ESTABLISHING REALISTIC PERFORMANCE MEASUREMENTS FOR CUSTOMER RELATIONSHIP MANAGEMENT IN THE SME CONTEXT

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ABSTRACT

This research reviews aspects of Customer Relationship Management (CRM) literature. It examines, in particular, the area of CRM performance measurement. The main objective of this research is to develop a business-orientated measurement tool for the assessment of CRM performance. The research context is set within the Small and Medium-sized Enterprises (SMEs) across the United Kingdom.

Although the literature review showed that there are both successful and unsuccessful cases of CRM performance, the research highlighted a significant issue concerning CRM performance measurement. It was found that many companies are unable to quantify their performance claims. Additionally, there is little or no strong evidence that companies measure their CRM performance, it is therefore questionable in regard to the justification of reported cases of CRM success and failure. Further literature evidence on the area of existing CRM performance measurement tools was critically reviewed. Overall the evidence points to the need for a simplified and realistic measurement tool that is based on what CRM user companies are actually doing or capable of doing regarding the assessment of CRM performance.

Research methodological approaches undertaken were hierarchical in their nature. Two stages of empirical work were conducted: questionnaire survey and semi-structured interviews. The questionnaire survey covered the scope of 2,200 SMEs across the United Kingdom. The survey aimed to identify Key Performance Indicators (KPIs) adopted by companies and to also create a profile of CRM companies for the next phase of research. The interview stage aimed to gain insight into CRM performance measurement in order to aid the development of a practical and business-orientated CRM performance measurement framework. There were 26 self-selected CRM user companies involved at the interview stage.

Results from the quantitative analysis of survey data revealed a number of KPIs adopted by companies including the profile of CRM users. The qualitative and quantitative analyses of interview data allowed a CRM performance measurement framework to be derived and developed. The main findings suggested that companies should focus primarily on assessing the process rather than putting the entire focus only on the final outcome or bottom line (i.e. financial outcome). The close relationship between the process and outcome measures implied that the effective assessment of process would result in the effective outcome.

There were also other outcomes relevant to the research such as issues with CRM market forecasts, issues with existing CRM measurement tools and extreme views on CRM. In regard to the ways they assess their CRM, one of the interesting findings of this research revealed that CRM user companies who view CRM from a customer perspective enabled by technology perspective appear to be more successful than those who view CRM solely from a strategy perspective

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GLOSSARY OF TERMS

ANOVA	Analysis of Variance
APQC	American Productivity & Quality Center
BS	Balanced Scorecard
CAQDAS	Computer Aided Qualitative Data Analysis Software
CCAM	Customer Capital Asset Management
CMAT	Customer Management Assessment tool
CRM	Customer Relationship Management
DTI	Department of Trade and Industry
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
ERP	Enterprise Resource Planning
KM	Knowledge Management
KPIs	Key Performance Indicators
MANOVA	Multivariate Analysis of Variance
Nvivo™	A qualitative data analysis software
ONS	Office of National Statistics
PCA	Principal Component Analysis
RE	Requirement Engineering
RM	Relationship Marketing
ROCD	Return on Capital Employed
ROI	Return on Investment
SaaS	Software-as-a-Service
SCM	Supply Chain Management
SFA	Sales Force Automation
SMEs	Small- and Medium-sized Enterprises
SPSS	A comprehensive package for statistical analysis and data management
TQM	Total Quality Management
VDA	Value Driver Analysis

Chapter One: Introduction

1.1 Introduction

Customers are becoming more highly educated, more influenced by international cultures, under higher stress levels and more demanding in their requirements. Consequently, these have affected changes in their behaviour. For example increased pressure on time spent on shopping, an emerging trend of outsourcing like the rise of ready meals, an increase in the consumer buying power and products that were once considered as luxuries like televisions and fridges have become necessities due to the evolved consumer lifestyles. Products or services are bought for a number of different reasons or benefits, some purchases are made consciously, the other are made unconsciously, some with rational thought and the other are made with pure emotion (Brassington and Pettit, 2007; Smith and Taylor, 2004; Wilson et al, 2002). Businesses are trying very hard to retain their market shares by utilising a variety of possible marketing techniques and strategies to boost their sales.

As the market has become more competitive and customer requirements have also become more dynamic and demanding, these have forced businesses to adapt and change the way they operate their businesses. In keeping with such fierce competition, good and effective marketing initiatives are required to timely react to the fast changing environment. It is then more important than ever for companies to build and sustain long-term relationships with their valuable customers. According to Wilson, et al (2002) the changing trends in consumer behaviour have created significant demands on company information systems, as higher service levels are required, resulting in more focus on customer service strategies.

It is worth considering how this change of focus has emerged including its impact upon current practice. Previously, marketing theory and practice have had a sole focus on the sales and single event of a transaction as the objective of marketing activity: it was termed as 'Transactional marketing' (Webster, 1992). The concept of transactional marketing was later on evolved into a concept of 'Relationship Marketing' (RM). Relationship marketing emphasises retaining and building relationships rather than having just simply individual transactions (Wilson et al, 2002).

The marketing community and industry began to be aware of the need to better manage customer relationships around the 1990s. This is partly due to an influential study which revealed that small increases in customer retention rates can greatly contribute to profitability levels (Reichheld and Sasser, 1990). Since then, marketing has changed its focus considerably. Further studies have highlighted the gap between the costs of acquiring new customers and the costs of keeping the existing ones. Several authors have found that it is more profitable to retain existing relationships (Birkin and Harris, 2003; Chen and Popovich, 2003; Meltzer, 2003a; Stefanou and Sarmaniotis, 2003; Hildebrand, 1999; Reichheld, 1996; Bergman and Klefsjo, 1994; Peppers and Rogers, 1993). As a result, many organisations are becoming aware of the importance of customer loyalty to their businesses (Comb, 2004). Peppers and Rogers (1997) suggested that the focus on this concept should not be placed on just keeping any customers, but the most profitable or valuable ones. The popularity of this concept has introduced and influenced the adoption of the term 'Customer Relationship Marketing' in recent decades (Wilson et al, 2002).

This changing trend in the understanding of customers and the business operations introduced a concept of Customer Relationship Management (CRM) and its associated technologies.

It could be argued that there is nothing new about the idea of customer relationship management because it is the way businesses have been done all along. Fortunately, managing customer relationships has been benefited from advances in technology and data intelligence. As a result, larger scales customer data collection and analyses have been made possible and become much more efficient than ever (Nelson, 2003). Another supporting view stated that the rapid growth of the Internet and its relative technologies has significantly boosted the opportunities for marketing. The way relationships between companies and their customers are managed has also been substantially transformed (Bauer et al, 2002).

Regarding its technological capacities and promising business potential, CRM software is therefore becoming an increasingly important strategic tool. As businesses are moving towards a customer-focused perspective, the quest for competitive advantage and profitability motivates enterprises to adopt CRM to improve their businesses (Roberts et al, 2005). By tailoring offerings that suit their customer requirements, companies are expected to develop for themselves a competitive edge which will help them to stay ahead of their competitors. Consequently, CRM is seen as an attractive subject area for research due to its relative novelty and detonating growth (Ngai, 2005).

This thesis focuses on the area of Customer Relationship Management (CRM). It investigates, in particular, the aspect of performance measurement of CRM. The main aim is to explore how CRM software systems are actually assessed by companies and whether a realistic performance measurement solution can be usefully derived and developed from such an investigation. The context of the research is set within Small- and Medium-sized Enterprises (SMEs) in UK industry and commerce. This investigation therefore specifically focuses on benchmarking, assessment models and metrics for CRM performance. It neither includes cultural or social perspectives of CRM performance assessment nor other aspects of CRM technical development.

This chapter provides the introduction to the thesis. It summarises the initial research work done and the preliminary findings of relevant literature and industry practice. It then attempts to explain how the decision on the choice of topic area was made as a result of the preliminary work. The context in which the research is set is also discussed. The objectives of the research and research questions are given and the structure of the thesis is also outlined.

1.2 Research Context and Area

My particular interest in CRM started from my Master Degree: my MBA dissertation focused in the CRM arena and Data Mining Technologies . An encouragement from my supervisor and support from the family has inspired me and led to an interest in undertaking further research in CRM for a doctoral degree.

In this section, explanations are provided in terms of how the initial choice of research topic was selected. It details the initial research focus and preliminary work done. It then discusses how results from the preliminary work have resulted in a decision on the current topic area of this research. It concludes the section with details on the research context in which the study is set.

The choice of the research area was originally decided to be CRM performance. The initial literature search was focused on the current situation of CRM performance in the industry. The literature reported the staggering CRM failure rates of between 50%-85% (Gartner, 2003;Myron and Ganeshram, 2002). A global study conducted by IBM Business Consulting Services in 2004 showed that 85% of large- and small-sized companies in America, Europe and Asia, across all industry sections, are not satisfied with their CRM performance (IBM, 2004). This suggested that the underlying reasons for CRM failure were yet to be discovered. Another area of interest was on the potential benefits and the possibility of integration between CRM and the Enterprise Resource Planning (ERP) system.

ERP assists an organisation to gain competitive advantage by automating business processes and connecting corporate departmental functions such as finance, accounting, logistics, manufacturing and human resources. As a result, it increases operational efficiency, reduces operating costs and provides faster access to end users (Zeng, 2003; Siau and Messersmith, 2002; Tarn et al, 2002).

It was believed to be a promising solution to the reported poor performance of CRM. Literature searches discovered benefits and the need for these two software systems

to be integrated (Light, 2003; Pettit and O'Connor, 2002; Solomon, 2000). As a result of this initial focus, the two research objectives drawn for the study were as follows: firstly, to review current use of CRM and assess the effectiveness of its usage and secondly, to identify the causes of failure and develop solutions to enable functional integration of CRM and ERP, including a consideration of the barriers and requirements for the integration.

A preliminary questionnaire survey was designed (Appendix I, section 1.1), a pilot test was conducted and the survey was carried out. Results from the survey and the initial literature review carried out raised issues of the feasibility of completing the research, creating further questions and a change of focus: it was realised that there were small amounts of research on the integration of CRM and ERP systems. Also, it was very rare to find organisations that connected these two systems together. In many cases, either a company adopted only one type of these systems (CRM or ERP) or a company may adopt both systems but utilise these two systems separately. A number of important issues related to the CRM literature were also acknowledged i.e. CRM definition, justification, and assessment of CRM performance and impacts on its success: the questions of justification for CRM success and failure then emerged when considering reported successful and unsuccessful cases of CRM performance within the literature. It seemed to be the case that these claims on CRM performance from the literature were not quantifiable. The focus of this study was then shifted to the area of CRM performance measurement literature within a context of Small- and Medium-sized Enterprises (SMEs) in the United Kingdom.

Further literature review on CRM performance measurement literature was conducted as a further investigation into the subject area. Several existing measurement tools and best practices were identified and critically reviewed. It was clear that much work has been carried out to try and establish standards of measurement for CRM systems. Yet the fact still remains that disappointment with CRM performance remains extremely high within companies. It was therefore suggested that a programme of work that could lead to a simplified, clearly understood approach that may be used by companies of any size, but particularly by SMEs, was required. A rational approach to achieving this was to identify what companies are actually doing successfully and then see if such activities could usefully be modelled. The main findings from the literature have therefore suggested a direction and foundation to an establishment of the research objectives and questions for the research discussed in the next section as follow.

1.3 Objectives of the Research

It was hoped that realistic measurement solutions for CRM would be discovered and developed in a way that would be a useful guideline for CRM user companies to adopt as best practice. The main objectives for the research were therefore:

- To identify key performance indicators that can be specifically and practically applied to CRM systems.

- To identify whether companies have the information required to operate existing measurement tools.

- To develop practical and business-orientated measures for the assessment of CRM performance.

The following research questions were then derived:

1. What are the Key performance Indicators (KPIs) being used by companies and how do they reflect the success of CRM systems?

   1.1 What are companies doing to monitor the efficiency of their CRM systems?

   1.2 How do they perceive the effectiveness of their assessment approaches?

   1.3 How these approaches can be related to the success of their CRM systems?

2. What are the difficulties companies facing with existing CRM measurement tools?

3. What measurement solutions can be developed for companies to adopt realistically as a framework in assessing the success of the CRM systems?

1.4 Summary of Potential Contributions

It was hoped that the following contributions would be made to the existing knowledge as outcomes of this research:

Firstly, it was intended that an investigation into the aspect of CRM performance assessment would give clarifications to the subject area, which has been under-researched.

Secondly, a CRM performance measurement framework or best practice would be derived and developed from the research.

1.5 Structure of the Thesis

According to a number of authors, a typical structure that is generally used for a research report consists of the following elements (Phillips and Pugh, 2005; Malhotra and Birks, 2003; Saunders et al, 2003; Robson, 2002): abstract, introduction, literature review, method, results, discussion, conclusions, references and appendices. Variations exist only in the wording and the detail of the structure, but the elements and structure are generally similar.

It is also essential that the structure of the report has a logical flow. Readers should be made aware of 'the journey' being taken and the point where the journey has been reached. Giving a clear structure to the report will enable readers to identify the storyline clearly, having read the report. (Phillips and Pugh, 2005). In this section, an outline of the research contents is presented in the following six chapters:

- ***Chapter One: Introduction***

  This chapter introduces the key area which the research investigates. It discusses the particular interest in the subject area which led to a decision to pursue a doctorate degree. It also presents preliminary work done and explains how the results led to the choice of the research topic undertaken for this study. It explains the context in which the research is set. The research objectives and questions are discussed and the structure of the thesis is outlined and presented.

- ***Chapter Two: Literature review***

  A comprehensive review on aspects of Customer Relationship Management (CRM) literature is presented and discussed in chapter two. Various aspects of CRM literature covered in this chapter are CRM history, definitions, current situation, trends and issues in the CRM market including major providers within the industry. A number of CRM implementation models and best practices are also reviewed. This chapter focuses and discusses CRM performance measurement in particular as it is a key aspect of this research. This aspect was guided by discussions and initial findings from the literature review on CRM performance. The main existing performance measurement tools for CRM are identified and critically reviewed in which a gap in knowledge is revealed. These recognitions and findings have guided the direction to an establishment of research objectives and questions detailed in the next chapter.

- ***Chapter Three: Research Methodology***

  This chapter discusses the research methodological approaches undertaken and their justifications. The contents of the chapter are structured into two major parts using the basis of stages of empirical work conducted - questionnaire survey stage and interview stage. The chapter provides explanations and discussions on the philosophical underpinnings for the chosen research approaches. It details the research processes and elements of the empirical work done: covering the design, respondent profile, pilot test, sampling design and the process of data analysis. Discussions on the relationship between the gap in knowledge and the chosen research methodological approaches are also included within the chapter.

- ***Chapter Four: Data analysis and findings***

  The main findings from the questionnaire survey and interview stages are presented and discussed in this chapter. It provides discussions on how the CRM performance measurement framework was developed as a final outcome of this study. Other findings that were considered to be relevant to the research are also discussed and presented within the chapter.

- ***Chapter Five: Summary and Initial Conclusions***

  Key issues identified from research carried out into Customer Relationship Management (CRM) are summarised and discussed. It discusses particularly main concerns in the area of CRM performance assessment. It also explains how a knowledge gap was identified from the literature which then led to an establishment of the research objectives and a formulation of the research questions. This chapter also discusses the research methodological approaches undertaken including their justifications.

- ***Chapter Six: Conclusions and Recommendations***

  This chapter concludes main findings discussed and reported in chapters four and five. The chapter also discusses the limitations of both the research area and the methodological approaches undertaken. The theoretical implications (research contributions) and business implications are discussed including suggestions for future research.

Chapter Two: Literature Review

2.1 Introduction

Chapter two presents a comprehensive review on aspects of Customer Relationship Management (CRM) literature. The chapter begins with the history of CRM, followed by discussions on the various definitions of CRM perceived within the literature and the industry. It then reviews current situation, trends and major CRM vendors within the CRM market and industry. Following a review on a number of CRM implementation models and best practices, the chapter then provides a report on CRM performance.

This chapter focuses and discusses CRM performance measurement in particular as it is a key aspect of this research. This aspect was guided by discussions and initial findings from the literature review on CRM performance. Within the CRM performance measurement section, the main existing performance measurement tools for CRM were identified and critically reviewed in which a gap in knowledge was identified. These recognitions and findings have given the direction and foundation to an establishment of the research objectives. Regarding the literature review on CRM performance measurement in this chapter, this research specifically focuses on benchmarking, assessment models and metrics for CRM performance. It does include neither cultural or social perspectives of CRM performance assessment nor other aspects of CRM technical development.

2.2 CRM History

Previously, marketing theory and practice have had a sole focus on the sales and single event of a transaction as the objective of marketing activity (Webster, 1992). This was evident by a study of Theodore Levitt in 1983 in which the marketing concept was much of a 'transaction-orientated' basis. The key concept of this basis is that the process between two or more transactions is neither analysed nor influenced. It is implying that the relationship and the investment in relationship between a company and its customers were totally ignored (Peelen, 2005).

From around the early 1980s, a rising number of market situation has marked a shift in the focus on the transactional to the relational aspects of the exchange process (Ardnt, 1979). The term 'Relationship Marketing' (RM) introduced by Berry (1983) came in place to reflect on this changing focus. Relationship marketing emphasises attracting, maintaining and enhancing customer relationships (Berry, 1983).

A turning point where the marketing community and industry began to be aware of the need to better manage customer relationships was around the 1990s. This partly dues to an influential study which revealed that small increases in customer retention rates can greatly contribute to profitability levels (Reichheld and Sasser, 1990). Since then, the world of marketing has changed its focus considerably. Further studies have strengthened this argument: there were a number of evidences proving that retaining existing customers is more profitable than building new relationships (Birkin and Harris, 2003; Chen and Popovich, 2003; Meltzer, 2003a; Stefanou and Sarmaniotis, 2003; Hildebrand, 1999; Reichheld, 1996; Bergman and Klefsjo, 1994; Peppers and Rogers, 1993). Consequently, more and more organisations are becoming aware of

the importance of customer loyalty to their businesses (Comb, 2004). It was further commented that the focus on this concept should not be placed on just keeping any customers, but the most profitable or valuable ones (Peppers and Rogers, 1997). The popularity of this concept has introduced and influenced the adoption of the term 'Customer Relationship Marketing' over more recent decades (Wilson et al, 2002).

Another study on the CRM history was conducted by Chalmeta (2006) who examined the evolution of the technological and management systems in regard to an emergence of CRM systems. The study revealed that the management approach adopted by many organisations during the pre-arrival of CRM was mainly focusing at costs reduction, improved quality of the operational activities (re-engineering business processes), Supply Chain Management (SCM) and so on. One of the most important technologies was the 'Enterprise Resource Planning' system (ERP) which aims to improve the efficiency of daily operational activities of the company.

Although the adoption of ERP or related enterprise application systems may produce an improvement in the quality and efficiency of the business processes, gaining competitive advantages would require capability to respond to the customer requirements and demands in the market. The need for innovative products and services are then quite a necessity. Placing customers at the centre of the business has become ever so important. 'Customer Relationship Management' concept is now vital for a customer-focused organisation in establishing their business strategies (Chalmeta, 2006). This changing trend in an understanding of customers and the business operations shows how a CRM concept and its technologies have emerged.

Figure 2.1 illustrates the evolution of the technological and management approaches of pre- and post-CRM era.

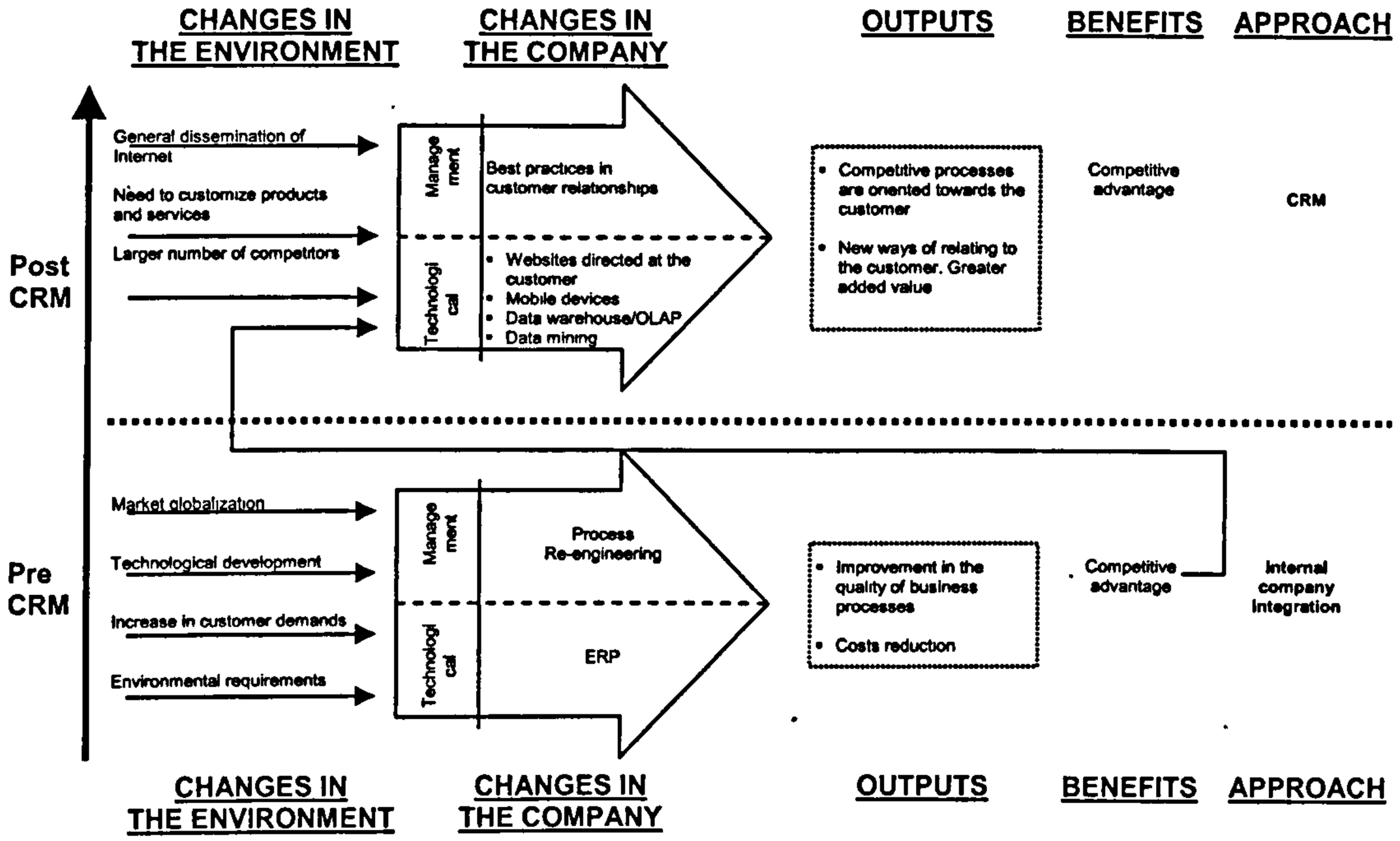


Figure 2.1
Evolution of the Technological and Management Approaches
Source: Adapted from Chalmeta, 2006, p.1061

2.3 CRM Definitions

According to the literature searches carried out, a number of different definitions of Customer Relationship Management or CRM have been discovered. It was suggested by a number of authors that a common definition of CRM rarely exists. It was commented that CRM could mean different things to different people or perhaps CRM is just not a well-defined entity (Bull, 2003; Newell, 2003; Park and Kim, 2003; Sweat, 2000). A quote from Newell (2003, p.4) presented as follows echoes this view:

> "Some think CRM is a matter of technology. Some still believe it is just the process of segmenting customers. Some think it is a matter of selling efficiency..."

It was considered that this diversity in the definitions of CRM could be categorised into four perspectives, namely *'Technology perspective'*, *'Customer perspective'*, *'Strategy perspective'* and *'Combined perspective'*. These identified common CRM perspectives could be supported by Kellen (2003) who suggested that the diversity in CRM definitions could be classified into three types of definition namely Technology Centric, Customer lifecycle Centric and Strategy Centric. Payne and Frow (2004) also shared the same view that CRM definitions could be considered in three similar categories with variations only in wording. The four common perspectives of CRM are discussed as follows:

- ***Technology Perspective***

  Technology perspective of CRM has basically emerged from the positions of particular CRM products placed by vendors. It includes the use of technology within them which makes CRM almost is a synonymous with the technology (Kellen, 2002). A number of authors defined CRM as an information technology system that improves, supports and facilitates sales, services and any aspects of interactions with customers (Goldenberg, 2004; Xu et al, 2002) Some authors defined CRM in a more sophisticated technology-related way such as Requirements Engineering (RE) which involves all the activities of analysis, discovery, design, maintenance and documentation in an information system project or regarded CRM as an integrated databases systems (Nelson, 2003; Boon et al, 2002).

- ***Customer Perspective***

  This perspective of CRM involves attracting, transacting, servicing, supporting and enhancing activities. In other words, it is all about different stages in a typical customer life cycle. This involves acquiring, developing and retaining profitable customers by managing relationships with them (Adebanjo, 2003; Cade and Almas, 2002; Mathur et al, 2002; Bradshaw and Brash, 2001; Chavda et al, 2001). Some authors related CRM to Relationship Marketing (RM) which is based on a simple concept that if a customer is happy with a relationship, it is then likely that they will stay in a relationship with an organisation (Lindgreen, 2004; Light, 2003)

- ***Strategy Perspective***

  The perspective looks at CRM as a way to compete against competitors successfully in the market. This type of definitions regards CRM as a process, strategy or an approach that brings together information about customers. The key task to CRM operations is to maximise customer values and organisation equity by organising, aligning and integrating these processes to every customer touch points (Peelen, 2005; Doshi, 2004; Swift, 2004; Chin et al, 2003; Deck, 2003; Stone et al, 2003; Hannigan, 2002; Suresh, 2002; Verhoef and Langerak, 2002; McKenzie, 2001).

- ***Combined Perspective***

  This perspective is based on the notion that CRM definition could fall into more than one perspective. Combined perspective of CRM could be defined as an approach that integrates people and/or process and/or technology to maximise

relationships with customers (Chan, 2005; Curry and Kkolou, 2004; Bailey, 2003; Chen and Popovich, 2003; Meltzer, 2003b; Bose, 2002; Brooke and Suntook, 2002; Liehr, 2002; Smock and Watkins, 2002; Davenport, 2001; McKenzie, 2001; Burghard and Galimi, 2000).

Table 2.1 below gives examples of authors whose CRM definitions are conformed to the four common perspectives of CRM. Please note that full details of CRM definitions by author can be found in Appendix II, section 2.1.

Table 2.1 Common Perspectives of CRM by Author

CRM Perspective	Authors
Technology Perspective	Boon et al,2002; Goldenberg, 2002; Nelson, 2003; Xu et al, 2002
Customer Perspective	Adebanjo, 2003; Bradshaw and Brash, 2001; Cade and Almas, 2002; Chavda et al, 2001; Light, 2003; Lindgreen, 2004; Mathur et al, 2002
Strategy Perspective	Chin et al, 2003; Deck, 2003; Doshi; 2004; Hannigan, 2002; Peelen; 2005; Stone et al, 2003; Suresh, 2002; Swift, 2001; Verhoef and Langerak, 2002
Combined Perspective	Bailey, 2003; Bose, 2002; Brooke and Suntook, 2002; Burghard and Galimi, 2000; Chan, 2005; Chen and Popovich, 2003; Curry and Kkolou, 2004; Davenport et al, 2001; Liehr, 2002; McKenzie, 2001; Meltzer, 2003; Smock and Watkins, 2002

It was therefore considered to be useful to conduct an investigation on CRM perspectives adopted within the industry. The three main perspectives namely Technology, Customer and Strategy perspective would be used as a basis for such investigation. This basis would be used to provide explanations in relation to findings of research in the later chapter.

2.4 CRM Industry

This section discusses current situation, trends and market growth and forecasts in the CRM industry. It also reviews major CRM players and movements in the competition among them within this dynamic market.

2.4.1 CRM Market

Despite potential benefits CRM software can offer organisations, the price tag is rather high. There were evidences showing that the average investment in CRM applications was over two million dollars (CIO, 2002). InformationWeek (2000) analysed CRM by company expenditures: it was revealed that 24% of organisations with CRM implementations underway claimed that they spent between one million and five million dollars and 13% of organisations spent over five million dollars. One of the UK's largest direct marketing companies mentioned that a wide selection of CRM solutions could start from a budget of between £50,000 and £1 million or over (Matthew, 2003).

CRM is a fast growing and impressively huge industry where the entire CRM market worldwide is worth billions and billions of dollars. Statistical figures on CRM worldwide market size between 2001 to 2006 were collected from a number of market reports and presented in Table 2.2 shown below (Bailor, 2007; Stojanovski, 2006; Bailor, 2005). It appeared that the CRM global market has been growing rapidly over the past years despite the economy downturn back in 2002. This radical deployment of CRM could be supported by results from a global survey on CRM conducted by IBM Business Consulting Services: it was reported that many companies are looking into CRM to improve their performance and grow their

overall businesses. Over 50% of companies believed that CRM is 'relevant' or 'highly relevant' to improving performance from a shareholder value perspective. It was also revealed that around 65% to 70% of companies are looking into CRM to deliver the revenue growth: this is by improving the customer experience and retention including development of new products and services (IBM, 2003).

