. (BI11)*

Users from the Financial Business Unit discussed the information that was available on the CRM system and other systems:

> *The information in the CRM system is information about a caller, a request, or an inquiry, and details about the insurance policy. Any further information relating to an insurance policy is in the BKI app. (BI06)*

The CRM system was integrated with the phone system used by the contact centre team in the Motor Claims department.

> *The CRM system is integrated with the phone system in the contact centre unit under the Motor Claims department. When customers call us, it shows a pop-up window with the customers' information. We are able to search by using the car licence number. After that, we can click on the icon to open the BKI app. The customer information that we record in the CRM system transfers to the BKI app. We just need to add some information in the BKI app. (BI11)*

7.2.3 Customer-centric data focus[11]

The BI organisation focused on customer-centric data instead of product-centric data by using the CRM system to collect customer data as well as to change the way customer information was viewed. In the CRM system, users could view information related to a customer's account such as the list of all insurance policies belonging to that customer.

In the previous system (BKI app), users had to go to each product module to see different the insurance policies, for example, car insurance and medical insurance. Users had to go to the motor claims module to view the car insurance policy and then the personal lines product module to view the medical insurance policy.

IT management explained that their organisation attempted to change from product-centric data focus on customer-centric data focus by using the CRM system to view all customer' insurance policies in each customer's account at the same time:

> *The organisation would like to view individual customer's information. We would like to be customer-centric. The organisation introduced the CRM system to support this customer-centric focus instead of searching for information by product view. (BI11)*

> *Previously, we were not customer-centric. We were policy-centric. This means that we focused on insurance policy. When customers contacted us, we asked only for their insurance policy numbers. Our organisational system divided the module by insurance policy products such as motor claims, personal accidents (PA), and so on. For example, if customers wanted to claim for a personal accident, we had to access the PA module. After CRM was introduced, the organisation changed from a policy-centric to a customer-centric focus. Users can now view individual customer's information such as the type of policies, claim information, contact information, and the latest contact information. The CRM concept is to view customer information in 360 degrees. (BI10)*

[11] Please note that the customer-centric data focus code emerged from participant quotes in this organisation only. The RC and HP organisation did not change the way they viewed customer information. However, the HP organisation was customer-centric focused in terms of services but not in changing the way of viewing customer information.

A management officer also mentioned the benefit of the CRM system regarding being able to view individual's insurance policies under each customer account:

> *We migrated customer information into the CRM system. The customer information pops-up to show all insurance policies in one window. Previously, our system (BKI app) displayed the module by insurance policies such as motor-claim and fire insurance policies. If the customer wanted information on his/her insurance policies, we had to access each product module to get information of all their insurance policies. In contrast, the CRM system is able to display all insurance policies of each customer in one window. (BI16)*

7.2.4 User-system-process interaction constraint

The ***user-system-process interaction constraint*** is an interpretive code of the **changing structure of work** pattern code to explain how the new CRM system affected users and work processes. There are three low-level codes *(customisation limitations, limited user experience with off-the-shelf software, and mismatch between the CRM system and work practices).*

7.2.4.1 Customisation limitations

Customisation limitations is one of the low-level codes relating to the ***user-system-process interaction constraint*** that occured after CRM implementation. The IT department attempted to customise the CRM system to fit users' work routines as much as possible. Nonetheless, there was a workflow adjustment limitation in the CRM system. For instance, the workflow of the CRM system could not be customised to exactly match organisational work processes.

The situation of *customisation limitations* could be considered as a critical event which led to the creation of gaps between CRM technology and actors, and technology and structure components. The CRM system did not fit well with the existing workflow. An IT support officer explained that there were too many features in the CRM system:

> *In this standard package software, there are several features, but users use only a few features. (BI10)*

Users also explained the difficulty regarding too many features in the CRM system:

> *Feature menus in the CRM system are really difficult to understand. (BI02)*

> *With CRM implementation, there are several windows used during work routines and several features in the CRM system. (BI04)*

Another user from Financial Business Unit described aspects of the complicated workflows:

> *The CRM system has replaced our previous system, but the work process is more complicated. For example, we use the CRM system to assign case management instead of using e-mails or phone calls. However, the interface is unsuitable for users. (BI01)*

Some participants also explained that users were not familiar with the terminology in the CRM system. In the insurance work setting, insurance terminology was unique and used in their working routines. This insurance terminology was totally different from the terminology in the CRM system. For example, the word "lead" in the CRM system was normally used by the sales and marketing team. Users from different business units were not familiar with the sales and marketing terms.

> *Terminology in the CRM system is difficult to remember. I try to remember the words; I used to ask the IT staff to change the wording in the CRM system. Anyway, I understand that it might affect other departments because the CRM system is used in the whole organisation. (BI04)*

> *The wording in the CRM system and the wording that we use every day are totally opposite – for example, the words "lead" and "customer account". We are not familiar with sales and marketing wording. Another point, the wording in the CRM system is in the English language. (BI08)*

> *The CRM system uses general wording. In an insurance setting, we can't get used to this kind of wording. (BI03)*

> *The wording in the CRM system is sales and marketing wording and uses the English language. I don't understand the wording in the menus such as visit plan and appointment. I get confused where to go. (BI02)*

7.2.4.2 Limited user experience with off-the-shelf software

The organisation adopted only two enterprise package systems – Microsoft SharePoint and Microsoft Dynamic CRM. Other systems used in the organisation, were in-house systems such as the BKI app and the e-Surveyor app. Therefore, users were unfamiliar with the interface of the enterprise package system such as the CRM system. Moreover, users lacked experience with off-the-shelf software. IT support staff explained the low-level code of *users lacking experience with off-the-shelf software*:

> *Users are not familiar with the off-the-shelf software. Previously, the organisation used the in-house system. The CRM system is a second package system. The first package application is called "Sharepoint" and is an intranet application. The Sharepoint application does not affect to their work routines. However, the CRM system definitely affects their work routines. (BI09)*

> *In terms of package software, users are not familiar with it. Users are familiar with in-house applications that we customised according to existing work processes such as the BKI app.*

Users also explained the difficulty regarding their *unfamiliarity with the interface of the enterprise package system*.

> *Since CRM implementation, there have been several windows used during work routines in the CRM system. (BI04)*

> *The CRM system is difficult to use and unsuitable for users. IT staff attempted to customise it to suit each business unit. From my point of view as a user, each business unit has different work processes. (BI02)*

7.2.4.3 Mismatch between the CRM system and work practices

Mismatch between the CRM system and work practices is another low-level code of the ***user-system-process interaction constraint*** that occurred after CRM implementation. Some users regarded the CRM system as unsuitable for their work practices. Some CRM modules were unsuitable for the Agent Business Unit and the Broker Business Unit. For

example, users did not like using the Phone Call and Case Management module because previously they contacted their own agents or brokers directly. In addition, their agents and brokers contacted them directly rather than through the contact centre. They also did not contact customers directly and found it unnecessary to input customer information into the CRM system. A user from Agent Business Unit stated that:

> *For our business unit, we have our own sales representatives. If our own sales representative called us, we knew what he/she wanted to talk about. (BI02)*

> *The CRM system has several features. I feel that it is suitable for a marketing company or suitable for a business unit which takes care of retail customers. In my business unit, we take care of sales agents. It is unsuitable for our business type. (BI02)*

A user from the Broker Business Unit also explained that the Renewal module was unsuitable for his work practices.

> *In the Renewal module, we send a renewal notice to the broker, not the customers. I send all of the customer lists that each broker responsible for, not only a renewal notice. It is unsuitable for our work practices. In the Visit Plan module, I visit a broker, not the customer. I don't contact with retail customers. (BI07)*

Prior to CRM implementation, the organisation did not have the policy to ask personal information from customers in order to analyse customer behaviours. Because of the severe competition in the insurance business, the organisation needed to differentiate in terms of customer services. Therefore, account executives who had contact with customers were expected to ask further information from customers.

> *In terms of asking for information from customers, Thai people have a bad perception of insurance organisations. We ask for in-depth information in order to input information into the CRM system such as date of birth and likes or dislikes. Customers don't feel comfortable and do not want to provide this information. We need to know customers for at least five to ten years in order to get that information. Therefore, it does not match with our work practices in the insurance business. (BI01)*

7.3 Pattern Code: Consequences of CRM implementation

The pattern code **consequences of CRM implementation** includes two main interpretive codes ***(conflict among users,*** and ***effect on work performance)***.

Table 7.2 Coding Construction of Consequences of CRM Implementation Pattern Code

Low-level codes	Interpretive codes	Pattern codes
users relationship issues, communication conflict, unclear communication	Conflict among users	Consequences of CRM implementation
struggled with workflow, not fluent in using the system, incomplete integration, increase in abandoned calls, affected KPIs, input customer information, time-consuming to input customer information, double keyed information into two systems	Effect on work performance	

7.3.1 Conflict among users

Conflict among users was an unexpected situation that occurred after CRM implementation. The conflict occurred in this organisation because of unclear communication among users from different business units regarding the different implementation periods in different business units. An IT support officer explained the low-level code of conflict among users when using the Phone Call and Case Management module.

> *Previously, we used e-mail when we needed to assign a task to other staff. After CRM had been introduced, the Non-Motor Claims department preferred to use the Phone Call and Case Management module in the CRM system. The Non-Motor Claims department sent an e-mail to all business units to ask for cooperation in using the Phone Call and Case Management module to assign tasks to the department. A minor conflict occurred among business units. For example, there were questions from other business units. Was it organisational policy? Who ordered this change? (BI11)*

> *Conflict occurred among users across business units. It was a communication conflict. For example, the conflict occurred because of using the Phone Call and Case Management module. Some users were unaware that they had to use case management to send/receive cases from other business units. If users from different departments told them that they had to use the Phone Call and Case Management module, they questioned why they needed to be told to do this by someone who wasn't their boss. As a result, conflicts among users occurred during the change process. (BI10)*

7.3.2 Effect on work performance

Effect on work performance was considered as another consequence that occurred after CRM implementation. A participant explained that the CRM system affected her work performance in terms of *inadequate training*, l*ack of fluency in using the CRM system*, and *the struggle with workflow*. The situation of *inadequate training* and *the complexity of CRM system* could be considered as a critical event which led to the development of a gap between actor-task components.

> *The work process in the CRM system was complicated. Additionally, training was inadequate. Furthermore, IT support staff were inadequate as well. At the initial stage of CRM usage, users faced issues such as not being fluent in using the system. As a result, the work processes were stopped and it was not possible to move to the next processes. (BI03)*

The result of using the CRM system definitely affected work performance. The nature of contact centre tasks was to avoid abandoning call as much as possible. IT support officers explained that the CRM system had affected the work performance of contact centre staff as well as their key performance indicators (KPI). The contact centre team used KPIs to measure their performance. The key indicators to measure performance were related to the number of calls and response rates, the amount of time spent on each call, the number of abandoned calls, and the quality of service.

> *In the contact centre they needed only four clicks to complete their task after receiving information on car accidents. They counted by clicks in the Contact Centre department. After CRM adoption, they needed 10*

> *clicks to complete their tasks. They are trying to reduce the working steps in the CRM system to seven clicks. (BI09)*

> *In the Contact Centre department, KPIs measure staff performance. Users have informed us that adopting the CRM system has affected their KPIs. It increases their abandoned calls and talk time. (BI10)*

A management staff member also mentioned that the CRM system had affected users' work performance regarding the amount of time needed to record customer information. The critical event of the new requirement to input customer information into the CRM system led to an increase in abandoned calls. The IT department attempted to find a solution to reduce working time. Finally, the IT department agreed that the tasks for each call should take no more than 30 seconds.

> *At the initial post-adoption stage of the CRM system, it had a huge effect on our work performance. It increased calls to one minute. If I received 60 calls, it would waste an hour per day. I raised the issue with the IT department that it was wasting our human resources and customers needed to finish calls earlier. The IT staff came up with the solution of finishing the task within 30 seconds by reducing unnecessary steps. The CRM system has benefits for the organisation. Therefore, I agreed with 30 seconds. (BI18)*

The post-adoption period of CRM implementation affected the coordination between team members and department members. The organisation implement the CRM system in each department at different times, which meant that case management was assigned to different departments.

> *The CRM system was initially implemented in three business areas (Motor Claims, Non-Motor Claims, and the Personal Line Unit). These business units contacted retail customers directly. Later on, the CRM system was implemented in other business units. When I sent case management to other business units, they did not have a responsible person. No one opened the assigned case. It was not fully dealt with. It affected our work. We did not know which business units or staff were using the CRM system. During the change process, not all users fully*

> *used the CRM system. Some users lacked enough experience to use the system. They used the previous system. (BI13)*

Another low-level code which also affected work performance was related to *incomplete integration and double keying information into two systems*. Management from different departments such as the Motor Claims department and the Financial Business Unit described that there was a need to double key information into two systems at the initial post-adoption stage. However, this was a temporary issue and was later resolved. The critical event of incomplete integration affected communications and workflow in the organisation. Additionally, this event also affected users' adaptation behaviours which led users to respond with avoidance or resistance behaviour.

> *At the initial stage of CRM implementation, the BKI app and the CRM system were not fully integrated. We had to double input customer information into two systems. Now, these two systems are integrated. This issue is solved now. (BI17)*

> *At the initial stage of CRM adoption, information in the CRM system did not integrate with information in the e-Surveyor application. When I keyed information into the CRM system, the information was not displayed in the e-Surveyor application. We informed IT support staff that we would not do double work. (BI15)*

> *Once we opened the BKI app, the information did not show in the system. We needed to re-key information again. (BI16)*

To conclude, the pattern codes of **changing structure of work**, and **consequences of CRM implementation** emerged from the interview data as part of the study of organisational changes after CRM implementation in the organisation.

7.4 Pattern Code: Adaptation Behaviours

The pattern code **adaptation behaviours** includes four interpretive codes ***(resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviour)*****. Adaptation behaviours** describe the way that users adapted to new CRM implementation. Users responded with four different adaptation behaviours based on factors that affected them at a particular time.

Table 7.3 Coding Construction of Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
unwilling to change work routines and work practices, refused use, individual system attachment, unfamiliar with the system, too many functions	Resistance behaviour	Adaptation behaviours
minimal usage, incomplete input data, used only preferred module, parallel use of preferable systems or tools, preferred to use the existing systems to deal with an important task, ignored unnecessary features	Avoidance behaviour	
learning by repetition, learning effort, acceptance and open minded, difficult to use, complicated features, repeated use	Adaptation effort behaviour	
willing to adapt, preferred to use, impression and pride, perceived benefits of the system, received compliments from work colleagues and customers	Self-satisfaction adaptation behaviour	

7.4.1.1 Resistance behaviour

Resistance behaviour, in this case, was revealed in different ways such as *unfamiliarity with the system, preference to use the previous systems, unwilling to change work routines and work practices,* and *refusal to use the new system.* A manager described users' initial resistance toward new CRM implementation:

> *Users lacked the skills to use the system. As a result, users resisted using the new system. (BI17)*

At the initial stage of post-adoption, some users refused to use the CRM system at all. Individuals preferred to use the previous work systems to accomplish their work tasks instead.

> *Some users decided to access the BKI app directly. (BI14)*

> *At the initial stage of post-adoption, users resisted using the CRM system. Users felt that they needed to input customer information in the e-Surveyor app. Why did they need to input information into the CRM system? (BI09)*

When the CRM system was implemented in the organisation, some users resisted adapting to it. They would not use the CRM system because of a lack of knowledge and unfamiliarity with the system.

> *We had several systems to work with on a daily basis. If we were not familiar with the system, we would not use it. (BI16)*

Individual system attachment was identified as one of the ***resistance behaviours***. Users preferred to use existing in-house systems rather than the standard enterprise package system because existing systems exactly matched with their work processes. Individuals were unwilling to change their work routines and work practices. They believed that they could finish their work tasks without using the CRM system.

> *Users preferred to use the previous system because of ease of use. Users resisted using the CRM system. (BI14)*

> *I accepted that the CRM system was a useful tool. Nonetheless, I preferred to use the previous system because I could complete my tasks faster than using the CRM system. (BI03)*

> *Generally, users would not accept the new technology because it affected their previous tasks. Some users still prefer to use the previous system. (BI06)*

To conclude, ***resistance behaviour*** was shown as a pattern of behaviour in which individuals were unwilling to change and adapt to the new CRM system. Individuals preferred to use their previous work systems to accomplish work tasks. Sometimes,

individuals felt unfamiliar with features and lacked the knowledge to use the CRM system. Individuals were unwilling to change their work routines and work practices.

7.4.1.2 Avoidance behaviour

Avoidance behaviour, in this case, was revealed in different ways, such as *incomplete data input, use of only the preferred module, parallel use with preferred systems or tools*, and *ignoring unnecessary features*. Management staff described that some users were not fully using the CRM system and that some users were not completely inputting customer data into the system.

> *Some users avoid using the CRM system by inputting only two out of 10 customer information cases. This means that they avoid it using for some cases. (BI13)*

> *From my personal point of view, I prefer to use only useful modules such as the Renewal module. (BI02)*

One participant explained that her adaptive behaviour toward new the CRM system in a work setting was to not fully use all the provided features. She used only the main function or a few features to accomplish her work tasks. However, users were able to view in-depth information for individual customers or use other functions in the CRM system to perform analysis or support their work.

> *The CRM system is a very supportive system. However, users don't access the CRM system to view further customer information such as calling statistics or in-depth customer information. (BI06)*

Some users avoided using the function of inputting or updating customer information. Some users ignored unnecessary features in the CRM system. IT managers described that:

> *The Motor Claims department receives a number of phone calls. Users don't have time to input customer information into the CRM system. They avoid inputting customer information by closing that pop-up window with customer information. (BI11)*

> *I rarely use the phone call module. My work activity is unsuitable for using the phone call module. It is only suitable for the Contact Centre department. I am a sales person. The CRM system interrupts my current work. For example, I work on quoting prices. When customers call me,*

> *it automatically opens a pop-up window and I must search for customer information or key information into the CRM system. (BI08)*

In this organisation, each department commenced using the Phone Call and Case Management module at a different time. Some users preferred to submit cases to responsible persons, while other users ignored the cases and did not open them. Instead, they preferred to work in parallel with the CRM system by using their preferred tools or systems such as the Outlook application.

> *We can choose to send an e-mail to a responsible person instead of creating a new case. We can accept a case from other business units. However, we don't like using case management to assign cases to other business units. We choose the easy and quick way by using e-mail. (BI07)*

Similarly, some users used existing systems or tools to deal with important tasks in parallel with the CRM system. For example, the Renewal module in the CRM system could be replaced by using the previous system. Nonetheless, the Renewal module in the CRM system had the benefit of being able to manage several renewal notices. However, some users did not perceive the benefits of the CRM system and they tended to avoid using it.

> *Users can use the BKI app to manage renewal tasks instead of using the CRM system. Renewal and issuance of insurance claims are important tasks. It is impossible to complete these tasks without using the BKI app. (BI01)*

> *We did not fully use the CRM system because we are able to choose our work system. I am in the Broker Business Unit. Every morning, I open Microsoft Outlook and the BKI app. I can complete my tasks without using the CRM system. (BI07)*

7.4.1.3 Adaptation effort behaviour

Adaptation effort behaviour, in this case, was revealed in different ways such as *learning by repetition, learning efforts, and repeated use*. Some individual users in this organisation perceived the CRM system to be a complicated system; that is, it had complicated features and was difficult to use. Participants explained that the complexity

of the CRM system encouraged them to learn more through repeated use. She put effort into learning about the new CRM system and learned by repetition:

> *I needed to attend a training session. The user manual was too difficult to understand or to follow the instructions when I was using the system in the daily work routine. The CRM system was a difficult system. I needed time to practise more. I attempted to learn to use the CRM system. (BI03)*

> *The CRM system was difficult to use. After I had received training from IT support staff, I understood more. I needed several rounds of trainings and practices. I needed to practise again and again. (BI03)*

Some participants attempted to find a suitable way to understand the functions and workflow of the new CRM system. The participant quoted below supported the low-level codes of *learning effort and repeated use*:

> *At the initial stage of post-adoption, I tried to remember the contents of the training manual. After that, I realised that the memory technique was unsuitable for me. I changed to trying to understand each function and each menu instead. As a result, I was able to understand the workflow of the system. (BI04)*

> *Actually, my task was to assign tasks to my staff. I needed to learn the CRM system first before assigning tasks to my staff. I used the system every day to get used to the process of the system. (BI06)*

Another participant stated that he put effort into learning the new CRM systems. The participant described the low-level codes of *acceptance and learning efforts* relating to system usage.

> *I accepted the new CRM system. I thought that the Renewal module might be useful. However, there were a lot of functions that I had to learn. I had a good perception of the new CRM system and I attempted to learn to use it. (BI02)*

7.4.1.4 Self-satisfaction adaptation behaviour

Self-satisfaction adaptation behaviour, in this case, was revealed in different ways such as *willingness to adapt* and *preference to use*. Below are descriptions of a user's impressions and pride in using the CRM system. A participant described her perception of the system by comparing its use in famous organisations in Thailand. Those organisations had all implemented the CRM system in Contact Centre departments and had a famous reputation regarding successful CRM implementation.

> *After CRM adoption, I felt proud that my organisation got upgraded to become a professional organisation. We use a professional system – the CRM system. Large organisations such as KFC also use the CRM system. From another aspect, when customers call us, they felt satisfied with our services because we greet them with their names. (BI05)*

She also added that she preferred to use the CRM system because of compliments from customers and work colleagues. She received compliments based on her knowledge of the CRM system and her helpfulness.

> *I receive compliments from customers and work colleagues. I receive compliments from work colleagues because I taught them how to use the CRM system. These compliments make me feel happy. (BI05)*

> *The CRM system allows me time to talk informally with customers. Customers may feel stressed because of a car accident. Before, we had to ask them a lot of questions and they weren't happy about that. Sometimes I asked them so quickly that they felt really unhappy. The CRM system gives us basic information about customers. Customers feel relaxed and impressed with our services. (BI05)*

Some participants preferred to use CRM system based on the perceived benefits of the system such as being able to recognise customers and because the system was more systematic and more efficient. Contact centre officers explained that the CRM system had been integrated with the IP phone system. The CRM system displayed customers' telephone numbers and names as well as customer information.

> *Customers are impressed because we recognise them. When we ask for their information, they try to find the information for us. It's better than when we didn't know any information. (BI05)*

> *I am impressed with the Renewal module in the CRM system. It helps me to finish my tasks more quickly than the previous system. In the previous system, I tried to call all of my agents or I sent SMS to remind them. It reminded them but only in a general way. For example, I would tell them that they had five insurance policies that were due to expire in November. In contrast, the CRM system allows us to send an e-mail to remind them again. (BI02)*

> *Previously, I verbally informed my boss about visiting customers. Nowadays, we record visit plan information into the CRM system. It is a very good system. When I am on leave, other staff can continue my work. It is very useful. (BI03)*

Users felt satisfied using the Phone Call and Case Management module. They described he low-level code of *perceiving the benefits of the system*, which encouraged them to use the system.

> *Previously, I assigned tasks to my staff. I could not remember all the tasks. Since using the CRM system, I always record the tasks into the CRM system instead of using paper. (BI06)*

> *I feel comfortable and relieved to use the case management module. All information is recorded in the system. When I assign tasks to other people, I am able to track records. Previously, I always reminded staff to do work. Since using the CRM system, other staff cannot say that they did not receive cases. (BI01)*

7.5 Pattern Code: Factors Influencing Adaptation Behaviours

The pattern code of **factors influencing adaptation behaviours** includes four interpretive codes ***(individual characteristics, attitudes and users' perception, task-technology constraints, organisational policy and support,*** and ***social influence)***. Factors influencing adaptation behaviours were those that influenced individuals' adaptation at the post-adoption stage of implementation.

Table 7.4 Coding Construction of Factors Influencing Adaptation Behaviours Pattern Code

Low-level codes	Interpretive codes	Pattern codes
Individual characteristics and attitudes *(positive attitudes, negative attitudes, users' ages)* Users' perception *(complex system, information sharing, perceived benefits [shortened work processes, reminder tool, customer recognition, improved quality of services, accessible anytime anywhere, more systematic, more efficient])*	Individual characteristics, attitudes, and users' perception	Factors influencing adaptation behaviours
incomplete integration between two systems, system overload, workload, time and human resource limitations, the organisational rule associated with time limitation to finish tasks, different implementation periods in different business units	Task-technology constraints	
Organisational policy *(mandatory use, forms of the mandate, tactics of motivating users, staged process implementation, policy to improve customer services)* Organisational support *(procedural software training, user manual, small group training session)*	Organisational policy and support	

Low-level codes	Interpretive codes	Pattern codes
Motivation from management *(convinced and motivated users, management support, coordinated between staff and IT support)* Motivation from work colleagues *(shared knowledge and experience regarding CRM usage)* Motivation from IT support team *(very supportive, enthusiastic helpful)*	Social influence	Factors influencing adaptation behaviours

Individual characteristics and the attitude factor include the low-level codes of *attitude* and *age*. Users' perception factor is made up of several low-level codes that include p*erceived benefits* and *a complex system*, among others. The ***organisational policy and support factor*** includes the low-level codes of *the form of mandate* and *training*, among others. The ***task-technology constraints factor*** includes the low-level codes of *workload, time and human resource limitations, incomplete integration,* and *different implementation periods in different business units*. CRM implementation was an organisational policy that came from the top management level. Top management introduced different forms of mandates to motivate users to use the CRM system. Another factor, social influence, took the form of motivation from management, work colleagues, and IT support for individual users.

7.5.1.1 Individual characteristics, attitudes, and users' perception

Individual characteristics, attitudes, and users' perception are factors that influenced adaptation behaviours relating to the new CRM system.

It was just an attitude at the beginning when we adopted something new. Once we used the system for a while, it became part of our work. (BI01)

> *We needed to learn a lot. We had different points of view. If we asked them to learn, it was difficult for some people. (BI04)*

> *It depended on personal attitude. We needed to think positively. If we had a bad attitude toward the new CRM system, it would take us a long time to learn the system instead of learning in only two weeks. We need to have a good attitude toward the CRM system. We must use it every day. It has become part of our life. (BI04)*

A motor-claim contact centre team leader described the low-level code of *users' attitudes* toward the new CRM system. He described that all of his staff had a good attitude to the new changes:

> *Most staff in this organisation had a good attitude. We trained them well to think positively. We also trained them to work as a team. They did not have any issues in adapting to the new CRM system. (BI18)*

One participant explained that she had a positive attitude toward the new CRM system. She was able to accept new changes in her work routines:

> *I got used to these kinds of changes before I joined this organisation. I did not have a bad attitude toward changes. I tried to learn and adapt to the new CRM system. (BI04)*

Another low-level code is *age*. In the BI organisation, there was variety of ages. Most of the young generation had technology experience and were able to adapt to new technology more quickly than older users. Most older users preferred to use simple applications such as Microsoft Word and Excel. Some were not willing to learn new technology such as the complex CRM system.

> *Users from different generations were really different. It was very difficult to force them to change. (BI04)*

> *Older staff must learn more. For example, the organisation asks employees to log into the CRM system when they visit customers by using an iPad. Staff who are aged between 50 and 60 needed to learn how to use technology. The organisation has implemented new technology; all staff must adapt to using this new technology. (BI18)*

Users' perception of new technology, in particular the benefits of the CRM system, affected their adaptation behaviours. There were individual benefits and organisational benefits. Some participants perceived benefits in the CRM system and preferred to use the CRM system in order to maximise its benefits. As part of its benefits, participants stated that the CRM system could be used to reduce paper and maintain records:

> *The CRM system helps to reduce paperwork. I use the computer and access the system to complete work tasks. I still use paper to do work but less so. Previously, my work tasks were paper-based. The CRM system is a very useful system. (BI04)*

> *The Renewal module in CRM system helps me to manage my tasks easily. My work process has decreased. I am able to view all of the records easily. (BI04)*

Another user also confirmed the benefit of the CRM system in terms of being paperless and convenient:

> *We record information into the CRM system instead of using paper. We don't not need to carry heavy insurance policy papers. (BI18)*

Another benefit was related to saving time in generating reports and the convenience of downloading reports. Previously, underwriter officers had to collect all customer data by asking IT support staff to export the required data in Excel files.

> *The CRM system supports the IT department by saving time in generating reports for us. Previously, I asked for data from the IT department and they provided it in Excel format. I needed to use the filter function to filter for the required data. (BI03)*

> *In the previous system, we asked for data from other departments. Now, the CRM system is able to generate a report for us. My boss is able to view different kinds of reports. (BI04)*

Another low-level code was *the perception of the CRM system as a complex system*. A management staff member from the Motor-Claim department explained that the complex system affected their adaptation behaviours and that it created a complex workflow with an incompatible platform in terms of accessing the CRM system:

> *The introduction of the CRM system means that our work process has become a complex process. For example, we use the Window platform to access the CRM system. However, the organisation has provided us with iPads, which use a different platform, to access the CRM system when we visit customers. We need to use a web browser to access the system. We must save the URL link in our bookmark. Another complex thing is related to uploading documents to the iPad. I have to send documents to my e-mail address first before downloading the documents to the iPad. (BI18)*

Another user also confirmed the complex workflow in the CRM system:

> *Workflow in the CRM system is complex. For example, if I need to assign tasks to my staff, I have to go to several menus until finishing the whole process. I need time to adapt to the new system. (BI04)*

An IT support worker explained that users perceived the CRM system as a complex system which affected their adaptation behaviours:

> *The CRM system is a package software. The workflow is very complicated. Users must access several menus to complete the workflow. Users initially felt confused by the whole process. Some users put effort into learning the CRM system at the initial stage of post-adoption. (BI09)*

7.5.1.2 Task-technology constraints

The ***task-technology constraints*** that emerged from the interview data include *workload, time and human resource limitations, incomplete integration,* and *different implementation periods in different business units.* A management staff member described her initial resistance toward the CRM system in terms of the low-level code of *workload* in their working environment in the contact centre team:

> *Our work process is very complicated. Previously we used two monitors to work on two systems – the BKI app and the e-Surveyor app. We used only these two systems. I feel that our task is very loaded. Now, we must use one more system. (BI15)*

An IT support worker described the response of users in the contact centre team under the Motor Claims department concerning additional work, as well as the fact that there were too many functions provided in the CRM system:

> *We received a lot of phone calls from users relating to CRM usage. Users complained that there were several menus in the CRM system. They asked us to remove unnecessary menus. Users resisted using the system. (BI09)*

Time limitation is a low-level code under ***task-technology constraints*** which affected adaptation behaviours. A management staff member from the Motor Claims department explained that his staff skipped some functions because of time limitations. He felt that if users used every function in the CRM system, it would affect customer services:

> *Some users skip inputting customer inquiries or updating customer information. I know that they have a good reason in terms of time limitations to respond to customers' needs. We worry that customers might be compliant if they have to wait for a long time. (BI17)*

In terms of human resource limitation, one of team leaders in the contact centre team described that she focused mainly on answering customers' phone calls as much as possible. She pointed out that sometimes they had to use the system as minimally as possible in order to complete their work on time. She also mentioned that management was concerned about the human resource limitation issue. Management later decided to hire more contact centre staff.

> *We faced an issue in the number of the upcoming calls. We had inadequate staff at that time. We needed to use the CRM system, but we faced this issue. The number of staff later increased from 30 staff members to 56 staff members. (BI15)*

The *incomplete integration* between the two systems of the CRM system and BKI app was identified as a low-level code under the ***task-technology constraints factor***. At the initial stage of post-adoption, users had to put customer information into two systems because the two systems were not fully integrated. Later on, the IT department solved this problem.

> *Some users resisted using the CRM system sometimes. The reason was related to the slow integration between the CRM system and the BKI app. Another reason was about the slow process in terms of transferring information from the CRM system to the BKI app. Some users decided to access the BKI app directly. (BI14)*

A management staff member from the Motor-Claims department also described a similar concept in terms of incomplete integration. Users had to key customer information into both the e-Surveyor and the CRM system because the data from the CRM system was not automatically transferred to e-Surveyor:

> *During the post-adoption stage, it was not a good period to adopt a new system because of the workload at that time. Users complained that it increased their work process. I agreed with them. At that time, we needed to double key information into two systems because the two systems were not fully integrated. (BI17)*

Another low-level code is called *different implementation periods in different business units*. Each department in the organisation started using the CRM system at a different time. Some users submitted cases to other departments. Some users chose not to open cases and resolve the issues. This is another reason why users avoided using some functions. The critical event of different implementation periods in different business units led to misunderstanding among users.

> *We faced an issue of different implementation periods in different business units during the implementation process. For example, top management had the policy that staff in the Motor Claims and Non-Motor Claims departments should fully use the CRM system. However, some departments did not fully use it. If users created a case and sent the case to responsible persons, who were not ready to use it, it created conflict among business units. (BI01)*

7.5.1.3 Organisational policy and support

At the early stage of post adoption, the policy of top management was that middle managers were to convince their staff to use the CRM system as part of their work routines. They allowed users to adapt slowly to the new CRM system. Some users

explained that the organisation staged process implementation in each department to prevent a big impact on users and the entire organisation's work processes.

> *The CRM system was implemented by phases. Our organisation is a large insurance business organisation. We needed to apply staged process implementation to avoid impacting the whole organisation. I preferred the staged process implementation because users could take their time to adapt to the new CRM system. (BI04)*

> *The organisation allowed users to adapt slowly to the new system. The organisation did not completely cancel the previous system. If some users understood how to use the system, they started to use the system first and also helped their work colleagues as well. Once all users were able to use the CRM system, the organisation planned to cancel the previous system. (BI05)*

A management staff member also mentioned that users were allowed to slowly adapt to the new CRM system:

> *We allowed users to adapt slowly to the new CRM system. All users used the Visit Plan module. We implemented the Renewal module in May, after the Visit Plan module. We advertised and motivated users to use the Renewal module. However, some users did not completely understand how to use it. Therefore, IT support staff trained them in small groups in order for training sessions to be effective. (BI12)*

Management also set up different forms of mandate depending on business units and tasks associated with CRM usage.

> *At the initial stage of post-adoption, we asked for cooperation to use the CRM system. We did not force anyone to use it 100 percent. We seriously motivated users to use the CRM system in the third quarter. We asked users to use the CRM system completely. The implementation of the Visit Plan and Renewal modules were completed. We planned that we would completely use all modules at the end of the year. (BI12)*

At the initial stage of post-adoption, some business units were not forced to use the CRM system to complete their work tasks. They were able to choose existing systems or to use only preferable modules. Users from Personal Lines Business Unit and Agent Business Unit stated that,

> *At the initial stage, we could access the BKI app directly if we did not want to record information in the CRM system. (BI05)*

> *We still used previous systems. From my point of view, we could choose what system we preferred to use. If we did not input information into the CRM system, we could still complete our tasks. It was not necessary to use the CRM system with other systems. It was just a channel that we could choose to use. (BI02)*

A team leader from the Motor Claims department also stated that,

> *We focused on completing work tasks. The organisation could not force us to complete tasks in the CRM system before accessing other systems. If the CRM system had failed, we could not complete our tasks. The customer could not wait for us. They did not care what system we used. (BI15)*

Later on, the form of mandate was changed by introducing a different tactic. Top management took action to change tactic after realising that soft force was inadequate. Top management monitored the CRM usage reports of each business unit through the IT team. The reports showed a summary of CRM usage by each user from each business unit. Top management also asked middle managers or team leaders to motivate their staff to use the CRM system. Management staff from the Commercial Line Business Unit explained that,

> *We did not use punishment if users did not use the CRM system. We just asked for serious cooperation in using the system. Now middle managers or team leaders have the responsibility of motivating and monitoring their staff by using their own techniques. (BI12)*

> *There were reports from the IT department relating to CRM usage. IT staff generated reports and sent them to top management of each business unit. If the usage was low, top management would call a*

> *middle manager to explain the reason. Therefore, we need to motivate our staff to use the CRM system. (BI12)*

Users also perceived that management often monitored the CRM usage reports:

> *Recently, top management policy is that we use the Renewal module in the CRM system. Top management checks the CRM usage report of each business unit. (BI08)*

Top management also introduced another tactic with the policy that middle management were to force their own staff to use the CRM system. An IT support staff member explained this policy from top management:

> *We seriously used the CRM system for a couple of months. Top management policy was that middle managers were to force users to use the system. (BI10)*

Users also described how middle management and top management monitored their CRM usage reports:

> *The CRM system is able to display user reports. My boss is able to see all the details of my work performance. (BI04)*

> *My boss informed all users that she is able to see the CRM usage report of each user. She has to create summary report to present to top management as well. (BI03)*

The final form of mandate was that CRM system usage was completely mandatory. During the data collection period, users in some departments, who had contact with retail customers, were forced to use the CRM system. These users included the contact centre team in the Motor Claims department and the Personal Lines Business Unit. The BKI app and e-Surveyor app were locked. Users were not allowed to access these system directly. Users had to finish tasks in the CRM system and then click the icon to access other systems.