A number of research firms have also been projecting the growth of CRM worldwide market for the next five year (2007 to 2011): AMR Research (2006) predicted that the CRM worldwide market will continue to rise and reach USD 18 billion in 2010. According to Forrester Research (2006), a less optimistic prediction was produced: they estimated that the worldwide CRM revenue from the software applications and services will rise at a steady 7% per year for the next few years. It was predicted that the growth will reach USD10.9 billion by 2010. A recent report produced by Gartner Dataquest revealed a forecast of the CRM worldwide market size for 2007 to 2011 (Gartner, 2007) as shown in Table 2.2. Considering differences in the projections of the CRM worldwide market growth figures produced by these research firms, there is however a consensus among these different estimations. The common view shared among those market watchers is that the CRM global market is expected to grow substantially over the next five years.

Table 2.2
Actual and Estimated Worldwide CRM Market Size: 2001-2011

	Year	Market Size (USD Billion)
Actual	2001	3.7
	2002	2.8
	2003	3.3
	2004	3.4
	2005	5.7
	2006	6.5
Estimated	2007	7.3
	2008	8.1
	2009	9.1
	2010	10.0
	2011	11.0

Source: Bailor, 2007; Gartner Dataquest, 2007 Stojanovski, 2006; Bailor, 2005

2.4.2 Accuracy of CRM Market Forecasts and Issues

CRM market size figures for 2001 to 2005 were predicted by a number of different research firms in the industry (Gray and Byun, 2001). It is worth investigating into variations between these predictions and the actual CRM market size. The actual CRM market size figures between 2001 and 2005 were then collected from a number of sources (Bailor, 2007; Stojanovski, 2006; Bailor, 2005) and presented as a baseline for the comparative analysis illustrated in Table 2.3.

Table 2.3
Comparative Analysis between Estimated and Actual CRM Market Size

Year	Actual market Size	Estimated Market Size by Research Firms (USD billion)							
		Aberdeen Group	Diff.	AMR Research	Diff.	Forrester Research	Diff.	Yankee Group	Diff.
2001	3.7	4.5	+0.8	7.9	+4.2	2.0	-1.7	0.4	-3.3
2002	2.8	6.3	+3.5	11.5	+8.7	2.4	-0.4	0.7	-2.1
2003	3.3	8.9	+5.6	16.8	+13.5	3.0	-0.3	1.2	-2.1
2004	3.4	12.5	+9.1	26.5	+23.1	3.7	+0.3	2.1	-1.3
2005	5.7	17.6	+11.9	41.9	+36.2	4.5	-1.2	3.8	-1.9

Source: Bailor, 2007; Stohanovski, 2006; Bailor, 2005; Gray and Byun, 2001

By comparing the actual market size figures to the forecasts (as shown in Table 2.3 above), there were some significant differences between them. These differences also showed considerable variations among the research firms, some were considered to be much more optimistic than the others: Aberdeen Group and AMR Research were those with highly optimistic estimations of the CRM market size, these two firms' forecasts were dramatically overestimated e.g. Aberdeen Group and AMR Research overestimated the CRM market size by USD 11.9 and 36.2 billion in 2005 respectively. Forrester Research and Yankee Group were the two firms whose predictions were less optimistic at the time: most of the forecasts produced by these two market watchers were slightly underestimated e.g. the differences between the estimations and the actual market size are ranging from USD3.3 billion lower than the actual market size to USD 0.3 billion higher than the actual market figures.

2.4.3 CRM Providers

Traditionally, CRM software vendors provided solutions based on their specialities, for instance, Siebel was specialised in the Sales Force Automation (SFA), SAP, PeopleSoft and Oracle were specialised in the back-office applications or Enterprise Resource Planning (ERP). The other were specialised in either Helpdesk systems, Call centre or Email management etc (Gray and Byun, 2001). Table 2.4 illustrates some of the leading players by the major software solution category. A more comprehensive list of CRM solutions provided by CRM vendors can be found in Appendix II, section 2.2 (Girishankar, 2000).

Table 2.4
Major CRM Software Vendors by Category

Category	CRM Vendor
Enterprise-wide Back-end Office	▪ SAP ▪ Oracle ▪ Baan (Now SSA Global) ▪ PeopleSoft
Front-end Office	▪ Siebel Systems ▪ Saratoga Systems ▪ Clarify ▪ Onyx Software Corporation ▪ E.piphany
Web-Based Front-end Solution	▪ Firstwave ▪ Upshot.com
Adhere to Microsoft Standards	▪ Remedy Corporation ▪ Onyx Software Corporation
Midsize Player	▪ SalesLogix ▪ Sales Automation Group
Contact Management	▪ Symantec Corporation ▪ Multiactive Software Inc.

Source: Adapted from Gray and Byun, 2001, p.15

According to Gartner (2004), it was reported that there have been four leading CRM vendors dominating the market as shown in Table 2.5 (Bailor, 2005). There has been a number of mergers and acquisitions of the leading CRM providers across the CRM industry since 2005. Over the past few years, the CRM market has changed significantly as a result of these consolidations: E.piphany was purchased by Infor Global Solutions, Onyx Software was taken over by M2M Holdings and there was also a merger of Oracle with Peoplesoft and Siebel. There has also been a merger of well-capitalised business applications vendors i.e. SAP and Microsoft and an introduction of the new Software-as-a-Service (SaaS) deployment alternatives by Salesforce.com and RightNow Technologies (Band et al, 2006; Beal, 2006a).

Table 2.5
2003-2004 Market Share of Leading CRM Vendors

CRM Vendor	2004 Market Share (%)	2003 Market Share (%)
▪ SAP	17.4	15.4
▪ Siebel	13.8	13.8
▪ PeopleSoft	3.6	3.4
▪ Oracle	3.5	3.5

Source: Adapted from Bailor, 2005

Gartner (2006) reported a dramatic change in the market share dominated by these leading CRM vendors after the recent wave of consolidations including some new entries who managed to secure their position as one of the top four players as shown in Table 2.6 below (Bailor, 2007). SAP managed to secure the highest market share of the CRM market, whereas significant changes have been signified in the market share of Oracle/Siebel/PeopleSoft: their combined market share have dropped considerably from 22.9% in 2005 to 15.7% in 2006. Salesforce.com has enjoyed its enormous rise in the share (an increase of 3%).This has primarily resulted from the introduction of its SaaS offerings.

Table 2.6
2005-2006 Market Share of Leading CRM Vendors

CRM Vendor	2006 Market Share (%)	2005 Market Share (%)
▪ SAP	25.7	25.6
▪ Oracle-Siebel-PeopleSoft	15.7	22.9
▪ Salesforce.com	7.0	4.8
▪ Amdocs (Clarify)	5.6	4.8

Source: Adapted from Bailor, 2007

It was considered from the vendor perspective that these mergers and acquisitions among the CRM players aimed to reduce competition in the market (i.e. the

consolidation of direction competition) and to increase the ability to offer a comprehensive solution, rather than a single specialised area, that covers the entire CRM area (i.e. the consolidation of indirect competition or other CRM specialists). From the customer perspective, these consolidations and intensified competition from the major business applications vendors have driven enterprises to rethink and reconsider the CRM solution strategy they adopt (Campbell, 2006). This growth in the CRM market shows an increasing demand of organisations determining to continue investing significantly into the software, as an effort to improve their customer-facing capabilities. According to the Forrester's report titled "CRM Market Size and Forecast, 2006-2010", a rising acceptance of Software-as-a-Service (SaaS) among enterprises - as evident by an impressive increase in the market share of Saleforce.com in 2006 - has resulted in an emerging trend where the existing vendors are forced to generate their own SaaS solutions (Forrester cited in Band et al, 2006).

2.4.4 Summary

It could be argued that the growth of CRM industry has been influenced by a combination of this sort of overly-predicted market growth and vendor-led CRM offerings. Firstly, these misleading trends could lead to the generation of an interest in the CRM technology and its market and secondly, companies could be either directly or indirectly persuaded by these misleading trends or tempted by offerings from vendors to invest into the CRM systems: they may understand that CRM market has been growing significantly, implying that many other companies including their competitors have invested into the CRM technologies. It is therefore something they should consider doing in order to keep up with the competition and win revenue - a classic 'me-too' approach as it is called. It could also be further

argued that these misleading trends of the CRM market growth could be seen as propaganda where many companies could have been affected by. This results in what market watchers i.e. market research firms and CRM vendors in particular, expect to happen in the CRM industry – an increased competition which leads to an increased number of companies wanting to adopt the CRM systems.

2.5 CRM Implementation Models and Best Practices

Implementing CRM can be seen as a project in which planning, decision-making on the strategy and executing of the plan are to be generally considered and acted upon. Implementing CRM could be described as more like a journey rather than a destination in which personal and corporate learning is utilised as vehicles that drive the progress. This journey may take years and may never be completed, implementing CRM therefore could be seen as an 'on-going' project (Gamble et al, 2003). In this section a review of several implementation models and best practices is summarised. Discussions on similarities and differences between the models/best practices are presented, particularly in regard to the implementation process proposed by these studies.

According to the literature searches, there were a number of studies, conducted by both practitioners and academics, attempting to create a successful CRM implementation guidance. Table 2.7 summarises a number of CRM implementation models and/or best practices found in the literature on the basis of their similarities and differences in the process. These models were introduced during 2002 to 2007. Please note that full details of these implementation models and best practices can be found in Appendix II, section 2.3.1 and 2.3.2.

Table 2.7
Comparison of Implementation Models/ Best Practices

Common Key processes	Practitioners				Academics				
	(Syspro, 2002)	(Microsoft, 2005)	(McCabe, 2005)	(Gantthead, 2007)	(Gamble et al, 2003)	(Lindgreen, 2004)	IRIS Group ,2006	(Payne and Frow, 2006)	(Osarenkhoe and Bennani, 2007)
1. Planning **- Planning at board level**		▪ Planning	▪ Develop corporate-wide CRM engagement	▪ Planning	▪ Planning by board level	▪ Commitment of senior management (Board level planning)	▪ Project management and pre-requisites (Planning)		
- Planning CRM /business requirements	▪ Prioritise business areas	▪ Identify CRM requirements	▪ Determine & prioritise CRM requirements	▪ Identify CRM requirements (Functional, technological)	▪ Prioritise business areas		▪ Definition of the company's organisational framework	▪ CRM readiness assessment	
- Other planning						▪ Situation report and Analysis			▪ Analyse & identify key elements of CRM strategy
2. Strategy formulation	▪ Define implementation strategy	▪ Define strategy	▪ Envision CRM strategy	▪ Define strategy	▪ Define implementation strategy	▪ Strategy formulation	▪ Definition of a customer strategy	▪ Strategy development	▪ Strategy formulation & selection
3. Process determination	▪ Re-engineer business processes & Model the processes	▪ Analyse business processes	▪ Develop a CRM process roadmap	▪ Analyse business processes			▪ Process map	▪ Enabling processes	
4. People involvement	▪ Train people	▪ Training & ongoing support	▪ Keep everyone in the loop	▪ User training	▪ Commitment by everyone involved	▪ Employee involvement	▪ Human resources organisation & management	▪ Employee engagement	▪ Getting staff involved (within 5-S concept)
5. Implementation **- implementing the system**	▪ Deploy the application & validate the strategy	▪ Deployment	▪ Implementation	▪ Deployment	▪ Deploy the application	▪ Implementation	▪ Implementation	▪ Implementation	▪ Implementation
-Setting up/testing the system		▪ Setting up the system, import data & system integration	▪ integration with other applications	▪ Data migrating & System testing			▪ Construction of the Information system		▪ Technology elements (Setting up the system)
6. Control	▪ Periodic review	▪ Post-deployment (review & control)	▪ Learn, adjust and evolve	▪ Control	▪ Control		▪ Monitoring	▪ Performance assessment	

According to Table 2.7, there were some similarities within the process shared among these different implementation models/ best practices. The common implementation process shared among these models/best practices comprises of the following six key steps:

- Planning
- Strategy formulation
- Process determination
- People involvement
- Implementation
- Control

It is worth mentioning that there was no significant difference in the process of CRM implementation between the models proposed by the academics and those of the practitioners. In summary, it seemed to be the case that the implementation programmes are generally similar with variations only in the wording and the detail of the process.

It was discovered that there was one particular similarity shared between the implementation model proposed by The Iris Group (2006) and the one of Payne and Frow (2006): both models appeared to use the same concept in which each element in the implementation process is not linear and also independent of one another. It was suggested that each element may be carried out simultaneously and required to be revised and adjusted as a consequence of the later activities.

According to the literature review, there was however one CRM implementation model in particular that did not seem to fit in with the common steps in CRM implementation process shown in Table 2.7: The implementation model proposed by Chen and Popovich (2003) appeared to be developed from a particular context. Any organisations wishing to adopt this model would need to be rather highly customer-focused, technology-driven and adopting an enterprise-wide strategy within the business. This could be seen as a barrier to its adoption as it is concerned that the model may not be realistically applied by companies, who are not qualified for this particular context.

2.6 CRM Performance

It may sound promising when considering benefits and business potential of what a powerful and advanced technology like CRM can offer e.g. mountains of customer data can be managed and analysed to give insight information. A company can then sustain and improve a better and long-term relationship with their customers. In reality, many CRM projects have been reported to be such a disappointment.

High CRM failure rates of between 50%-85% have been reported by a number of research firms e.g. META Group, Gartner and Butler Group (Myron and Ganeshram, 2002). A global study on the satisfaction levels of CRM performance conducted by IBM Business Consulting Services in 2004 showed that 85% of large- and small-sized companies in America, Europe and Asia, across all industry sectors, are not satisfied with their CRM performance (IBM, 2004). Bull (2003) pointed out that, it is well-known and often stated that the CRM industry has a problem - 'its solutions' often do not work properly or do not work at all. What less well-known is

the underlying reasons why so many CRM solutions have performed so poorly. Although, current CRM market is in a period of transition, it seems to be the case that the traditional 'Big Bang' model of enterprise software delivery has disappointed many companies (Bull, 2003).

This failure issue was also commented by Kotler (2003) that CRM has not worked out in practice and large amounts of money have been spent on CRM systems only to find disappointing results. Customer relationship marketing generally involves the purchase of hardware and software that will help a company to capture detailed information about individual customers for better target marketing. This is done through examining of part purchases, demographics, psychographics and so on. It was then further commented that companies should not then invest in CRM until they recognise to become customer-centric companies: when they and their employees know how to use CRM properly (Kotler, 2003). It could be argued that this issue could be one of the reasons why CRM has been claimed as such an ill-performed result.

It is worth echoing that within the literature, there have been a considerable number of studies discussing the underlying reasons for the CRM failure. There were 42 CRM mistakes identified from the literature. It was considered that these identified causes of CRM failure could be categorised into four perspectives, namely Strategy, People, Process and Product perspectives (Table 2.8). The basis of these four perspectives was originated from a study by Tanoury and Ireland (2003) who stated that the underlying reasons for CRM failure could be classified into two types: Strategic mistakes and Tactical mistakes. Tactical mistakes can be broken down into

three elements: people mistakes, process mistakes and product mistakes (Tanoury and Ireland, 2003). Of 42 identified reasons for CRM failure, there were 24 items which fit perfectly with the ones identified by Tanoury and Ireland's CRM mistake categories. The other 18 items (shown in italic with asterisk in Table 2.8) were categorised into the four perspectives by their nature. A summary table of the 42 identified causes of CRM failure by author can be found in Appendix II, section 2.4.

Table 2.8
Identified Causes of CRM Failure by Perspectives

Perspectives	Causes of CRM failure	
Strategy	▪ Lack of executive sponsorship/ commitment ▪ Ineffective Steering Committee ▪ Lack of clear vision/ initiative/ realistic goals ▪ Poor Communication ▪ Poor change management ▪ Lack of clear implementation scope ▪ Poorly defined business processes/ Poor planning ▪ Poor training plan ▪ **Unrealistic Budget* ▪ **Not having an approach to analytics* ▪ **Lack of functional collaboration/ integration with other systems*	▪ **Not involving users in the design of CRM solution* ▪ **Sole focus on technology side* ▪ **Misaligning business processes with CRM strategies* ▪ **Insufficient measurement of marketing programmes* ▪ **Lack of organisation readiness for CRM* ▪ **Driven from top down* ▪ **Not targeting the area of highest adoption* ▪ **Driven by IT rather than business leaders* ▪ **No passion for customers* ▪ **Failure to understand the benefits*
People	▪ Lack of Management & Leadership skill ▪ Weak or inappropriate project staff/ CRM skills ▪ Poor working conditions ▪ **Lack of CRM understanding & knowledge*	▪ Clashing team members, political conflict ▪ Unmanaged client expectations (over promising) ▪ Employee resistance
Process	▪ Unrealistic schedule ▪ Poor project time frame ▪ Poor design/Eliminate critical activities	▪ Poor quality assurance & testing ▪ Poor management control ▪ **Poor quality of data*
Product	▪ Over customisation ▪ Delivering everything at once ▪ Sacred requirements (no link between critical success factors and best practice) ▪ Sacred Processes	▪ Limited product vision ▪ **Too complicated user interface* ▪ **Difficult to integrate with existing systems* ▪ **Insufficient help from CRM vendors*

Source: Adapted from Tanoury and Ireland, 2003

Despite the claimed failure rates and negative comments of CRM performance, there have also been claims that CRM provides a positive result: a global survey on CRM performance conducted by IBM Business Consulting Services in 2004 revealed that there were around 20% to 30% of companies who claim to be having some forms of success with their CRM initiatives. Another positive claim revealed in the report was that around 15% of global organisations believe they are fully succeeding with their CRM projects (IBM, 2004). Gartner (2003) conducted a survey on CRM performance and the results showed that 50% of 653 participating companies claim to have received return on their CRM investments. Another study also showed evidence of positive results of CRM system: it was reported that 30% of companies are successful with their CRM implementations (Comb, 2004).

Regarding the positive claims reported in the literature, there is an issue of the quantification of such claims that is worth discussing. The report by Gartner (2003) on positive return on CRM investment showed that there were only 13% of companies who are actually able to quantify their claims. Another positive case in a study conducted by Comb (2004) revealed that those companies who report positive feedback of CRM performance can not be certain in terms of how much revenues generated after the CRM implementation.

In regard to the CRM performance found in the literature, there have been both successful and unsuccessful cases in relation to the effectiveness of CRM software. It appeared that many companies are unable to quantify their claims i.e. either positive or negative cases of CRM performance. It seemed to be the case that there is little or no strong evidence that companies measure their CRM performance. This initial

finding from the literature review stimulated and created concern on the justification of these claimed success and failure cases in the CRM industry. It therefore suggested that further investigation was needed to focus on the CRM performance assessment and related issues exist within the literature to date.

2.7 CRM Performance Measurement

This section discusses performance measurement theories which form the theoretical basis for part of the empirical work of the research. It also critically reviews existing CRM performance measurement tools and provides conclusions from such review which leads to the identification of gap in knowledge.

2.7.1 Performance Measurement

According to Morgan (2004, p.522) performance measurement is defined as "a broad set of metrics used by managers to monitor and guide an organisation within acceptable and desirable parameters." It is also seen as the way to manage and successfully implement an organisation's strategy (Cokins, 2004; Gates, 1999; Fitzgerald et al, 1994). In other words, it provides understanding to how the business processes work, detects the problems within them and proves whether the planned actions to improve performance have been succeeded (Kaydos, 1999).

In the service environment, there are six generic performance dimensions: Competitive performance, Financial performance, Quality of service, Flexibility, Resource utilisation and Innovation as shown in Table 2.9 (Fitzgerald et al, 1994).

Table 2.9
Types of Measures for Six Performance Dimensions

Dimensions of Performance	Types of Measures
• Competitiveness	Relative market share and position Sales growth Measures of the customer base
• Financial Performance	Profitability Liquidity Capital structure Market ratios
• Quality of Service	Reliability Responsiveness Aesthetics/Appearance Cleanliness/Tidiness Comfort Friendliness Communication Courtesy Competence Access Availability Security
• Flexibility	Volume flexibility Delivery speed flexibility Specification flexibility
• Resource Utilisation	Productivity Efficiency
• Innovation	Performance of the innovation process Performance of individual innovations

Source: Adapted from Fitzgerald, et al, 1994.

In the manufacturing sector, the performance measurement strategy is defined in the following six areas (Maskell, 1991):

- Quality
- Cost (financial)
- Delivery reliability
- Lead time (process time)
- Flexibility
- Employee Relationship (Social issues)

The six generic performance dimensions in the service industry (Fitzgerald et al, 1994) and the six areas of performance measurement strategy defined in the manufacturing sector (Maskell, 1991) were combined and used as a list of performance indicators in the empirical stages. To explain further how the performance measures in the manufacturing and service sectors were combined: there are five areas of performance measures under manufacturing environment that share some similarities with performance indicators of the service environment. The only one area that does not fit within the measurement dimensions of the manufacturing environment was 'Employee relationship'. This area was eliminated from the combined list, as the research does not focus on the cultural or social aspects of performance measurement. In regard to the performance dimensions of the service environment, there are two dimensions that were not considered to be appropriate for the context of the research. 'Resource utilisation' and 'Innovation' dimensions were eliminated due to the nature of their measures: the nature of resource utilisation dimension is production-related e.g. productivity, efficiency and the nature of innovation dimension is set within the social context of performance measurement e.g. performance of individual innovations.

These performance measures from both the service and manufacturing sectors were, thus combined into the following four groups: Competitiveness, Financial, Quality and Flexibility (Table 2.10). The following customer-focused performance indicators (Gummesson, 2004; Gamble et al, 2003) were also added to the list of measures; 'Number of customer complaints' and 'Customer lifetime value', as shown in Table 2.10. There were therefore five groups of performance measure to be used in the empirical work.

Table 2.10
A Combined List of Performance Indicators

	Dimensions of Performance	Types of Measures	Measurement Indicators
•	Competitiveness (Group 1)	- Relative market share and position - Sales growth - Measures of the customer base	- Percent of market share and position - Sales growth - Changes in the size of customer base
•	Financial (Group 2)	- Profitability	- Profitability - Revenue per customer - Cost per customer
•	Quality (Group 3)	- Reliability	- Accuracy of customer database - Delivery reliability
		- Responsiveness	- Response times (to any form of customer's contact - Delivery lead time
		- Availability - Competence, Access. Security	- Availability of customer –facing staff to provide services - Customer satisfaction
•	Flexibility (Group 4)	- Flexibility of volume, delivery speed, and specification	- Customer retention - Repeat orders
•	Customer-focused (Group 5)	- Customer-related indicators	- Customer Lifetime Value - Customer complaints

Source: Adapted from Gummesson, 2004; Gamble et al, 2003; Fitzgerald et al, 1994; Maskell, 1991; Parasuraman et al, 1985.

2.7.2 Existing CRM Performance Measurement Tools

As CRM strategies have become embedded in corporate strategies, the issue of performance measurement in subjective areas has become increasingly important and constantly criticised. The real challenge is to discover a flexible approach that takes into account both customer (external) and managerial (internal) attitudes (Morgan, 2004).

The main CRM performance measurement tools found in literature are: Return on Investment (ROI), CRM Software Performance ROI Model, Balanced Scorecard, CRM Evaluation Model, a Joint Balanced Scorecard/Value Driver Analysis, CRM Scorecard, Customer Knowledge Management, Behavioural Determinants of CRM

Effectiveness, CRM Measuring Scale Model and Other performance measurement tools. A critical review of these main exiting tools is provided as follows:

2.7.2.1 Return on Investment (ROI)

The most common method of measuring how well the business performance of any projects the company invest into is known as Return on Investment or ROI (Ward, 1992). It is a form of investment appraisal methods using historical data from financial statements (the profit and loss account and balance sheet in particular). The simplest formula of ROI can be calculated as follows (Horngren and Sundem, 1993; Ward et al, 1991)

$$\text{Return on Investment (ROI)} = \frac{(Sales\ revenue - Expenses)}{Net\ investment} \times 100\%$$

Ward et al (1991) commented that ROI is still used as a financial indicator by most of the companies since it is easy to calculate using the information that readily available in the published accounts. In regard to CRM performance assessment, it was suggested that criteria for assessing the ROI should be based on the objectives of the CRM project and companies should be looking at changes in business performance of projects more tightly related to those objectives. (Aslett, 2003; Pearce, 2002). In addition, efficiency and effectiveness gains expected from a CRM project should be translated into potential revenues then continue to track returns over the life of the CRM programme (Nyberg, 2003).

The evidence from META Group report showed that nearly 90% of companies who invested in CRM use ROI as a preferred tool (Aslett, 2003). Further studies identified that around half of all companies who used the technique claimed a positive result (Gartner, 2003). It could then be surmised that the other half either saw no quantifiable benefit from their CRM system in purely financial terms or did not assess any of such benefit even if one was seen. The literature also reported an evidence that companies are unable to quantify their claims: according to a report by Gartner, of more than 50% of 653 companies who claimed to have received a positive ROI from their CRM projects, only 13% of them were actually able to quantify their claims (Nyberg, 2003).

It seemed to be the case that this technique ignores other aspects of performance measurement i.e. process, organisational factors, therefore deep understanding of the performance issue would not be possible to generate. It could further be argued the technique does not easily allow companies to convert all benefits gained into monetary terms, especially for intangible, indirect or strategic benefits. This can be supported by Chin et al (2003) who stated that calculating ROI from CRM projects is known to be one of the most difficult tasks to accomplish due to the intangible variables that affect the results: some of the costs and benefits may not be realised till the project has run a significant course. Another supporting view commented that measuring the return on a CRM project can be controversial and difficult particularly in its early stages, leading to poor assessments made by top management. The crucial concern should be to measure the possible impacts if the company had not adopted a CRM package (Pearce, 2002).

It is also necessary for companies to have formal systems both for establishing a basis for ROI calculation pre-investment and then for formal monitoring and recording to capture data for financial gains after the investment. This requirement for the formal systems could be a barrier to companies of smaller size in particular where financial resources may be limited. Given these constraints, ROI at best has a restricted application and should be used only when there are already installed robust financial reporting systems.

2.7.2.2 CRM Software Performance ROI Model

Ang and Buttle (2006) developed a CRM software performance ROI model (Figure 2.2), aiming to assess the effectiveness of the CRM software in a context of three different customer management stages: Customer acquisition, Customer Retention and Customer development. The main concept was based on the notion that if the software performance exceeds the company expectations in each of these stages then logically it should result in a higher satisfaction with software's ROI. They believed the impact should be positively related to business outcomes – enhanced profitability.

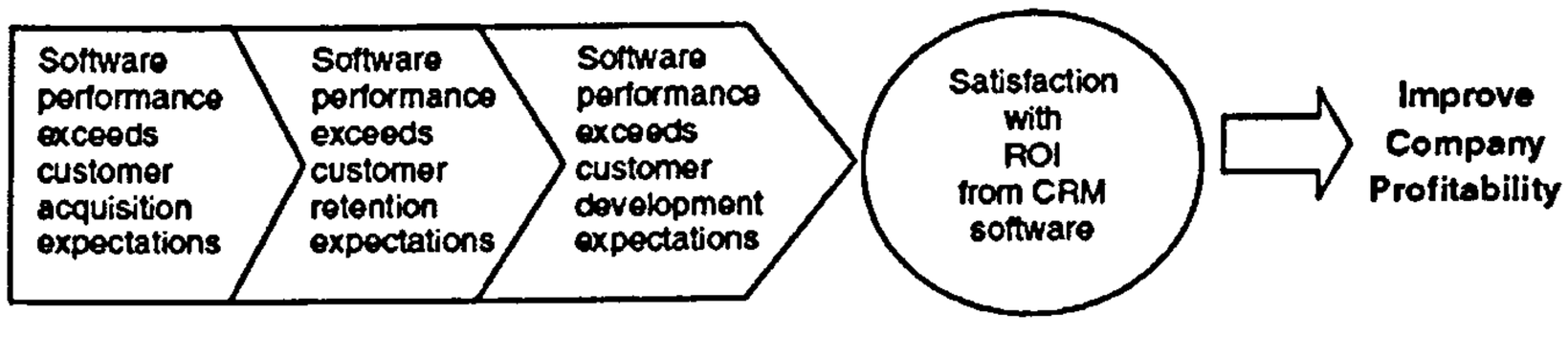


Figure 2.2
CRM Software Performance ROI Model
Source: Ang and Buttle, 2006, p. 8

The study showed that within the three stages of customer management, although CRM was much less commonly used by companies in the customer acquisition stage,

when it was used it resulted in a more cost-effective marketing campaign (Ang and Buttle, 2006).

In terms of the model, the study showed a positive evidence of companies who adopted CRM software that they were satisfied with their ROI from the software in general. There are, however, some issues with the model: firstly, the study seemed to ignore an aspect of CRM experience accumulated within the companies in terms of duration of the software being used within the companies. This could affect their knowledge on CRM performance measurement. Secondly, the study seemed to overlook the other aspects of measurement such as process excellence, training, management commitment and other organisational factors. These factors could impact how well the software has been utilised and facilitated and could potentially influence the satisfaction levels with the ROI.