Nonetheless, some departments and business units allowed users to access the BKI app without accessing the CRM system. The reason was that the organisation was in the process of changing to the new system. Therefore, top management did not want to completely force users from all departments and business units to access the CRM system

first before accessing other systems. Such force could have affected customer services and organisational performance. Top management from the Motor Claims department stated that,

> *Last month, the organisation had a policy of forcing users to use the CRM system. Now, it has become part of our work process. (BI17)*

Some users also confirmed that they had been forced to use the CRM system:

> *Nowadays, all users must use the CRM system. If you do not access the CRM system, you cannot complete your work tasks. (BI06)*

> *Recently, the organisation announces a deadline of access to the previous system. All users must access the CRM system first before information is transferred to another system. (BI03)*

In terms of *organisational support*, the organisation provided customised training sessions related to software that was suited to work processes. The training session was called 'procedural software training'. The organisation provided a training session to all users who were involved with the CRM system. IT support staff described that the organisation had three training sessions (IT training, super-user training, and end-user training). At the implementation stage, all training sessions were provided by the vendor.

> *We divided training into three sessions. Firstly, we received training from the vendor for the IT team. In the second session, the vendor trained super users. In the last session, they trained end users. (BI09)*

Later on, the IT team trained end users if they requested group training.

> *If we needed to have a training session, we could ask IT support staff to do small group training (approximate five users). (BI02)*

Users perceived that the procedural software training session was a useful support to learn how to use the system. They learned how to use features on a regular basis to accomplish their work processes.

> *Training was useful because we could share knowledge, experience, and information among users. We adapted to using some features in my work as well. (BI04)*

If the organisation hadn't provided us with a training session, we could not have used the system as part of our work process. (BI06)

7.5.1.4 Social influence

The ***social influence factor*** affected adaptation behaviours by encouraging users to use the new system. Management staff convinced and motivated users to use the new CRM system. Management officers accepted policy about mandatory use from top management. Therefore, management officers attempted to motivate their staff to use the CRM system regularly.

I always print CRM usage reports out to monitor my staff and also send them to my staff. They should know their performance so that they can adapt themselves. I always talk to them and motivate them to use the CRM system (BI18)

I always monitor my staff. I send CRM usage reports to them via e-mail. The reports show a summary of monthly usage in my team. They can compare their performance with their work colleagues. My staff understand what they need to do. If my staff are not fluent in using the system, I can ask IT support staff to train them. (BI15)

Work colleagues also assisted and motivated users to use the CRM system. A participant explained that sharing experience among users was very supportive.

I saw that other business units were able to use the system. Therefore, I can use it as well. (BI04)

We can share experiences among users. Why did you get high score relating to CRM usage? I compare my CRM usage report with other users to share experience and ask for their suggestions. (BI05)

Most participants felt really impressed with the IT support team.

IT support staff are really helpful. They provide techniques to finish tasks quickly. IT support staff come and support us sometimes as well. (BI04)

If I have an issue relating to CRM usage, I don't need to use it at all. After I have discussed my issues with IT support staff, they show their

enthusiasm in assisting me. They come to my table and train me in a one-on-one session. I feel that I am not alone. (BI05)

7.6 Theoretical Models

This section begins with the presentation of a theoretical model of organisational change. The critical events leading to the development of gaps between four socio-technical components are discussed. Next, a theoretical model of individual adaptation, which is built from the pattern codes of adaptation behaviours and factors influencing adaptation behaviours, is presented and discussed. Finally, a multi-level theoretical model is presented to understand the multi-level changes associated with new CRM implementation in an organisational context.

7.6.1 Theoretical model of organisational change

The theoretical model of organisational change presented in this section is different from the previous chapters (Chapter 5 and 6). The theoretical models of organisational change in this chapter is presented according to similar module usage in different departments or business units instead of presenting it individually for each department. There were two different work practices – that of the contact centre, and that of the account executive (AE) and underwriter staff. In the first theoretical model, the organisation had contact centres in three business units: the motor claims contact centre, the non-motor claims contact centre, and the Personal Line Business Unit. All three contact centre units used the Phone Call and Case Management module. The second theoretical model represents the work practices of the account executive (AE) and the underwriter staff. AE staff and underwriter staff used the Phone Call and Case Management module, the Visit Plan module, and the Renewal module.

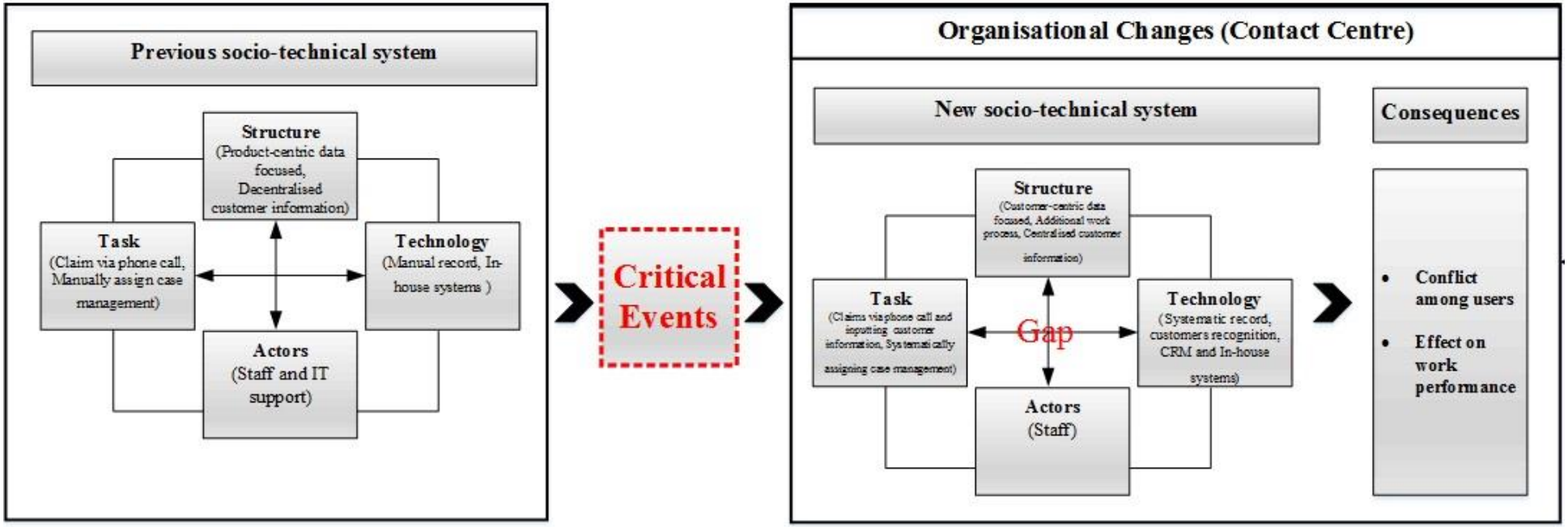

Figure 7.2 Organisational change model in contact centre of Motor Claim, Non-Motor Claim departments, and Personal Line Business Unit [12]

[12] There were eight low-level codes under the ***effect on work performance*** interpretive code: *struggle with workflow*, *not fluent in using the system*, *incomplete integration*, *increased number of abandoned calls*, *effect on KPIs*, *input customer information*, *time-consuming to input customer information*, and *double key information into two systems*.

As seen in Figure 7.2, the socio-technical system changed in the contact centre including tasks *(claims via phone call and inputting customer information, systematically assigning case management),* structure *(customer-centric data focus, additional work process, centralised customer information),* technology *(systematic record, customer recognition, CRM and in-house systems),* and actors *(staff).*

The organisation installed the CRM system in the entire organisation. The main purpose was to improve customer services by centralising customer information and focusing on customer-centric data. Data in the CRM system was integrated with existing systems including the BKI app and the e-Surveyor app

Previously, users focused only on completing tasks on time and on their KPI. Contact centre officers had a responsibility to claim insurance by using the phone channel. When the case needed to pass to other responsible persons, contact centre officers sent a note or an e-mail to those persons without recording this in the system. As a result, they could not track records in the system. Furthermore, customers did not feel satisfied with the services because of the slow process and poor communication among business units. After the CRM system was introduced, customer information was recorded into the CRM system. Contact centre officers used case management in the CRM system to assign tasks to responsible persons. Every transaction was recorded into the system.

In terms of structure, prior to CRM implementation, the organisation used the BKI application to view customer information and to generate insurance policies. Users had to access each product module to see different insurance policies. The data was a product-centric focus. After the CRM system was introduced, the system was able to show information by customer view. The organisation changed from a product-centric data focus to a customer-centric data focus. Additionally, the information in the CRM system was integrated with the BKI application. Users were able to click the icon in the CRM system to view further information about each insurance policy in the BKI application. Therefore, customer information became centralised information. As a result, the organisational system of workflow was changed according to CRM implementation.

For the technology component, the technology used in the contact centre was changed after CRM implementation. The CRM system was used to identify customers. Previously, contact centre officers identified customers by asking for identification numbers, such as driving licence or insurance policy number; however, it was difficult for customers to

prepare documents and difficult to find data in the system as well. After CRM implementation, the CRM system helped to identify customers through integration with the phone system and other in-house systems. In terms of the actors, after CRM implementation, the IT department's role was decreased in terms of information requests to create reports. It became possible to download reports from the CRM system. The work system in the Contact Centre department was therefore more efficient and more systematic.

Change in organisational form affected all components in the socio-technical system. Unexpected consequences occurred which extended Leavitt's socio-technical model (1964) in terms of understanding the various concerns that may occur after CRM implementation. There were two main consequences from CRM usage – namely, the effect on work performance and conflict among users. After the CRM system was adopted in the contact centre, it affected users' KPIs and work performance in that it was time-consuming to record customer information and there was an increase in abandoned calls. The organisational changes model for AE and underwriter staff is discussed in the next paragraph.

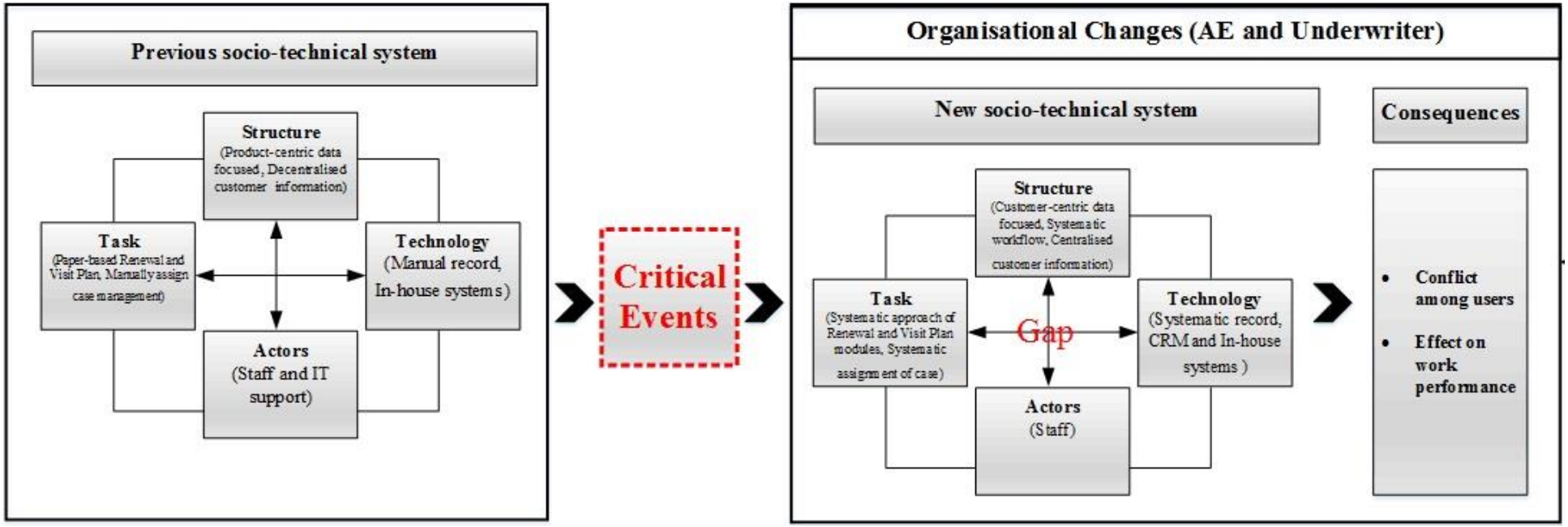

Figure 7.3 Organisational change model for AE and underwriter staff [13]

[13] There were five low-level codes under the ***effect on work performance*** interpretive code: *struggle with workflow*, *not fluent in using the system*, *incomplete integration*, *input customer information*, and *double key information into two systems*.

According to Figure 7.3, the socio-technical system changed work pratices for AE and underwriter staff. These changes included tasks *(systematic approach of Renewal and Visit Plan modules, systematic assignment of case management)*, structure *(customer-centric data focus, systematic workflow, centralised customer information)*, technology *(systematic records, CRM and in-house systems)*, and actors *(staff)*. AE and underwriter staff used the CRM system to substitute for paper-based visit plans, to systematically assign case management, and to replace the manual work of renewing insurance policies.

In terms of structure, CRM initiated technology-mediated workflow instead of manual workflow. The main purpose of the system was to systematically track records in terms of customer transactions and thereby improve customer service. Previously, the organisation's focus was product-centric instead of customer-centric. The nature of the shift from a product-centric to a customer-centric focus is explained in the model displayed in Figure 7.2 relating to the contact centre. The centralisation of customer information is also described in the model above.

In terms of the technology component, tools and information system infrastructure used in the organisation was modified after the introduction of the CRM system. The CRM system was integrated with the existing in-house systems (mainly the BKI application). As a result, AE and underwriter staff used the CRM system to systematically record customer inquiries and information into the system. They used the CRM system to replace paper-based visit plans and the renewal of insurance policies. Work activities and work processes were changed to allow the direct and systematic inputting of records into the CRM system instead of manually producing records. In terms of actors, users were able to obtain renewal data from the CRM system rather than asking for information from the IT department.

The change in organisational form meant changes in all components within the socio-technical system. Additional concepts emerged from the interview transcriptions of AE and underwriter staff which extended the work of Leavitt (1964) by adding consequences to the understanding of various concerns that may have occurred after CRM implementation. There were two main consequences from CRM usage, namely the effect on work performance and conflict among users. After the CRM system had been adopted by AE and underwriter staff, it affected their work performance when users were not fluently in using the system at the initial stage of post-adoption. As a result, users could not complete their tasks on time. Another consequence was conflict among users. Some

business units were unaware that they had to use the Phone Call and Case Management module in the CRM system. This led to misunderstanding and minor conflict among users.

7.6.1.1 Gaps between socio-technical components

Table 7.5 presents the gaps between socio-technical components that occurred during the post-adoption stage of the CRM system. There were six critical events in the BI organisation which led to the development of gaps between socio-technical components. The gap between task-actor components was driven by several critical events in this organisation. For example, a critical event was the new requirement to input customer information into the CRM system which led users to respond with resistance and avoidance behaviours because of the workload, human resource limitations, time limitations, and system interruption.

Another critical event was the new requirement to input customer information into the system which also generated a gap between task-structure components and led to an increase in abandoned calls and a negative effect on work performance. The critical event of different implementation periods of the Phone Call and Case Management module in different business units generated a gap between task-actor components which led to conflict among users. The critical event of a system that did not suit existing work practices also generated a gap between task-actor components which led users to respond with avoidance behaviour. Similarly, the critical event of inadequate training and the complexity of the CRM system generated a gap between actor-task components which led to an effect on work performance because users were struggling with some processes to accomplish work tasks.

Another critical event was the incomplete integration of CRM systems and existing systems at the initial stage of implementation. This generated a gap between structure-task and structure-actor components and led to time wasting in terms of staff double keying information to complete their work tasks. The response was avoidance or resistance behaviour. Lastly, the critical event of customisation limitations including workflow adjustment limitations and unfamiliarity with the terminology in the CRM system generated a gap between technology-structure components. This effected the structure of work because the CRM system did not fit well with the existing workflow. Also, this critical event generated a gap between technology-actor components which led to an effect on users' work routines.

Table 7.5 Relationships between Socio-technical Components (Adapted from Lyytinen & Newman, 2008)

Socio-technical component	Definition	Event	Gaps between components
Task	Task describes the goals, purpose, and the way in which the work gets done within the organisation. In this study, a task refers to individuals' responsibilities as part of their duties which need to be finished.	Users were required to input customer information into the CRM system.	***Task-Actor*** Users resisted or avoided inputting customer information because of workload, human resource limitations, time limitations, and system interruption. ***Task-Structure*** A number of staff were unable to complete their tasks at the initial stage of post-adoption. This led to an increase in abandoned calls and affected work performance.
		Different implementation periods of the Phone Call and Case Management module in different business units.	***Task-Actor*** Some users were unaware that they had to use the Phone Call and Case Management module in the CRM system. This critical event led to conflict amongst users.

Socio-technical component	Definition	Event	Gaps between components
Task		The CRM system was unsuitable for some users in terms of existing work practices.	***Task-Actor*** Some staff members responded with avoidance behaviour around the CRM system. Some users kept their use of some features at a minimum. For example, the Phone Call and Case Management module was unsuitable for the Agent Business Unit and the Broker Business Unit. These units contacted their agents or brokers directly. It was unnecessary to input customer information into the CRM system.
Actor	Actors include project participants and stakeholders who deliver the project. The actors may include vendors, IT officers, and system development, managers, and maintainers. In this study, actors include top management, managers, users, and IT officers.	Users were not fluent in using the CRM system because of inadequate training and the complexity of the CRM system.	***Actor-Task*** The critical event of inadequate training and the complexity of the CRM system affected work performance. Users did not know how to use some features. As a result, the work processes stopped and staff were unable to move to the next processes to accomplish work tasks.

Socio-technical component	Definition	Event	Gaps between components
Structure	The structure covers systems of communication, systems of authority, and systems of workflow. It also covers the behavioural dimension, for example, the patterns of behaviour as actors communicate, exercise authority, or work. In this study, structure describes structure of work, for example, the structure of workflow (e.g., additional work processes and systematic workflow), data management structure (e.g., decentralised and centralised customer information), organisational rules, and individuals' authorisation.	There was incomplete integration of the two systems at the initial stage of implementation. This affected communication and workflow. Users had to double key information into both systems.	***Structure-Task*** The provided structure of work did not support users to complete their tasks. Users wasted time in terms of double keying information to complete their work processes. ***Structure-Actor*** The issue of incomplete integration led to avoidance or resistance behaviour. Some users refused to access the CRM system and accessed the BKI application directly.

Socio-technical component	Definition	Event	Gaps between components
Technology	Technology includes software and hardware technology, tools, design methods, and ICT infrastructure. In this study, technology includes work systems, hardware and software technology, and ICT infrastructure which individuals use to accomplish their work tasks. The Concrete Technology in this study is the CRM system and existing systems that are integrated with the new CRM system.	Customisation of the enterprise package system had limitations in terms of meeting users' requirements. Furthermore, users were unfamiliar with the terminology in the CRM system.	***Technology-Structure*** The CRM system did not fit well with the existing workflow. ***Technology-Actor*** Some users were not familiar with the terminology in the CRM system which affected their work routines.

7.6.2 Theoretical model of individual adaptation

The model posits that four main **factors influenced adaptation behaviours** ***(individual characteristics, attitudes, and users' perception; task-technology constraints; organisational policy and support;*** and ***social influence)***. Adaptation behaviours can be changed depending on factors and situations that occur at a particular time. In terms of **adaptation behaviours**, in this case, there were four adaptation behaviours ***(resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviours).***

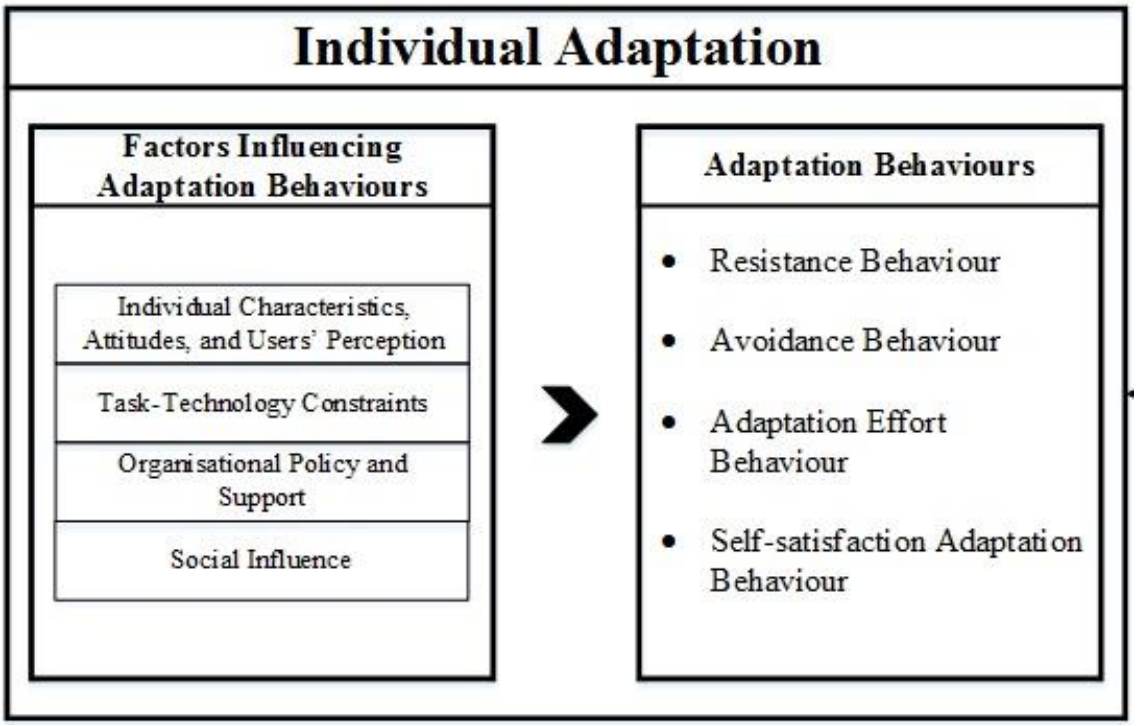

Figure 7.4 Individual adaptation model in the BI case

Factors influencing ***resistance behaviour*** included ***task-technology constraints*** and ***organisational policy***. Some users resisted using the CRM system because of s*ystem overload, workload,* and *the need to double key information into two systems*. Another factor was related to organisational policy. The new system was mandatory. Some users resisted the organisational policy of having to use the CRM system at the initial stage of CRM implementation.

Task-technology constraints and ***organisational policy*** were factors that led to ***avoidance behaviour***. The task-technology constraint factor included *workload, system overload, time and human resource limitations, and double keying information into two*

systems which led users to respond with avoidance behaviour. According to organisational policy, contact centre staff had to use the CRM system to identify customers and to record customer information into the CRM system before those data were transferred to another system (e-Surveyor app).

However, there was limited time and limited human resources. At the initial stage of adaptation to the CRM system, contact centre officers used only the required functions needed to identify customers and search for customer information rather than using all functions. Some users chose not to input customer information into the system. Some low-level codes of task-technology constraints such as workload and system overload resulted in some users responding with resistance or avoidance behaviour.

Another behaviour was ***adaptation effort behaviour***. The factor of ***users' perception*** and ***social influence*** affected adaptation effort behaviour. For example, some users perceived the new CRM system to be a *complex system*. They described that the complexity of the system encouraged them to learn more and to use the CRM system repeatedly. The social influence factor also impacted on adaptation effort behavior. For example, some users obtained support from management, work colleagues, and IT support. They tended to put effort into learning to use the CRM system.

Self-satisfaction adaptation behaviour was affected by u***sers' perception*** and ***social influence***. Some users perceived the CRM system to be a worldwide standard system and they felt impressed and proud to be using the system. Another low-level code was *perceived benefits*. For example, some participants preferred to use the CRM system because of its benefits, such as its systematic nature and efficiency and being able to recognise customers. Social influence also affected self-satisfaction adaptation behaviour in terms of receiving compliments from work colleagues.

7.6.3 Theoretical model of multi-level change

Figure 7.5 presents a theoretical model of multi-level change associated with CRM implementation in the BI organisation. The study used coping theory and a socio-technical perspective as a theoretical framework to examine multi-level changes associated with CRM implementations in organisations. All four pattern codes in this chapter addressed the main research questions as presented in Chapter 5.

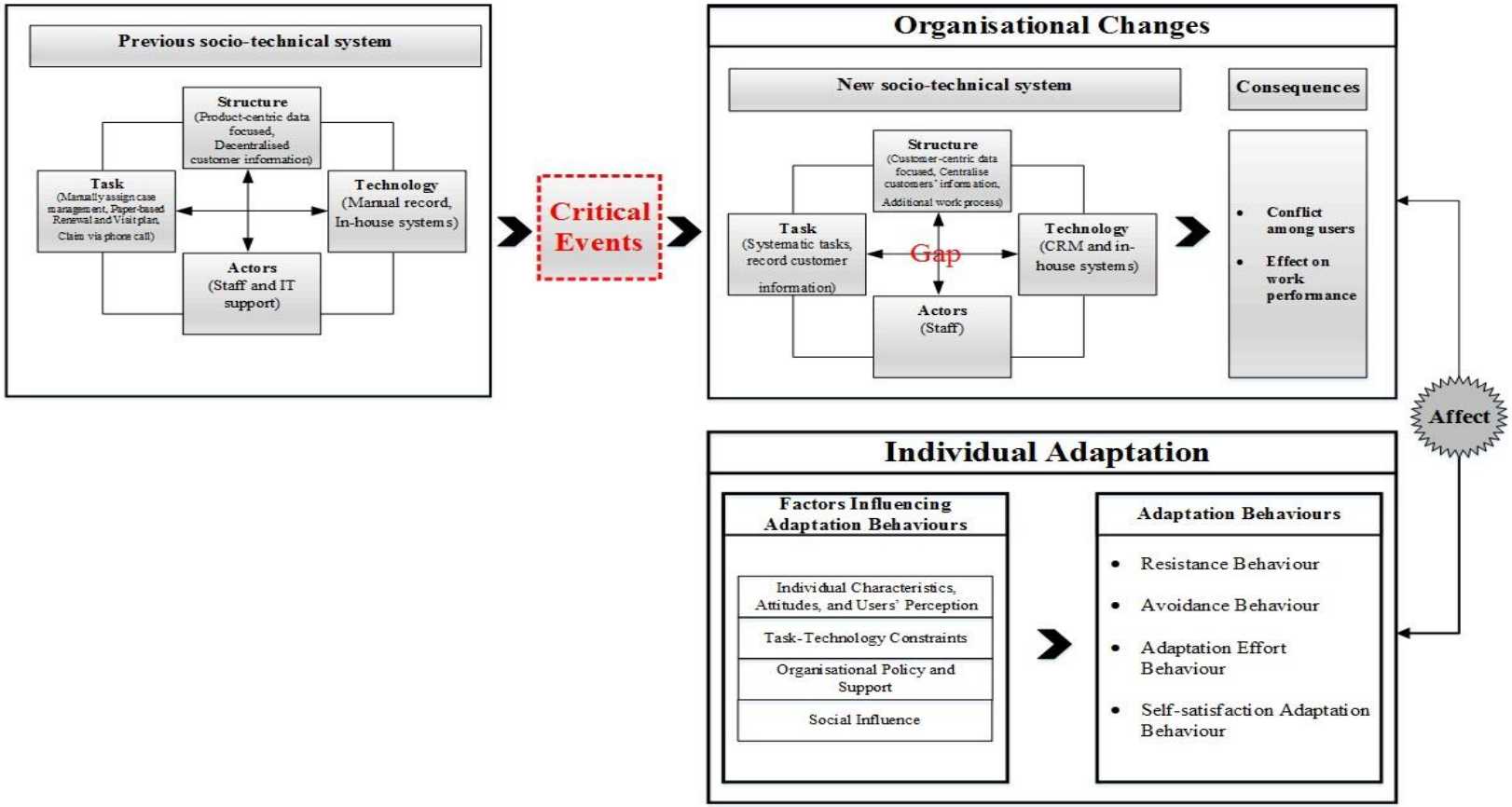

Figure 7.5 Theoretical model of multi-level change associated with CRM implementations in the BI case [14]

[14] There were eight low-level codes under the ***effect on work performance*** interpretive code: *struggle with workflow*, *not fluent in using the system*, *incomplete integration*, *increased number of abandoned calls*, *effect on KPIs*, *input customer information*, *time-consuming to input customer information*, and *double key information into two systems*.

The result showed that individual adaptation behaviours were interrelated with organisational changes. After CRM was implemented, a new socio-technical system developed in the organisation. All four socio-technical components (task, structure, actor, and technology) changed relating to the changing structure of work. In terms of individual adaptation behaviours, four adaptation behaviours emerged from the interview transcriptions. Both the individual level and organisational level of the organisation were interrelated. For example, the result of CRM implementation affected work performance in all business units. At the initial post-adoption stage of the CRM system, users were required to double key customer information into the CRM system and the BKI application or e-Surveyor application. As a result, users responded with resistance or avoidance behaviour.

7.7 Chapter Conclusion

In this chapter, four main pattern codes **(changing structure of work, consequences of CRM implementation, adaptation behaviours,** and **factors influencing adaptation behaviours)** emerged from interview data in the BI organisation. Each pattern code was derived from interpretive codes, low-level codes, and findings based on rich evidence from participants. In the analysis section, a theoretical model of multi-level theory was presented to examine organisational changes and individual adaptation in the post-adoption stage of CRM implementation. Cross-case analysis and discussion of all three organisations will be presented in the next chapter.

Chapter 8: Discussion

8.1 Introduction

The objective of this study was to build a multi-level theory relating to post-adoptive adaptation and organisational change following enterprise system implementation. In Chapters 5, 6, and 7, the within case analysis and findings were presented and discussed. In this chapter, a higher level of abstraction, built up from the interpretive codes and the pattern codes, is presented. The relationships among the pattern codes are elaborated. The findings from these three chapters and comparisons with the relevant literature are made to substantiate and strengthen the theory. The chapter begins with the discussion of pattern codes found in this study and the relationships among them. Thereafter, theoretical integration of the extant literature detailed in Chapter 2 is discussed.

8.2 Building the Theory

Based on the pattern codes from the analysis and findings chapters (Chapters 5, 6, and 7), this chapter introduces cross-case results at a higher level of abstraction in order to reveal the similarities and differences of pattern codes and interpretive codes across three cases. The relationship among the pattern codes is also discussed to investigate the link between individual adaptation and organisational change that occurs after enterprise system implementation in the organisational context.

The discussion in this chapter contributes to an understanding of how users adapt to new enterprise system implementation and how organisational changes unfold in the post-adoption stage of enterprise system implementation. The following subsection presents the findings of the pattern codes in relation to answering the research questions in this study. The interpretive codes and pattern codes are represented in ***bold italic font,*** and **bold font**, respectively.

8.2.1 Changing structure of work

The emergent pattern code of **changing structure of work** partially addressed the research question:

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**

The emerging pattern code of **changing structure of work** described the way organisations changed their organisational structure or structure of work processes after adopting new enterprise systems (CRM systems). The interpretive codes of ***reshaped technology-enabled work processes; integrated work systems; new centralised team; customer-centric data focus;*** and ***user-system-process interaction constraint*** shaped the pattern code of **changing structure of work** across the three cases.

All three organisations changed their structure of work after enterprise system implementation. The analysis showed that organisations reshaped their technology-enabled work processes as a result of CRM implementation. Furthermore, it revealed how organisations integrated the new CRM system with the existing information systems and work processes. Table 8.1 presents a summary of the **changing structure of work** pattern code and relevant interpretive codes from the three cases.

Table 8.1 Summary of Changing Structure of Work Pattern Code in the Three Cases

	RC case	**HP case**	**BI case**
Pattern codes	Changing structure of work		
Interpretive codes	1. Reshaped technology-enabled work processes 2. New centralised team 3. User-system-process interaction constraint	1. Reshaped technology-enabled work processes 2. Integrated work systems 3. User-system-process interaction constraint	1. Reshaped technology-enabled work processes 2. Integrated work systems 3. Customer-centric data focus 4. User-system-process interaction constraint

In terms of the ***reshaped technology-enabled work processes*** interpretive code, the HP and BI organisations adopted the CRM systems to become more customer-centric focused rather than product-centric focused in order to improve the quality of customer services

and to use the system as a centralised customer database. However, the RC organisation focused only on using the CRM system as a centralised customer database.

When CRM was introduced into the organisations, the CRM system became an additional work system for employees in some departments across the three cases. For example, the CRM system was used as a front system in some departments within the organisations. Users were required to log in to the CRM system in order to input customer information or input customers' requests or inquiries into the system. Users needed to access the CRM system first before accessing other systems in order to complete their tasks. During the fieldwork, most users perceived the new CRM system as an additional work process. The CRM system became part of their work routines or new work practices.

Findings for the ***integrated work systems*** interpretive code emerged in both the HP and BI case. The integration of the CRM system with the existing systems changed users' work processes and also affected users' structure of work in some departments and teams. The ***integrated work system*** interpretive code did not emerge in the RC case because sales professionals did not need to integrate the experience the integration of CRM system with other existing systems. Customer information from the CRM system was automatically transferred to the RIS system in order to create invoices only.

Findings for the ***new centralised team*** interpretive code emerged only in the RC case. The organisational structure changed with the introduction of a centralised team. The new CRM team became part of the Sales department and had the sole authority to verify customers' account. As a result, sales professionals' work processes were affected. For instance, sales professionals had to request customer account verification and needed to input sales activities into the CRM system, which were considered as additional work processes. All these processes were controlled by management and the CRM team.

Findings for the ***customer-centric data focus*** interpretive code emerged only in the BI case. The BI organisation changed the way it viewed customer information from a product-centric data focus to a customer-centric data focus. Top management wanted to use the CRM system to differentiate the organisation's services from other insurance organisations. The CRM system was able to assist in restructuring organisational information in order to serve customers' needs and improve the quality of services.

The analysis across three cases revealed similar findings for the ***user-system-process interaction constraint***. This interpretive code explained how the new CRM system affected users and work processes during the change process in the post-adoption stage of CRM implementation. During the CRM implementation, users needed to learn how to use the new CRM system in order to accomplish their work tasks. The findings revealed that several misalignments occurred among CRM systems, users, and work processes, which unfolded in the post-adoption stage of CRM implementation.

For instance, the result showed that some customer accounts were lost in the process of data migration to the new CRM system. Sales professionals had to manually enter their customers' accounts and wait until the CRM officer approved those accounts. In the HP case, the CRM system affected individuals' work practices because of lack of customisation and a slow connection to the CRM server. In the BI case, the CRM system affected individuals' work practices because of customisation limitations and limited user experience with off-the-shelf software. The introduction of the CRM system led to a mismatch between the CRM system and work practices in some departments across the three cases.

8.2.2 Consequences of CRM implementation

The emergent pattern code of **consequences of CRM implementation** partially addressed the research question:

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**

The interpretive codes of ***conflict among users*** and ***effect on work performance*** shaped the pattern code of **consequences of CRM implementation**. During the post-adoption stage of CRM implementation, the critical events that occurred during the change process led to the generation of gaps between socio-technical components. These gaps led to the generation of consequences. Table 8.2 presents a summary of the **consequences of CRM implementation** pattern code and relevant interpretive codes from the three cases.