2.7.2.3 Balanced Scorecard

Balanced Scorecard (BS) was developed by David Norton and Robert Kaplan in the mid-1990s. It was introduced to organisations to reappraise their 'one-dimension' i.e. output-focused approach, to measuring and targeting performance. It helps companies to realise the need to understand more precisely what critical success factors and capabilities drive and enhance performance (Heygate and Norman, 2003; Kaplan and Norton, 1996). A number of studies agreed that Balanced scorecard is considered to be one of the leading measurement indicators. It can be used to assess current activities and link to future financial performance. As a result, it eliminates limitations of financial accounting which only supports historical measurements (Hall, 2004; Gamble et al, 2003; Kellen, 2002). There are four aspects of Balanced

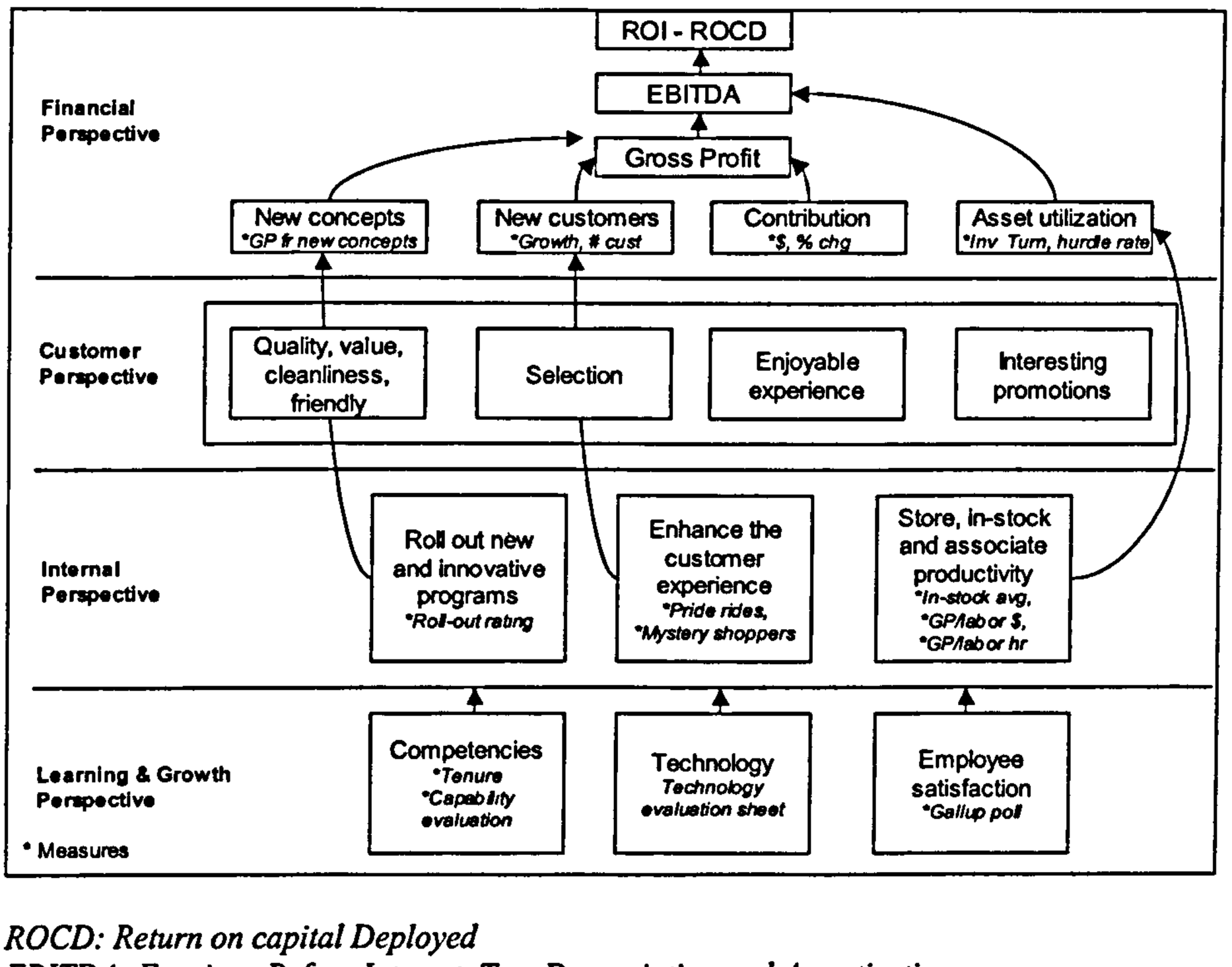
scorecard: Financial, Customer, Internal Business Process and Learning and Growth as detailed below (Kellen, 2002; Kaplan and Norton, 1996):

▪ ***Financial Perspective***	The strategy for growth, profitability and risk from the shareholder's perspective.
▪ ***Customer Perspective***	The strategy for creating value and differentiation from the perspective of the customer.
▪ ***Internal Perspective***	The strategic priorities for various business processes that create customer and shareholder satisfaction.
▪ ***Learning and growth Perspective***	The priorities to create a climate that supports organizational change, innovation and growth.

According to Kaplan and Norton (1996), organisations are required to identify measurement indicators for these different perspectives and make explicit about the cause-and-effect relationship (causal linkages) among the indicators and overall corporate performance. Figure 2.3 illustrates an example of a balanced scorecard for a retail company (Kaplan and Norton, 2001).

Despite widespread use of Balanced Scorecard, a few practical problems were identified: firstly, it may not always be possible or take too long to prove through statistical means of any causal linkages between different perspectives and

measurement indicators. Secondly, the tool relies on performance measures from various sources that must be timely and reliable. It was commented that the issues with poor data quality could affect the usefulness of Balanced Scorecard (Maisel, 2001)



ROCD: Return on capital Deployed
EBITDA: Earnings Before Interest, Tax, Depreciation and Amortisation

Figure 2.3
Balanced Scorecard
Source: Adapted from Kaplan and Norton, 2001, p. 82

It was reasoned that the Balanced Scorecard has provided a robust and effective means of monitoring overall company performance and within that, the aspects of CRM performance. The question then remains as to whether it is suitable for considering effectiveness of CRM systems discretely.

2.7.2.4 CRM Evaluation Model

Kim et al (2003) studied on an evaluation of the effectiveness of CRM and developed a model based on the concept of Balanced Scorecard. The model injects four customer-centric perspectives into the balanced scorecard concept: *Customer value, Customer satisfaction, Customer interaction and Customer knowledge.* Within the Customer value element, the focus is on enhancing customer loyalty and profit whereas Customer satisfaction perspective emphasises on achieving business value. Customer interaction perspective seeks to promote effective channels and pursue operational excellence. The final perspective, Customer knowledge element, focuses on the understanding of customers and customer information.

The CRM evaluation model is a process that enables the CRM performance assessment (Figure 2.4). The first step involves determining the objectives of CRM followed by setting up a CRM strategy. The next step is to discover interrelationships among the CRM activities and objectives in which it will help to identify the perspectives that are important towards achieving the outcomes. The effectiveness of CRM is then evaluated to generate the outcome of the analysis (Kim et al, 2003).

This study attempted to gain insights into the evaluation of CRM effectiveness, the CRM evaluation model was then created as a result. There are however some issues arising regarding the practicality of such model: firstly, there was no theoretical underpinning for the developed model (Kim and Kim, 2007). Secondly, despite an empirical test conducted for the model, the test was based on a single case study of an online shopping mall in the Korean context. This rather specific context generated

concern of generality issues which companies outside such context may not be able to adopt the model effectively, for instance companies in the other types of industry.

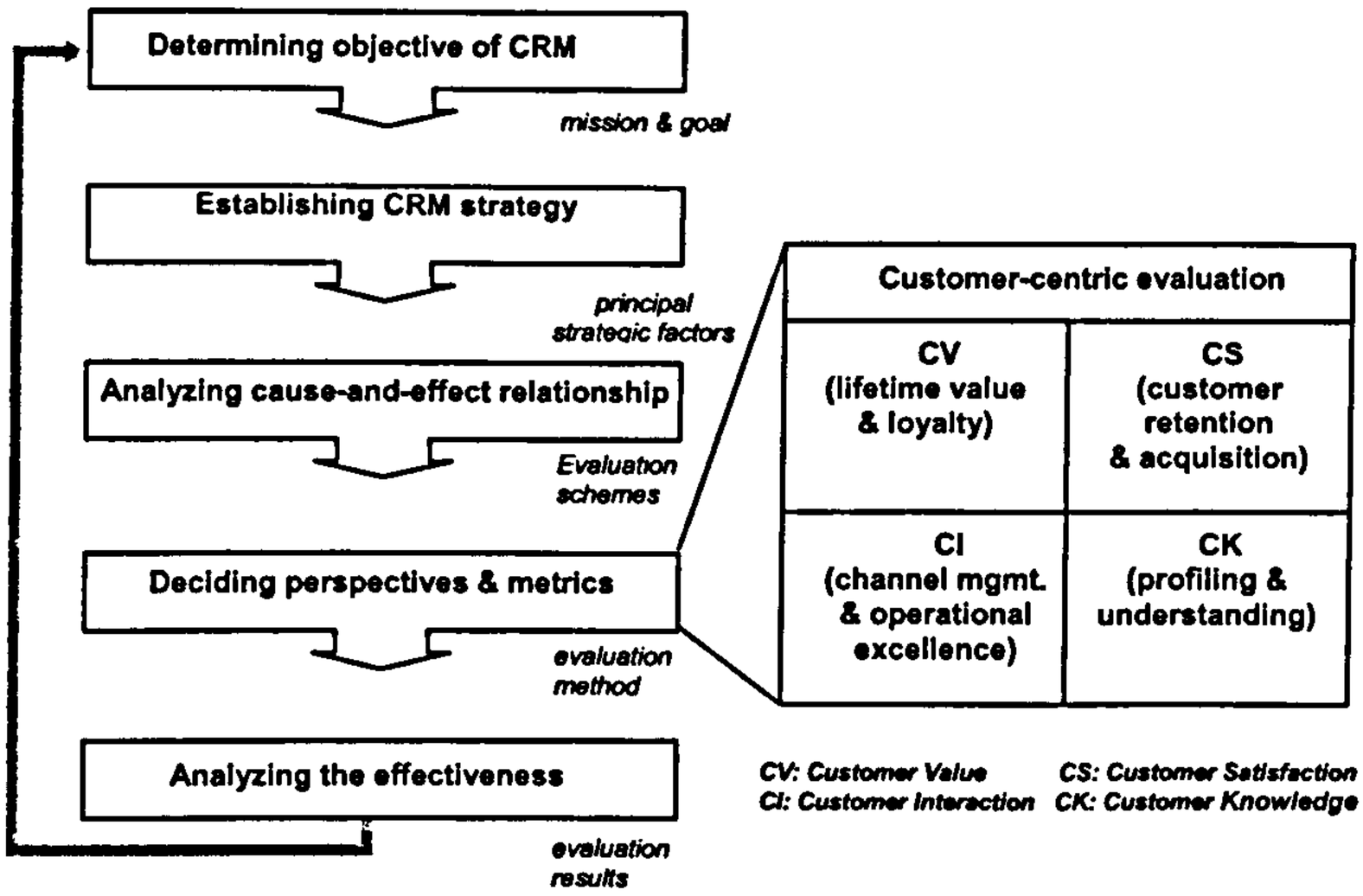


Figure 2.4
CRM Evaluation Model
Source: Kim et al, 2003, p. 8

Thirdly, the model was developed on the basis of what the authors implied companies should be doing in regard to the CRM performance assessment rather than considering what companies actually do to evaluate their systems. It, thus, gives rise to a possibility of companies not being able to adopt such tool due to a lack of required information to operate such measurement tool, for instance some companies may not assess or have information on 'Customer lifetime value' or 'Customer knowledge'.

2.7.2.5 A Joint Balanced Scorecard/Value Driver Analysis

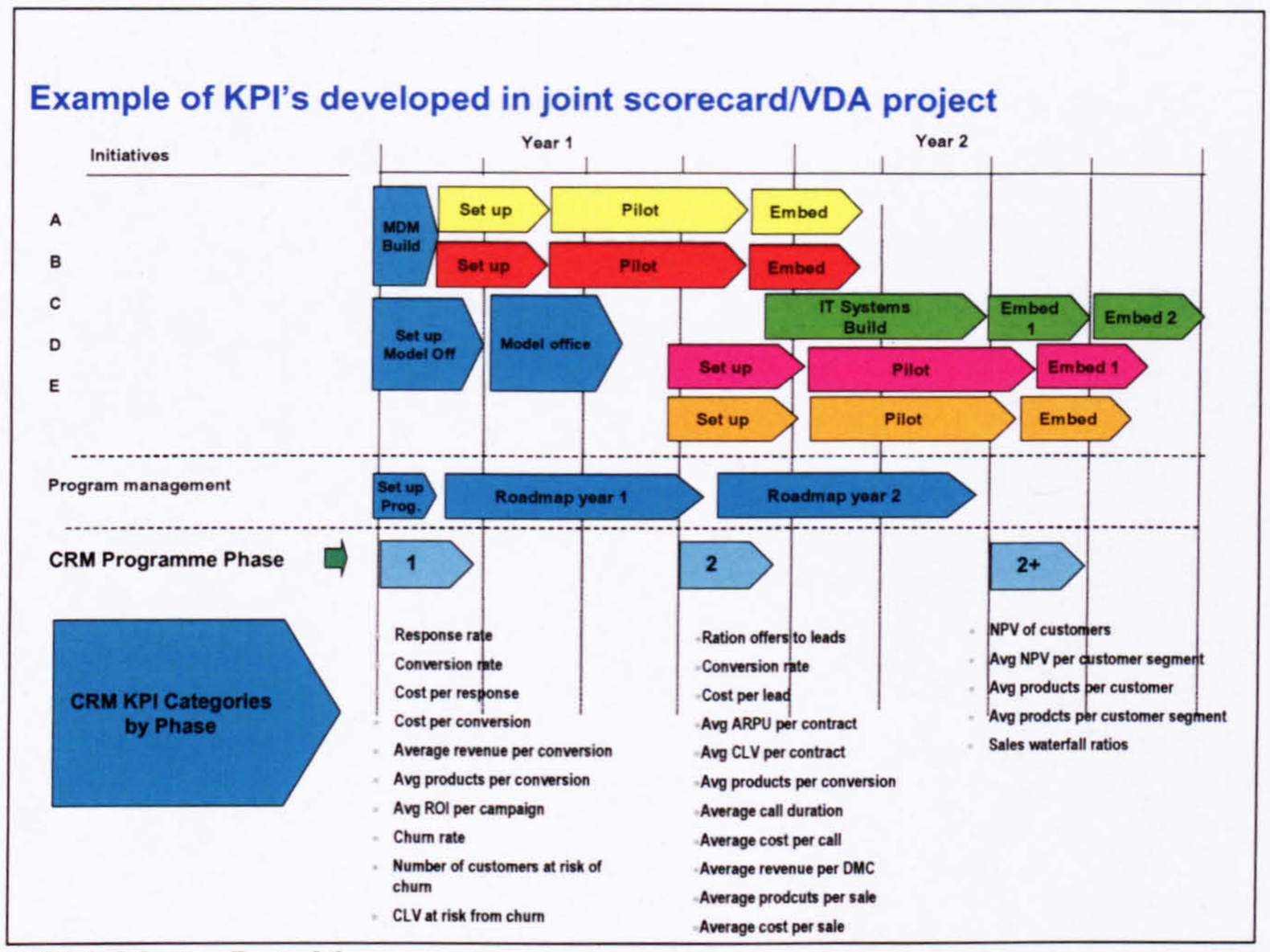
Heygate and Norman (2003) introduced a combined tool called Joint Balanced Scorecard (BS) and Value Driver Analysis (VDA) which follows an incremental approach in which benefits are realised in relation to the phased expenditure levels.

According to the authors, this combined tool could be adopted to gain accuracy in the planning stage and used for both strategic and operational management of performance.

The Balanced scorecard (BS) is used for top management to plot the 'cause and effect' of current activities of different strategic moves. This is to improve performance across aspects of finance, people, process and customers. The value driver Analysis (VDA) model can be used to assess the impact of making CRM moves that have not yet been attempted. It then gives the top management alternatives for future strategy of both existing and new activities (Heygate and Norman, 2003).

A joint BS/VDA was proposed as a measurement tool for CRM projects (Figure 2.5). There are two important steps to put these tools to work, firstly using VDA and BS to set strategic objectives. Secondly, translate the strategy into operational plans. In the operational stage, the VDA and BS complement each other. Each CRM move is required to be implemented with the VDA model which contains comprehensive financial modelling capability and best practice for the elements of process, technology and people. The selected strategy can then be translated into a set of projects, reflected through the BS (Heygate and Norman, 2003).

The major advantage of this approach was that it was designed through the particular research area of performance measurement of CRM systems. It therefore addresses many of the key issues and establishes performance criteria using a balanced scorecard approach.



MDM: Master Data Management

Figure 2.5
A Joint Balanced Scorecard/VDA Project
Source: Heygate and Norman, 2003, p. 4

There was evidence of positive and effective results from implementing the joint BS/VDA model. The evidence was, however, based on just two enterprises: a European bank and a European telephone company. Both studied cases were large organisations which could be expected to have the considerable resources necessary for the proposed approach to work. Whether it could then be translated to the general case remains an unanswered question. It also appeared that the model was not developed under any theoretical basis. Of particular concern in the general case was that the model appeared to be quite complicated in its process and its practicality must therefore be drawn into question.

2.7.2.6 CRM Scorecard

A recent study on CRM performance measurement by Kim and Kim (2007) produced a framework, based on a theoretical concept of Balanced Scorecard, called

'A CRM Scorecard'. The model was created through the following steps: firstly a theoretical causal map was built based on a range of literature reviews. Four perspectives were then derived as an underpinning theory namely, Infrastructure, Process, Customer and Organisational performance. Secondly, hierarchical map for CRM success was extracted from a practical perspective and then integrated with the theoretical causal map. Thirdly, subjective (qualitative) and objective (quantitative) measures were then developed and lastly CRM success factors were prioritised. The overall outcome was then produced as a CRM Scorecard as shown in Table 2.11 (Kim and Kim, 2007).

Table 2.11
A CRM Scorecard

Perspective		Diagnostic Factors	Instruments	
			Subjective	Objective
Organizational Performance		Shareholder Value		Shareholder Value (SHV)
		Profitability	Perceptual performance	ROA, ROI, Net Sale ($), Net sale /employee
		Customer equity		Customer Equity, CLV, Profit/customer
Customer		Customer Loyalty	Perceived Loyalty	Recency, Frequency, Monetary (RFM)
		Customer Satisfaction	Perceived Customer Satisfaction	Satisfied Customer Ratio (%)
		Customer Value	Perceived value, Brand Equity, Relationship	Customer Complaints (#)
Process		Customer Acquisition	Readiness for Acquisition Process	Leads per channel, Acquisition (#), Visits of web (#), Win-back (%), Profitably of new customer, Response Rate, Sales Success rate (Hit ratio), Customer Contact Rate
		Customer Retention	Readiness for Retention Process	Response time (Wait time), complaints resolved on 1st call (%), Retention rate (%), Delivery time, Customer churn rate, Reject rate by delivery, Trouble ticket cleared.
		Customer Expansion	Readiness for Expansion Process	Share of Wallet (%), Core Customer Ratio (%), Cross/Up-Sell Rate, Value per Order
INFRASTRUCTURE	IT	CRM Technology	Sys/Info Quality, System Usability, User SAT, Ind. Influence	Technological Capacity for 3 types of customer info(#), Customer Info Accuracy(%), Customer Info integration(%), System stability
	Human Capital	Employee Behavior	Customer Oriented Attitude	Human Capital readiness (%), Time per job, Calls handled per center staff (Sales rep coverage)
		Employee Satisfaction	3 Justices for Emp. Satisfaction	Key employee turnover
		Management Attitude	Perception & Support for CRM	
	Strategic Alignment	Training	Training Procedure	Training days/employee
		Reward System	Appropriateness of Reward system	
		Organizational Structure	Organizational Flexibility	Improvement in diversity profile
	Culture	Partnership	Coordinating effort	Vendor Diversity
		Market Orientation	Market Orientation	Frequency of customer survey, Customer knowledge creation (#)
		Explicit Goal	Explicitness of Goal	

Source: Kim and Kim, 2007, p.6

This study determined to acknowledge and eliminate restrictions of previous studies on performance measurement of CRM, for instance a lack of theoretical and practical underpinnings (i.e. Jain et al, 2003; Kim et al, 2003) etc. As a result of the study, a framework called CRM Scorecard was created. The model also includes qualitative and antecedent perspectives, which have been ignored by previous literature, into the scorecard as diagnostic factors. Despite recognition of restrictions from previous studies mentioned earlier, there are some issues concerning the practicality of the model:

Firstly, although the model was tested empirically as a proof of its concept, the empirical test was done through a single case study of a consumer bank in the Korean context. Such specific context could raise an issue of generality in which the model may not be able to apply to companies outside such context. Secondly, the model comprises of four main perspectives i.e. Infrastructure, Process, Customer and Organisational performance, there was however no investigation into the relationships between measurement indicators within these four aspects of measurement. It was then concerned that providing logical explanation to the measurement results generated from the tool may be restricted: for instance it might be difficult to explain the results that may have been affected by relationships exist between the four perspectives of the model.

2.7.2.7 Customer Knowledge Management

There are three aspects of customer knowledge that companies can measure (Kellen, 2002):

- The value of customer knowledge (intangible asset measurement)
- The process by which it is produced and consumed (Knowledge Management or KM operations)
- The quality of knowledge or data (data quality)

These different types of Customer knowledge can be categorised into three groups (Davenport, 2001):

- Quantitative, data-driven knowledge found in transactional systems
- Knowledge derived from interactions with people (including experiential observations, comments, lessons learned, qualitative facts)
- Tacit knowledge which is unstructured and difficult to express and must be converted to explicit knowledge

American Productivity & Quality Center (APQC) in collaboration with Dow Corning and Siemens AG, conducted a study on examples of real-world measures used throughout the process of implementing Knowledge Management (Lopez et al, 2001). They identified the following five stages of Knowledge Management:

- Stage 1: *Enter and advocate*
- Stage 2: *Explore and experiment* - this stage measures interests within Knowledge Management and formulates strategies.
- Stage 3: *Discover and conduct pilots* - this stage focuses on proving business value.

- Stage 4: *Expand and support* - at this stage, Knowledge Management has been adopted within an organisation and measures increase in robustness.
- Stage 5: *Institutionalise* - at this stage, focuses are on monitoring of process and continued evaluation.

Another approach involves measuring the flow of communications between people using survey and observation to discover formal and informal communication links within a company. This is to identify social linkages across boundaries of an organisation (Krebs, 1998).

There was also another approach which focuses on consumption of knowledge not just its production and communication. It was termed as *'Knowledge Turnover'* which explains how knowledge moves between understanding and action in four phases: Perceived, Plan, Act and Adjust (Figure 2.6). Knowledge is derived externally in the Perceived and Adjust Phase and is generated internally within Plan and Adjust Phases (Kellen, 2002).

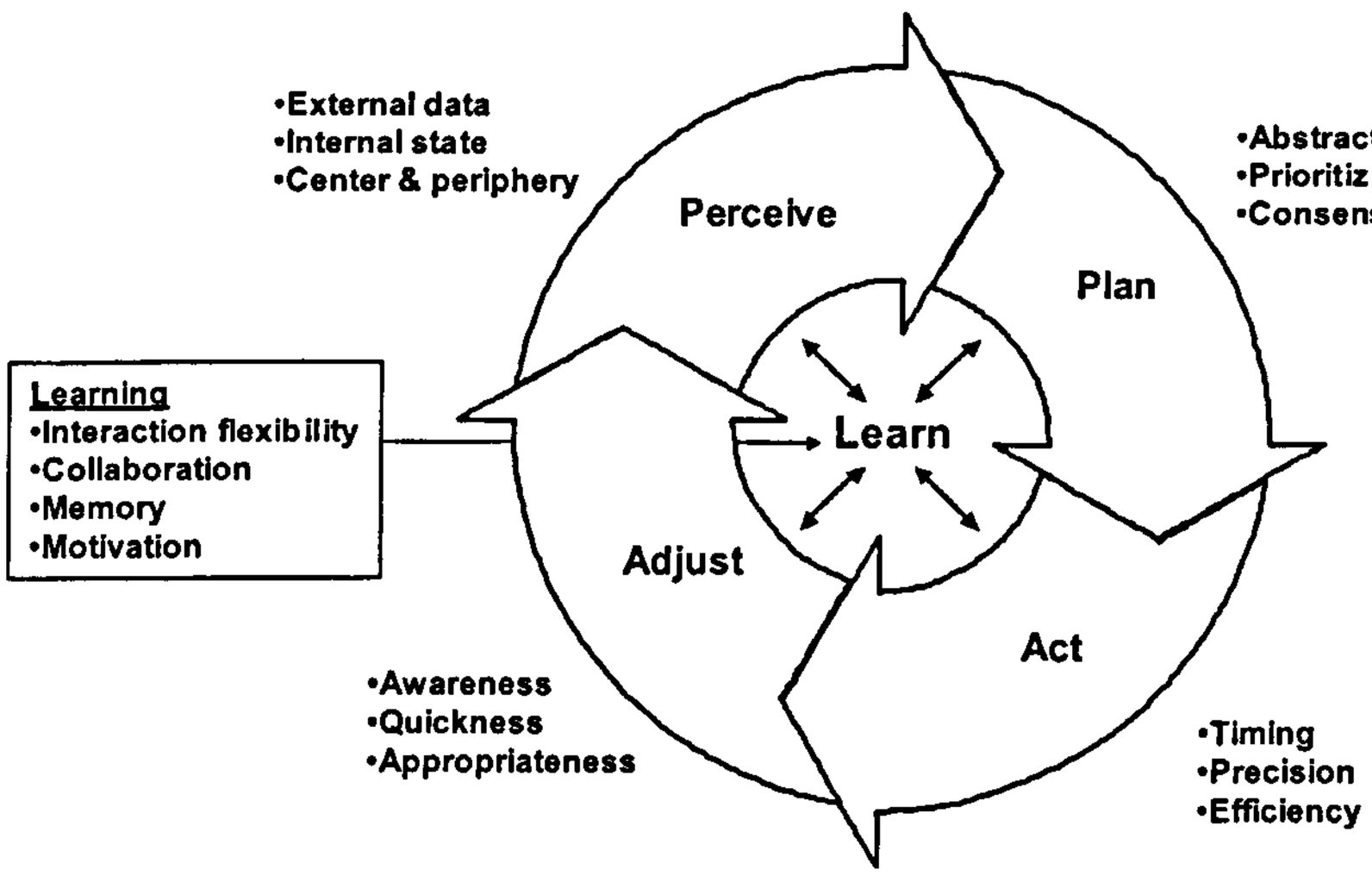


Figure 2.6
Knowledge Turnover
Source: Kellen, 2002, p. 23

Although CRM systems can collect a large amount of customer data, there are interestingly very few organisations that actually assess their ability to create, manage and communicate customer knowledge. Generally, CRM data are widely spread across functional units. Each business function has its own interests regarding customer information and its own way of structuring and formatting the data. It is therefore not easy to gather all the data from across the enterprise together (Davenport, 2001). There was another concern in measuring Knowledge Management that it is speculative, as the process of generating knowledge will impact activities not yet conceived (Kellen, 2002).

2.7.2.8 Behavioural Determinants of CRM Effectiveness

Jain et al (2003) studied on the measurement of CRM effectiveness. The authors aimed to identify important behavioural parameters for assessing the success of any CRM programme. They came up with the following list of ten important measures which they believe are essential indicators to the effectiveness of CRM:

- Attitude to serve
- Understanding Expectations
- Quality perceptions
- Reliability
- Communication
- Customisation
- Recognition
- Keeping promises
- Satisfaction Audit
- Retention

The empirical work of this study involved in-depth interviews with 30 experts from a number of different industries from service sector in the Australian context.

Although the study aimed to explore and discover the other determinants of CRM effectiveness, behavioural aspect in particular, the findings did not present any causal linkages or relationships between the determinants. It was therefore implying that this list of behavioural indicators for assessing the CRM effectiveness is quite a crude set of measurement indicators and could even represent inaccurate interpretations of the results. The study did not provide any theoretical underpinning for the developed concept (Kim and Kim, 2007).

Another point that is worth noting was that the empirical test was conducted within a service sector only in which it is a rather specific context and could raise an issue with generalisation of the findings. Lastly, empirical data were gathered from professionals and experts rather than the actual CRM user companies. Different opinion may have been generated regarding the effectiveness of CRM. This could be put as 'ideal measurement solutions' from the experts versus 'Actual measurement solutions' adopted by the CRM user companies.

2.7.2.9 CRM Measuring Scale Model

A study which aimed to provide a comprehensive, psychometrically sound operationally valid measure of a firm's CRM was conducted. The concept was based on a hypothesis that CRM is a multi-dimensional construct consisting of four behavioural components (Sin et al, 2005):

- ***Key customer focus***

  It is a customer-centric focus that involves continuous deliveries of superior and value-added benefits to chosen key customers through personalisation and customisation.

- ***CRM organisation***

  Changes in the way companies are organised and changes in business processes are essential to successful CRM implementation (Ryals and Knox, 2001; Hoffman and Kashmeri, 2000). It was pointed out that organisations are required to pay attention to organisational challenges inherent in CRM initiatives. Key considerations for CRM organisations draw around organisational structure, organisation-wide commitment of resources and human resources management (Agarwal et al, 2004).

- ***Knowledge Management***

  Knowledge can be understood and learned from experience or study of customer data in terms of CRM perspective. Key dimensions include knowledge learning, knowledge generating, knowledge dissemination and sharing and knowledge responsiveness.

- ***Technology-based CRM***

  Advances in information technology enhance organisation capabilities to collect, store, analyse and share customer data. It therefore provides enterprises with better customisation and quality that attract and retain customers.

Performance measures used in this study were related to two types of performance: Marketing performance (measures are 'Trust' and 'Customer satisfaction') and Financial performance (measures are 'Return on investment' and 'Return on sales'). The CRM measuring scale model was created in the context of four behavioural components. It focuses on the marketing and financial performance measures as illustrated in Figure 2.7.

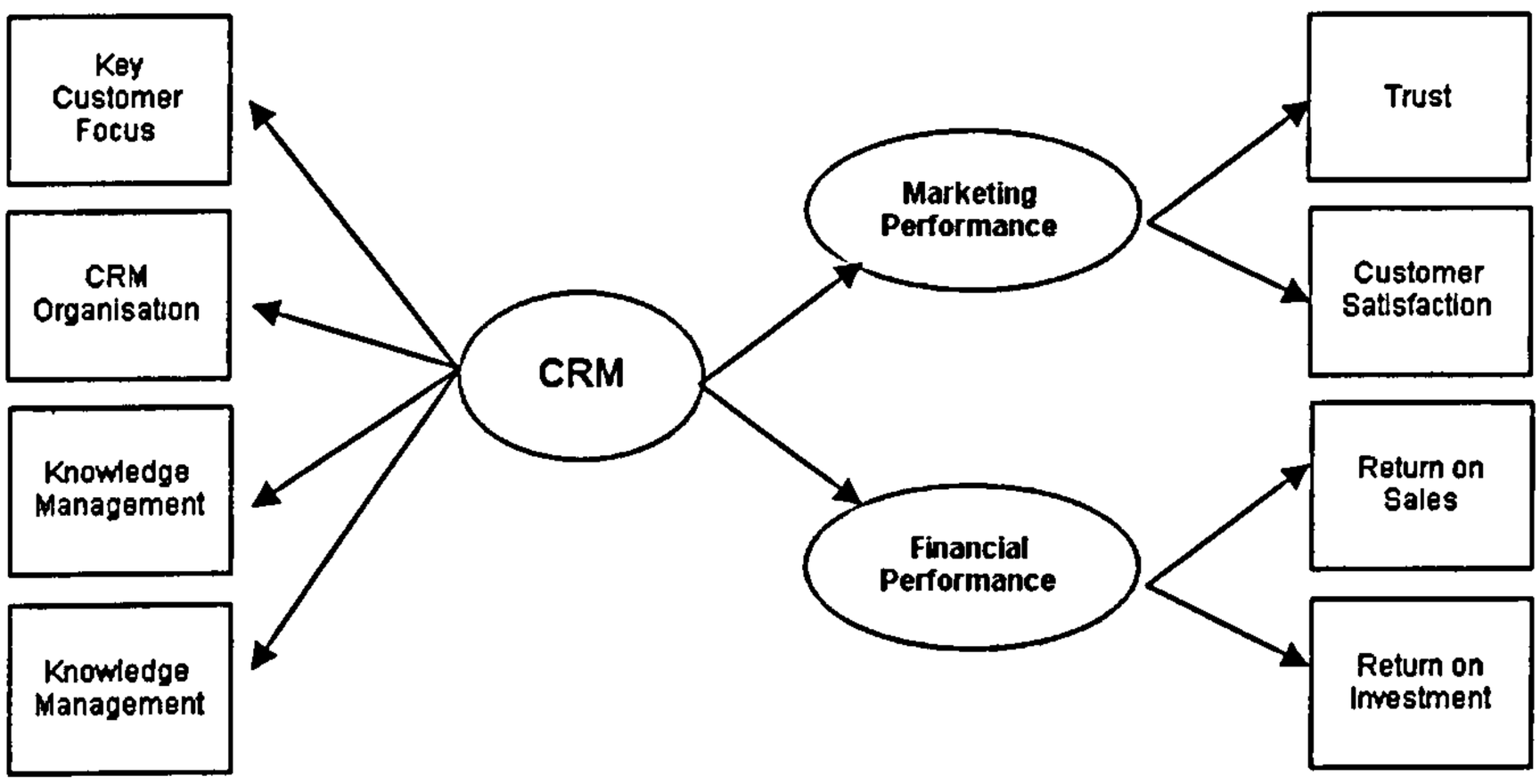


Figure 2.7
CRM Measuring Scale Model
Source: Adapted from Sin et al, 2005, p. 1279

The CRM measuring scale model was created as an attempt to improve existing measurement tools. This was by including a range of tools into its perspective such as Knowledge Management, ROI and customer metrics (e.g. customer satisfaction, key customer focus). Although the model was tested empirically, the test was only conducted in the Hong Kong Financial industry. The measures proposed in this model were also limited to marketing and financial performance. This is very specific in the context and was thus questionable in terms of generalising the model on a wider scale such as other nations and/or business sectors.

2.7.2.10 Other Measurement Tools

Three assessment tools based on the importance of customer life cycle towards the success of a CRM project were introduced as follows (Curry and Kkolou, 2004):

The Customer Management Assessment tool (CMAT) focuses on planning and analysis which lead to measurable offerings for customers, deliverers and processes, in relation to the position of customers in the life cycle (QCI, 2004). The CMAT framework is shown in Figure 2.8.

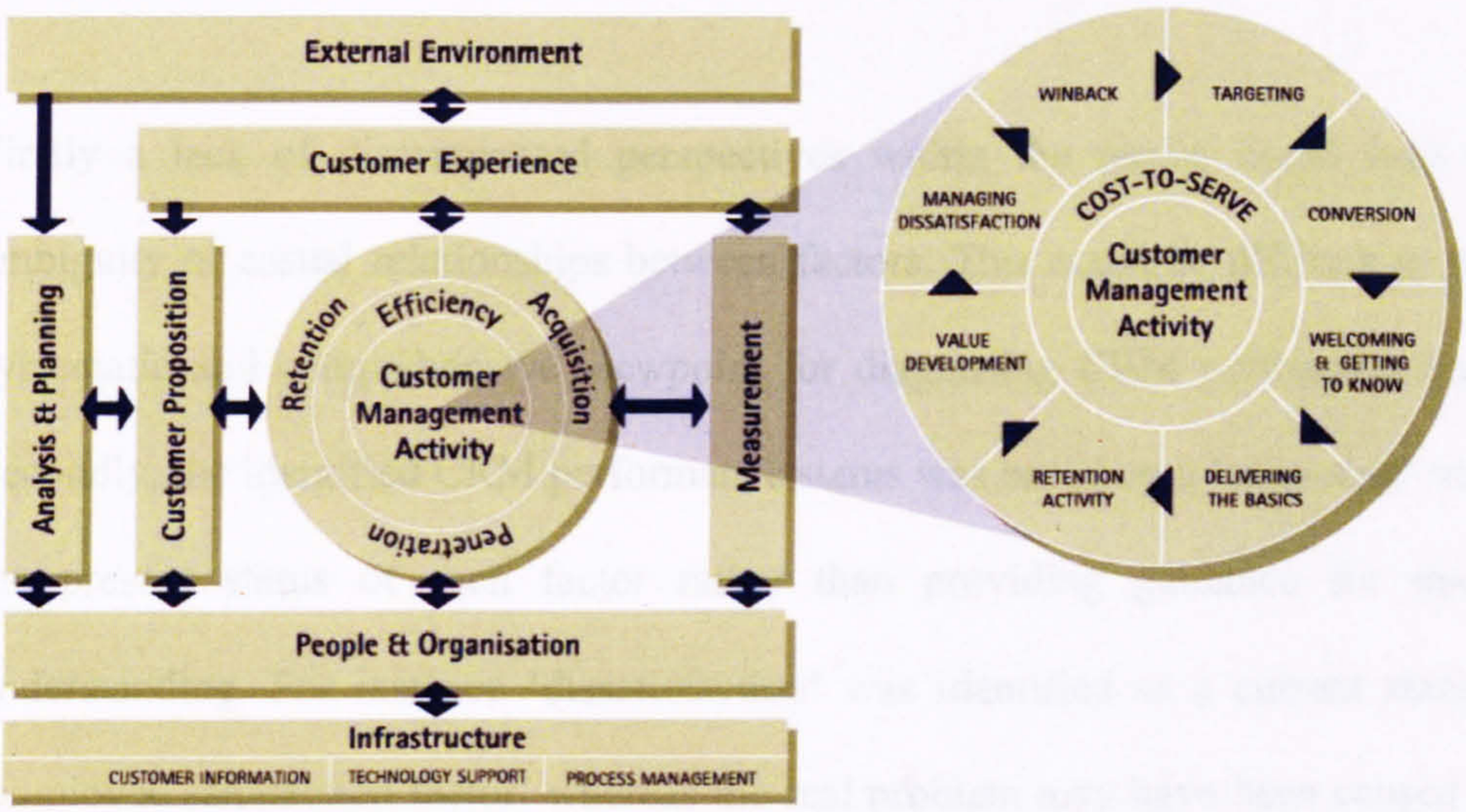


Figure 2.8
Customer Management Assessment Tool (CMAT)
Source: QCI, 2004

Customer Capital Asset Management (CCAM) helps organisations to differentiate their business performance from their rivals and to invest in creating profitable and sustainable customer relationships, tracking customer value over time and making future decisions on that value.

The Customer Balance Sheet and Value Flow Statement establishes a framework that connects the variety of business components with relationships which can be quantified in cash-flow terms.

Customer Management Assessment Tool (CMAT) is normally used to assess the status of CRM process in detail and provide a number of important infrastructural factors (Woodcock, 2000). This tool was commented to be a commercialised artefact for assessing a company CRM initiatives (Kim and Kim, 2007). There are, however, some issues concerned with the principles of the tool:

Firstly a lack of discriminated perspectives within the model could lead to an ambiguity of casual relationships between factors. This could be difficult to have a systematic and comprehensive viewpoint for diagnosing CRM performance status. Secondly, the identified CRM performance status was based on a 'snap-shot' view at the present status of each factor rather than providing guidance for in-depth understanding. For instance 'dissatisfaction' was identified as a current status for 'employee satisfaction factor' whereas the real problem may have been caused from 'inappropriate reward system'. Lastly, since the model indicates the levels of human factor in a single averaged point, many underlying explanations may be hidden inevitably. For instance, an averaged point to people and organisation does not discover the point that the lack of inappropriate CRM reward system is closely linked to the low levels of employee satisfaction (Kim and Kim, 2007). These identified weaknesses seemed to raise serious doubts in the practicality and appropriateness of the CMAT tool in regard to the CRM performance assessment.

2.7.3 Summary of Critiques on Existing Measurement Tools

It seemed to be the case that a number of CRM performance measurement tools have been created in an attempt to develop standards of measurement for CRM systems. Findings from the critical review of the existing CRM measurement tools revealed that their limitations can be categorised into seven common issues:

- ***Development approach***

  This was the most important and common issue shared among the existing measurement tools: It appeared that these tools were developed on the basis of what companies should be doing regarding performance measurement for CRM. It was concerned that what companies are actually doing or capable of doing might be different. It therefore could generate a different perspective to CRM performance assessment.

- ***Generalisation***

  It seemed to be the case that half of the reviewed existing measurement tools were empirically tested within a particular context, for instance 'CRM evaluation model' and 'CRM scorecard' were tested within a Korean context and 'CRM measuring scale model' was tested through a single case study within a context of Hong Kong financial industry. It was therefore questionable in terms of generalisation of the models.

- ***Investigation of relationships among perspectives***

  Although some of the existing measurement tools attempted to inject measurement perspectives into the models, there was no investigation of

relationship between the measurement perspectives, for instance 'CRM scorecard', 'Behavioural determinants of CRM effectiveness' and 'CMAT'. It was concerned that in-depth understanding would not be generated as explanations for the measurement results provided by such models.

- ***Theoretical underpinning***

  A lack of theoretical underpinning for the model seemed to be an issue shared among a number of the existing measurement tools i.e. 'CRM evaluation model', 'Joint BS/VDA' and 'Behavioural determinants of CRM effectiveness'.

- ***Data gathering and reliability***

  Some measurement models appeared to require information gathered from various sources, for instance 'Customer KM' and 'BS'. This would be a time-consuming process and it was also concerned that issues such as data reliability and barrier to data gathering could be arisen.

- ***Ignore other aspects of measurement***

  ROI technique and CRM Software performance ROI model appeared to focus heavily on the financial aspect of performance measurement. They do not take into considerations of other aspects of performance such as process, organisational factors and so on. It was concerned that these factors could significantly influence the performance of CRM.

- ***Snap-shot view***

  It appeared that some of the existing measurement tools (e.g. ROI and CMAT) only provide a present status of the measurement results. They do not therefore give an in-depth understanding that would help to explain the underlying reasons for the CRM performance measurement results.

Table 2.12 below summarises limitations of these performance measurement tools.

Table 2.12
Limitations of Existing Performance Measurement Tools

Limitations	Existing measurement tools									
	ROI	CRM software performance ROI model	BS	CRM Evaluation model	Joint BS/VDA	CRM Scorecard	Customer KM	Behavioural determinants of CRM Effectiveness	CRM measuring scale model	CMAT
▪ Development approach	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
▪ Require formal monitoring system	✔									
▪ Ignore intangible benefits	✔									
▪ Ignore other aspects of measurement	✔	✔								
▪ Investigation of relationships among perspectives			✔			✔		✔		✔
▪ Data gathering and reliability			✔				✔			
▪ Generalisation				✔	✔	✔		✔	✔	
▪ Speculative approach							✔			
▪ Snap-shot view	✔									✔
▪ Theoretical underpinning for the model				✔	✔			✔		
▪ Complexity					✔					

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2.8 Conclusions

This chapter has provided a thorough review on various aspects of Customer Relationship Management (CRM) literature. The chapter has introduced the area of CRM with its history followed by a discussion on definitions of CRM. A critical review on current situation, trends, issues within the CRM market and industry has been presented. The chapter has also covered the aspects of CRM implementation models and best practices including CRM performance. The literature review chapter has focused mainly on the CRM performance measurement area. The main findings have then been revealed and can be summarised as follows:

Many studies in the literature were found discussing on the aspect of CRM performance. Most of what were found, however, rather negative: evidence showed that CRM failure rate was reported to be around 70% (Gartner, 2003). CRM were reported not to be working properly or does not work out in practice. It was also commented that the CRM industry has a problem (Bull, 2003; Kotler, 2003). The literature also revealed that there were organisations who claimed to be fully succeeded with their CRM projects. Some claimed to have positive return on their CRM investments and some claimed to be successful with their CRM implementations (Comb, 2004; IBM, 2004; Gartner, 2003).

Regarding CRM performance found in the literature, there are both successful and unsuccessful cases of CRM performance. It appeared that many companies are unable to quantify their claims and there is little or no strong evidence that companies assess their CRM performance.

A critical review on CRM performance measurement literature was conducted as a further investigation into the subject area. Several existing measurement tools/best practices were identified and critically reviewed as follows: 'Return on investment' (ROI), 'CRM Software Performance ROI Model', 'Balanced Scorecard', 'CRM Evaluation Model', 'Joint Balanced Scorecard/Value Driver Analysis', 'CRM Scorecard', Customer Knowledge Management', 'Behavioural Determinants of CRM Effectiveness', 'CRM Measuring Scale Model' and 'Customer Management Assessment Tools'.

It was clear that much work has been carried out to try and establish standards of measurement for CRM systems. Yet the fact still remains that disappointment with CRM performance remains extremely high within companies. High CRM failure rates were reported to be between 50%-80% by META Group, Gartner and Butler Group (Myron and Ganeshram, 2002). The question this begs was whether the standards of measurement identified are inappropriate, or companies are not using them in an accurate or appropriate way. In either case it was clear that the issue must be addressed.

Regarding the critical review of the existing tools, a number of common limitations was identified e.g. generalisation, investigation of relationships among perspectives, data gathering and reliability etc. The most important issue with the limitations which was identified as a gap in knowledge was the development approach undertaken for these existing tools. It appeared that these models were developed based on what companies should be doing when assessing the CRM performance. They ignore the concern that what companies are actually doing or capable of doing

might be different. This could generate different ways and perspectives to the CRM performance assessment.

It was therefore suggested that a programme of work was required that could lead to a simplified, clearly understood approach that may be used by companies of any size, but particularly by Small and Medium Sized Enterprises (SMEs). This was due to the point that SMEs simply do not have the resources to implement the complex approaches identified (Morgan, 2004). A rational approach to achieving this was to identify what companies are actually doing successfully, assess whether these actions could usefully be modelled. The main finings has therefore suggested a direction and foundation to an establishment of the research objectives and questions for the research.

Chapter Three: Research Methodology

3.1 Introduction

This chapter discusses the research methodological approaches undertaken in data collection and their justifications. The structure of this chapter breaks down into two parts using the basis of stages of the empirical work: questionnaire survey stage and interview stage. The chapter provides explanations and discussions on the philosophical underpinnings for the chosen research approaches. Details on the research process and elements of the empirical work done are covered and presented in the following aspects: the design, respondent profile, pilot test, sampling design and the data analysis process.

3.2 Nature of the Research

In regard to undertaking a research project, there are a number of research aspects that need to be considered when making choices about the research approach such as research philosophical underpinnings, research approaches, research strategies, research choices, time horizons and techniques for data collection and analysis (Saunders et al, 2003). It is essential to consider the nature and purposes of the research prior to decision on the research design as it affects choices of the research strategies, approaches and methods to be employed. There are three different types of research which are categorised on a basis of research purpose: *'Exploratory'*, *'Descriptive'* and *'Causal'* research (Malhotra and Birks, 2003).

Exploratory research aims to provide insight information and an understanding of the subjects being studied where information required may not be clearly defined. The

research process adopted therefore has to be flexible and loosely structured and, in some cases, evolutionary in nature. Descriptive research aims to provide description of the subjects being studied and characterised by the prior formulation of specific hypotheses that are clearly defined and normally based on large representative samples. The research process is also structured and pre-planned. Causal research aims to obtain evidence of cause-and-effect relationships of the subjects being studied. The research process requires a structured and planned design (Malhotra and Birks, 2003) and it is also termed as 'Explanatory Research' (Saunders et al, 2003).

It is useful to separate research designs into these three neat categories as a way of helping to explain the research process, there are no absolute distinctions among them (Churchill, 2001). Considering the nature of research and the research questions, this research fell into both descriptive and exploratory research. To explain further, it was necessary to divide the research process into two main stages by its empirical work conducted: stage one - questionnaire survey and stage two - semi-structured interview. Details on the design of these two stages are discussed in 3.6 and 3.8.

Given the nature of research questions, this research was descriptive in its nature at the early stage. It was then developed into exploratory research as the journey was moving towards the end in regard to the research questions. In other words, it was a descriptive nature as it intended to find facts (the research question number one aimed to identify Key Performance Indicators (KPIs) used by companies), then it became more of exploratory nature in the final stage, as it aimed to develop a

realistic performance measurement solution for companies ,which was something new to explore.

Although exploratory research is generally the initial step, it is not always the case. Exploratory research may follow descriptive or causal research (Malhotra and Birks, 2003). It could be supported by other groups of author (Saunders et al, 2003; Churchill, 2001) who stated that descriptive study may be a piece or part of exploratory research and the three types of research can be viewed as stages in a continuous research process.

3.3 Research Methodology

According to Easterby-Smith et al (1993), the nature of the link between theory and data and the most appropriate philosophical position for research methods have been critically debated by philosophers for many centuries. The two main traditions are *'Positivism'* and *'Phenomenology'*.

> Philosophers from the positivism tradition (e.g. Comte, 1853; Aiken, 1956; Kuhn, 1962) believe that "the social world exists externally and should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition." The other group of philosophers who believe in the phenomenology tradition (e.g. Hussserl, 1946; Berger and Luckman, 1966; Haberman, 1970; Lincoln and Guba, 1986) argued that "...reality is socially constructed rather than objectively determined." (Easterby-Smith et al, 1993, p. 22 and 24).

Careful considerations of such philosophical issues are therefore very important as they can greatly affect the quality of the research. There are reasons why an understanding of philosophical issues is very helpful: firstly it helps with the

clarification of research designs - considerations include not only the data collection and data analysis but also the whole configuration of a piece of research. For instance, the type of evidence that is gathered, where it is gathered from and how it is interpreted to give good answer to the research questions. Secondly, it helps to recognise which research designs would work and which one would not, enabling an indication of the constraints of particular approaches. Thirdly, it helps to identify and create research designs that are perhaps beyond the researcher's past experience. It may enable the researcher to adapt the designs according to the limitations of different subjects or knowledge structures (Easterby-Smith et al, 1993).

Burrell and Morgan (1979) introduced a concept of research paradigms which summarises and clarifies different dimensions of the nature of reality: *'Epistemological'* and *'Ontological'* considerations.

> "An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline....whether the social world can and should be studied according to the same principles, procedure and ethos as the natural sciences. Ontological considerations are concerned with the nature of social entities....whether social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructions built up from the perceptions and actions of social actors." (Bryman and Bell, 2003, p. 13 and 19)

One of the research paradigms which this research process followed is called *'Functionalist'*. Functionalist believes that social world can be identified, studied and quantified (measured) using natural sciences approach and that the social world is external to social actors. Practically, functionalist paradigm aims to provide rational

explanations of social affairs. It is often problem-focused in its approach and intends to find practical solutions to practical problems. This paradigm provides framework that has dominated academic sociology and the study of organisations (Burrell and Morgan, 1979). Thus, it was considered to be appropriate philosophical underpinning for the research approaches undertaken.

An explanation of how functionalist's thought process guided the research approaches undertaken in the empirical work stage one - questionnaire survey is as follows: giving the nature of research question number one which is fact-finding *(what are the Key Performance Indicators (KPIs) being used by companies?*), postal questionnaire survey was considered to be an appropriate option, considering both the nature of questions and the time and financial resources available. This option would also identify potential CRM user companies which were not currently available in the public domain. The reason for a need to identify the CRM users was that the profile of CRM users could be identified and used for the next phase of empirical work (semi-structured interview stage).

Functionalist also has influences from the other research paradigms such as *'Interpretative'* and *'Radical Struct*uralist' (Burrell and Morgan, 1979). A more subjective approach like inductive (interpretative paradigm) then guided the second stage of empirical work for the research (semi-structured interview stage), given the nature of research questions (exploratory). Findings from the questionnaire survey were fed back to partly help to generate semi-structured interview questions. The interview stage aimed to gain insight information from user companies regarding performance assessment of their CRM systems. It was at this stage where an influence from *'Interpretative Paradigm'* in particular came in place. This approach

follows a philosophical underpinning known as *'Grounded theory'*. The term grounded theory refers to the theory that is developed inductively from the data. The key focus of this school of thought is concerned with the true understanding of the world (Glaser and Strauss, 1967). The practical advantages of grounded approach are that it is flexible and beneficial in providing new insights and also their explanations of why they are so (Easterby-Smith et al, 1993). Thus, a realistic CRM performance measurement framework was inductively derived from the semi-structured interview data. Information derived from participating companies, although may be implicit the approach was however seeking to make them more explicit. This is coincided with the philosophical underpinning discussed previously.

In summary, the research process predominantly followed functionalist approach: research questions were derived from literature and a questionnaire survey was conducted and analysed quantitatively. This was to discover the current KPIs adopted by companies in various industry sectors and to identify a CRM user profile (fact-finding). In the final stage it also followed the functionalist paradigm with some influences from the interpretative paradigm including grounded theory. Semi-structured interviews were then conducted in order to inductively derive and develop a CRM performance measurement framework as an outcome of the research. The research process is illustrated as a journey within the research paradigm context as shown in Figure 3.1.

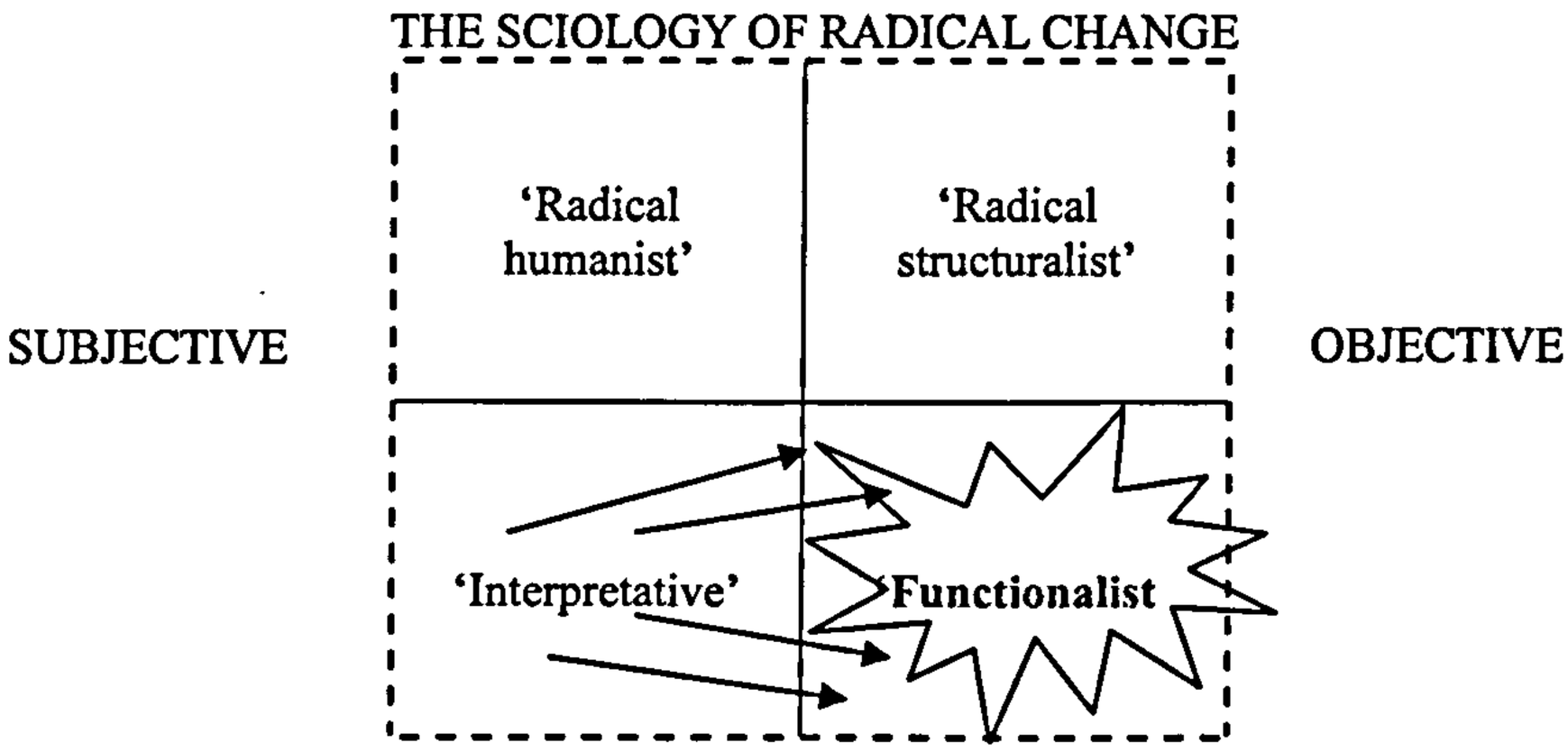

Figure 3.1
Research Journey within Paradigm Context
Source: Adapted from Burrell and Morgan, 1979, p. 22

3.4 Research Approaches and Methods

Choices of research strategies were guided by a number of factors such as research questions, the extent of existing knowledge, availability of time and other resources and the philosophical underpinnings (Saunders et al, 2003).

The issues of relationship between research and theory are also vital as they can impact the choice of research methods for subjects being studied. Deductive approach believes theory guides research whereas inductive approach believes theory is instead an outcome of research (Bryman and Bell, 2003). In reality, the research process is not as clear-cut as it should be regarding distinction between the two approaches. In this research, the process primarily followed deductive route and become more of the inductive towards the end. It is worth mentioning that at some stages, there was also a mixture of inductive and deductive approaches within the research journey. There was evidence that the research process is not always a clear-cut and a mixture of the two approaches are adopted for subject being studied; Whittington's study in 1989 of strategic choices made by firm was predominantly

deductive (Critical realism) however inductive approach (case study) was adopted to assess deterministic and realist approaches in the end (Whittington, 1989). Another example was a study on Total Quality Management (TQM) which was also primarily deductive however it involved inductive approach in order to explore the relevance of the research questions (Ghobadian and Gallear, 1997).

Based on the identified gap in knowledge and the research questions, the research approaches were guided into a direction where they were designed to discover what companies are actually doing or capable of doing regarding the CRM performance assessment and whether a realistic measurement framework could be developed. To explain further in regard to the methodological approaches undertaken for the research, the approaches were hierarchical in the nature. There were two major stages involved as follows:

- ***Stage one: Questionnaire Survey***

  The questionnaire survey was employed in the first stage of the empirical work to help identify the profile of KPIs adopted by the companies. It also helped identifying potential participants (CRM user profile) for the second stage of the empirical work. Details of the questionnaire design are discussed in 3.6.