Table 8.2 Summary of Consequences of CRM Implementation Pattern Code in the Three Cases

	RC case	HP case	BI case
Pattern codes	Consequences of CRM implementation		
Interpretive codes	1. Conflict among users	1. Effect on work performance[15]	1. Conflict among users 2. Effect on work performance[16]

The **consequences of CRM implementation** emerged across the three cases. However, the findings of the RC and HP cases, as presented in Chapters 5 and 6, revealed different consequences of ***conflict among users***, and ***effect on work performance***, respectively. The BI case revealed two consequences of ***conflict among users,*** and ***effect on work performance.***

Conflict among users was evident in both the RC and BI cases. In the RC case, customer information became transparent after CRM implementation. The increased transparency of sales and customer information contributed to the generation of conflict in the sales community. In the BI case, the conflict occurred because of using the case management feature. Some users were unaware that they had to use the case management feature to send/receive cases to/from other business units. The HP organisation did not have conflict associated with CRM use. The main reason was related to each department using different CRM modules. Therefore, there was no conflict among users from different departments.

The results of the HP and BI cases revealed that the CRM system affected users' work performance. This happened in the Contact Centre department in the HP and BI cases at the initial post-adoption stage. The reason was related to the need for contact centre staff

[15] There were four low-level codes under the ***effect on work performance*** interpretive code in the HP organisation: *increased number of abandoned calls, increased talk time, effect on KPIs,* and *risk of patient misidentification*.

[16] There were eight low-level codes under the ***effect on work performance*** interpretive code in the BI organisation: *struggle with workflow, not fluent in using the system, incomplete integration, increased number of abandoned calls, effect on KPIs, input customer information, time-consuming to input customer information,* and *double key information into two systems*.

to spend time inputting customer information into the CRM system. This task was considered an additional work process. As a result, it led to an increase in calls being abandoned and also affected users' work performance (KPIs).

8.2.3 Transparency tool and control mechanism

The emergent pattern code of **transparency tool and control mechanism** partially addressed the research question:

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**

The emerging pattern code of **transparency tool and control mechanism** highlighted the fact that the new CRM system stopped ambiguity in sales activity information in the organisation. Furthermore, the CRM system also became a control mechanism tool in the organisation. The interpretive codes of ***information clarification*** and ***new rules*** shaped the pattern code of **transparency tool and control mechanism** in the RC case only. This pattern code did not emerge from the data of the other two cases. Table 8.3 presents a summary of the **transparency tool and control mechanism** pattern code and relevant interpretive codes from the three cases.

Table 8.3 Summary of Transparency Tool and Control Mechanism Pattern Code

	RC case	HP case	BI case
Pattern codes	Transparency tool and control mechanism	None	None
Interpretive codes	1. Information clarification *2.* New rules	None	None

In the RC case, sales professionals focused only on meeting individual sales target. Prior to CRM implementation, sales professionals were able to find gaps in the previous work system (RIS system) in terms of hidden sales. They were able to create duplicate accounts in order to sell products to customers without informing the account owners. After CRM implementation, all hidden information was revealed within the Sales department. Customer information was shared within the department with different levels of authorisation to view the data. The information was controlled by a new CRM team to

eliminate duplicate customer accounts as well as to control the authority to sell products. As a result, the CRM system became a transparency tool to lessen the ambiguity in sales activities among sales professionals.

The results also showed that the CRM system could be used as a control mechanism tool in terms of controlling sales professionals' work practices by setting up new rules to clearly identify the sales boundaries and monitor sales' activities. Furthermore, CRM implementation led to unexpected consequence in terms of conflict among sales professionals. As a result, the organisation had to set up new rules to eliminate this conflict. The following subsection presents the pattern codes that were able to address another research question.

8.2.4 Adaptation behaviours

The emergent pattern code of **adaptation behaviours** partially addressed the research question:

- **How do individuals adapt to an enterprise system in the context of the CRM system at the post-adoptive stage?**

As presented in Chapters 5, 6, and 7, four adaptation behaviours were ***resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviour.*** Table 8.4 presents a summary of the **adaptation behaviours** pattern code and interpretive codes from the three cases.

Table 8.4 Summary of Adaptation Behaviours Pattern Code in the Three Cases

	RC case	HP case	BI case
Pattern codes	Adaptation behaviours		
Interpretive codes	1. Resistance behaviour 2. Avoidance behaviour 3. Adaptation effort behaviour	1. Resistance behaviour 2. Avoidance behaviour 3. Adaptation effort behaviour 4. Self-satisfaction adaptation behaviour	1. Resistance behaviour 2. Avoidance behaviour 3. Adaptation effort behaviour 4. Self-satisfaction adaptation behaviour

In the three cases, three similar adaptation behaviours (***resistance behaviour, avoidance behaviour,*** and ***adaptation effort behaviour)*** emerged across the three cases. However, the findings of the HP and BI cases in Chapters 6 and 7 also revealed four different adaptation behaviours ***(resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviour)***.

The RC organisation had only three types of adaptation behaviours. ***Self-satisfaction adaptation behaviour*** did not emerge as a type of adaptation behaviour in the RC case. There were several possible reasons for this, including mismatch in sales professionals' occupational identities and loss of individual benefits in terms of sales targets, among others. Sales professionals did not choose to input customer information into the CRM system, perceiving the CRM system to be merely an administrative task.

Conversely, some users in the HP and BI organisations performed ***self-satisfaction adaptation behaviour***. They used the CRM system in various departments such as the Contact Centre department and the Marketing department and perceived the benefits of the CRM system. For example, the CRM system was used as an identification tool to identify and recognise customers in the Contact Centre department in both the HP and BI cases. In another example, individuals used the CRM system because it maximised benefits such as being an efficiency tool to assist them to accomplish their tasks.

8.2.5 Factors influencing adaptation behaviours

The emergent pattern code of **factors influencing adaptation behaviours** partially addressed the research question:

- **How do individuals adapt to an enterprise system in the context of the CRM systems at the post-adoptive stage?**

The five factors that emerged from the three case studies were ***individual characteristics, attitudes, and users' perception; task-technology constraints; organisational policy and support; social influence;*** and ***lack of CRM expertise and sub-cultural mismatch.*** Table 8.5 presents a summary of the **factors influencing adaptation behaviours** pattern code and the interpretive codes in the three cases.

Table 8.5 Summary of Factors Influencing Adaptation Behaviours Pattern Code in the Three Cases

	RC case	**HP case**	**BI case**
Pattern codes	Factors influencing adaptation behaviours		
Interpretive codes	1. Individual characteristics, attitudes, and users' perception 2. Organisational policy and support 3. Social influence 4. Lack of CRM expertise and subcultural mismatch	1. Individual attitudes and users' perception[17] 2. Task-technology constraints 3. Organisational policy and support 4. Social influence	1. Individual characteristics, attitudes, and users' perception 2. Task-technology constraints 3. Organisational policy and support 4. Social influence

[17] The ***individual attitudes and users' perception*** interpretive code was slightly different in the RC and BI cases. The finding revealed that there were no low-level codes of individual characteristics in the HP case.

There were several factors that influenced adaptation behaviours. The three main factors emerging from the RC, HP, and BI cases included ***individual attitudes and users' perception; organisational policy and support;*** and ***social influence***. The findings of these three factors showed that users responded with different types of adaptation behaviours.

The RC case revealed another factor, ***lack of CRM expertise and subcultural mismatch***, which related to the new CRM team lacking expertise associated with the CRM system and lacking understanding regarding the culture of sales professionals. The RC organisation hired a new CRM team who were all new employees. The new CRM team members lacked CRM knowledge. In addition, the new CRM team did not understand the subculture of the sales professionals which led to several issues during the change process such as lack of trust and lack of power to persuade users, among others. The finding of ***lack of CRM expertise and subcultural mismatch*** led some users in the RC organisation to respond with resistance behaviour.

The findings from the HP and BI cases revealed another factor, ***task-technology constraints*** factor**,** which describes circumstances in which the new CRM system affected users' tasks, work practices, and adaptation behaviours. The ***task-technology constraints*** factor did not emerge as a factor that influenced adaptation behaviours in the RC case because the CRM system was not implemented in the Contact Centre department (it was only implemented in the Sales department). Most of the codes under ***task-technology constraints*** were associated with users from the Contact Centre department in the HP and BI cases.

8.2.6 Relationship among the pattern codes

The five pattern codes **(changing structure of work; consequences of CRM implementation; transparency tool and control mechanism; adaptation behaviours;** and **factors influencing adaptation behaviours)** presented in the above subsections were considered in relation to each other. These five pattern codes were interrelated across the individual and organisational levels.

The pattern codes of **changing structure of work, consequences of CRM implementation,** and **transparency tool and control mechanism** related to organisational change. The codes revealed how organisations changed during the enterprise system implementation. The relationship of these three pattern codes

formulated a theory of organisational change. After enterprise system implementation, organisations needed to reshape their work processes and work systems in order to integrate the new enterprise system into existing systems, and thereby improve organisational performance. The findings also revealed that the new enterprise system became a centralised database, changed the way customer information was viewed, changed the pattern of communication among users, and became a control mechanism tool between management and users. As a result, these changes led to conflict among users and had a negative effect on work performance, which is the opposite from the espoused objectives that organisation aimed for.

This study used a socio-technical model to understand the change process through critical events, gaps between socio-technical components, and consequences. For instance, the critical event of customisation limitations including workflow adjustment limitations and unfamiliarity with the terminology in the CRM system generated a gap between technology-structure components. This affected the structure of work because the CRM system did not fit well with the existing workflow. In another example, the critical event of increasing transparency of information led to the generation of a gap in technology-actor components, and created conflict among sales professionals.

The pattern codes of **adaptation behaviours** and **factors influencing adaptation behaviours** related to individual adaptation. The relationship of these two pattern codes formulated a theory of individual adaptation. This study used coping theory to explain individual adaptation associated with new enterprise system implementation. The findings revealed that **factors influencing adaptation behaviour** had a significant impact on **adaptation behaviours.** The individual adaptation reflected how individuals responded to new enterprise system implementation.

These five pattern codes were mutually linked to each other based on the phenomenon of the study of enterprise system implementation at the post-adoption stage. The relationship among these five pattern codes formulated a multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation. The two levels of analysis at the organisational level and the individual level were interrelated. The results revealed that organisations changed their structure of work after enterprise system implementation, which led to the generation of gaps in socio-technical components and consequences. The generation of gaps had a significant impact on individual adaptation behaviours. For instance, the critical event of the new requirement to input customer

information into the CRM system in the Contact Centre department led to the development of a gap between structure-task components. This also generated a gap between task-actor components in terms of users being likely to resist or avoid inputting customer information into the system because of time and human resource limitations.

8.3 Theoretical Integration

The goal of this study is to build a multi-level theory of individual adaptation and organisational change in the post-adoption stage of enterprise system implementation. In this section, the findings are discussed by considering the existing literature. The findings are used to theorise the phenomenon of individual adaptation toward a new enterprise system (CRM system) and organisational change. The theoretical findings that fill the research gaps and extend understanding of the multi-level theory of post-adoptive adaptation and organisational change are reviewed and discussed. This section begins by explaining organisation change, before discussing individual adaptation in relation to the extant literature. Lastly, the multi-level theory at the individual and organisational level in relation to the extant literature is presented.

8.3.1 Organisational change

The analysis indicated that organisational change was comprised of three main interrelated pattern codes: **changing structure of work; consequences of CRM implementation;** and **transparency tool and control mechanism.** The organisational change models for each within case analysis, which were presented in Chapters 5, 6, and 7, were developed in this study to address the gaps in the literature and extend the previous studies in IS that have adopted socio-technical theory. The models deepened the analysis of four interacting socio-technical components (actor, task, structure, and technology) and investigated the critical events that led to the generation of gaps between socio-technical components. Consequences that occurred in the post-adoption stage of CRM implementation also emerged from the findings. These consequences affected the organisations in terms of organisational performance, the social system, and individual practices.

There are several limitations in the previous studies associated with adopting a socio-technical perspective to study IS implementation, especially enterprise system implementation. Most IS studies have adopted a socio-technical perspective to examine IS development projects rather than IS implementation. Additionally, most IS studies

have used a socio-technical system model to study change process either in individuals or organisations (Lyytinen & Newman, 2008; McLeod & Doolin, 2012).

This study used a socio-technical perspective as a lens to study the organisational change related to enterprise system implementation. Specifically, Leavitt's (1964) concept of a socio-technical system offers a broad framework to understand changes in an organisation through new enterprise system implementation. The findings revealed that all four interacting socio-technical components experienced change after the introduction of an enterprise system in the organisational context.

Additionally, Lyytinen and Newman's (2008) study, that extended Leavitt's (1964) socio-technical system model, enabled this study to identify gaps or misalignments that occurred during the enterprise system implementation process. The mutually changing components could be examined along with identifying critical events and gaps. The critical events, which occurred during the change process, led to the generation of gaps between components. These gaps led to the generation of consequences that occurred during the post-adoption stage of enterprise system implementation.

This study extended the previous studies in IS implementation literature, especially Lyytinen and Newman's (2008; 2009) research, to provide a richer vocabulary for a process of change by revealing consequences relating to the generation of gaps between the socio-technical components of ***conflict among users*** and ***effect on work performance.*** Furthermore, the gaps were not only affected at the organisational level but also at the individual level in terms of adaptation behaviours. Table 8.6 presents a summary of organisational change from the three cases.

Table 8.6 Summary of Organisational Change in the Three Cases

	RC case	HP case	BI case
Task	Inputted customer information, systematically created customer accounts	Customer-centric focused[18], systematically replied to customer e-mails	Systematically assigned case management, systematically updated renewal and visit plans, recorded customer information
Actors	Sales professionals and CRM officers	Contact Centre staff, marketing staff, front office staff, and management committee team	Underwriter staff, account executive staff, and contact centre staff
Structure	Centralised customer information, Additional work processes, systematic workflow, new rules	Data integration, additional work processes, systematic workflow	Customer-centric data focus, additional work processes
Technology	CRM system and RIS system	CRM system and hospital systems	CRM system and in-house systems

[18] To avoid confusion, users' tasks changed from product-centric focused to customer-centric focused in the HP organisation. For example, front office staff needed to check customer preferences in the CRM system to serve customers' individual needs. The BI organisation changed the method of viewing customer information from product-centric data focused to customer-centric data focused.

	RC case	HP case	BI case
Consequences	Conflict among users	Negative effect on work performance	Conflict among users and negative effect on work performance

8.3.2 Individual adaptation

The analysis indicated that individual adaptation was comprised of two main interrelated pattern codes: **adaptation behaviours** and **factors influencing adaptation behaviours**. In this study, the analysis revealed four different adaptation behaviours: ***resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviour***. Factors that influenced adaptation included ***individual characteristics, attitudes, and users' perception; task-technology constraints; organisational policy and support; social influence;*** and ***lack of CRM expertise and subcultural mismatch***.

In the IS context, coping theory and its extension emerged as a promising framework to explain individuals' post-adoptive reactions to IS (Beaudry & Pinsonneault, 2005; Fadel & Brown, 2010). According to the study of Beaudry and Pinsonneault (2005), individuals will appraise an IT event based on the two dimensions of perceived personal and professional consequences (e.g., opportunity or threat) and perceived control over the situation as high or low. At the stage of primary appraisal, users determine the personal and professional consequences of an IT event as an opportunity or a threat. However, users may perceive both an opportunity and threat due to the multifaceted nature of IT events.

At the stage of secondary appraisal, users may involve three types of control (work, self, and technology). Based on primary appraisal and secondary appraisal, individuals engage in one of four different adaptation strategies (benefit maximising, benefit satisfying, disturbance handling, and self-preservation) (Beaudry & Pinsonneault, 2005). The adaptation behaviours affect three types of individual-level outcomes (individual efficiency and effectiveness, minimisation of the negative consequences of an IT, and restoring personal emotional stability) (Beaudry & Pinsonneault, 2005).

In this study, the findings revealed that individuals perceived personal and professional consequences of new enterprise system implementation in three ways. Firstly, some individuals perceived the new enterprise system as advantageous. For example, individuals regarded the CRM system as more systematic and efficient, as a system that allowed information sharing and helped in identifying customers, and as a system that was accessible anywhere anytime. Secondly, some individuals perceived the CRM system as disadvantageous. For example, individuals noted the system's effect on work performance, the mismatch in sales professionals' occupational identities, the mismatch in work practices and work processes, the loss of benefits, unfamiliarity with the interface of the enterprise package system, the difficulty in using the system, and so on.

Thirdly, some individuals perceived both the advantages and disadvantages of the enterprise system. For example, some contact centre staff perceived that the new system affected their KPIs and caused an increase in abandoned calls; however, they also perceived advantages regarding its useful feature of customer identification. In another example, some sales professionals perceived a mismatch between the new enterprise system and sales professionals' occupational identities, while they also perceived advantages in terms of viewing customer information without the need to carry a hard copy of customer information when visiting customers outside.

Secondary appraisal occurs when individuals assess the importance of an event and determine the level of control they have over the situation, as well as evaluating the coping resources available to them (Lazarus & Folkman, 1984). In this study, the findings of secondary appraisal revealed that individuals assessed the importance of the new enterprise system implementation event and determined the level of control in three ways: control over the system, control over the work tasks, and control over the self.

Users gain control over a system by using only features that relate to their work in order to accomplish work tasks (Beaudry & Pinsonneault, 2005). For instance, some users from the Contact Centre department avoided using the feature of inputting and updating customer information into the CRM system. However, they selected features that were useful to them such as customer identification and searching for customer information. In another example, some sales professionals from the RC organisation extended their use of the CRM system by using the chat function in order to eliminate the feeling of boredom when using the CRM system.

Control over work tasks is related to modifying tasks in response to the IS (Shaw & Barrett-Power, 1997). For instance, some users from the BI organisation were able to modify their work tasks by using both the existing system and the new CRM system to accomplish their tasks. They used the existing system (BKI app) to deal with important tasks such as renewing insurance policies, while they also used the new CRM system in parallel to support other tasks such as sending/receiving cases to/from other users. In another example of control over work tasks, a user from the BI contact centre explained that she had the freedom to manage her tasks when using the CRM system. She tried to record customer information as much as possible but in the case of heavy call load, she sent a case to the surveyor first and inputted the information into the CRM system later. She managed her work tasks rather than following the stipulated steps in the work process. Generally, Contact Centre staff needed to finish recording customer information while talking to customers.