- ***Stage two: Semi-structured Interview***

  In the second and final stage of the empirical work, a semi-structured interview method was employed to gain insights and explore information regarding CRM performance measurement. The aim was also to gain clarifications to some of the main findings from the survey. The semi-structured interview method was

employed to also help developing a performance measurement framework for CRM as an outcome of the research. Details of the design are discussed in 3.8.

3.5 Research Context

The context of the research was within Small and Medium-sized Enterprises (SMEs) in the United Kingdom. The main reason for focusing on SMEs was because they are the group of companies who would be unable to afford sophisticated and expensive CRM packages which may come with assessment solutions, unlike many large organisations. There was also supporting evidence from literature regarding the capability of SMEs in evaluating their CRM performance. SMEs often do not have time, resources and information to undertake the analysis required. Although they may have the information as their management systems develop, essential skills to interpret and apply may not exist (Morgan, 2004).

The scope of the research covered 2,200 SMEs in the UK. Results from the first stage of empirical work (questionnaire survey) would create a profile of CRM user companies which was currently unavailable in the public domain. It would also identify what Key Performance Indicators (KPIs) are being used by companies and how they are being used. Following the questionnaire survey stage, semi-structured interviews would be conducted in order to gain insights into CRM performance assessment for a development of a realistic CRM performance measurement framework.

3.6 Empirical Design: Stage one - Questionnaire Survey

Questionnaire is an essential tool to gain facts and research attitudes and it also helps to draw out answers and to explore deeper into participants' responses (Wright and Crimp, 2000). A questionnaire survey is carried out to obtain important information in terms of both qualitative and quantitative data as it is a useful, flexible and effective tool for a survey. The questionnaire method was selected mainly due to geographical, time and financial constraints. As there was no information on CRM users available in the public domain at the time, a questionnaire survey was considered to be suitable, as it can cover a large number of samples. Closed-questions were mainly used in this survey as they are less time-consuming and easy for respondents to answer. It also helps controlling responses which makes the analysis easier (Aaker et al, 2001).

3.6.1. The Design

The format used in the questionnaire was specially designed to make it as easy as possible for respondents to complete. The design also considered the length (by keeping it short and concise) and the practical side (by keeping it in the logical order) of the questionnaire which could affect the response rates. Filter questions were used to enhance the accuracy and completeness of the information received. This approach was considered to be particular useful when the identification of user and non-user is needed (Chisnall, 2005). Questions in the questionnaire survey form were divided into five sections, namely Section A, B, C, D, and E. Details of each section is described below:

- ***SECTION A***

This section was designed to obtain information on company profile such as company name, location (town), types of business and size of company. Type of business and Standard Industrial Classification: SIC Code (Appendix III, section 3.1 and 3.2) (ONS, 2005) were requested in order to analyse results in terms of significant differences or correlations between different variables and the responses gathered from the next section. Annual turnover and number of employee were asked for a purpose of analysing size of company using the Department of Trade and Industry: DTI's standard (Appendix III, section 3.3) (DTI, 2004).

- ***SECTION B***

The aim of this section was to discover what and how performance indicators are being used by companies in regard to performance assessment. The measurement indicators used in the pilot test and questionnaire survey were under five dimensional groups (as discussed previously in chapter two) and coded with labels for the purpose of statistical analysis (Table 3.1).

In section B - question one, respondents were requested to identify any performance indicators they are using and how they are being used. Question two requested respondents to identify any other performance indicator(s) that may not be on the list in the question one. Question three, four and five intended to discover if companies adopt Return on Investment (ROI) and how they use ROI to measure performance of their customer–related systems. In question six, respondents were requested to identify if they use any of the performance measurement tools from literature (i.e. Balanced Scorecard, Knowledge

management, Customer Management Assessment Tool, Customer Capital Asset Management). They were also requested to rate the effectiveness levels of these tools using a provided scale of zero to ten, given 'zero' is 'not effective' and 'ten' is 'very effective'.

Table 3.1

Performance Indicators for Questionnaire Survey - SECTION B

Dimensions of Performance	Types of Measures	Measurement Indicators	Labels
• Competitiveness	- Relative market share and position	- Percent of market share and position	COMP1
	- Sales growth	- Sales growth	COMP2
	- Measures of the customer base	- Changes in the size of customer base	COMP3
• Financial Performance	- Profitability	- Profitability	FINA1
		- Revenue per customer	FINA2
		- Cost per customer	FINA3
• Quality	- Reliability	- Accuracy of customer database	QUAL1
		- Delivery reliability	QUAL2
	- Responsiveness	- Response times to any form of customer's contact	QUAL3
		- Delivery lead time	QUAL4
	- Availability	- Availability of customer –facing staff	QUAL5
	- Competence, Access. Security	- Customer satisfaction	QUAL6
• Flexibility	- Flexibility of Volume, Delivery speed, and specification	- Customer Retention	FLEX1
		- Repeat orders	FLEX2
• Customer-Focused	- Customer-related indicators	- Customer lifetime value	CUST1
		- Customer complaints	CUST2

Source: Adapted from Gummesson, 2004; Gamble et al, 2003; Fitzgerald et al, 1994; Maskell, 1991; Parasuraman et al, 1985

- ***SECTION C***

Respondents were requested to identify if they are CRM users. This was to identify CRM user profile which could be useful for the selection of target participants in the next phase of empirical work. There were two questions in this section:

1. Do you use any computerised system to manage your customer data?
2. Do you use any recognised Customer Relationship Management (CRM) or similar software?

This was to eliminate a chance of getting answer 'No' (if only asked question two) from CRM user companies who may not realise that they are CRM users. The order of the questions was also intended. Respondents were requested to identify both the system name and their CRM vendor. This was considered to be useful for tracing the existence of CRM systems within the organisation.

- ***SECTION E***

  This section aimed to establish a list of possible contacts for the further empirical stage. The respondents were given an option to give their names and contact details if they would like to take part in the future stage. The reason for asking for name and contact details in the last section instead of first section was to eliminate a chance of not getting a response back. It was concerned that respondents may feel discouraged from returning or filling the questionnaire just because they were requested to put their names before giving their answers.

A copy of the questionnaire survey is shown in Appendix III, section 3.5.

3.6.2 Respondent Profile

Respondents selected for the questionnaire survey stage were Company Directors from SMEs across the UK. It was intended that target respondents were primarily Marketing director or manager. Managing director or Company director would be selected as an alternative when it was not possible to identify the respondents in marketing roles. Where information on the respondent role could not be obtained from the source of sampling frame (Bureau Van Dijk - FAME database), attempts to obtain such information were done through a visit on the company website. It was

also considered that although not all the respondents were in the marketing roles, responses received in regard to CRM from the top management and middle-management from various functions would also be appropriate in respect to the corporate or cross-enterprise perspectives CRM entails.

3.6.3 Pilot Testing

Pilot testing is a procedure of testing out a measurement instrument developed on a small sample of respondents before administering it to the actual samples in order to identify and eliminate potential errors/problems (Welman et al, 2005; Malhotra and Birks, 2003). Generally, the purposes of a pilot testing are to detect possible errors in the procedures e.g. ambiguous instructions and to allow the observation of non-verbal behaviours e.g. reactions to wording and content of the questions - confusion, discomfort or embarrassment. (Welman et al, 2005). The pilot testing considered the physical presentation such as layout and format which are important for the readability. This was also to ensure that it was easy for respondents to complete (Chisnall, 2005). The length of the questionnaire was planned at two pages as evidence showed that length of questionnaire affects the quality of responses (Moser and Kalton, 1971).

It was suggested that respondents in the pilot testing should be similar to those who will be participated in the actual questionnaire survey in terms of background characteristics, familiarity with and knowledge of the topic (Malhotra and Birks, 2003). The pilot testing was therefore conducted with local companies whose positions were from middle–management to top-management levels. There were 20 respondents in total.

The respondents were contacted through either email or post with a covering letter providing details of the research and the objectives of the pilot test. The pilot testing was done through a face-to-face approach, as it allows observation of respondent's reactions and attitudes (Welman et al, 2005; Easterby-Smith et al, 1993) and enables clarification needed to be made while they were completing the pilot questionnaire form. Respondents were requested to complete the questionnaire form and give their comments on the quality of the questionnaire at the end of the questionnaire form. The results showed that the questionnaire format and its presentation had to be revised in order to enhance the response rate and there were some minor changes needed to be made to the questions. The return option was also changed by providing reply-paid facilities and fax number. The questionnaire form was also considered to be numbered in the actual survey in order to track respondents for the follow-up reminder letter stage.

3.6.4 Sampling Design

A sample is a subset of the target population from which information is collected to estimate something about the population (Dillon et al, 1994). The sampling process involves the following procedures; define the population, search for sampling frame, specify sampling method, determine sample size and select the sample (Jobber and Fahy, 2003).

The target population was defined as Small- and Medium-Sized Enterprises (SMEs) across the UK. In terms of sample size determination, there are two different types of determinant as follows (Malhotra and Birks, 2003);

- ***Qualitative determination***

  There are several factors that can be used to determine the size of sample such as the nature of research, the number of variables, the nature of analysis, sample size used in similar studies, incident rates, completion rates and resource constraints. Minimum sample size used for problem-solving research is 200 and the typical range is 300-500. For problem identification research, the minimum is 500 and typical range is 1000-2500.

- ***Quantitative determination***

  The statistical approach to determining sample size is based on traditional statistical inference where precision level is specified and the confidence interval is calculated.

The approach undertaken for this research was a combination between qualitative and quantitative factors: The initial sample size was decided on a qualitative determination basis - this was mainly followed the similar size of the same type of research which is problem identification research and availability of financial and time resources - the sample size was originally set at 2,000. The quantitative approach was also used to eliminate possibility of having sampling error in which details are discussed in 3.6.5 with a finalised sample size. Below are details and procedures involved in the sampling process of the questionnaire survey stage.

The survey was initially planned to be conducted among 2,000 sampled SMEs in the UK. As there was no information available on CRM users in the public domain at the time, a reasonably large sample size was needed. This was to enhance the possibility

of obtaining a reasonable number of CRM users for the analysis including the next phase of the empirical work. In order to gain 2,000 representative samples of SMEs, Stratified random sampling method was used. Stratified random sampling is a two-step probability sampling technique that the population is divided into subsets (groups) and then the samples are forced to be selected from each of the groups of the population at random (Malhotra and Birks, 2003; Parasuraman, 1991). In this case, the geographical regions were used as subsets of the population as they are one of the most common subsets used for stratification method (Crouch and Housden, 1996).

The information on the whole population of SMEs companies was obtained from the Department of Trade and Industry (DTI, 2005) – a report on number of businesses in all industries by regions and by employment size band in 2005 (Appendix III, section 3.4). The proportion of SMEs in each region was calculated and the sample of 2,000 SMEs companies was extracted at random from the Bureau Van Dijk - FAME database (sampling frame), using stratified method (Table 3.2).

Table 3.2
Number of Sampled Companies

Regions	% proportion	Number of sample companies
NORTH EAST	2.91%	58
NORTH WEST	9.87%	197
YORKSHIRE AND THE HUMBER	7.45%	149
EAST MIDLANDS	6.84%	137
WEST MIDLANDS	8.34%	167
EAST	9.77%	195
LONDON	14.76%	295
SOUTH EAST	15.19%	304
SOUTH WEST	9.28%	186
WALES	4.56%	91
SCOTLAND	7.93%	159
NORTHERN IRELAND	3.12%	62
Total	100.00%	2,000

Each questionnaire was individually addressed to named contact of the company accompanied by a covering letter, detailing the objectives of the survey and the confidentiality issues. Pre-paid facilities and fax number were also provided to ease the hassle and increase the possibility of getting responses (Chisnall, 2005).

3.6.5 Data Accuracy Test

Data accuracy test was carried out with a purpose to ensure that the quality of sampling frame (Bureau Van Dijk – FAME data base) was reliable and to also enhance the response rates.

There were two steps in this data accuracy test: screening test and accuracy test. Screening test was the first stage, intending to eliminate duplicate director names or company names, incomplete address and companies without information on the number of employees (this was to ensure that selected samples were only SMEs). The second stage was the accuracy test, performing on a randomly selected sample of 50 companies (out of the total number of 2,000 companies, equivalent to 2.5%). A random selection of a sample was in proportional of the twelve regions, using a sampling tool from Microsoft Excel. The test carried out would check the accuracy of the company addresses and company contact names. Testing methods employed were as follows:

- Through the company's websites (this was done through contact details section or online company annual report) and/or
- Through the business directory websites (e.g. Companies House and other sources)

There were two errors found in the sample: one was the incomplete address and the other one was the incorrect postcode, which were accounted for 4%.

> "Confidence to use samples in market research (or in any application) is based on a branch of statistical theory which allows the accuracy levels of samples to be estimated within ranges of probabilities" (Hague and Jackson, 1999, p. 99)

Thus, in order to find out the possible range of error of the whole population (2,000 companies) based on the 4% error found from the sample of 50 companies, *'Confidence Interval'* (or possible range of error) needed to be calculated. To calculate the confidence interval, *'Sampling Error'* needs to be calculated first. Sampling error is the possibility of finding error in the whole population based on the error found in the sample. The formula for calculation is as follows (Hague and Jackson, 1999):

$$Sampling\ Error = \frac{1.96\sqrt{p\%(100 - p\%)}}{n}$$

Where:

p = the measure taken

n = sample size

Please note that the value 1.96 in the formula is for a 95% probability level.

In this case, from a sample of 50 (n) and a measure of 4% (p), the sampling error would be 5.4%

$$Sampling\ Error = \frac{1.96\sqrt{4\%(100 - 4\%)}}{50}$$

$$= 5.4\%$$

Confidence interval was calculated by adding/subtracting sampling error (5.4%) to the confidence level (4%). confidence interval was therefore calculated as follows (Hague and Jackson, 1999):

$$Confidence\ Interval = 4\% \pm \frac{1.96\sqrt{4\%(100-4\%)}}{50}$$

$$= 4\% \pm 5.4\%$$

= between -1.4% and 9.4% (say 0% to 10%)

The results from the calculation of confidence interval showed that the possible range of error would be between -1.4% and 9.4% (4%± 5.4%) or approximately 0% to 10% at 95% confidence level. The sample size was therefore increased by 10% (200 companies) to cover the possibility of having this 4% error (Table 3.3). This 10% increase in sample size was one way of increasing precision of samples (Moser and Kalton, 1971), in other words sampling error may be reduced by increasing the size of the sample (Webb, 2002). It also complied with a statistical theory which claimed that the higher level of confidence required, the larger the size of sample would be. It was also suggested that the sample size should be multiplied by a factor of four (Crouch and Housden, 1996).

In this case, the sample size for the accuracy test was 50; adding with 10% (2,000 x 10%) or four times (50 x 4) would be equal to 200. In addition, it was also planned that reminder letters would be sent if there was no response received after a two-week period, as mail questionnaire technique requires some systematic follow-up to increase the response rate (Chisnall, 2005).

Table 3.3
Number of Sampled Companies after the Accuracy Test

Locations	% proportion	Number of sample companies	Add 10%	Total number of samples
NORTH EAST	2.91%	58	6	64
NORTH WEST	9.87%	197	20	217
YORKSHIRE AND THE HUMBER	7.45%	149	15	164
EAST MIDLANDS	6.84%	137	14	151
WEST MIDLANDS	8.34%	167	16	183
EAST	9.77%	195	20	215
LONDON	14.76%	295	30	325
SOUTH EAST	15.19%	304	30	334
SOUTH WEST	9.28%	186	18	204
WALES	4.56%	91	9	100
SCOTLAND	7.93%	159	15	174
NORTHERN IRELAND	3.12%	62	7	69
Total	100.00%	2,000	200	2,200

3.6.6 Distribution Procedure

Contact information of randomly selected respondents extracted from Bureau Van Dijk – FAME database was uploaded into the contact management software (Tamsin InTouchPlus) as a tool for printing and distribution procedures of the survey. Questionnaire forms, personalised covering letters and envelopes were printed off by region. Each of which was posted to the sampled companies with an attached pre-paid reply facility. Any responses received were then updated on the contact management system as 'replied' where non-replied respondents were sent a reminder letter after a two-week interval.

3.7 Data Analysis: Stage one - Questionnaire Survey

Quantitative data analysis involves three major steps in its process: Coding, Data entry and Statistical analysis (Wilson, 2006). This section provides details of procedures and processes undertaken to aid the analysis of survey data.

3.7.1 Data Analytical Tool: SPSS

SPSS is a software package used to conduct statistical analyses. SPSS contains several tools for manipulating data, including functions for recoding data and computing new variables, as well as for merging and aggregating datasets. SPSS also has a number of ways to summarise and display data in the form of tables and graphs (www.spss.com). It was then considered to be an appropriate and effective tool for the analysis of survey data.

3.7.2 Data Entry and Coding Procedures

Coding involves translating responses into a suitable form for the purpose of data analysis. It is also an initial step of an analytical process. The coding process involves assigning numerical codes to responses (answers) received from the respondents. This allows three main purposes to be served: firstly, the data can be recognised by the computer, secondly the data can be stored in the data field and thirdly the data can be interpreted and manipulated for the purpose of statistical analysis (Wilson, 2006).

Regarding the coding system used, some of the questions in the questionnaire survey, particularly closed-ended questions (e.g. the rating questions, multiple-choice or listed questions), were coded prior to the survey. Responses from open-ended questions were however coded after the data were collected. This coding system was described as 'pre-coded' and 'post-coded'. It is worth noting that responses from open-ended questions were coded in two steps: initial coding and final coding - this allowed similarly relevant initial coding to be consolidated into the final coding. This was a process of categorising responses suggested by Wilson (2006).

Coding category names were assigned using similar keywords related to the survey questions, for instance responses received on 'financial' key performance indicators (KPIs) adopted within the companies were given the label name of 'FINA 1, FINA 2 and so on' whereas responses on 'customer-focused' KPIs adopted within the companies were coded as 'CUST 1, CUST 2 and so on' as shown in Table 3.1 previously.

Data collected from the survey were then carefully entered into the computer software package using the pre- and post-determined coding system discussed previously. The accuracy tests were run on the computer system to ensure that there was no missing response, duplicate or inconsistency. This procedure was termed as 'data cleaning' (Wilson, 2006).

3.7.3 Statistical Analysis Techniques

It was intended that a statistical test would be performed to ensure the received responses were good representative of the SMEs population. Chi-square test was employed to test if the geographical distribution of received responses would be significantly different from the population.

In regard to the analysis of survey data, a number of different techniques were considered: Analysis of Variance (ANOVA), Multivariate Analysis of Variance (MANOVA), T-Test, Chi-Square, Kendall's Tau, and Principal Component Analysis (PCA). This was to find the most suitable methods for the analysis of data, given the nature of questions and data from the survey as main criteria for the selection of methods.

Kendall's Tau technique was chosen for the analysis. This method is a non-parametric technique which is particularly suitable for nominal (categorical) and ordinal (ranked) data and can apply with very small samples (Pallant, 2006). Given the nature of data collected from the survey which was predominately categorical (i.e. CRM system user/non-user) and ordinal (frequency of measurement) and they did not meet some assumptions of parametric techniques, therefore the method chosen was considered to be appropriate for the analysis.

Kendall's Tau statistics such as Tau-b and Tau-c are normally used to measure if there is any relationship between two *ordinal* variables. They take into consideration the ordering of categories of variables by examining every possible pair of cases in the table. Each pair is considered if its relative ordering on the first variable is similar to its relative ordering on the second variable. In addition, Tau-b is appropriate for square table (has equal number of rows and columns) and Tau-c is appropriate for a rectangular table where number of rows is different from number of columns (Malhotra and Birks, 2003). Kendall's Tau technique was therefore used to test the significant difference in KPI groups between CRM and Non-CRM users. Another technique used for the analysis was the descriptive statistics (frequency tables) which was considered to be simple and suitable for the summary of usage and the effectiveness level of existing performance measurement tools (e.g. Return on Investment, Balanced scorecard, Knowledge management) perceived by companies.

3.8 Empirical Design: Stage two - Semi-Structured Interview

As discussed previously, this stage of empirical work was conducted to gain insights and explore information regarding CRM performance measurement of the

companies. It was also employed to obtain clarifications to some of the main findings from statistical analysis of the survey data. This could be supported by a comment from Malhotra and Birks (2003) who stated that qualitative approaches may be adopted after or in conjunction with quantitative approaches. This particularly applies when statistical findings required further clarifications and it is believed that it can improve the efficiency of quantitative research (McDaniel and Gates, 2006).

An interview is a purposeful discussion (or an exchange of meanings) between two or more people (Chisnall, 2005; Kahn and Cannell, 1957). Interview can be used as a technique to gather information that are relevant to research questions and objectives (Saunders et al, 2003). Semi-structured interview was a research technique employed to conduct the empirical work in this stage. Details of the research design and justifications for the chosen approach are discussed as follows:

3.8.1 The Design

There are many types of interview and the one that is related to the level of formality and structure of the interview can be classified as follows (Saunders et al, 2003):

- ***Structured interviews***

  This type of interview uses questionnaires based on a predetermined and standardised set of questions. As they are used to collect quantifiable data, they are also referred to as 'quantitative research interviews'.

- ***Semi-structured interviews***

  This method uses a list of themes and questions to cover the topic being studied in which they may vary from interview to interview. The order of questions may also vary depending on how the conversation flows and additional questions may be needed to explore further about the research topic.

- ***Unstructured interviews***

  This is an informal discussion where it is particularly useful for exploring in depth a general area of interest. Although there is no predetermined list of questions, a clear idea of aspects to be explored is needed.

The decision was that the interviews were to be semi-structured and the reasons for choosing this method are discussed as follows: semi-structured interviews can be used in relation to an exploratory research. It was considered that this method provides the opportunity to probe answers where further explanations from the interviewees are required. This was important in particular as interpretative paradigm was adopted where concerns were placed on the understanding of meanings of the information gathered. This enabled a rich and detailed set of data to be collected (Saunders et al, 2003). Another key concern was the length of time required to complete the interview: participants agreed to take part in the interview were top management positions and they had a very limited time for such research activity, therefore this method would give a better degree of control over the time issue than unstructured interview method. Lastly, considering the nature of questions which was predominantly open-ended and aimed to gain understanding and the meanings of

participants' responses, this type of interviewed would be the most appropriate method (Easterby-Smith et al, 1993).

It was decided that the interviews were to be conducted over the telephone. It was considered that there were a number of benefits that come with telephone interview method: firstly the telephone has the advantage of reaching people, particularly for this research where participants were top management positions who tend to be travelling around either abroad on the business or between office branches, thus it could be very difficult for them to make time for the face-to-face interview e.g. some of the interview participants opted to have the telephone interview while they were travelling using their mobile phone. Secondly, there was a major benefit with speed and thirdly this method allowed information to be gathered at a much lower cost than face-to-face interview method (Wilson, 2006; Hague et al, 2004; Saunders et al, 2003). It was then decided that due to the geographical, time and financial constraints including the consideration on benefits of this method, the interviews would be conducted over the telephone. It was planned that all the data would be recorded using a voice recorder with permission from the participating companies.

An Interview session was divided into three parts as follows:

- Part one: basic information of the company.
- Part two: information of the CRM or related systems.
- Part three: information on the performance assessment of CRM or related systems.

In part one, participating companies were requested to answer the questions that would help to classify them into three different groups of company, depending on their circumstances: group one was a company who was currently adopting the CRM software, the second group was a company who was thinking of adopting CRM in the future and the third group was a company who had no intention to adopt CRM. Each participant was then requested to answer the questions from one of the following three interview question sets:

- ***Interview Question - Set A***

  This set of questions was designed for participating companies who were currently adopting CRM or related systems. Questions were designed with an aim to discover a number of things that make up the CRM journey. For example, it covered from decisions on acquiring the software till where they were at the time of the interview. It intended to discover whether they assess their CRM performance, if so how they actually assessed it, also what KPI they were using to assess the CRM performance and their opinions on the effectiveness of their KPIs they were adopting and so on.

- ***Interview Question - Set B***

  This set of questions was designed for participating companies who were thinking of adopting the CRM or related systems. Questions were designed to discover reasons for thinking of adopting the systems. It was also intended to reveal issues they may have or may have not considered when making the decision on CRM choice.

- ***Interview Question - Set C***

  This final set of question was designed for participating companies who did not have any intention to adopt the CRM or related systems. It was considered to be interesting to discover reasons for not adopting the CRM or related systems.

In part two and three, the questions were ordered by a sequence of event that would typically happen when adopting a CRM or related system – 'A Journey of CRM Implementation'. This could be linked back to the literature review in chapter two in regard to common key process of CRM implementation (Table 3.4). The question order was however flexible and depended on the flow of conversation at the interview. The interview questions are illustrated in Appendix III, section 3.6.

Table 3.4

Development of Interview Questions

Common Key processes	Interview Question Sections
1. Planning ▪ Planning at board level ▪ Planning CRM/business requirements ▪ Other planning 2. Strategy formulation 3. Process determination 4. People involvement 5. Implementation ▪ Implementing the system ▪ Setting up/testing the system	PART TWO: Information on the CRM system
6. Control	PART THREE: CRM Performance measurement

Source: Ganthead, 2007; Isarenkhoe and Bennani, 2007; Chalmeta, 2006; Payne and Frow, 2006; McCabe, 2005; Microsoft, 2005; Lindgreen, 2004; Gamble et al, 2003; Syspro, 2002

3.8.2 Participant Profile

The same sampling profile as the survey stage was also used at the interview stage i.e. they were in top or middle management positions of the company from across the country. Participating companies at the interview stage were self-selected from the questionnaire survey stage. Companies were requested to indicate whether they would be willing to participate in the future stage of this research during the survey. If they ticked the 'Yes' box, they would then be requested to leave their name and telephone or email contact details in the form. The self-selected participating companies were contacted for the interview arrangement and were classified into two groups: 'CRM users' and 'Non-CRM users'. This classification of users was determined by the identified CRM or related software system adopted within the organisation at the survey. In order to ensure the CRM awareness among the participants, they were briefed with the purposes of the interview and the research and also requested to define CRM as part of the interview questions.

Table 3.5 below summarises general profile of the participants by their roles and time serving in the position. Of 26 participating companies, there were 40% of participants who were in the general top-management positions e.g. managing director, functional director. There were 35% of the participants who were in the sales/marketing positions e.g. marketing director, group marketing manager. The rest of the participants were from various business functions e.g. commercial manager, quality manager. The average time of serving in the position was ranging from four to six years. Full information on the profile of interview participants can be found in Appendix III, section 3.7.

Table 3.5
Profile of Interview Participants

Position profile	Proportion	Average time in position (Years)
▪ General: Top-management positions	40%	6.2
▪ Marketing: Top-management positions	8%	4
▪ Marketing: Middle-management positions	27%	3.4
▪ Others: Middle-management positions	25%	4.8

3.8.3 Pilot Testing

The main purpose of the pilot interview test was to ensure that there was no significant issue regarding the quality of the interview questions. Selected participating companies for the pilot interviews were two CRM user companies and two Non-CRM user companies. These companies were also self-selected through the process described previously.

The participants were contacted either through telephone calls or emails regarding taking part in the pilot interview. They were reminded about the previous survey they took part and requested to confirm if they were still willing to take part in the pilot interview. The pilot interviews were done face-to-face with all conversations recorded through a digital voice recorder (with permission from the participating companies). The participants were also requested at the end of the pilot interview to give any comments regarding the quality of the interview questions or any other important issues.

Results from the pilot interviews showed that there was no major issue with the questions or the order of questions for CRM user companies. Some adjustments with wording were made. It was realised that the pilot interviews with Non-CRM companies would not give much contribution to the outcome of the research, as they

had some difficulties answering or discussing issues regarding CRM and CRM performance. This was due to the lack of knowledge of and experience with CRM. It was therefore decided that the actual interview stage would include only participating companies who were CRM users.

3.8.4 Interview Arrangement and Procedures

There were 52 respondents who were considering taking part in the future stage of the research, as identified from the survey stage. Due to the results from the pilot interviews, only CRM user companies were contacted to take part in the actual interview. The interview setup procedure was divided into two steps as follows:

Firstly, the companies were contacted through email and/or telephone whether they would still be interested in taking part in the interview. The companies were reminded with why they were contacted by referring back to the questionnaire survey they took part and the indication of their willingness to take part in the future. They were informed with the details of the interview i.e. length of the interview and the purpose of the research, and were requested to respond by email or telephone if they would like to take part.

Secondly, the companies who agreed to take part in the interview were requested to give suitable times they were available for the interview and the interview was then arranged. It was considered that a second email or telephone call would be made as a reminder after ten days since the first contact regarding the interview was made. If necessary, a third contact would be made after 20 days as a second reminder for those companies who were yet to agree on the interview date and time. The

companies who agreed to take part were then numbered e.g. P01, P02, P03 and so on once the interview date and time was arranged for the purpose of interview schedule management. There were 26 companies took part in the actual interview stage.

At the beginning of the interview, participating companies were thanked for agreeing to take part in the interview. They were also reminded about the purpose of the interview which was to gain insights and explore further information in regard to CRM performance assessment. This was considered to be useful for a development of a realistic CRM performance measurement framework. Participating companies were requested for permission to have the interview conversation recorded electronically using a digital voice recorder and also assured with confidentiality and anonymity issues.