Control over the self refers to users' capability regarding the adaptation to the new IT (e.g., ability to learn and use the new system and seeking training) (Beaudry & Pinsonneault, 2005). For example, a user from the BI organisation believed that she could adapt to and use the new CRM system. She explained that she had become used to these kinds of changes before she joined this organisation. She did not have a bad attitude toward changes and she tried to learn and adapt to the new CRM system. She also confirmed that she saw that users from other business units were able to use the system. Therefore, she felt that she could use it as well. However, some users felt worried regarding the use of the new CRM system. For instance, one user stated that she was unfamiliar with the CRM system at the initial stage of CRM implementation. She felt worried about it. When she participated in the training session, she felt overwhelmed regarding features in the CRM system.

Individuals also evaluated the coping resources that were available to assist them to adapt to the new CRM system. The available resources in this study included organisational support and social influence. Organisational support included training sessions, user manuals, a management committee support team, and a CRM and IT support team. Individuals learned how to use the CRM system by attending training sessions and using the user manuals. The social influence of motivation from management, work colleagues, and IT support also assisted users to adapt to CRM implementation.

The second stage of the coping process is called 'coping effort'. During the coping process, individuals respond to different actions associated with coping efforts to deal with a situation (Beaudry & Pinsonneault, 2005). Lazarus and Folkman (1984) maintain that there are two coping dimensions: problem-focused coping and emotion-focused coping. Problem-focused coping aims to solve, reconceptualise, or minimise the effects of a stressful situation. On the other hand, emotion-focused coping changes one's perception of the situation in order to regulate emotional responses to the problem as well as reduce emotional distress (Lazarus & Folkman, 1984).

The coping effort stage is a continuous stage from primary and secondary appraisal stages. This study revealed that individuals dealt with the new enterprise system by engaging in both problem-focused and emotion-focused coping. Some individuals dealt with the new enterprise system by accepting the new system as part of their work routines (emotion-focused) in parallel with adapting themselves by attending the training sessions to learn about the new system and how it could support them in their tasks (problem-focused).

After the two stages of the coping process (primary and secondary appraisal, and coping effort), the findings revealed that individuals engaged in four different types of adaptation behaviour to the new system (***resistance behaviour, avoidance behaviour, adaptation effort behaviour, and self-satisfaction adaptation behaviour)*** with five factors influencing these adaptation behaviours ***(individual characteristics, attitudes, and users' perception; task-technology constraints; organisational policy and support; social influence;*** and ***lack of CRM expertise and sub-cultural mismatch)*** in the post-adoptive adaptation stage. Previous studies of coping theory and its extension have not clearly explained the types of adaptation behaviours and contextual factors that influence individuals' behaviours. For example, Beaudry and Pinsonneault (2005) investigated only adaptation strategies driven by the two stages of the coping process.

This study extended CMUA research (Beaudry & Pinsonneault, 2005) and the previous studies of Bala and Venkatesh (2015), Fadel and Brown (2010), and Liang and Xue (2009) into two perspectives. Firstly, it was interesting to note in this study that problem-focused coping and emotion-focused coping could happen in parallel. A previous study by Beaudry and Pinsonneault (2005) hypothesised that individuals can engage in problem-focused and/or emotion-focused coping in regard to new IS implementation.

However, their empirical findings regarding adaptation strategies did not support this hypothesis.

Secondly, to address the research gaps as well as contribute novel insights to IS implementation literature in the area of user adaptation, this study found that after the two stages of the adaptation process (primary and secondary appraisal, and coping effort), individuals engaged in four adaptation behaviours with five factors having a significant impact on these four behaviours. For example, some individuals perceived the benefits of the CRM system and received effective training from the organisation. Therefore, they responded with positive adaptation behaviours to the new CRM system such as adaptation effort behaviour or self-satisfaction adaptation behaviour instead of negative adaptation behaviours. Previous studies have also found that individuals are likely to positively adapt to new IS if they perceive the benefits of the system (Bala & Venkatesh, 2015; Moore & Benbasat, 1991; Venkatesh et al., 2003). In contrast, individuals may refuse to use the new IS system if they have a negative attitude toward new IS (McNally & Griffin, 2010; Wu & Wu, 2005).

In addition, these five factors covered all four perspectives – the individual perspective, organisation policy and support, social influence, and work processes. Prior studies have examined only some dimensions and missed other aspects. The analysis of findings not only included a discussion on different individual adaptation behaviours but also discussed factors that influenced adaptation behaviours.

The ***individual characteristics and attitude*** factor, for example age, may affect adaptation behaviours (Hsieh & Wang, 2007; Jones et al., 2002; Majchrzak & Cotton, 1988; Majchrzak et al., 2000; McNally & Griffin, 2010; Mills & Chin, 2007; Ng & Kim, 2009; Wu & Wu, 2005). The factor of individuals' perception (e.g., perceived usefulness, and perceived enjoyment) may also impact on adaptation behaviours (Hsieh & Wang, 2007; Jones et al., 2002). When employees perceive that an IT is important to them, they are likely to learn its features (Bala & Venkatesh, 2015). The findings of this study confirmed previous studies that have found that the factor of individual characteristics and users' perception has a significant impact on individual adaptation behaviours.

The ***task-technology constraints*** factor represented the concepts of workload, time and human resource limitation, lack of integration, system unawareness, and slow connection to the CRM server, which subsequently influenced adaptation behaviours. Prior studies

have suggested that the socio-technical system's task components can affect users' adaptation behaviour when performing tasks (Steers & Mowday, 1977). Sykes, Venkatesh, and Johnson (2014) suggest that task and technology components can affect adaptation behaviours in terms of workflow and software. They also suggest that it is vital to examine the effect of the task and technology relationship in enterprise system implementation. The findings of this study extended previous studies by revealing that the task-technology constraints factor had a significant impact on individual adaptation behaviours.

The ***organisational policy and support*** factor represented an organisation's mandatory and procedural software training. If employees have adequate knowledge of a new IT as well as a better understanding how it fits into their work processes and how they can use it to accomplish their tasks, they are likely to believe that they have the ability and resources to understand and work with the new IT (Bala & Venkatesh, 2015). The findings of this study revealed that the organisational policy and support factor had a significant impact on individual adaptation behaviours. Forms of mandate also impacted on individual adaptation.

The ***social influence*** factor represented motivation from management, work colleagues, and IT support. In terms of management support, if management supports the new IT, employees may see an opportunity in using it (Bala & Venkatesh, 2015; Majchrzak & Cotton, 1988; Venkatesh et al., 2003). The findings of this study extended the previous studies in terms of revealing the social influence factor, which had a significant impact on individual adaptation behaviours. Some parts of the social influence factor are similar to the organisational support of management. Nevertheless, the social influence factor was considered as being beyond management's responsibility in terms of motivating their staff to use the CRM system and being a role model by using the CRM system. Individuals responded to positive adaptation behaviours because of the organisational support and social influence factor.

There are several limitations in the previous studies. For instance, the studies of Beaudry and Pinsonneault (2005) and Fadel and Brown (2010) did not examine factors that could play an important role in shaping the coping process and appraisal outcomes. For example, individual characteristics such as commitment, self-efficacy, gender, age, and experience may influence adaptation outcomes (Fadel & Brown, 2010). The study of Fadel and Brown (2010) only explored outcomes but did not focus on contextual factors.

The recent study of Bala and Venkatesh (2015) not examine factors of individual characteristics, users' attitudes, users' perceptions, organisational policy, and the task-technology constraint that influence adaptation behaviours. Previous studies in the area of user adaptation have also failed to identify factors that influence adaptation behaviours, or discuss individual, organisation, social, and work process perspectives. This study extended the previous IS implementation literature in the area of user adaptation by revealing adaptation behaviours and factors that influence adaptation behaviours.

8.3.3 Multi-level theory

This research aimed to develop a deeper understanding of individual adaptation and organisational change in the post-adoption stage of enterprise system implementation. To do so, this study built a multi-level theory of individual adaptation and organisational change to understand how individuals adapt to new enterprise system implementation and how organisational change unfolds in the post-adoption stage of enterprise system implementation. These two levels of analysis were interrelated. Multilevel analysis is useful to investigate users' adaptation associated with enterprise system implementation and to provide a richer meaning of organisational changes.

This study extended the extant literature of user adaptation, organisational change, and enterprise systems by proposing a multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementations. Prior studies have not provided a multi-level study of both the individual and the organisational level. However, some IS studies have shed light on the area of individual practices, work practices, adaptation behaviours, and job outcomes relating to IS implementation (Bala & Venkatesh, 2015; Beaudry & Pinsonneault, 2005; Bygstad, 2006; Kim & Kankanhalli, 2009; Kim et al., 2012; Lyytinen & Newman, 2008; Lyytinen et al., 2009; McLeod & Doolin, 2012). For instance, Bala and Venkatesh's (2015) study focused on individual adaptation to IT and job outcomes. Nevertheless, prior studies have not provided an in-depth focus on how organisational change affects individual adaptation behaviours. Most IS implementation research has focused on either the individual level or the organisational level. This study offered useful insight on building three main dimensions – individual adaptation behaviours, organisational change, and critical events during the change process.

The multi-level theory model for each within case analysis was presented in Chapters 5, 6 and 7. The findings showed that organisational change was associated with the

transformation of four socio-technical components, gaps or misalignments among components, and consequences. These organisational change situations had a significant impact on individual adaptation behaviours. For example, the findings showed that the critical event of the new requirement to input customer information into the CRM system in the Contact Centre department had a significant impact on individual adaptation behaviours. This critical event led to resistance and avoidance adaptation behaviours rather than adaptation effort behaviour or self-satisfaction adaptation behaviour. Another critical event was the incomplete integration of the CRM system with existing systems at the initial stage of implementation. This critical event led to time wasting in terms of staff double keying information to complete their work tasks. It also led to resistance and avoidance adaptation behaviours.

Prior CRM research has paid little attention to post-adoption changes relating to CRM implementation at an individual level. Much of the CRM research has focused on the implementation process and outcomes associated with organisations. In addition, most CRM studies have focused on factors that shape initial adoption while only a few studies have examined post-adoption behaviours. For instance, a number of studies have evaluated technological effects on post-adoption behaviours (Avlonitis & Panagopoulos, 2005; Chen & Wang, 2015; Dong, 2010; Hsieh et al., 2011; Son & Han, 2011).

The study of Avlonitis and Panagopoulos (2005) found that salespeople that perceived a CRM system as easy-to-use and useful in conducting activities were more likely to adopt it as well as use it in daily activities. Conversely, the findings in the RC case showed that sales professionals were likely to resist or avoid using the CRM system. They felt that sales professionals should not be involved in administration tasks such as inputting customer information into the CRM system. Some users also perceived that they lost their benefits in terms of meeting individual sales target amounts.

Hsieh et al. (2012) investigated how user satisfaction with CRM use impacts employee service quality in the organisational context. They focused on mandatory CRM use and user satisfaction amongst front-line employees (Contact Centre). They found that front-line employees' user satisfaction with the mandated use had a positive impact on employee service quality. They suggest that organisations should balance users' satisfaction with CRM use to manage the quality of services. Their study focused only on the aspect of user satisfaction but did not focus on the other aspects of users' behaviours. There has been a lack of in-depth study of different types of adaptation behaviours during

the change process and factors influencing adaptation behaviours. This study filled the gap by revealing how employees responded with adaptation behaviours associated with CRM implementation in the organisational context.

Several studies have investigated CRM adoption and implementation at an organisational level (Alshawi et al., 2011; Awasthi & Sangle, 2012; Chavoshi et al., 2015; Chuchuen & Chanvarasuth, 2011; Firth & Lawrence, 2006; Hillebrand et al., 2011; Hung et al., 2010; Karakostas et al., 2005; Ko et al., 2008; Zegordi & Fakhredaei, 2011). Several studies have focused on post-adoption changes in terms of CRM use and organisational performance (Dong, 2010; Josiassen et al., 2014; Peltier et al., 2013; Sebjan et al., 2014). The findings in this study corroborated and extended the previous literature on the CRM system. CRM usage has a significant impact on organisational performance. The findings showed that the CRM system replaced manual work practices with systematic work practices. The CRM system allowed employees to access centralised customer databases anywhere anytime. Furthermore, the result showed that the CRM system was able to improve the quality of services as well.

There are various factors that influence the success of CRM including individuals' ability to use the CRM system, differences of perception, attitudes, IT and business culture gap, organisations' perceptions toward the benefits and importance of the CRM system, and CRM software utilisation (Limsarun & Pacapol, 2010). This study extended the previous studies in terms of identifying factors that influenced individual adaptation behaviours and different individual adaptation behaviours. These factors represented all aspects relating to the individual, the organisation, and the environment that affected individual adaptation behaviours.

It is also important to note that previous research has paid little attention to the implications of CRM implementation on individuals and organisations simultaneously. Klein and Kozlowski (2000) suggest that there has been a lack of multi-level studies that can provide a rich understanding of phenomena that unfold across levels in an organisation. This thesis adds new knowledge to the current enterprise system research in the context of the CRM system by developing a multi-level theory to deepen understanding of both individual adaptation and organisational change in the post-adoption stage of enterprise system implementation.

8.4 Chapter Conclusion

In this chapter, five pattern codes **(changing structure of work; consequences of CRM implementation; transparency tool and control mechanism; adaptation behaviours; and factors influencing adaptation behaviours)** were discussed. The relationship among the pattern codes were also presented. The theoretical integration of individual adaptation, organisational change, and multi-level theory were discussed in relation to the existing literature and preliminary theoretical framework. The next chapter will provide a conclusion as well as a summary of the research presented in this thesis, contributions, implications and limitations of the research, and suggestions for future research.

Chapter 9: Conclusion

9.1 Introduction

This chapter summarises the research presented in this thesis, and outlines the study's theoretical and practical contributions. The thesis concludes with a discussion on limitations and future research.

9.2 Summary of the Research Presented in this Thesis

This study proposed a multi-level theory of post-adoptive adaptation and organisational change associated with enterprise system implementation in the context of CRM systems. Based on the interpretivist case study research strategy and theory building from three case studies, the findings revealed five core pattern codes: **changing structure of work; consequences of CRM implementation; transparency tool and control mechanism; adaptation behaviours;** and **factors influencing adaptation behaviours**. These five core pattern codes emerged from interview data and were guided by the theoretical framework that included two theories: coping theory and a socio-technical perspective. The findings answer the following two research questions.

- **How do organisational changes unfold in enterprise system implementation in the context of CRM systems?**
- **How do individuals adapt to an enterprise system in the context of CRM systems at the post-adoptive stage?**

Three of the five pattern codes, namely **changing structure of work**, **consequences of CRM implementation**, and **transparency tool and control mechanism** address the first research question of "how do organisational changes unfold in enterprise system implementation in the context of CRM systems?" The pattern codes of **adaptation behaviours**, and **factors influencing adaptation behaviours** address the second research question of "how do individuals adapt to an enterprise system in the context of CRM systems at the post-adoptive stage?" These five pattern codes were mutually linked to each other according to the phenomenon of the study of enterprise system implementation at the post-adoption stage.

The relationship among these five pattern codes created a multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation. Organisational change was analysed by using a socio-technical model to explain changes

by revealing critical events, gaps, and consequences which occurred during the change process. Individual adaptation was analysed by using coping theory to explain individual adaptation associated with new enterprise system implementation. These two levels of analysis were interrelated. The results revealed that organisations changed their structure of work after enterprise system implementation, which led to the generation of gaps in socio-technical components and consequences. The generation of gaps had a significant impact on individual adaptation behaviours.

The first pattern code, **changing structure of work**, reflected the way organisations changed their organisational structure or structure of work processes after adopting a new enterprise system. The findings revealed that the enterprise system affected organisational structure in that a new, centralised CRM team was established. The introduction of the enterprise system also affected organisational work processes by creating additional work processes. Specifically, the CRM system was used to record or search customer information prior to access to other systems. As a result, users' work practices changed as a result of CRM system usage. The CRM system was integrated into existing work systems in order to assist users to complete their tasks in an efficient way.

In addition, some manual tasks were replaced by the CRM system. For instance, users used the CRM system to generate monthly or quarterly reports instead of using the Excel application. The expectation of organisations, therefore, was to use the CRM system to record and keep track of all customers' activities in order to improve services. The organisations needed to change the way they viewed data from product-centric data focus to customer-centric data focus.

The second pattern code, **consequences of CRM implementation**, reflected outcome issues that occurred during the CRM implementation process. The findings revealed that some users perceived the CRM system to be a complex system and difficult to use. In contrast, some users perceived the CRM system as suitable for their work processes. The workflow and terminology in the CRM system affected users' work routines and work practices. Most users were not familiar with the off-the-shelf software. Users took time to learn and adapt to the new system.

The findings also revealed that misalignment between work performance and the enterprise system occurred during the change process. The CRM system implementation affected work performance. The introduction of the CRM system affected the Contact

Centre department in that they were unable to meet their KPIs. In addition, the CRM system implementation also affected the relationship among users in the organisations. The result showed that CRM system implementation created conflict among users because of loss of benefits and unclear communication.

The third pattern code, **transparency tool and control mechanism**, reflected the way in which the CRM system became a transparency tool that decreased ambiguity in sales activities among sales professionals. All customer information was shared within the sales department and among the sales teams with a different level of authorisation to view data. Furthermore, the CRM system was used as a control mechanism tool to monitor users' daily activities and overall activities. Management monitored and controlled sales professionals' daily work routines by keep track of all activities in the CRM system.

The fourth pattern code, **adaptation behaviours**, reflected how users responded or reacted to the new enterprise system implementations. Individuals performed four adaptation behaviours: ***resistance behaviour, avoidance behaviour, adaptation effort behaviour,*** and ***self-satisfaction adaptation behaviour.***

Resistance behaviour reflected a pattern of behaviour in which individuals were unwilling to adapt to the new enterprise system implementation. Some users resisted using the new enterprise system, especially in the initial stage of post-adoption. Individuals desired to use their preferred tools (e.g., paper calendar, Google calendar, paper notes, among others) or their preferred work systems in their work practices. Individuals attempted to find a way to finish their work tasks without using the enterprise system.