Participating companies were then requested to answer the questions from one of the interview question sets (as previously shown in 3.8.1). In some cases, additional questions were arisen to clarify and investigate further into ambiguous initial responses. The order of the questions was adjusted as appropriate depending on the flow of conversation. At the end of the interview, the participating companies were thanked for their time and contribution.

3.9 Data Analysis: Stage two - Semi-Structured Interview

Theoretically speaking, qualitative research can be described as an approach rather than a specific design or set of techniques (Welman et al, 2005). Qualitative research is described as an 'umbrella' phase which includes many interpretative techniques aiming to decode, translate and make sense of emerging phenomena in the social

world (Van Maanen, 1979). According to Van Maanen (1979), precise definition to a term qualitative research does not seem to exist in any of the social sciences.

When it comes to analysing qualitative data, Wilson (2006) suggested that it should not be assumed the process can be short-cut. Many researchers presume that data analysis and interpretation may be done as data is collected. Their concern would then likely to be placed on the process of doing the research rather than the detail of the content. There are, however, difficulties in this 'cut-corners' approach: the analysis of qualitative data may be biased - comments or responses from some participants could be stand out and easily recalled than others.

According to Wilson (2006), it is advisable to process and analyse the data once all have been gathered. This allows the researchers to re-absorbed all the data and organise the content into a form that will directly provide answers to the research questions. This type of analysis is called 'Content analysis' where content of the records and transcripts that represent the outcome of the qualitative research is analysed. The two major elements of the content analysis are: organisation of the data (coding) and interpretation of the data.

3.9.1 Data Analytical Tools: Nvivo™ and SPSS

Computer Aided Qualitative Data Analysis Software (CAQDAS) allows qualitative data to be analysed. Qualitative data analysis procedures also allow the identification of patterns, themes, relationships between categories and development of theory from such data (Saunders et al, 2003).

Nvivo™ is a widely used CAQDAS in which it enables researchers to access, manage, shape and analyse detailed textual and/or multimedia data by removing manual tasks like classifying, sorting and arranging information. Thus, it clarifies understanding of data, discovers meanings and patterns and arrives at answers to the questions (www.qrsinternational.com). This analytical tool was then considered to be appropriate for the analysis of interview data. SPSS was also selected as an analytical tool in this stage. This was used for an additional analysis which the main purpose was to investigate further into the identified Key measures for CRM performance assessment.

3.9.2 Data Entry and Coding Procedures

Chi-square test was also employed at this stage to test the representativeness of participating companies as opposed to the SMEs population. The statistical test was performed to ensure that the geographical distribution of companies participated at the interview stage would not be significantly different from the population.

In regard to the analysis of the interview data, categorisation is one of very first activities involved in the qualitative analytical process: it is about classifying qualitative or textual data into some meaningful categories. These categories are 'labels or codes' that were used when grouping together the data (Saunders et al, 2003).

Recorded interview data were transcribed into interview scripts and imported onto Nvivo™ as document sources. Each document source (interview script) was then scanned and explored simultaneously to identify common answers from each of the

interview questions. The identification of category names for common answers can generally be derived from three different sources (Strauss and Corbin, 1998):

- Utilising the terms emerged from the data
- Actual terms used by the participants
- Terms used in existing theory and the literature

The category names were derived using both the emerging terms (themes) from the interview data and some of the actual terms used by the interviewed companies in regard to Strauss and Corbin's sources of category names. The coding procedure was then done by topics and keywords found within the interview scripts.

In regard to the coding procedure on Nvivo™, the container for references to the topics or keywords was called a *'Node'* (www.qrsinternational.com). Any keywords, phases, comments, potential themes and any emerging opinions related to the subject area were coded as *'Initial codes' or 'Free nodes'*. This was to eliminate any possible bias that may occur if pre-determined themes or topics were set prior to the coding of the data content i.e. keywords found within the text would likely to be forced to fit into these pre-determined themes. Similar or related initial codes (free nodes) were then narrowed down into *'Key Codes'* and placed on to *'Tree node'* (Appendix III, section 3.8) where these key codes were catalogues in a hierarchical structure, as they were moving from a general category at the top (the parent nodes) to more specific categories (child nodes) (www.qrsinternational.com). The approach undertaken could be supported by Saunders, et al (2003) who stated that initial codes developed, particularly when inductive or grounded approach is adopted - are likely

to be descriptive. They also stated that this categorisation of data will subsequently be developed into a more hierarchical approach as the analysis progresses.

3.9.3 Data Analytical Techniques

The analytical techniques used in Nvivo™ were 'Matrix Coding Queries' and 'Models' options. Matrix Coding Queries option allows creation of a matrix of codes (key nodes) based on the specified searching criteria e.g. particular KPIs adopted by company groups, rating of KPIs given by company groups. The 'Matrix Coding Queries' option also allows possible patterns to be visibly seen by selecting the Matrix shading display (Appendix III, section 3.9). 'Models' option enables a development of frameworks, models or illustrations of initial ideas about the data, including the identification of emerging patterns, themes and relationships from the data (www.qrsinternational.com). Some of the outputs from the Matrix Coding Queries were exported to Microsoft Excel for further manipulation of data when required.

Cluster analysis technique was conducted using SPSS as an analytical tool for further investigation of preliminary findings from Nvivo™. Cluster analysis is a generic terms for a set of techniques which produces the classifications from initially unclassified data (Everitt, 1980). In its simplest term, cluster analysis is the art of finding groups in data (Kaufman and Rousseeuw, 1990). Hierarchical clustering technique was used for the analysis. This is a clustering technique where data are not separated into classes (groups) in a single step but rather they are categorised into a few broad groups, each of which is further divided into smaller groups and each of these further categorised and so on, until terminal groups are generated with no

further subdivided. Hierarchical classifications can be represented by inverted tree structures or what it is called 'dendograms' which are two-dimensional diagrams illustrating the divisions which have been made at each stage of the analysis (Everitt, 1980).

Searching for groups or clusters in data is a process that involves a series of intuitive and subjective decisions (Anderberg, 1973), thus this was considered to be a vital basis in giving logical explanations (interpretations) to the framework derived from the interview data. The outcome of a cluster analysis is not only a set of clusters: the most useful outcome is in fact increased understanding of known facts allowing a more parsimonious description of the topic studied (Anderberg, 1973). The following analytical procedures were performed:

- ***Step one: Identification of successful CRM users***

  Regarding the research objectives and questions, it was determined that relationships between how companies assess their CRM performance and their success would be discovered. This step aimed to distinguish successful user companies from less-successful ones, in order to investigate differences in the way CRM performance was assessed among these two groups of company.

  Matrix Coding Queries option on Nvivo™ was used as a technique to identify which participating companies were more successful in CRM than the others. The key determination for CRM success level was the results from the provided rating scale of the overall performance of their CRM systems indicated by the participants. This self-determined success approach was considered to be

suitable, given the concern that success in CRM can vary from companies to companies. It was commented that the term 'success' or 'failure; is subjective and there are several factors that could affect these terms (Nicho, 2004). It could be supported that when it comes to reporting and measuring success, many companies find it challenging as various departments and groups may have their own terms of success (Nykamp and McEachern, 2000). It is, thus, almost impossible to use any particular indicators to determine the common success of CRM. It was, therefore, considered to be more appropriate for participants to indicate their perceived CRM success or the overall CRM performance in a form of measurable scale.

The rating scale provided for the participants was ranking from one to five where one is 'very poor' and five is 'excellent'. Participating companies that gave the rating between four and five out of five were regarded as 'a Successful company' whereas those who gave the rating between one and three out of five were regarded as 'a Less-successful company'.

- ***Step two: Identification of important KPIs***

  Once the successful CRM companies and less-successful CRM companies were identified from step one, an investigation into the way these two groups of company assess their CRM systems including the perceived effectiveness of KPIs adopted within the companies was performed.

During the interview, participating companies were requested to give the rating for the effectiveness of KPIs they were adopting (identified from questionnaire

survey stage). This was to identify effective KPIs perceived by the companies and they would be termed as *'Important KPIs'*. The rating scale provided for the participants was the same as the one used in step one i.e. a scale of one to five. The main criteria used to determine the important KPIs were the rating given by the companies and the number of companies who adopted the KPIs (adoption rate). To explain further, KPIs that were perceived to be highly effective i.e. got rated between four and five out of five and adopted by the majority of the companies would be classified as *'Important KPIs'*. Matrix Coding Queries option was used to perform the analysis. The main objective was to discover important KPIs adopted by successful and less-successful CRM user companies for further analyses. Please note that the same coding labels from questionnaire stage for KPIs (Table 3.1) were also used for the analysis in the interview stage.

- ***Step three: Framework Development***

  At this stage, two different draft frameworks were created from two set of data: successful companies' data set and less-successful companies' data set using the 'Model' option on Nvivo™. This was to allow the comparative analysis and investigation of the two frameworks in the later step. This would give the reasons why one group of CRM companies were more successful than the other in regard to the CRM performance assessment. These two draft frameworks would also aid a development of finalised CRM performance measurement framework once all the other related analyses have been done.

- ***Step four: Interpretations of relationships between important KPIs***

  This step determined to make sense and give explanations to the frameworks derived from the previous steps. It aimed to investigate into relationships that may exist between important KPIs identified from both successful and less-successful CRM user groups.

  SPSS was used as an analytical tool for conducting a 'Cluster Analysis' technique. This analytical technique intended to discover groups among important KPIs that share some similar characteristics i.e. which of the important KPIs appeared to be adopted together by the companies or perceived similarly in their effectiveness. This was to create a more complete picture for the draft frameworks. Another descriptive analysis (frequency analysis - patterns matching) was also performed to explain and identify why some KPIs were grouped together as a cluster (identified from the Cluster Analysis) and what the explanations for the grouping were. The comparative analysis was performed between successful and less-successful CRM user companies. This was to investigate any relationships between the importance of the important KPIs perceived by these two groups of CRM companies and their success in CRM. In other words, what key differences that make one group of users more successful than the other were.

- ***Step five: CRM understanding and success***

  Interview questions were also designed to gain insights into other aspects of CRM perceived by companies which may contribute to their success. The participants were requested to discuss their understanding of CRM. It was

intended that CRM understandings defined by the participating companies would be investigated further how it may connect to their success in CRM.

The analysis was performed on Nvivo™ using Matrix Coding Queries option. The aim was to compare successful and less-successful CRM companies in regard to their understandings of CRM. This was to discover whether there were any different patterns between the two groups of company regarding how they see CRM. The understandings of CRM coded in Nvivo™ were grouped into three categories: Technology perspective, Customer perspective and Strategy perspective (these categories were identified from literature, see chapter two).

- ***Step six: Views on CRM performance assessment***

  During the interview, one of the questions that the participating companies were requested to discuss was whether they set any criteria to assess their CRM performance. The participants who said 'yes' were then requested to identify the criteria they were using. The participants who said 'no' were then prompted with a different question which aimed to identify any basis they may be using to monitor the progress and the operations of their CRM systems.

The aim for this analysis was to identify the assessment criteria used by companies who set the criteria and also to compare these criteria with the basis used by the companies who do not set any criteria for CRM assessment. This allowed a comparative analysis between successful CRM users and less-successful CRM users to be conducted in regard to the ways they assess their CRM systems. The results from the comparison were then compared to the

results from step five (CRM understanding and success) in order to discover any possible linkages between 'Understanding of CRM' and 'how companies assess their CRM system'.

- ***Other themes for the analysis***

  Regarding data collected from the interviews, there were other aspects of CRM performance measurement that were also relevant to the research and worth discussing. Findings on these aspects were considered to be important. These aspects are discussed as follows:

- ***Views on existing performance measurement tools***

  This was a follow up process from the questionnaire survey stage where existing performance measurement tools (e.g Balanced Scorecard, Knowledge Management, Customer Capital Asset Management and Customer Management Assessment Tool) were given the rating for their effectiveness by the companies who used them.

During the interview participating companies, who indicated that they were using these tools, were requested to discuss justification of their ratings and give their thoughts of the tools. It also aimed to investigate any difficulties or issues faced by the companies regarding the effectiveness and the usage of such tools.

- ***Extreme views on CRM***

  It was considered that data collected from the interviews could possibly indicate important information, although, outside the area of interest of the research. Important information such as different or disagreed views on CRM and its performance measurement or any other obscured findings discovered from the research would also be presented, as they generate interesting discussions in relation to the research topic.

3.10 Conclusions

This chapter has provided and presented research methodological approaches employed for the study. It has explained the philosophical underpinnings for the research approaches undertaken. The chapter has also discussed justifications of research methods employed.

The methodological approaches undertaken for the research were hierarchical in nature consisting of two major stages: the first stage of the research aimed to identify Key Performance Indicators (KPIs) adopted by companies and create a profile of eligible respondents i.e. CRM user. The questionnaire survey was used as a research tool. The second stage of the research intended to drill down into more insight information about how they assess their CRM performance in order to derive a CRM performance measurement framework from the information obtained. The tool used for this stage was semi-structured interviews with CRM user companies. Details on research process and elements of empirical work have been covered and presented. These included the design, respondent profile, pilot test, sampling design and the data analysis processes.

Chapter Four: Data Analysis and Findings

4.1 Introduction

This chapter discusses and presents findings of the empirical work of the research outlined in chapter three based on questionnaire survey and semi-structured interview. As explained earlier in chapter three the research approaches were hierarchical in nature, the chapter is structured on a basis of these major empirical stages of the work.

The analysis of questionnaire survey data is presented in three major themes of revelation: Key Performance Indicators (KPIs) profile adopted by companies, results on significant differences between CRM and non-CRM user companies and the adoption rates and the perceived effectiveness levels of existing performance measurement tools.

Results from the interview data analysis are discussed and presented in the following themes: identification of successful CRM users, identification of important KPIs. The discussions on the development of CRM performance measurement framework which is a final outcome of the research is also presented in this chapter. Other relevant findings considered to be important and worth discussing are presented, namely CRM understanding and success, views on CRM performance measurement, views on existing measurement tools and extreme views on CRM.

4.2 Data Analysis and Findings: Stage one - Questionnaire Survey

This section presents profile of the received respondents and results from the representativeness test of such respondents. It also discusses and presents main findings from the analysis of survey data. The main findings include the profile of KPI, statistical results between CRM users and non-CRM users in regard to the adoption and utilisation of the KPIs. Findings on the adoption and the perceived effectiveness levels of existing measurement tools are also presented.

4.2.1 Profile of Respondents

The total responses received were 134 which accounted for 6.09%. There were 101 usable out of 134 total responses (4.6%). Of 101 usable responses, the respondent profile could be broken down into 73% of CRM users and 27% of non-CRM users.

4.2.2 Representativeness Test

Chi-square test was performed to discover whether there was any significant difference between the distribution of the 101 received responses and the SMEs population geographically (Appendix IV, section 4.1). The Chi-square test gave a result of 0.069 which was more than the 5% confidence level (0.05). The distribution of received responses was therefore not significantly different from the SMEs population.

4.2.3 Profile of KPIs

A list of measures adopted by both CRM and Non-CRM user companies is shown as follows:

- Percent of market share and position
- Sales growth
- Changes in the size of customer base
- Profitability
- Revenue per customer per year
- Cost per customer per year
- Accuracy of customer database
- Delivery reliability and punctuality
- Response times to customer's contact
- Delivery lead time
- Availability of customer–facing staff to provide services
- Customer satisfaction
- Customer retention
- Repeat orders
- Customer Lifetime Value
- Customer complaints

The next step of data analysis process involved the descriptive analysis using Kendall's Tau technique. This was to investigate further whether there was any significant difference between CRM and non-CRM user companies in the adoption and utilisation of each of the identified KPI.

4.2.4 Significant Differences between CRM Users and non-CRM Users

Results showed that there were significant differences between CRM and non-CRM user companies in terms of the KPIs adopted and/or the way they were measured (utilisation). Please note that a category of respondents: CRM users and non-CRM users was determined by CRM or related system adopted within the organisation. The significant differences occurred in the following KPIs (Detailed output tables can be found in Appendix IV, section 4.3 to 4.6):

- Sales Growth (Adoption: 0.019)
- Delivery lead time (Adoption: 0.015)
- Availability of customer-facing staff to provide services (Adoption: 0.022 and Way of measurement: 0.017)

The results showed that among the CRM and non-CRM user companies who adopted 'Sales growth' as their KPI, there was a significant difference found in the adoption of this indicator (Table 4.1). Although 'Sales growth' was adopted by the majority of both CRM and non-CRM users (93.1% and 75.0% respectively), the significant difference occurred between these two groups of company in the adoption could be mainly due to a considerable difference in the proportion of the two user groups: the proportion was higher in the CRM user group compared to the non-CRM user group.

The adoption rate of 'Delivery lead time' between CRM and non-CRM user groups revealed a significantly different pattern. There were 75.4% of CRM users who adopted this KPI whereas the majority of non-CRM user group did not use this indicator (51.9%). A similar pattern also showed when analysing the adoption of 'Availability of customer-facing staff' among the two groups of CRM user: most of

the CRM user companies adopted this measure (60.9%) whereas there were only 33.3% of the non-CRM user companies who employed this KPI.

Despite the significant results in the adoption rates occurred in the three performance measures as discussed above, it is worth mentioning that customer-focused indicators i.e. 'Customer lifetime value' and 'Customer complaints', which are closely related to CRM, (Nykamp and McEachern, 2000) did not give significant results. The concept of lifetime value has been adopted by CRM, as the customer lifetime value is assessed to help companies decide whether it is worth keeping relationships with such customers (Sin et al, 2005; Gummesson, 2004). According to the results, 'Customer lifetime value' was almost equally adopted by both CRM- and non-CRM users (19.4% and 11.5% respectively). It also showed that the adoption rates were equally low in both CRM and non-CRM user groups. In terms of 'Customer complaints', it was highly adopted by both groups of user: it was 77.5% for CRM users and 74.1% for Non-CRM users (Table 4.1).

Table 4.1
A Range of Significant KPI Adopted by CRM and Non-CRM Users

Key Performance Indicator (KPI)	Adopt it	Do not adopt it
▪ Sales Growth		
- CRM Users	93.1%	6.9%
- Non-CRM Users	75.0%	25.0%
▪ Delivery lead time		
- CRM Users	75.4%	24.6%
- Non-CRM Users	48.1%	51.9%
▪ Availability of customer-facing staff		
- CRM Users	60.9%	39.1%
- Non-CRM Users	33.3%	66.7%
▪ Customer lifetime value		
- CRM Users	19.4%	80.6%
- Non-CRM Users	11.5%	88.5%
▪ No. of customer complaints		
- CRM Users	77.5%	22.5%
- Non-CRM Users	74.1%	25.9%

When analysing how KPIs were measured by CRM and non-CRM companies (utilisation), a significant difference was found in one of the KPIs namely 'Availability of customer-facing Staff'. It appeared that CRM user companies tended to assess this indicator more frequently than non-CRM user companies: 50% of CRM users assessed this KPI weekly whereas it was measured by the non-CRM users every month and every quarter (Table 4.2).

Table 4.2
A Range of Significant KPI Adopted and Measured by CRM and Non-CRM Users

Key Performance Indicator (KPI)	Daily	Wk	Mth	Qtr	Yr
▪ Availability of customer-facing staff					
- CRM users	7.7%	50.0%	26.9%	11.5%	3.8%
- Non-CRM users	-	-	50.0%	50.0%	-

In summary, results from the statistical analysis showed that although both CRM and non-CRM user companies adopted a number of similar KPIs to assess their performance, some of the KPIs were adopted by only a small number of non-CRM users i.e. Sales growth, Delivery lead time and Availability of customer-facing staff. One particular measure showed a significant difference between the two user groups in the way they was measured (utilisation) i.e. Availability of customer-facing staff. The overall results from the survey suggested that both CRM and non-CRM users have information available within their organisations which could be used to assess their performance. Although there were some significant differences in the adoption of some indicators and the way they were measured (utilisation). Further investigation was conducted in the second stage of the research to gain insights that explain the effectiveness of these indicators regarding the CRM performance assessment.

4.2.5 Adoption and Effectiveness Levels of Existing Measurement Tools

Results from the analysis of survey data revealed the usage and the perceived effectiveness levels of existing performance measurement tools i.e. Return on Investment (ROI), Balanced Scorecard (BS), Knowledge Management (KM), Customer Management Assessment Tool (CMAT) and Customer Capital Asset Management (CCAM).

According to the descriptive analysis for ROI (Figure 4.1), 43.6% of the respondents assessed their ROI before the implementation of any customer–related systems, whereas the other half of the respondents did not (49.5%). There were only 32.6% of the respondents who measured their ROI after the implementation of the CRM systems whereas the majority of the companies did not (55.4%). There were 27.7% of companies who assessed ROI for both before and after the implementation of the CRM systems and there were just 21.8% of them who conducted a comparison of the ROI before and after the implementation.

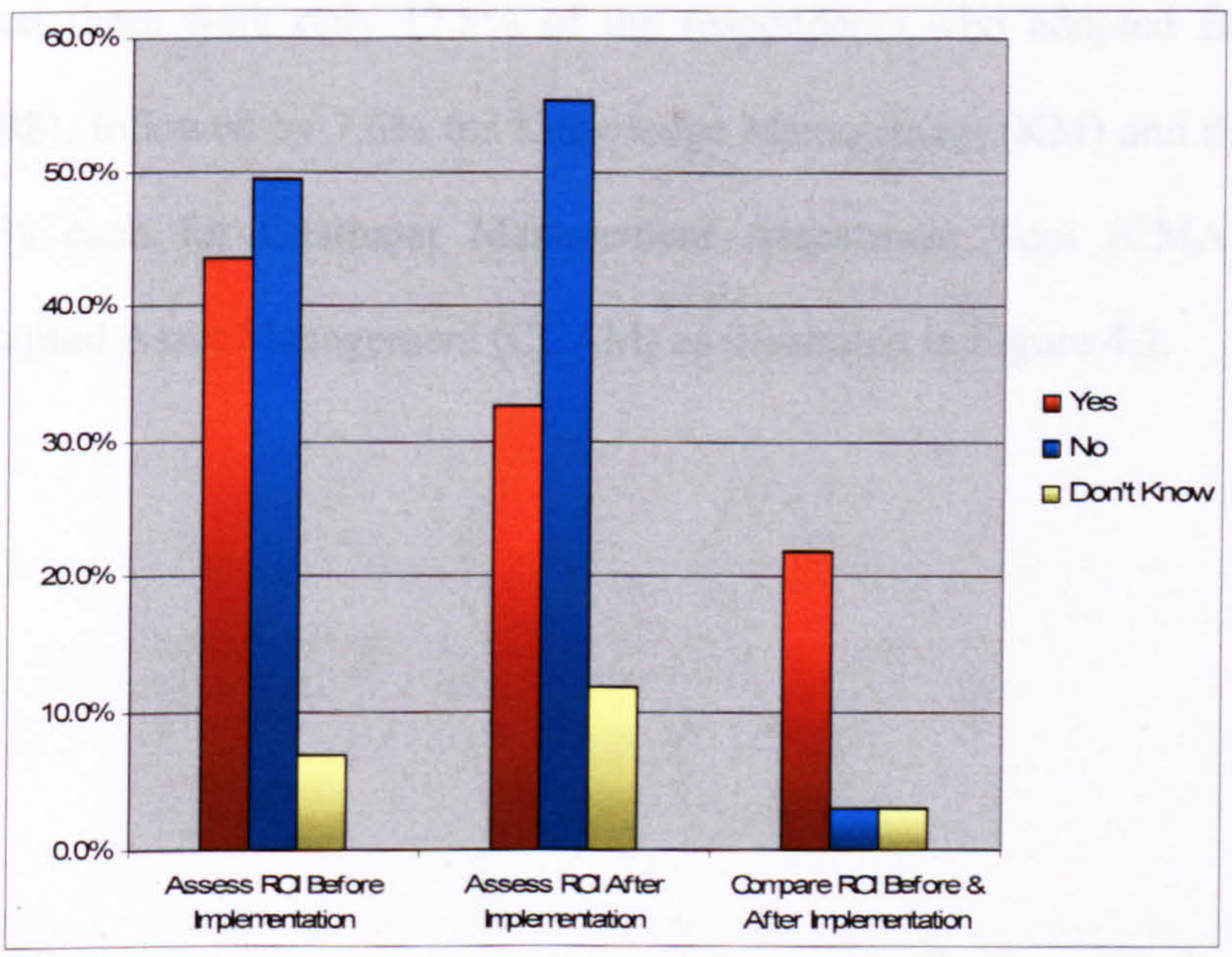

Figure 4.1
The Assessment of ROI

According to the literature, it appeared that return on investment of CRM was regarded as the key criteria and justification to CRM success. For instance, a report by Gartner (2003) on CRM performance which emphasised on positive return on investment of CRM and a study by Comb (2004) which focused on revenue generated from CRM as a justification to a positive feedback on its performance. The findings from this research however appeared to be in disagreement with what have been reported in the literature. The findings suggested that if ROI was adopted as a performance measure for CRM or customer–related systems, a justification of the system success or failure would be lacking because there was no comparison of the performance before and after the implementation of the systems. This also suggested that companies did not seem to assess their CRM performance properly and effectively, many did not seem to assess it at all.

In terms of the other existing measurement tools, results from the descriptive analysis showed that there were only 30% of the respondents who adopted them. It appeared that there were only 17.8% of the respondents who adopted Balanced Scorecard (BS), followed by 7.6% for Knowledge Management (KM) and there were less than 3% each for Customer Management Assessment Tool (CMAT) and Customer Capital Asset Management (CCAM) as illustrated in Figure 4.2.

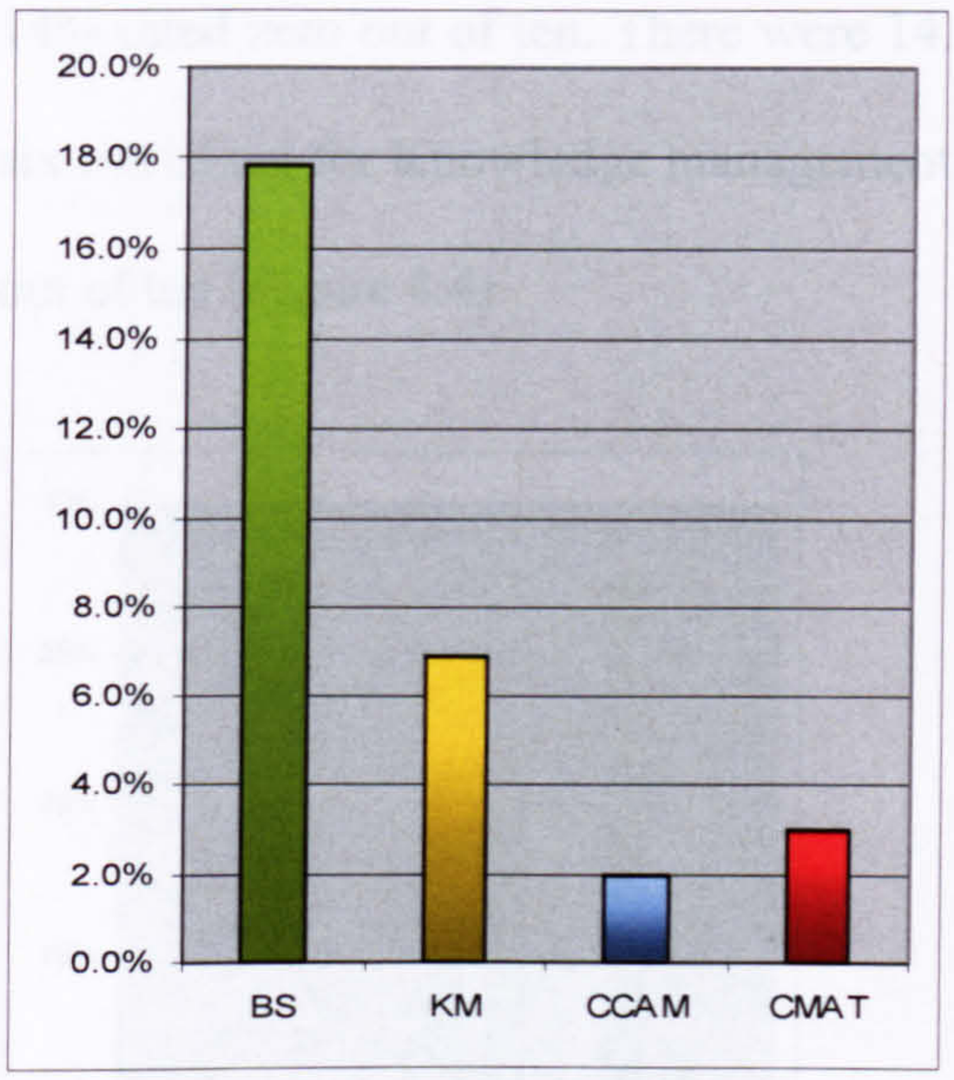

Figure 4.2
Adoption Rates of Existing Measurement Tools

The respondents who adopted these existing measurement tools were also requested to indicate the effectiveness levels of these tools at the survey, using the provided rating scale of zero to ten (as previously discussed in chapter three). The results are discussed and illustrated as follows:

Of 17.8% of respondents who adopted balanced scorecard, there were 68.2% of them who rated it between six and nine out of ten: the highest proportions were 27.8% of respondents who rated eight out of ten, followed by 22.2% of respondents who rated it at six out of ten. There were around 33.3%% of respondents who rated it at between zero and five out of ten: 16.7% gave a rating of five out of ten and 16.7% equally rated it at zero, two and three out of ten (Figure 4.3).

There were 57% of respondents whose the perceived effectiveness levels for Knowledge management were below five out of ten: 44% rated five out of ten and

14% rated zero out of ten. There were 14.3% of respondents who gave the rating of six out of ten for Knowledge management and 28.6% of respondents rated it at seven out of ten (Figure 4.4).

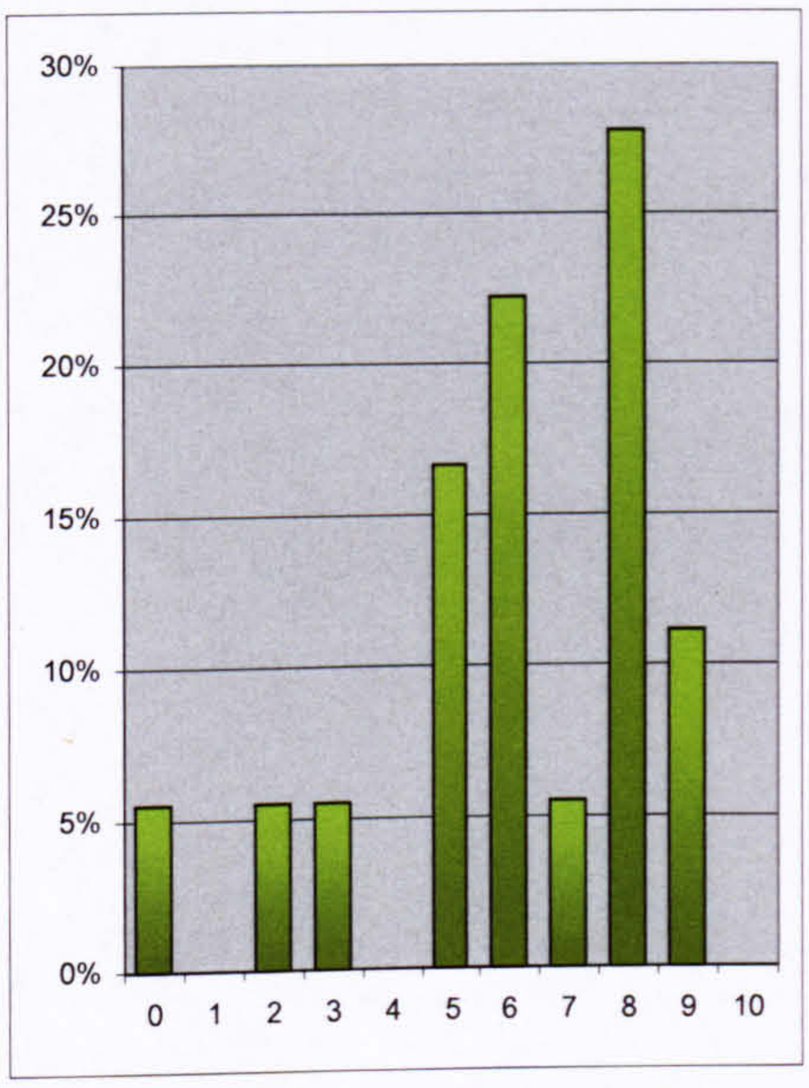

Figure 4.3
Effectiveness Level of BS

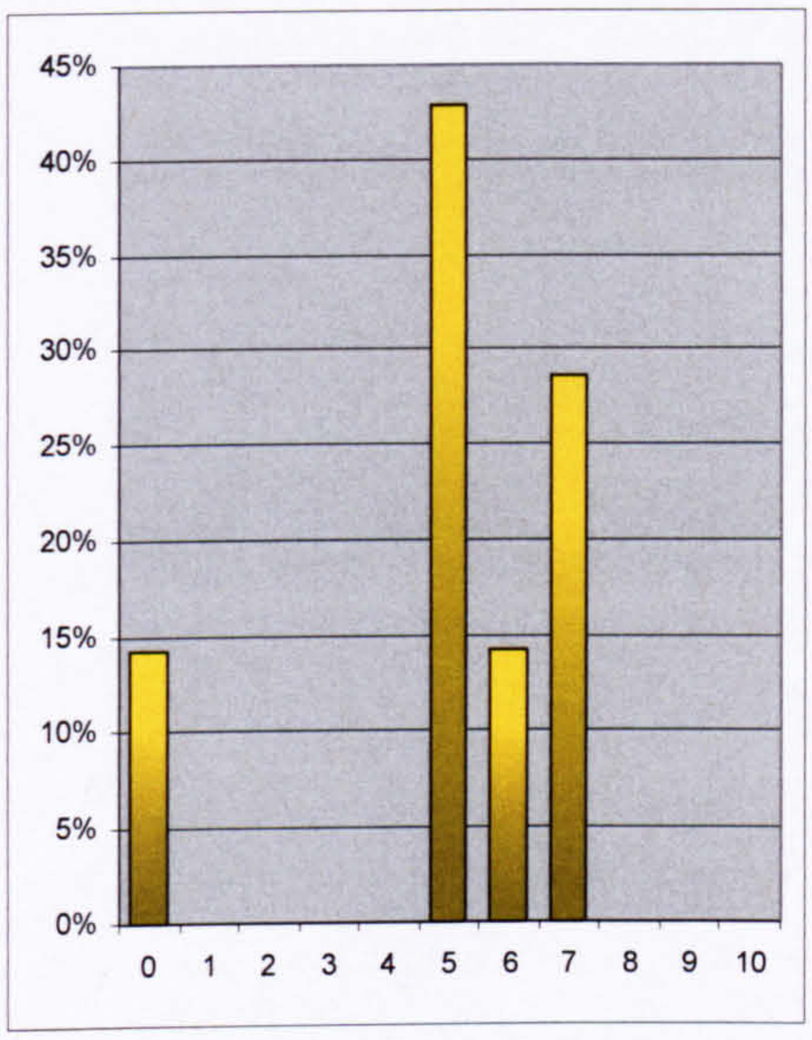

Figure 4.4
Effectiveness Level of KM

The perceived effectiveness levels for Customer Capital Asset Management (CCAM) were shown in Figure 4.5. The results showed that the majority of companies rated CCAM between eight and nine out of ten (66.7%) and 33.3% of the respondents gave zero out of ten for CCAM. This gave an average rating for CCAM at around five out of ten.

The effectiveness level for Customer Management Assessment Tools (CMAT) split at 50:50. There were 50% of respondents who rated it at zero out of ten and the other half of the respondents rated it at ten out of ten. This gave an average rating for CMAT at five out of ten (Figure 4.6).

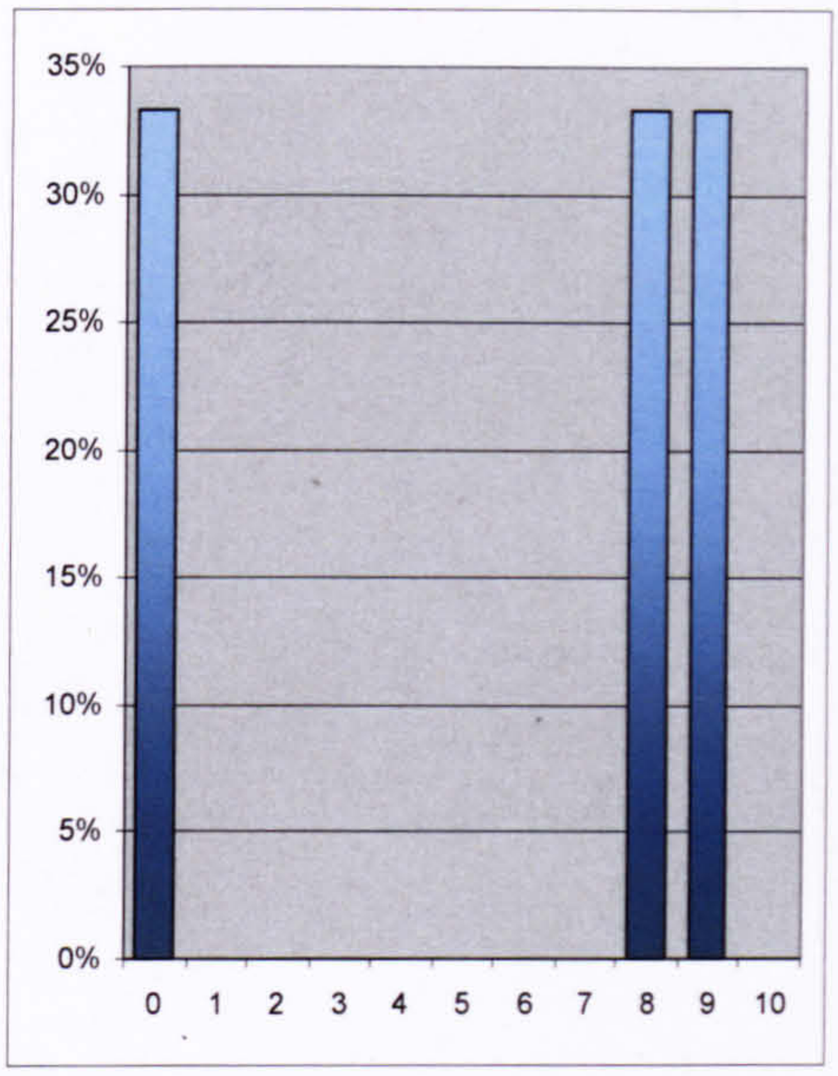

Figure 4.5
Effectiveness level of CCAM

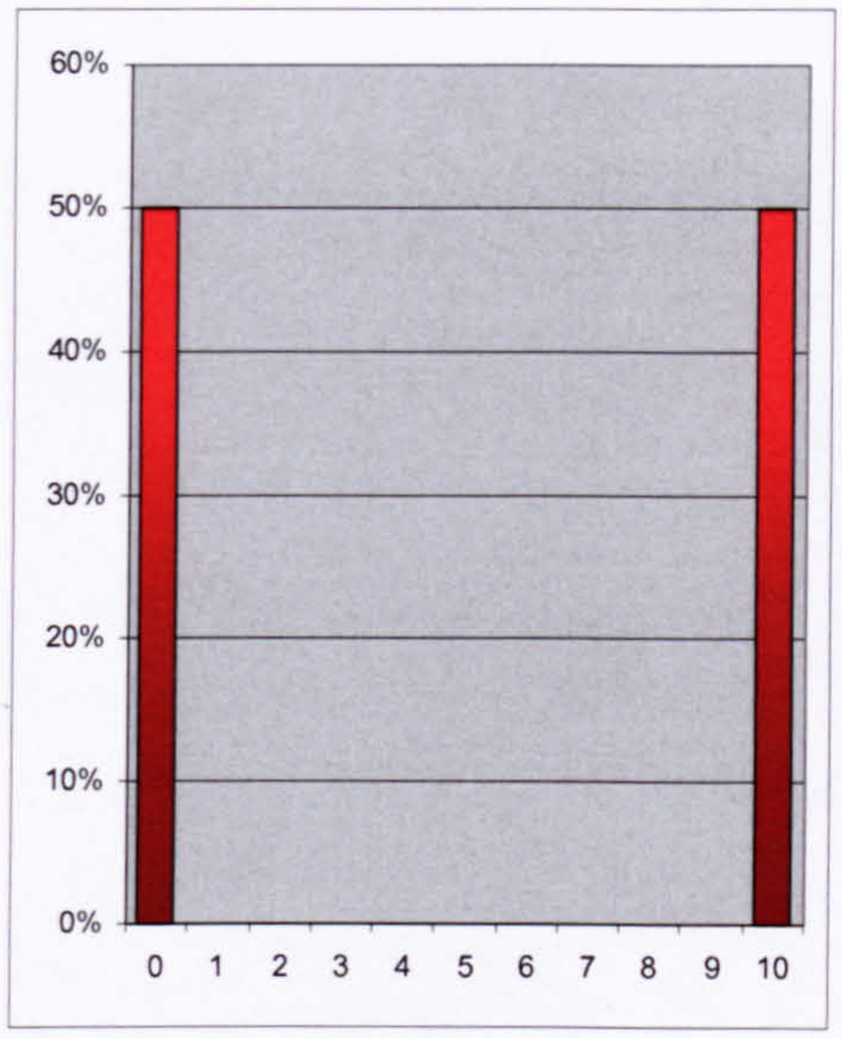

Figure 4.6
Effectiveness level of CMAT

In summary, the perceived effectiveness levels for Balanced scorecard (BS) and Knowledge management (KM) were rated above five out of ten by the majority of companies who adopted these tools. Customer Management Assessment Tools (CMAT) and Customer Capital Asset Management (CCAM) were both given an average rating at five out of ten. It is worth noting that apart from these positive perceptions of the existing tools, there were only 30% of companies who actually adopted these tools. This showed that the existing measurement tools did not seem to be widely adopted or highly regarded by the companies. The reasons could be that such tools are neither practical nor effective for CRM performance assessment. It was intended that further investigation would be carried out in the next stage of the empirical work to gain clarifications for these findings.

4.3 Data Analysis and Findings: Stage two - Semi-Structured Interview

In this section, results from the analysis of interview data are presented along with interpretations of what has been discovered. Main findings cover the identification of important KPIs adopted by CRM-user companies, discussions on how the CRM performance measurement framework was developed and what it suggested. Other findings include views on existing CRM performance measurement tools and extreme views on CRM.

4.3.1 Participant Profile

There were 29 companies being interviewed for this research where 26 were CRM-user companies and three were non-CRM user companies. Due to the results from the interview pilot testing (as previously discussed in 3.8.3), it was realised that a lack of CRM knowledge and experience restrict insight information to be obtained from non-CRM user companies, thus interview data used for the analysis were based on 26 CRM-user companies only.

4.3.2 Representativeness Test

In order to ensure whether 26 CRM-user companies who took part in the interview stage were a good representative of the SMEs population, Chi-Square test was performed. The test gave a result of 0.109 which was more than the 5% confidence level (0.05). This suggested that the distribution of participants in the interview stage was not significantly different from the population of SMEs geographically (Appendix IV, section 4.2).

4.3.3 Identification of Successful CRM Companies

It was one of the main objectives of the research to identify Key Performance Indicators (KPIs) adopted by the companies and discover how they reflect the success of CRM systems. It was therefore vital to identify and distinguish successful CRM companies from less-successful companies. This was to allow a comparative analysis regarding the KPIs adopted between the two groups of CRM user company.

Hence, an analysis was performed on Nvivo™ to distinguish successful CRM companies from those that were less-successful within 26 participating CRM-user companies. The category names used for these two groups of CRM user companies were termed as *'Successful Companies'* and *'Less-successful Companies'*. The key determinant used to distinguish the two groups from each other was the rating gave by the participating companies regarding their overall CRM performance. Please note that the rating scale was provided for the participants as explained in the previous chapter (section 3.9.3). The main reason for using the overall CRM performance rating as the key determination was mainly due to the concern that CRM success can vary from company to company (Nicho, 2004; Nykamp and McEachern, 2000). Participating companies with highly-rated performance (between four and five out of five) were classified as 'Successful Companies' and companies with lower-rated performance (between one and three out of five) were classified as 'Less-successful Companies'. According to the analysis results on Nvivo™, there were 15 companies identified as 'Successful Companies' and there were 11 companies who were regarded as 'Less-Successful Companies'.

4.3.4 Important KPIs

As previously mentioned that one of the main objectives for the research was to identify KPIs adopted by companies, an analysis was performed on Nvivo™ to identify not only KPIs adopted by companies but how important and effective they were perceived by the companies.

A rating scale of one to five was provided for the participants to determine the importance and effectiveness of the KPIs. Highly–rated KPIs (between four and five out of five) were then classified as *'Important KPIs'*. According to the analysis results using Queries Coding Matrix tool, of 16 KPIs identified as a measurement profile of companies in 4.2.3, there were eight KPIs that were regarded as effective measures, namely 'Customer Retention', 'Repeat Orders', 'Customer Satisfaction', 'Customer Complaints', 'Accuracy of Customer Database', 'Delivery Reliability', 'Profitability' and 'Sales Growth' (presented in bold as shown in Table 4.3). These eight KPIs were highly rated by the majority of interview participants.

Table 4.3
Important KPIs adopted by Companies

Key Performance Indicators (KPIs)	1 out of 5	2 out of 5	3 out of 5	4 out of 5	5 out of 5
▪ Percent of Market Share	2.7%	2.2%	1.1%	0.5%	-
▪ **Sales Growth**	0.5%	1.1%	**3.3%**	**3.3%**	1.6%
▪ Changes in the size of customer base	-	2.2%	1.1%	1.1%	1.1%
▪ **Profitability**	1.6%	1.1%	1.6%	**2.7%**	**3.3%**
▪ Revenue per customer per year	1.6%	0.5%	1.6%	2.2%	1.1%
▪ Cost per customer per year	-	0.5%	1.1%	2.2%	-
▪ **Accuracy of customer database**	-	0.5%	0.5%	1.6%	**4.4%**
▪ **Delivery Reliability**	-	0.5%	0.5%	**2.7%**	**2.7%**
▪ Response time to customer's contacts	-	-	0.5%	1.6%	1.6%
▪ Delivery lead time	-	0.5%	2.2%	1.1%	0.5%
▪ Availability of Customer-facing Staff	0.5%	-	-	1.6%	1.6%
▪ **Customer Satisfaction**	-	-	0.5%	**3.8%**	**2.2%**
▪ **Customer Retention**	-	-	1.1%	**3.8%**	**2.2%**
▪ **Repeat Orders**	1.1%	-	0.5%	**2.7%**	**2.2%**
▪ Customer lifetime value	-	0.5%	0.5%	1.1%	-
▪ **Customer complaints**	-	-	1.1%	3.8%	3.3%

4.3.5 Framework Development and Interpretations

The framework was developed in the two following steps: firstly a statistical analysis technique called 'Cluster Analysis' was employed to discover any relationships or any linkages between these eight important measures. Secondly these eight KPIs were then plotted in relation to their relationships identified from the Cluster analysis using a model option on Nvivo™.

When performing cluster analysis, two sets of data were used: Set one was the data from successful companies and Set two was the data from less-successful companies. This was to discover whether relationships found between the eight important KPIs would be different between these two groups of CRM user company. This was considered to help explore and explain reasons for why one group of companies was being more successful than another regarding their CRM performance.

- ***Cluster Analysis: Successful Companies***

  Results showed that there were three immediate clusters of KPI identified from the cluster analysis using data set number one - successful companies:

  Cluster One consisted of:

  - Profitability (FINA1)
  - Delivery reliability (QUAL2)
  - Sales growth (COMP2)

Cluster Two consisted of:

- Customer Retention (FLEX1)
- Repeat Orders (FLEX2)

Cluster Three consisted of:

- Customer Satisfaction (QUAL6)
- Customer Complaints (CUST2)

According to the cluster analysis (Figure 4.7), the distance point where each KPI or a group of KPIs was joined implied the levels of relationship between each other: the closest the distance, the strongest the relationship. The closest distance where two KPIs were joined was the one of 'Profitability' and 'Delivery Reliability' (approximately at a distance scale of one) which suggested a strongest linkage among them. These two measures were then joined by 'Sales Growth' at a distance scale of six, implying a rather close relationship among the KPIs within this group - Cluster One. Cluster Two was linked up at a distance scale of four which showed that 'Customer Retention' and 'Repeat Orders' had a strong connection between each other. 'Customer Satisfaction' was joined with 'Customer Complaints' at a distance scale of seven as Cluster Three, this suggested that the two measures also had a considerably strong relationship between each other. 'Accuracy of customer database (QUAL1) showed a connection to the other three immediate clusters at a distance scale of 16.

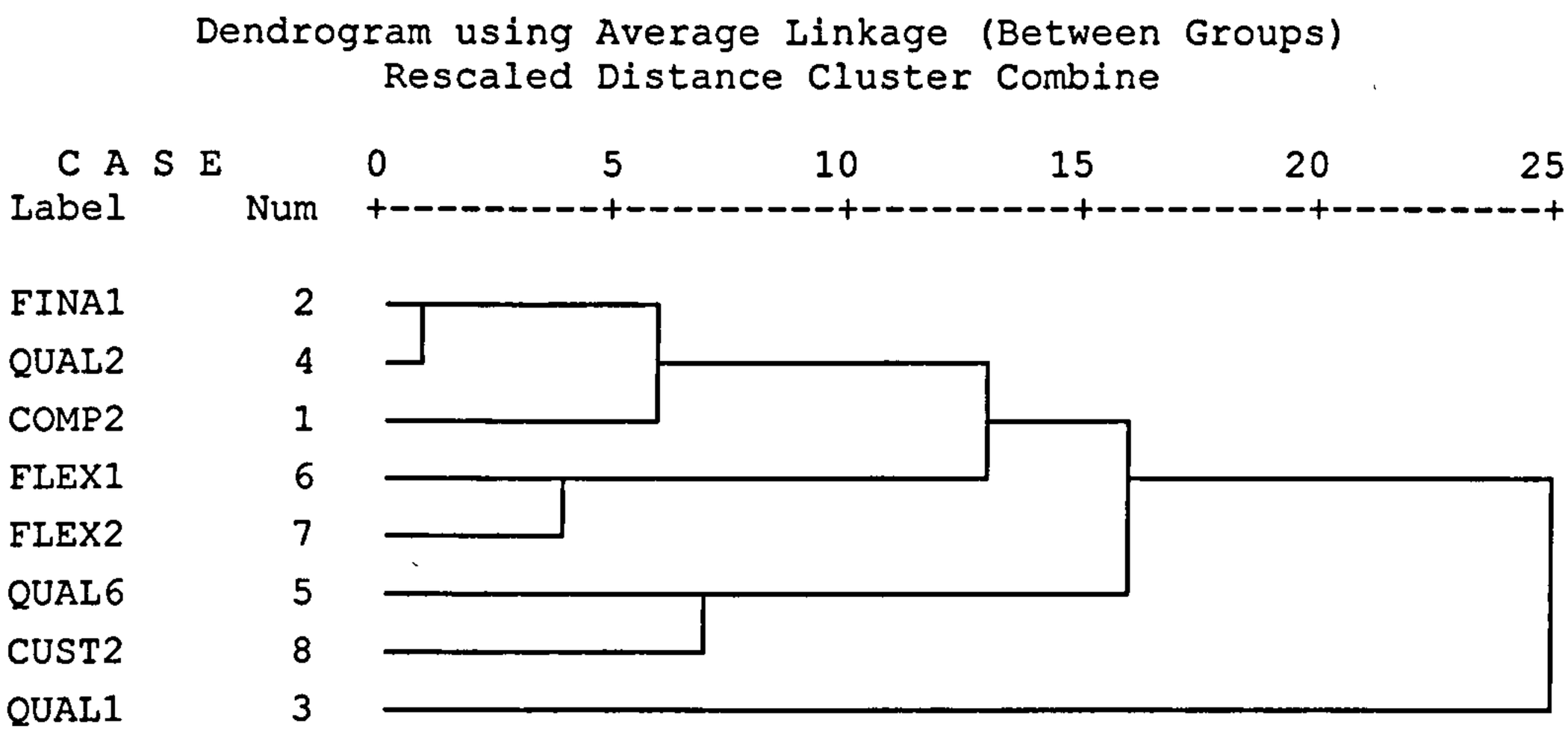

Figure 4.7
Hierarchical Cluster Analysis - Successful Companies

Framework One was plotted according to the results from cluster analysis as shown in Figure 4.8. 'Profitability', 'Sales Growth' and 'Delivery Reliability' were grouped together as Cluster One. It was considered that 'Profitability' and 'Sales growth' could be final output from many activities (e.g. marketing activities and CRM activities) and company performance including CRM performance. 'Delivery Reliability' was also considered to be the final outcome of effective operational performance. These three measures were therefore regarded as *'Outcome Measures'* of the framework. The other important KPIs grouped in Cluster Two and Three and 'Accuracy of Customer database' were regarded as *'Process Measures'*. The connectors between each cluster were plotted in relation to the results from the Cluster Analysis representing relationships/linkages existed among the groups.

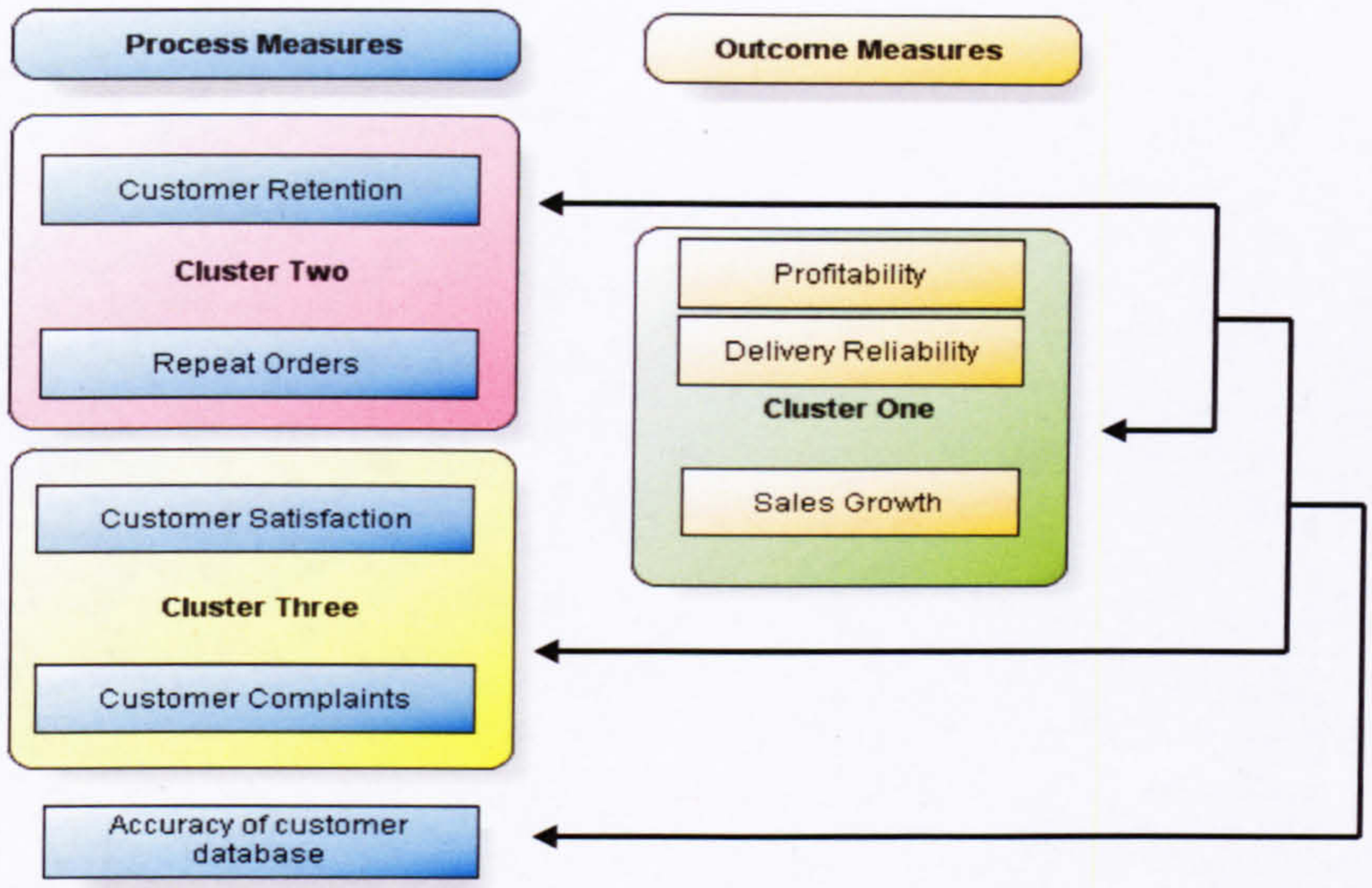

Figure 4.8
CRM Performance Assessment Framework One - Successful Companies

- ***Descriptive Analysis of Framework One***

A descriptive analysis (Figure 4.9) was employed to investigate further what the similarities shared among each cluster were, in other words, what the explanations for why some of the KPIs were grouped together as a cluster were. This would also help to provide logical explanations for the framework.

According to the results from the descriptive analysis, there was a clear pattern in Cluster One: the majority of successful companies appeared to give similar rating for 'Profitability', 'Sales Growth' and 'Delivery Reliability' and the majority of the rating was considerably high for the all three measures in this cluster. Cluster Two showed a rather similar result in its pattern: successful companies seemed to give the same rating for both 'Customer Retention' and 'Repeat Orders'. It also occurred that the majority of successful companies rated both indicators very highly (Figure 4.10). The results from the descriptive analysis of Cluster Three revealed a similar rating pattern rating for 'Customer Satisfaction' and 'Customer

Complaints'. Both indicators were rated at a very high scale by the majority of the successful companies (Figure 4.11). In summary, results from the descriptive analysis showed that KPIs in all the three clusters were rated highly by the majority of successful companies.