Avoidance behaviour reflected a pattern of behaviour in which individuals were only willing to use the new enterprise system minimally. If it was necessary to use the system, users would choose only appropriate features in order to accomplish their work tasks. Individuals attempted to limit their use of the system in order to lessen the impact on their work routines and minimise adjustments to their work practices.

Adaptation effort behaviour reflected a pattern of behaviour in which individuals attempted to learn about the new enterprise system in order to use it in their work routines. Individuals learnt about the new enterprise system from training sessions or user manuals provided by the organisation and used functions in the enterprise system based on what they had learned in the training sessions. Nevertheless, individuals were not willing to

explore the features or functions of the system beyond their scope of work. Individuals needed to learn about the new enterprise system because they had to use the system to accomplish tasks.

Self-satisfaction adaptation behaviour reflected a pattern of behaviour relating to the perception of satisfaction and pride, whereby individuals were willing to adapt to the new system and were enthusiastic about using it. When the enterprise system was implemented in the organisation, these individuals had a positive perception and took pride in it. Individuals perceived the benefits of the system that assisted them to work efficiently. They trusted the potential of the enterprise system features. The new enterprise system made them feel proud to use it in the organisation.

The last pattern code, **factors influencing adaptation behaviours**, reflected the factors that played an important role in influencing individual adaptation behaviours during the adaptation stage. These factors were ***individual characteristics, attitudes, and users' perception; task-technology constraints; organisational policy and support; social influence;*** and ***lack of CRM expertise and subcultural mismatch.***

The findings revealed that ***individual characteristics, attitudes, and users' perception factors*** affected adaptation behaviours. For example, if individuals had positive attitudes toward the new enterprise systems, it led them to express positive adaptation behaviours. Another finding revealed that age also affected adaptation. If individuals were of the young generation, they tended to adapt to and accept the new technology more quickly than older users.

Users' perception of new technology such as the perceived benefits of the enterprise system was shown to affect adaptation behaviours. If individuals perceived that the enterprise system had benefits, they were more likely to use the system. In this case, individuals performed positive adaptation behaviours such as adaptation effort behaviour or self-satisfaction adaptation behaviour instead of negative adaptation behaviours such as resistance or avoidance behaviours.

The findings revealed that the ***task-technology constraints factor***, such as system overload, workload, and time and human resource limitations, affected adaptation behaviours. For instance, the purpose of the Contact Centre department was to answer customers' phone calls as much as possible and to avoid abandoning calls. Based on

workload and time limitation, especially in the Contact Centre department, some users tended to resist or avoid using the CRM system. They chose to use only required functions and skip other functions such as inputting and updating customer information in the system.

The ***organisational policy and support factor*** revealed that each organisation provided different forms of mandate in order to force users to use the CRM system. Top management attempted to use different tactics to mandate use and persuade users to use the enterprise system as part of their work routines. The different forms of mandate affected different types of individuals' adaptation behaviours such as resistance or avoidance behaviours. For example, top management was not overly strict regarding CRM system usage at the initial stage of post-adoption, a time in which users tended to resist using the new CRM system. Users preferred to use existing work systems such as Excel. Later on, top management changed the form of mandate by asking middle managers to use their own tactics to force users to use the CRM system. This form of mandate led users to respond with avoidance behaviour. Some users did not fully use the system. Another organisational support was training. The findings revealed that individuals needed adequate and appropriate training sessions suited to their work processes. Some users needed a small group or one-on-one on-the-job training to guide them in how to use the enterprise system.

The ***social influence factor*** revealed that motivation from management was an essential factor in assisting users to adapt to the new system. Users felt that they had someone to support them along the way in the adaptation process. Some management staff attempted to be role models in using the new enterprise system. They learnt to use new enterprise system in order to find interesting ways in which to introduce their staff to the system. The support from IT and colleagues was another key element that could help individuals to adapt to the new enterprise system. The findings showed that the support from management, IT support staff, and colleagues was able to motivate users to increase their use of the system.

The last factor, ***lack of CRM expertise and the subcultural mismatch***, revealed that the new CRM team lacked expertise associated with the CRM system and lacked understanding regarding the culture of sales professionals. The findings revealed that ***lack of CRM expertise and the subcultural mismatch*** led to several issues during the change

process, for example, lack of trust from sales professionals, and lack of power to persuade users, among others. As a result, individuals tended to resist using the enterprise system.

9.3 Research Contributions

This research contributes to an understanding of post-adoptive adaptation and organisational change in enterprise system implementation in general and CRM implementation in particular. The following two subsections discuss the theoretical contributions and practical contributions of this study.

9.3.1 Theoretical contributions

This study extends previous studies in the area of user adaptation, organisational change, and enterprise systems in the IS literature by revealing a multi-level theory of individual adaptation and organisational change in the post-adoption stage of enterprise system implementation. The multi-level theory builds on a theoretical framework, extant literature on coping theory, and a socio-technical perspective, which extends previous research in various ways.

Firstly, this study extends the previous IS research and IS implementation literature in the area of organisational change. It especially extends Lyytinen and Newman's (2008; 2009) research to provide a richer vocabulary for a process of change by revealing consequences (***conflict among users,*** and ***effect on work performance)*** in the post-adoption stage of enterprise system implementation. These consequences strongly affect individual work practices and adaptation behaviours.

Secondly, this study extends the previous IS user adaptation literature. Coping theory and its extensions in IS studies have focused on coping strategies (primary and secondary appraisal) and coping effort strategies. This study extends coping theory and prior research on CMUA work such as the studies of Beaudry and Pinsonneault (2005), Bala and Venkatesh (2015), Fadel and Brown (2010), and Liang and Xue (2009). In this study, the findings relating to user adaptation in the primary appraisal stage revealed that individuals determine the consequences of new enterprise system implementation in three ways: as advantageous, disadvantageous, or as both advantageous and disadvantageous.

The findings of user adaptation in the secondary appraisal stage revealed that individuals assess the importance of new enterprise system implementation and determine their level of control in three ways: control over the system, control over the work tasks, and control

over the self. Individuals also evaluate the coping resources that are available to assist them to adapt to new a new enterprise system. The available resources in this study include organisational support and social influence. At the coping effort stage, this study extends the empirical findings of CMUA research (Beaudry & Pinsonneault, 2005) by revealing that individuals adapt to a new enterprise system by engaging in both problem-focused and emotion-focused coping.

Based on the two stages of coping process (primary and secondary appraisal, and coping effort), this study contributes novel insights into user adaptation by revealing four different types of adaptation behaviour and five factors that influence that adaptation behaviours. These five factors cover all four perspectives including the individual perspective, organisational policy and support, social influence, and the work processes perspective. This extends prior studies that have examined only some dimensions while missing other aspects. This study revealed that all five factors have a significant impact on adaptation behaviours.

Lastly, this study developed a multi-level theory of post-adoptive adaptation and organisational change to aid in the understanding of individual adaptation at the individual level and organisational change at the organisational level. It is important to note that previous IS research has paid little attention to the implications of new enterprise system implementation with regards to individuals and organisations simultaneously. Klein and Kozlowski (2000) suggest that there has been a lack of multi-level studies that can provide a rich understanding of phenomena that unfold across levels in an organisation.

This thesis adds new knowledge to current enterprise system research in the context of the CRM system based on how an integrated theoretical perspective using coping theory and a socio-technical perspective can explain ICT-enabled changes in organisations. A socio-technical model was used to understand the change process through critical events, gaps between socio-technical components, and consequences on work performance and conflict among users. Coping theory was used as a guiding framework to develop a theory of individual adaptation to reveal different adaptation behaviours and factors influencing adaptation behaviours associated with new enterprise system implementation.

The linkage between organisational and individual level was identified through gaps in the socio-technical system. The critical events led to the generation of gaps among four interrelated socio-technical components (task, structure, actor, and technology). These gaps led to the generation of consequences resulting from CRM implementation which occurred during the change process. Some gaps affected either organisational performance or individual adaptation behaviours or both.

For instance, the critical event of the new requirement to input customer information into the CRM system in the Contact Centre department in HP and BI organisations led to the development of gaps between structure-task components and between task-actor components. As a result, users were likely to resist or avoid inputting customer information into the system because of time and human resource limitations.

Overall, the relationships among these five pattern codes **(changing structure of work; consequences of CRM implementation; transparency tool and control mechanism; adaptation behaviours; and factors influencing adaptation behaviours)** led to a multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation in the context of CRM implementation. The two levels of analysis at the organisational level and the individual level were interrelated. The findings strongly suggest that changes associated with new enterprise system implementation have a significant impact on individual adaptation behaviours.

9.3.2 Practical contributions

This study provides an understanding of post-adoptive change in enterprise system implementation, particular the CRM system. The findings may assist organisations in providing appropriate resources and support for successful enterprise system implementation in the post-adoption stage.

This study provides practical contributions in two ways. Firstly, organisations can be aware of unanticipated events and consequences that may occur after CRM implementation during the change process, for example, the effect on work performance and conflicts among users. This awareness can assist organisations to prevent negative consequences by providing appropriate resources, and preparing a good implementation plan in advance. For instance, additional tasks, additional work processes, and incomplete integration between the new system and existing systems affect work performance. This

study suggests that management should take into consideration the availability of resources to support changes in order to avoid these issues during the change process.

Another example of the effect of CRM implementation on work performance is related to an incomplete integration between the CRM system and the existing systems. Users from some departments need to double key information into two systems at the initial post-adoption stage. This study suggests that organisations should have a pilot implementation of new enterprise system to prevent these work process issues, which affect users' work practices.

In addition, conflict among users may occur during enterprise system implementation. Management should acknowledge the different types of conflicts which may occur during the change process and prepare appropriate guidelines to eliminate conflict in advance. Another example of conflict is the unclear communication among users relating to different implementation periods in different business units. This study suggests that management should provide clear information to users regarding the implementation plan and policy. Users can be aware and prepare themselves to use the new system.

Secondly, this study can assist organisations in arranging proper support for employees during the change process in their post-adoption stage of enterprise system implementation. Management need to understand the likelihood of different types of user adaptation behaviour toward the new enterprise system and help each group of users to adapt to the new enterprise system implementation in different ways. For example, management should pay attention to users who show negative adaptation behaviour by providing appropriate resources to help them to adapt to the new system, and also by providing knowledge regarding the benefits of the new system. In contrast, management can help users who show positive adaptation behaviour by providing appropriate training sessions to allow them to maximise the benefits of the new enterprise system.

The results revealed that there are several factors, for example, negative attitudes, lack of organisational support, workload, and human resource limitation, that lead users to express negative adaptation behaviours. As a result, the initial stage of enterprise system implementation is a very crucial stage. Management should provide a clear explanation to users regarding the purpose of the enterprise system and its benefits for both individuals and the organisation. If users have positive attitudes toward a new enterprise system, they will likely to adapt and accept the enterprise system as part of their work practices. From

another perspective, if users have workload or system overload, they tend to resist or avoid using the system. IT managers should customise the new system to suit users' work processes. The new enterprise system should be properly integrated or embedded within the existing system in order to minimise additional work processes.

The results also revealed that organisational support (e.g., useful and adequate training) and social influence (e.g., motivation from management, work colleagues, and IT support) that lead users to express positive adaptation behaviours are crucial factors that assist users to adapt to new enterprise system implementation. Furthermore, individual attitudes and users' perception are also crucial factors. Therefore, management staff and IT support staff should support users during the change process.

9.4 Limitations and Future Research

This study developed a multi-level analysis of individual adaptation and organisational change associated with enterprise system implementation; however, the study also has limitations that should be acknowledged. Firstly, at the time of the interview sessions, participants had been going through the initial adaptation process relating to the enterprise system for at least one year or more. It is not possible to perfectly capture every moment of users' adaptation process because the adaptation process is a complex and long process. The retrospective nature of this research have affected the way participants recalled their entire adaptation process. To minimise the retrospective nature of the study, I asked additional questions to allow participants to recall circumstances in the past, and to elaborate and confirm their answers (Huber & Power, 1985).

Secondly, this study examined different types of adaptation behaviour and the factors that influence adaptation behaviour. However, the study did not focus on the dynamic process of adaptation behaviour in terms of changes from one type of behaviour to another type of behaviour during enterprise system implementation. The adaptation process is a dynamic process and individual may reappraise the situation according to the incident and triggers that influence them at the specific time (Beaudry & Pinsonneault, 2005).

Lastly, research findings generated in qualitative research are difficult to generalise because the findings are strongly impacted by individuals' perspectives and values (Lewis & Ritchie, 2003). To enhance the generalisability of the findings of this study, multiple cases and cross-case analysis were employed to assess similarities and differences in results across three cases to strengthen the finding results. For example, three adaptation

behaviours ***(resistance behaviour, avoidance behaviour, and adaptation effort behavior)*** were revealed across three cases with similar results. In terms of differences, the emerging pattern code of **transparency tool and control mechanism** highlighted the fact that the new CRM system stopped ambiguity in sales activity information in the RC organisation only.

An aspect that needs further examination relates to the outcomes of enterprise system usage. Even though the results of this study represent the consequences of using an enterprise system, the study did not investigate how an enterprise system shapes organisational performance. There is a need for further research on how organisations can improve their performance associated with enterprise system implementation.

This study focused on different organisational contexts from three different types of business to reveal similarities and differences regarding individual adaptation and organisational change after CRM implementation rather than focusing on national and organisational cultural contexts. Future research could expand this study to consider the influence of culture on individual adaptation and organisational change.

This study was conducted in Thailand and it is suggested that the study be replicated in different countries in order to investigate other cultures. Future research could expand this study to examine the cross-country context in order to deepen understanding of different cultural backgrounds. Finally, this thesis studied enterprise system implementation in the context of the CRM system. Future research could use this multi-level theory and apply it to other enterprise system contexts to examine the multi-level change process in the post-adoption stage.

9.5 Chapter Conclusion

The goal of this study was to build a multi-level theory relating to post-adoptive adaptation and organisational change associated with enterprise system implementation. This study aimed to provide insights into individual adaptation and organisational change perspectives. There has been a gap in the research in terms of multi-level analysis which this study aimed to fill. This study aimed to enhance the understanding of the change process during the enterprise system implementation.

The multi-level theory highlights the importance of users' adaptation and organisational change. It provides theoretical contributions to the IS literature. It also enables organisations to understand the entire process of enterprise system implementation. It is

hoped that the results of this research can assist organisations to minimise negative consequences and minimise individuals' negative attitudes or perceptions which create resistance and avoidance behaviours during the change process involved in enterprise system implementation.

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Appendix 1: Indicative Interview Questions

Indicative Interview Questions

The interview contains questions about participants' work experience and educational background, their experiences related to information technology, their perception toward CRM systems, their CRM use, and their related adaptation. The main questions are related to participants' post-adoptive adaptation process regarding CRM implementation and organisational change (how organisational change influences participants' behaviours). The interview questions have different sets of questions that are suitable to different groups of participants such as marketing users, IT users, and managers. During an interview, the interviewer may ask additional questions to clarify participants' responses.

The interviewer will begin by asking the participant to provide some basic background/demographic information:

Date of the interview:_____

Location of the interview:_____

Name: _____ Age:_____ Gender: Male ☐ Female ☐

Job Position/Department:_____

Educational background:_____

(Note: the blank lines will be filled out by the researcher)

The interview questions relating to different groups of participants:

CRM users:

1. Could you please tell me about your job duties, roles, and current responsibilities?
2. What applications did you use prior to the CRM system? (e.g., applications to support sales, marketing, and customer services)
3. What was your experience with the previous system before you changed to CRM? Could you please describe the transition from the previous system to the current CRM system?
4. Were you familiar with the CRM system before implementation?
5. How long have you been using the CRM system in this organisation?
6. How do you use the CRM system as part of your job? Which CRM modules do you use? (e.g., CRM marketing module, customer service systems module, etc.)
7. How do you use the CRM system to accomplish your work tasks? Please explain the work tasks that you use the CRM system for.
8. How has the CRM system affected your work and productivity on the job?
9. How has the CRM system improved your work routine?
10. How have you changed your personal work routines in order to take advantage of the CRM system?
11. What are the advantages of the CRM system compared to the previous system?
12. What are the disadvantages or weaknesses of the CRM system compared to the previous system?
13. How has the organisation changed as a result of CRM implementation? How has the CRM system affected organisational structures and practices?
14. How was the CRM system integrated into the previous work processes? Did you redesign the existing work processes in parallel with the customisation of the CRM system?
15. How did organisational changes affect your structure of work tasks during CRM implementation? What were the main challenges that emerged during CRM implementation?
16. Has CRM implementation affected your personal performance/ability in using the CRM system? How?
17. Has the CRM system changed your process of work? How? How has the CRM system affected the process of work with other departments in the organisation?

18. Could you please explain your impression when you first learned about CRM and after using it?
19. Did you feel uncomfortable in using the CRM system? How?
20. How did you manage the transition? What helped you to be comfortable in using the CRM system?
21. What was the role of your organisation/manager/colleagues in your adaptation effort to use the CRM system?
22. How did your organisational environment help you adapt to the new information system implementation?
23. How did you learn to use the CRM system?
24. How much have you tried to use the CRM system on your own?
25. What were the challenges in learning about the CRM system? Why? What were the easy elements (features) to learn about the CRM system?
26. What types of support for using the CRM system were made available to you? (e.g. training, documentation, among others) Why or why not?
27. What types of support activities did you participate in (e.g., training, documentation, among others)? How did you choose which support activities to participate in?
28. Were the various support activities useful to you and how?
29. Do you have any further comments?

Management levels:

1. Could you please provide me with a picture of the organisation/department? (e.g., organisational structure, number of staff, background, main roles, hierarchy, etc.)
2. When did your organisation start implementing the CRM system? How long did it take to implement the CRM system?
3. Describe your organisation's decision-making process behind CRM implementation (e.g., what were the factors influencing the decision to implement the CRM system)? What were the benefits your organisation expected to obtain from the CRM system?
4. What has been your involvement with the CRM system?
5. What modules of the CRM system have been implemented in your organisation? (e.g., CRM marketing module, customer service systems module, among others)
6. What departments have implemented the CRM system? Who are the users of the CRM system?

7. Was the CRM system customised to suit your organisational processes? How?
8. Does your organisation plan to implement other CRM modules? Why or why not?
9. Did CRM implementation affect previous organisational processes? How?
10. How did CRM implementation affect the organisational structure and process of work?
11. How has the CRM system affected the process of work between different departments in the organisation?
12. How has the CRM system affected the other IT systems?
13. Is the CRM system compatible or work efficient with other IT systems? How?
14. How did your organisation manage parallel changes that occurred alongside CRM implementation?
15. Did anything unexpected occur during the implementation or after implementation? What happened?
16. What problems, if any, did your organisation encounter after the CRM implementation?
17. In your opinion, how has the CRM system affected your organisation? What benefits has your organisation obtained?
18. How was the CRM system introduced to users? How did users' initially respond or react to the CRM system? What are their responses now?
19. Have users avoided or resisted using the CRM system? Why? How?
20. How did you train/help your staff to adapt to and accept changes after CRM implementation?
21. Do employees need your help when they have a problem with the CRM system?
22. How would you describe employees' perceptions and expectations about the CRM system?
23. How have you encouraged users to use the CRM system? Has your organisation imposed any consequences in case of resistance to using the CRM system?
24. How do you evaluate the results of the CRM system?
25. How useful have people perceived the CRM system to be?
26. What are the advantages of the CRM system compared to the previous system?
27. What are the disadvantages or weaknesses of the CRM system compared to the previous system?
28. Do you have any further comments?

Personnel support / IT support / Help Desks:

1. How many phases did CRM implementation have?
2. Was the CRM system customised to suit your organisational system? How?
3. What were some of the challenges associated with CRM implementation?
4. From the IT perspective, how difficult was the transition from the previous system to the CRM system?
5. Is the CRM system compatible or work efficient with IT infrastructure? How?
6. What are the disadvantages or weaknesses of the CRM system compared to the previous system?
7. What technical issues should be improved in the CRM system from this point?
8. In the post-adoption stage, how did users express their opinion about the use of the CRM system?
9. What are the support activities that you and your team provide to CRM users?
10. Did you and your team obtain training sessions from the vendor company?
11. How long did it take for each training session and for the entire program of training? Please describe activities in each training session.
12. Could you please explain the content of the various training modules?
13. Were the training sessions useful? Please explain.
14. Do you have any further comments?

Approved by the Auckland University of Technology Ethics Committee on 29 May 2014
AUTEC Reference number 14/132

Appendix 2: Ethic Approval

AUTEC

SECRETARIAT

29 May 2014

Angsana Techatassanasoontorn

Faculty of Business and Law

Dear Angsana

Re Ethics Application: **14/132 Understanding the post-adoptive adaptation process in organisational CRM implementation.**[19]

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 29 May 2017.

As part of the ethics approval process, you are required to submit the following to AUTEC:

A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/researchethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 29 May 2017;

[19] Please note that the thesis title in the ethics approval document was approved on 29 May 2014. Now, the thesis title is changed to 'A multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation: the case of CRM'.

A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/researchethics. This report is to be submitted either when the approval expires on 29 May 2017 or on completion of the project.

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this. If your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply there.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

Kate O'Connor

Executive Secretary

Auckland University of Technology Ethics Committee

Cc: Wallayaporn Techakriengkrai wtechakr@aut.ac.nz

Appendix 3: Participant Information Sheet

Participant Information Sheet

Date Information Sheet Produced:

8th May 2014

Project Title

Understanding the post-adoptive adaptation process in organisational CRM implementation.[20]

An Invitation

Greetings, my name is Wallayaporn Techakriengkrai. I am currently a PhD student in Business Information Systems at the Faculty of Business and Law at Auckland University of Technology (AUT). My research topic is about understanding the post-adoptive adaptation process in organisational Customer Relationship Management implementation, under the supervision of Dr. Angsana A. Techatassanasoontorn and Professor Felix B. Tan. I would like to invite you to participate in this research and share your experience of individual adaptation and usage regarding Customer Relationship Management systems. Your participation is entirely voluntary and you are not obliged to take part in this study if you do not want to. If you choose to participate, you may withdraw your participation without penalty at any stage of the research.

What is the purpose of this research?

This research is a requirement to complete my PhD study. The purpose of this study aims to investigate the post-adoptive adaptation process in organisational CRM

[20] Please note that the thesis title in the participant information sheet document was approved on 29 May 2014. Now, the thesis title is changed to 'A multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation: the case of CRM'.

implementation. The findings will be presented in a thesis. A hard copy and electronic copy of the final thesis will be available in the AUT library.

How was I identified and why am I being invited to participate in this research?

You have been invited to participate in this project because you have experience regarding CRM systems in your organisation. As the researcher, I asked managers to create a pool of potential participants. I made a selection of potential participants and your name was included in the selection list. I believe that your experience, expertise, and ideas about CRM systems would help me understand the post-adoption change process in information systems implementations in general and CRM implementations in particular. The results will be useful to reveal how users react and handle the introduction of new and complex CRM systems in organisational contexts.

What will happen in this research?

You will be asked questions in an interview that will take approximately 1-2 hours. The interview venue will be agreed upon between you and me, the researcher. The primary choice would be your office. If you prefer to have an interview outside the office, the venue could be a public coffee shop or a restaurant. If you agree, the interview will be audio taped, along with note-taking. The questions will explore your experience of using a CRM system. You have the right not to answer questions if you do not wish to. You can leave an interview session at any time if you feel uncomfortable. After the interview, you will be asked to verify the transcript of the interview to confirm the accuracy of the information collected. In addition, I may also contact you again later to ask you for some additional information. The data collected from you will be kept strictly confidential. The findings will be published in my doctoral thesis, academic journals, and peer-reviewed conference proceedings.

What are the discomforts and risks?

I do not anticipate any major risks or discomforts due to the voluntary nature of the participation. Confidentiality of information will be maintained and your data will not be shared with others. However, if you feel uncomfortable or unable to answer some of the questions, you do not have to answer those questions. You can withdraw from participating in this research prior to the completion of the data collection.

What are the benefits?

There are at least two benefits from participating in this research. Firstly, you have the opportunity to reflect on your CRM experience and may learn something new about your own experience and ideas during the interview session. Secondly, the research findings may assist organisations in improving weaknesses and gaps in their CRM post-adoption stage as well as providing better support for employees during the change process. This research expects to contribute to a better understanding of the post-adoptive change process associated with new information systems implementation. This research will be published in a doctoral thesis. It is a requirement to complete my PhD study.

How will my privacy be protected?

To protect your privacy, you are asked to contact me, the researcher, directly if you are interested in participating so that management does not know. I will respect all issues of confidentiality and privacy of all participants. All data collected will be kept strictly confidential. No one will have access to the data except myself and my supervisors. Once the research project is completed, all information will be stored in a secure locked cabinet on AUT premises. All data and Consent Forms will be securely destroyed after a period of six years. The real names or any other information that may disclose your identity will not be included in the final report.

What are the costs of participating in this research?

There are no costs to you for participating in this research except for approximately one to two hours of your time for answering interview questions, which is much appreciated.

What opportunity do I have to consider this invitation?

You will be given at least two weeks to review this information sheet and either accept or decline this invitation to participate in the research project. If you want to seek further information, or to clarify any points, feel free to contact me on my details below.

How do I agree to participate in this research?

If you agree to take part in this research you will be required to sign a Consent Form which will indicate your willingness to participate in this research and that you will be participating with full knowledge of the aims and purpose of this research.

Will I receive feedback on the results of this research?

If you wish to receive a copy of the final report you will be sent one upon completion. You can indicate on the Consent Form whether or not you would like a copy.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisors, *Angsana Techatassanasoontorn, angsana@aut.ac.nz, (09) 921-9999 ext. 9235 and Professor Felix B. Tan, ftan@aut.ac.nz, (09) 921-9999 ext. 9487.*

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, *Kate O'Conner, ethics@aut.ac.nz, (09) 921-9999 ext. 6038.*

Whom do I contact for further information about this research?

Researcher Contact Details:

Wallayaporn Techakriengkrai, wtechakr@aut.ac.nz, +64 022-1969374.

Contact Detail in Thailand: 081-818-5889

Approved by the Auckland University of Technology Ethics Committee on 29 May 2014, AUTEC Reference number 14/132.

Appendix 4: Consent Form

Consent Form

Project title: Understanding the post-adoptive adaptation process in organisational CRM implementation[21]

Project Supervisors: Dr. Angsana A. Techatassanasoontorn

Professor Felix B. Tan

Researcher: Wallayaporn Techakriengkrai

- ○ I have read and understood the information provided about this research project in the Information Sheet dated 8th May 2014.
- ○ I have had an opportunity to ask questions and to have them answered.
- ○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ○ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- ○ If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- ○ I agree to take part in this research.

[21] Please note that the thesis title in the consent form was approved on 29 May 2014. Now, the thesis title is changed to 'A multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation: the case of CRM'.

○ I wish to receive a copy of the report from the research (please tick one):

Yes○ No○

Participant's signature:

.....……...

Participant's name:

….....…….

Participant's contact details (if appropriate):

……...…

……...…

…….……

Date: ……

Approved by the Auckland University of Technology Ethics Committee on 29 May 2014, AUTEC Reference number 14/132.

Note: The Participant should retain a copy of this form.

Appendix 5: Interview Question Form

Interview Questions

Research topic: Understanding the post-adoptive adaptation process in organisational CRM implementation.[22]

Purpose of this research: This research is a requirement to complete my PhD study. This study aims to investigate the post-adoptive adaptation process in organisational CRM implementation. The results will be useful to reveal how users react and handle the introduction of new and complex information system applications in organisational contexts. The findings will be presented in a thesis.

General Questions:

Please fill out your information below:

Date of the interview:_____

Location of the interview:_____

Name: _____Age:_____ Gender: Male ☐ Female ☐

Job Position/Department:_____

How long have you been working with this organisation? :_____

Educational background:_____

[22] Please note that the thesis title in the interview question form was approved on 29 May 2014. Now, the thesis title is changed to 'A multi-level theory of post-adoptive adaptation and organisational change in enterprise system implementation: the case of CRM'.

Appendix 6: Coding Construction of RC Case

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(used CRM as front system, integrated with existing systems)* Reshaped work processes *(additional work processes, systematic workflow, prepared customer information, input customer information, checked with DBD database to confirm organisation names)*	Reshaped technology-enabled work processes	Changing structure of work
Sole authority to verify accounts, systematically created accounts, supported all tasks associated with CRM system	New centralised team	
Data quality governance *(unplanned cleansing data, manually inputted customers' data into the CRM system)* Mismatched for sales professionals' occupational identities *(focused on selling products, avoided administration tasks, inadequate support of users' needs)*	User-system-process interaction constraint	
Centralised database, filter system, information sharing, authority to sell products, monitored sales professionals' activities	Information clarification	Transparency tool and control mechanism

Low-level codes	Interpretive codes	Pattern codes
Sales authorisation, sales' district boundaries, required to input customer information into the CRM system, controlled work practices	New rules	Transparency tool and control mechanism
Loss of benefits, hidden sale of products, sales community conflict, affected relationship among sales professionals	Conflict among users	Consequences of CRM implementation
individual system attachment, individual work system preferences, a complaint about the system, unwilling to change work routines and work practices, refused to use the system	Resistance behaviour	Adaptation behaviours
minimal usage, mismatch for sales professionals' work practices, disregarded inputting of customer information, irregular update of data, incomplete input of data, avoided administration tasks	Avoidance behaviour	
acceptance and open minded, attempted to change, attempted to learn, attempted to use some features, adjusted work routines and work practices, used socialisation feature	Adaptation effort behaviour	

Low-level codes	Interpretive codes	Pattern codes
Individual characteristics and attitudes *(positive attitudes, negative attitudes, users' ages)* Users' perception *(perceived a mismatch with sales professionals' occupational identity, inadequate response to users' needs, complex system, perceived benefits [more efficiency, more flexibility, saved meeting time, saved time to do reports, accessible anywhere anytime], information sharing, perceived some parts of CRM system' interface as similar to hedonic application, individual benefit lost)*	Individual characteristics, attitudes, and users' perception	Factors influencing adaptation behaviours
Organisational policy *(mandatory use, forms of mandate, tactics of motivating users, closely monitored users, policy to centralise customer database, policy to increase sales amount)* Organisational support *(procedural software training, customised training session, small group training session, provided tips and tricks)*	Organisational policy and support	

Low-level codes	Interpretive codes	Pattern codes
Motivation from management *(attempted to be a role model, convinced users to use the CRM system)* Motivation from CRM team members *(motivational campaigns, interactive activities)*	Social influence	Factors influencing adaptation behaviours
Lack of CRM expertise *(lacked expertise associated with CRM system, unclear purpose to set up CRM team)* Subcultural mismatch *(lacked understanding of sales professionals' subculture, lacked trust from users, seniority)*	Lack of CRM expertise and subcultural mismatch	

Appendix 7: Coding Construction of HP Case

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(embedded with existing systems, completely replaced previous work systems)* Reshaped work processes *(additional work processes, systematic workflow, inputted customers' data, updated customers' information)*	Reshaped technology-enabled work processes	Changing structure of work
Integrated with other existing systems, integrated two systems to view further customer information	Integrated work systems	
Lack of customisation *(lacked system workflow adjustment, unsuitable for work processes, too many unnecessary menus, too many features)* Slow connection to CRM server *(slow server response, server location issue, system hang)*	User-system-process interaction constraint	
increased abandoned calls, increased talk time, effect on KPIs, risk of patient misidentification	Effect on work performance	Consequences of CRM implementation
unfamiliar with the system, felt overwhelmed, felt worried, unwilling to change work routines and work practices, refused use, individual system attachment	Resistance behaviour	Adaptation behaviours

Low-level codes	Interpretive codes	Pattern codes
avoided using the function of inputting customer information to minimise abandon calls, minimal usage	Avoidance behaviour	Adaptation behaviours
learning by repetition, learning effort, acceptance and open-minded, complexity of the system, difficult to use, repeated use	Adaptation effort behaviour	
willing to adapt, satisfaction, impression, pride, felt proud to use the professional programme, preferred to use, maximised benefits	Self-satisfaction adaptation behaviour	
Individual attitudes *(positive attitudes, negative attitudes)* Users' perception *(complex system, perceived benefits [more efficiency, easy to coordinate with other departments, recognised and identified customers, improved the quality of services, increased customer satisfaction], suitable for users' work processes)*	Individual attitudes and users' perception	Factors influencing adaptation behaviours
system overload, workload, time and human resource limitations, the organisational rule associated with time limitation to finish tasks, slow connection to CRM server	Task-technology constraints	

Low-level codes	Interpretive codes	Pattern codes
Organisational policy *(mandatory use, data integration, customer-centric focused, pilot implementation, required system, policy to improve customer satisfaction, policy to improve the quality of services)* Organisational support *(procedural software training, user manual, customised training session, small group training session, on-the-job training, management committee support team)*	Organisational policy and support	Factors influencing adaptation behaviours
Motivation from management *(convinced and motivated users to use the CRM system, coordinated between staff and IT support, regular meetings associated with CRM system usage among CRM users)* Motivation from work colleagues *(shared knowledge and experience regarding CRM usage, worked as a team, supported work colleagues)*	Social influence	

Appendix 8: Coding Construction of BI Case

Low-level codes	Interpretive codes	Pattern codes
Reshaped work systems *(embedded with existing systems, completely replaced previous work systems, changed the system of communication among business units)* Reshaped work processes *(additional work processes, systematic workflow, inputted customer information, updated customer information)*	Reshaped technology-enabled work processes	Changing structure of work
Integrated with other existing systems, integrated with the phone system	Integrated work systems	
stored customer data, changed the way to view customer information, focused on customers' perspective, able to view all insurances per customers' accounts	Customer-centric data focus	

Low-level codes	Interpretive codes	Pattern codes
Customisation limitations *(complicated workflows, system workflow adjustment limitations, mismatch of the terminology in the CRM system, too many features)* Limited user experience with off-the-shelf software *(lacked experience with off-the-shelf software, unfamiliar with the interface of enterprise package system)* Mismatch between CRM system and work practices *(unsuitable for business type, difficult to obtain in-depth customer information)*	User-system-process interaction constraint	Changing structure of work
users relationship issues, communication conflict, unclear communication	Conflict among users	Consequences of CRM implementation
struggling with workflow, not fluent in using the system, incomplete integration, increased abandoned calls, affected KPI, inputted customers' information, time-consuming to input customer information, double keyed information into two systems	Effect on work performance	
unwilling to change work routines and work practices, refused use, individual system attachment, unfamiliar with the system, too many functions	Resistance behaviour	Adaptation behaviours

Low-level codes	Interpretive codes	Pattern codes
minimal usage, incomplete input data, used only preferred module, parallel use with preferable systems or tools, preferred to use the existing systems to deal with an important task, ignored unnecessary features	Avoidance behaviour	Adaptation behaviours
learning by repetition, learning effort, acceptance and open minded, difficult to use, complicated features, repeated use	Adaptation effort behaviour	
willing to adapt, preferred to use, impression and pride, perceived benefits of the system, received compliments from work colleagues and customers	Self-satisfaction adaptation behaviour	
Individual characteristics and attitudes *(positive attitudes, negative attitudes, users' ages)* Users' perception *(complex system, information sharing, perceived benefits [shortened work processes, reminder tool, customer recognition, improved quality of services, accessible anytime anywhere, more systematic, more efficient])*	Individual characteristics, attitudes, and users' perception	Factors influencing adaptation behaviours

Low-level codes	Interpretive codes	Pattern codes
incomplete integration between two systems, system overload, workload, time and human resource limitations, the organisational rule associated with time limitation to finish tasks, different implementation periods in different business units	Task-technology constraints	Factors influencing adaptation behaviours
Organisational policy *(mandatory use, forms of mandate, tactics of motivating users, staged process implementation, policy to improve customer services)* Organisational support *(procedural software training, user manual, small group training session)*	Organisational policy and support	
Motivation from management *(convinced and motivated users, management support, coordinated between staff and IT support)* Motivation from work colleagues *(shared knowledge and experience regarding CRM usage)* Motivation from IT support team *(very supportive, enthusiastic helpful)*	Social influence	