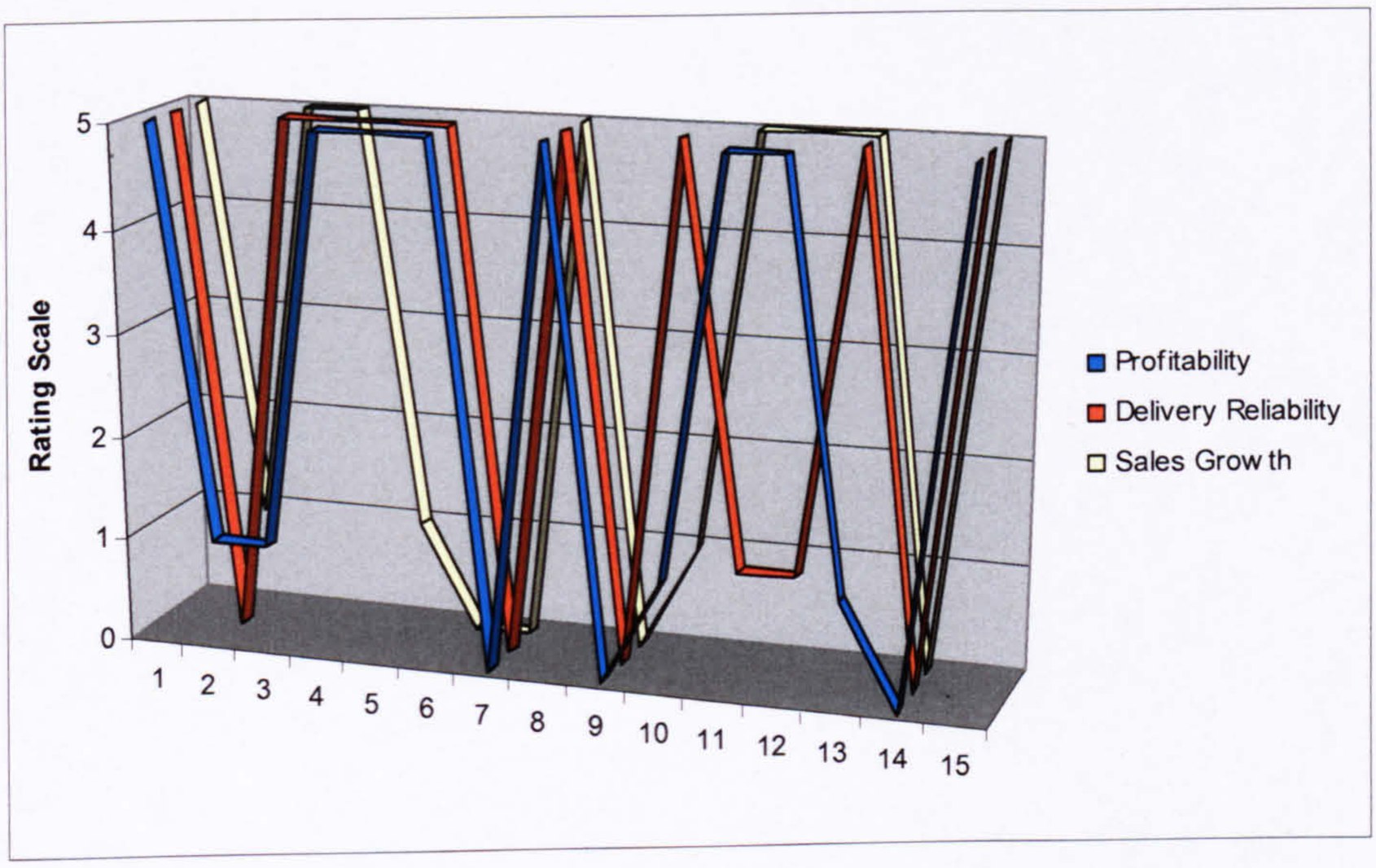

Figure 4.9
Descriptive Analysis of Cluster One for Successful Companies

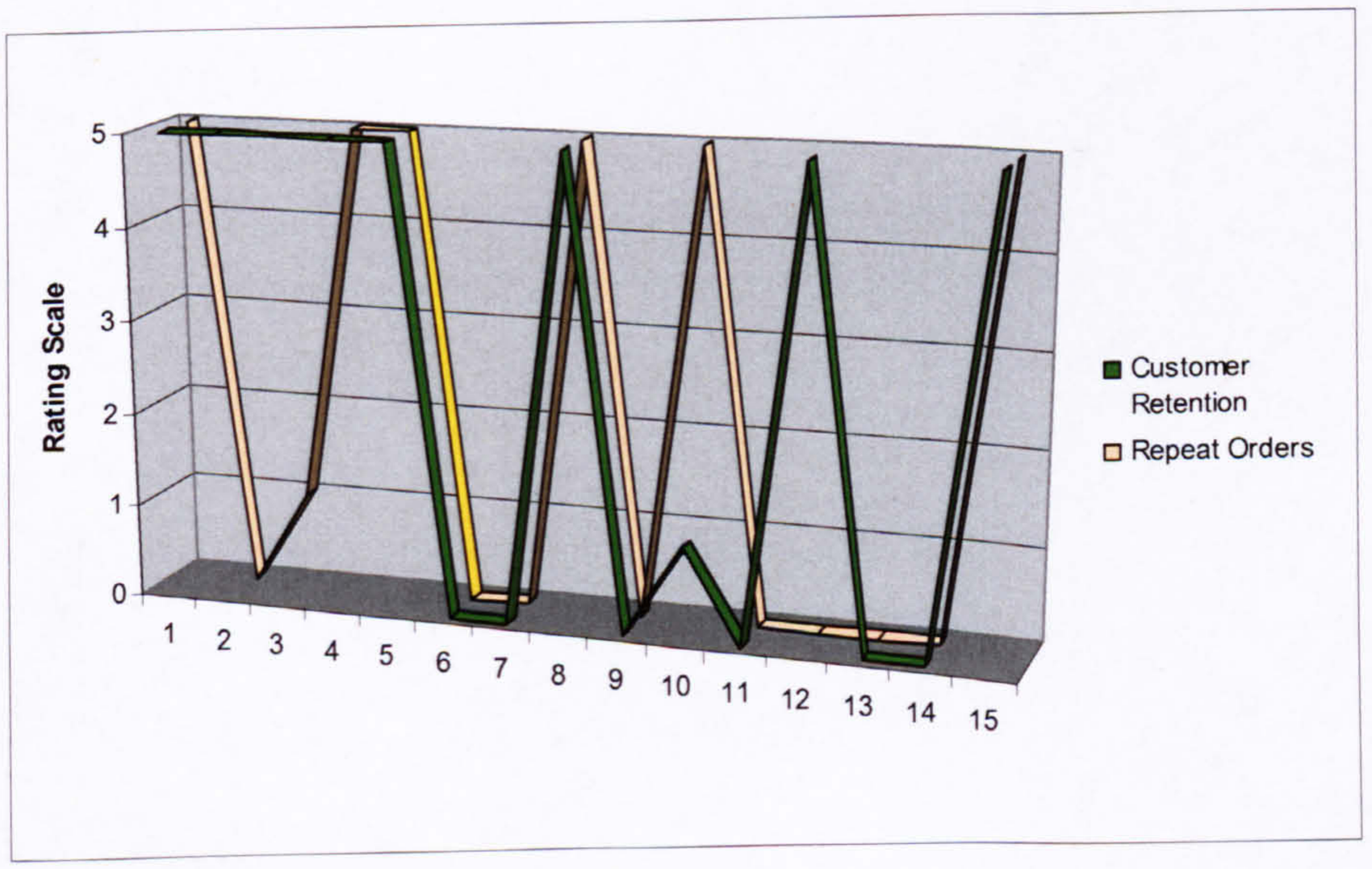

Figure 4.10
Descriptive Analysis of Cluster Two for Successful Companies

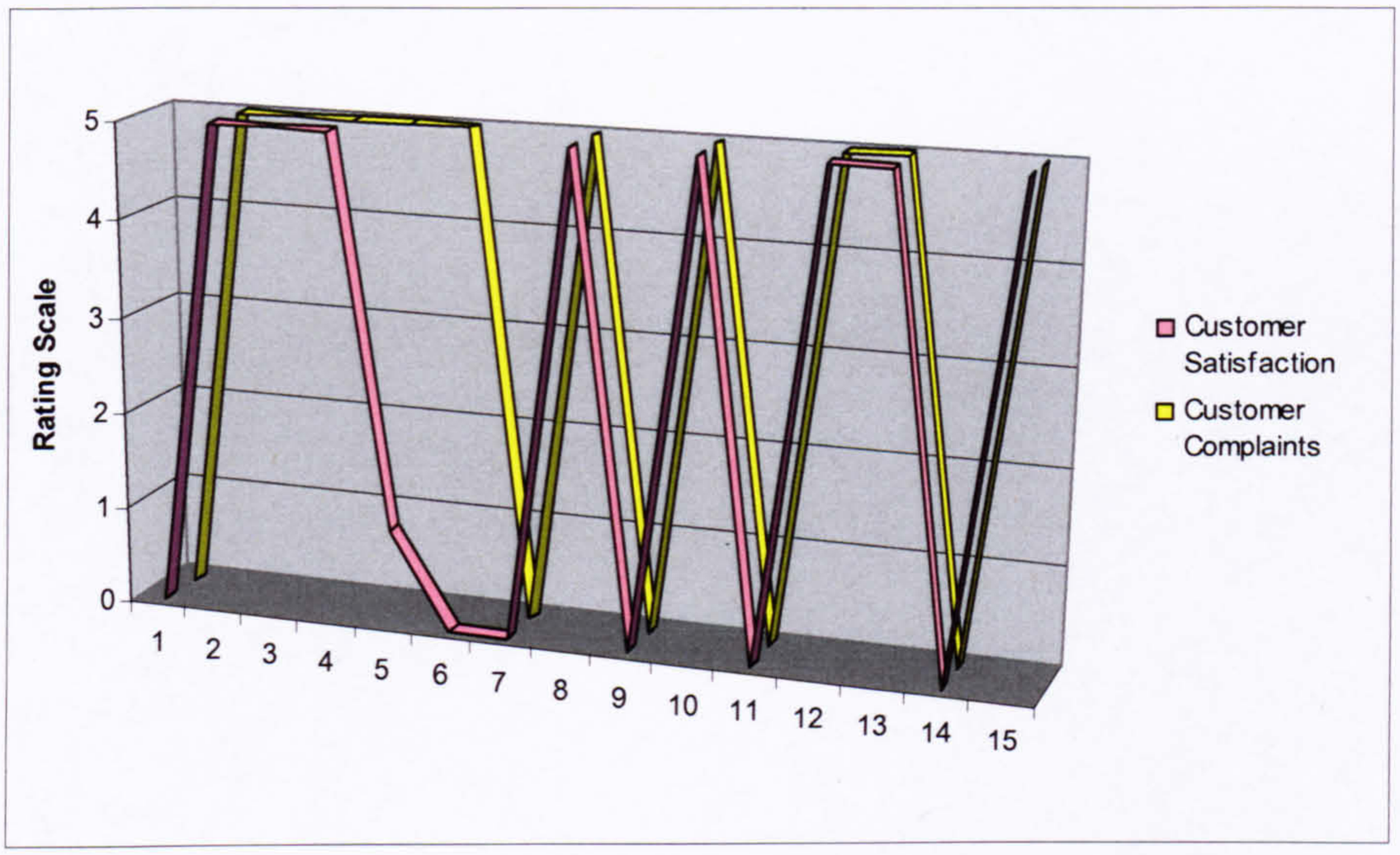

Figure 4.11
Descriptive Analysis of Cluster Three for Successful Companies

- ***Logical Interpretations for Framework One***

The logical interpretations for the first framework which was derived from successful companies' data set (Figure 4.8) supported by results from the descriptive analysis are discussed as follows:

Considering KPIs grouped in Cluster Two, it appeared to be logical: 'Customer Retention' and 'Repeat Orders' could have great impacts on each other for instance, good customer retention could give rise to higher number of repeat orders. On the other hand, ineffective customer retention rate (e.g. where a company fails to keep their customer, profitable ones in particular) could also result in lower number of repeat orders.

Looking closely at this group of KPIs, 'Customer Retention' was considered to be a kind of *'Proactive measures'* in which it involves proactive activities where a company devotes considerable resources to keeping existing high volume, high potential and highly profitable number of customers or stopping them from

switching to their competitors (Jobber and Lancaster, 2006). 'Repeat Orders' was however considered to be a different kind of measures. In order for a customer to re-purchase, it would require a number of factors to encourage them to do so for instance, product quality, product availability, pricing strategy (supplying the product at the right price), promotional strategy (using the right promotional campaigns to the right target groups), after-sale service and so on. 'Repeat orders' was then regarded as a kind of *'Retroactive measures'* or an 'after-the-event indicator' where many aspects of performance could contribute either directly or indirectly to it. Many organisations have significantly based their businesses upon repeat orders, hence an ability to retain their existing key customers was considered to be crucial.

The following quotes were extracted from the interviews with two successful CRM user companies regarding their comments on 'Customer Retention' and 'Repeat Orders'. These companies also gave high rating for both indicators.

> Company A: "In our business, we can only operate on repeat orders. Our purchase orders are for life of a model, so you have to have repeat orders, you can't operate a business without repeat orders..."
>
> Company A: "That (Customer Retention) is important..."
>
> Company B: "Well that (Repeat Orders) is important to us..."
>
> Company B: "That (Customer Retention) is important to us..."

Cluster Three consisted of 'Customer Satisfaction' and 'Customer Complaints'. It was considered that these two important indicators could have a direct impact on each other, for instance when a number of customer complaints goes up, this would result directly in the lower levels of customer satisfaction. In other words, ineffective complaints handling process could greatly affect the levels of

customer satisfaction. It was considered that 'Customer Satisfaction' could be classified as a 'Proactive Measure' whereas 'Customer Complaints' was classified as a 'Retroactive Measure' or an 'After-the event' measure. In order for a company to discover the levels customer satisfaction, it would involve proactive activities such as annual customer survey, visiting the clients' sites, or simply talking to the customers to get some feedback. 'Customer Complaints', on the other hand, was seen as an output from poor operations. It could also be seen as an output from poor customer satisfaction. This therefore considered to be logical explanations to why these two KPIs were closely related to each other.

The following quotes were extracted from two of the successful CRM user companies; Company C gave their views on one of the proactive activities that they were employing - annual customer survey and Company D who was taking a more retroactive approach - investigating negative feedback/complaints, gave an example and impact from using such measures:

> Company C: "We also give them (customers) an opportunity, basically, to provide any other feedback they may have **(through the annual survey)**. They get an opportunity to comment on how they believe we're doing in terms of provision of stock system, in terms of accuracy. Basically all things that you would imagine that they would be able to see; level of contacts, quality of contacts but also another area such as quality of product, quality of service and also marketing..."

> Company D: "...We notice that it **(the rating given by the customers on our effectiveness of responding to issues they raise) is falling from one year to the next and about eighteen months ago it was plummeted** and that forced us to go back and **talk to our clients** and say that 'look you really marked us down here, why?' and they said that ' you're really just not dealing with the issues and we feel like that when you're building you are doing a good job and then when you've finished the building we don't see you again' so we sat down and say that is not good enough we are not supporting our clients and we are leaving with a bad taste in their mouth, how we can address these. We actually then decided to put together a customer care team headed up by a manager and supported by two teams in a van fully equipped, they are responsible for clearing defects at the end of the twelve-month period. Following implementing that change we noticed a steep

rise in responses that we were getting from our clients and even had a number of them ringing us up and say how pleased they were and how effective the system was that we were using. It was something that the other contractors weren't doing and actually made us different from the rest"

Company E: "One of the key ones would be how quickly we respond with initial **complaints from customers;** we accept the complaints from the customers, we get back to them and say we look at it, we investigate it and here is our initial finding."

According to the quote from Company C, it suggested that a proactive activity like annual customer survey could help the company to identify many important aspects of performance. This was in regard to how the company was perceived by its customers in the areas such as stock performance, accuracy of data, quality issues, marketing performance and so on. Thus it could allow the company to be more proactive and act upon any issues arisen from the feedback received from its customers in a timely manner.

Company D and E adopted a retroactive approach where they determined to investigate into the negative feedback received from their customers (e.g. low performance rating/complaints). According to them, by talking to their customers, it allowed Company D to discover reasons behind the low rating on its performance. Company D then reacted immediately to the problem, resulting in a higher satisfaction levels among its customers. Using a rather similar approach, Company E focused on the time they spent handling the complaints received from their customers. With further investigation, initial findings were fed back to their customers to make them aware of the company's response to the problems. It is worth mentioning that a retroactive approach like this seemed to require an immediate reaction from the company to solve the problems/issues, otherwise the company could risk loosing its customers.

'Profitability', 'Delivery Reliability' and 'Sales Growth' were identified as important KPIs grouped together as Cluster One. The three indicators showed some reasonably close relationships among them according to the results from the cluster analysis. It was considered that 'Delivery Reliability' could significantly contribute to 'Profitability' and 'Sales Growth' for instance, if customers were happy with delivery performance of a company i.e. Delivery Reliability, it would result in a higher sales volume and higher sales generated means higher profit to the company. Thus it explained how the three important KPIs in this cluster were closely linked.

'Profitability' and 'Sales Growth' were regarded as financial measures in which they could be affected by many aspects of operational, marketing and also CRM performance. 'Delivery Reliability' was regarded an outcome of operational performance. All the three indicators were therefore classified as 'Retroactive measures'. The following quotes were extracted from three of the successful CRM companies regarding their comments on some of the KPIs in Cluster One.

> Company F: "...we only excel on three particular merits and those three merits are excel in quality, excel in delivery and excel in price. **Delivery as I said is one of our keys,** so it has to be five out of five."
>
> Company F: "To assess the company performance it **(Profitability) is an excellent indicator,** so it is five out of five."
>
> Company G: "Basically we're looking at 'Sales Volume', we're looking at 'General Growth'...(the rating for **Sales Growth** is) four out of five."
>
> Company G: "We review '**Dispatch Performance**'...(the rating for Delivery Reliability is) four out of five."
>
> Company G: "...last year we had a few months that we had some problems with different stock items and after that we realised that we had **a necessity to review lost sales** and track it, we knew that we were having problem with stocks so we tracked **the effects on customers and on profitability,** so we ended up with a new report to track lost sales."

According to the quotes from Company F, both 'Delivery Reliability' and 'Profitability' were regarded very highly for its business. Company G indicated how important 'Sale growth' and 'Delivery Reliability' were to the company and both these indicators received a high rating. The last quote extracted from Company G gave an example of relationship between 'Sales Growth' (i.e. lost sales could also be regarded as decreasing level of sales growth) and 'Profitability'. It showed that 'Sales growth' levels could have some impacts/effects on 'Profitability'. This could be regarded as a retroactive approach where the company reviewed decreasing level of sale growth (i.e. lost sales) and tracked its effects on profitability. The results then led them to have a new report to track the levels of their Sales Growth (i.e. lost sales).

'Accuracy of Customer Database' although did not have strong relationships with other KPIs according to the results from cluster analysis, it was also considered to be an important performance indicator. This indicator was classified as a 'Proactive Measure'. Proactive activities which may involve in identifying the accuracy levels of customer database are data cleansing (searching for duplicates within the database), updating customer's personal information such as name, address, telephone number, email etc. (contacting customers for any updates when they contact the company, checking a number of returned mails etc.). It was considered to have indirect relationships with all the KPIs in the three clusters to certain extent.

- ***Cluster Analysis: Less-Successful Companies***

Results showed that there were three immediate groups (clusters) of KPIs generated when performing cluster analysis using less-successful companies' data set:

Cluster One consisted of:

- Profitability (FINA1)
- Repeat Orders (FLEX2)
- Sales growth (COMP2)

Cluster Two consisted of:

- Customer Retention (FLEX1)
- Customer Complaints (CUST2)

Cluster Three consisted of:

- Customer Satisfaction (QUAL6)
- Delivery reliability (QUAL2)

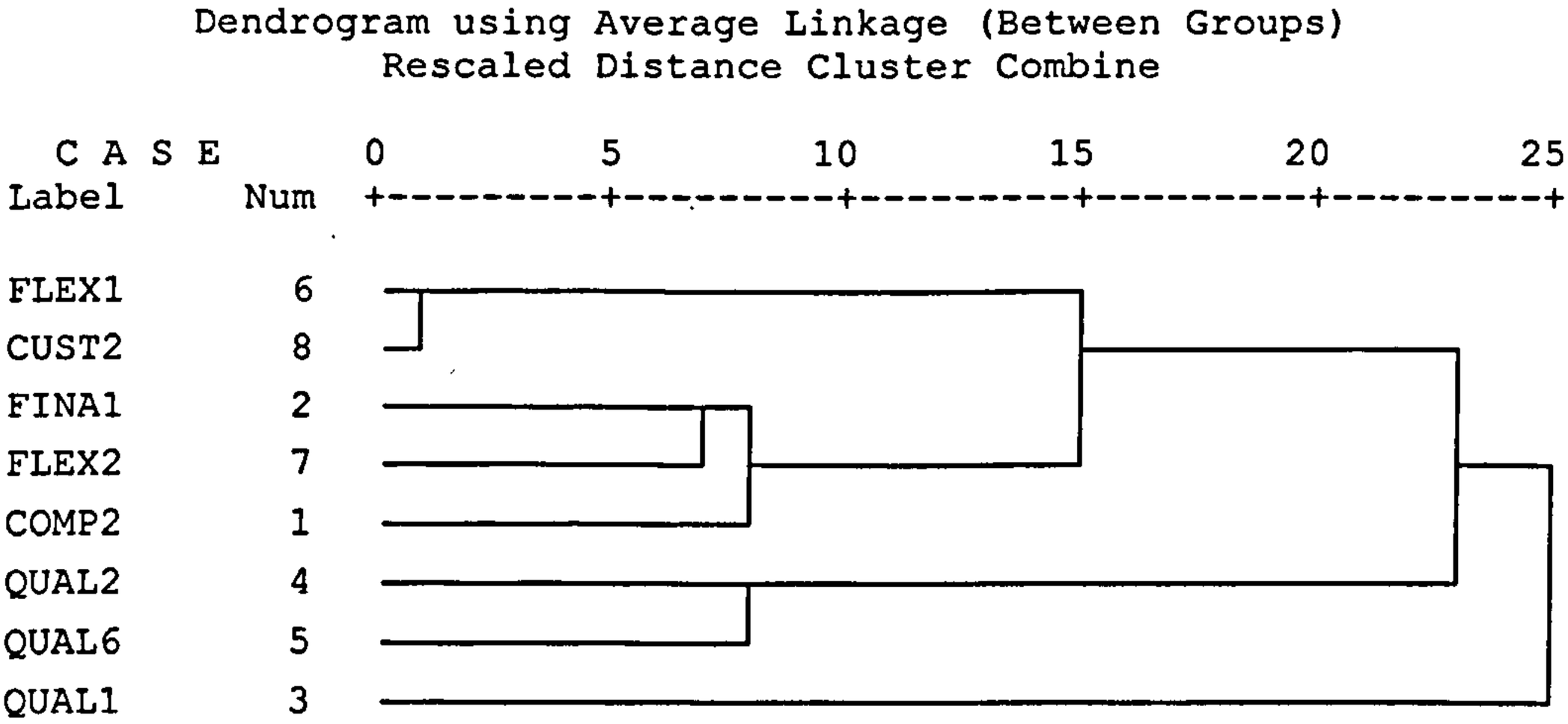

Figure 4.12
Hierarchical Cluster Analysis – Less-Successful Companies

When considering the distance between each KPI and each cluster of KPIs, 'Customer Retention' and 'Customer Complaints' (grouped as Cluster Two) showed the strongest relationship where both measures were joined at a closest distance (at a distance scale of one) according to the cluster analysis (Figure 4.12). Within Cluster One, 'Profitability', 'Repeat Orders' and 'Sales growth' showed a reasonably close connection in which the three measures were linked at a distance scale of eight. 'Customer Satisfaction' and 'Deliver Reliability' were joined at a distance scale of eight (as Cluster Three) implying a close relationship between each other. Framework Two was plotted based on the cluster analysis performed for less-successful companies. 'Accuracy of customer database (QUAL1) showed a connection to the other three immediate clusters at a distance scale of 23. (Figure 4.13).

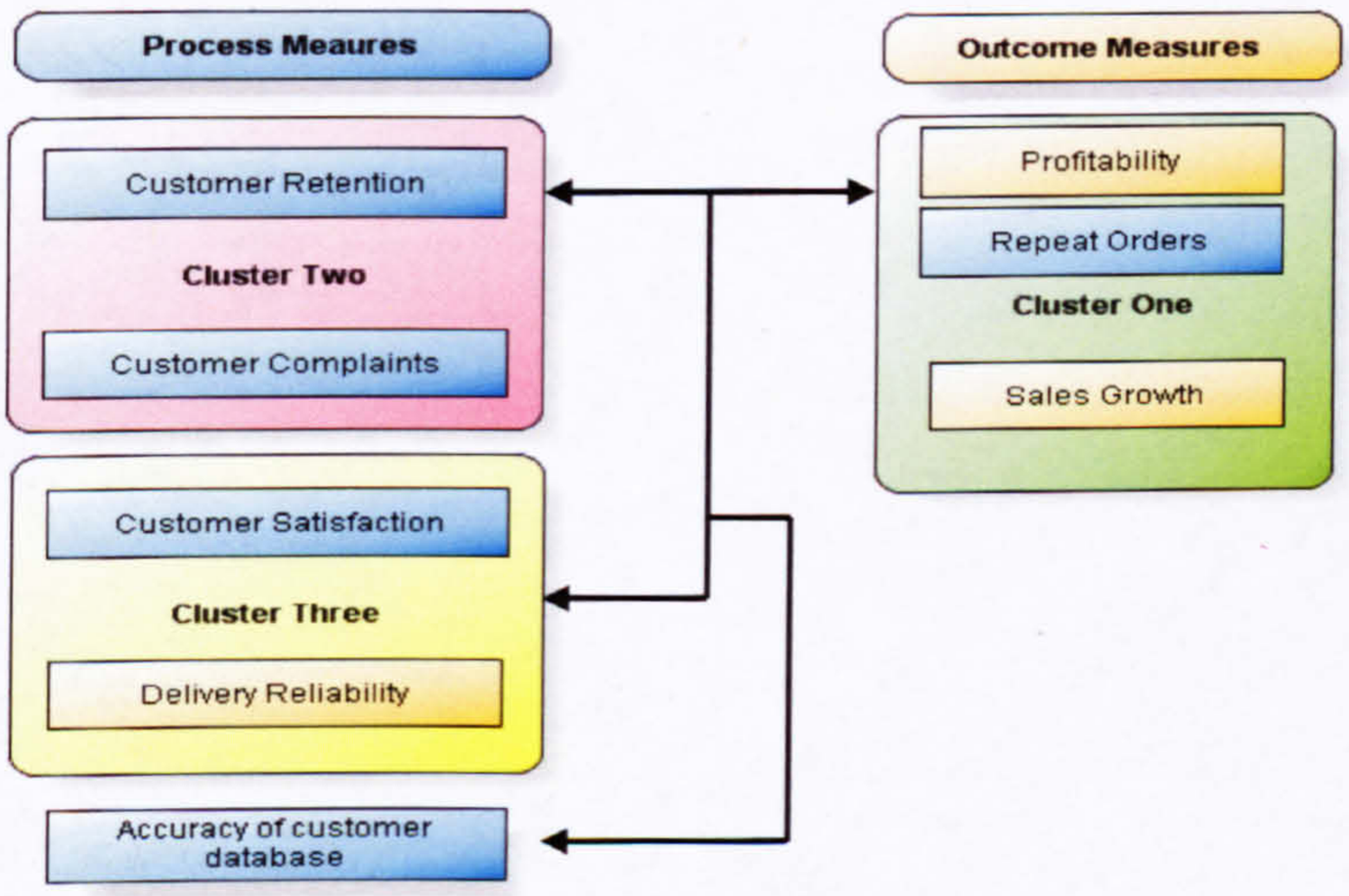

Figure 4.13
CRM Performance Assessment Framework Two - Less-Successful Companies

- ***Descriptive Analysis of Framework Two***

  These eight important KPIs were grouped together in three clusters due to some similarities shared among them. A descriptive analysis was employed to investigate further the shared similarities.

According to the results from the descriptive analysis for Cluster One, a rather similar pattern existed between the three indicators in this cluster i.e. 'Profitability', 'Repeat Orders' and 'Sales Growth'. Less-successful companies appeared to give similar rating for all the three KPIs. The rating given tended to be low in most cases and only around half of the less-successful companies adopted these three important indicators (Figure 4.14).

'Customer Retention' and 'Customer complaints' were grouped as Cluster Two in which a clear and similar pattern also occurred within this group. A mixture of high and low rating were given to both KPIs: the pattern shows that if the rating given to 'Customer Retention' was low, a similarly low rating would also be given to 'Customer Complaints' and there were less than half of the less-successful companies who adopted these two indicators (Figure 4.15).

'Customer Satisfaction' and 'Delivery Reliability' were the two KPIs grouped as Cluster Three. According to the results, these two KPIs seemed to be the least popular indicators among the three clusters: there was around just one-third of the less-successful companies who adopted these two important KPIs. When looking at a pattern of the two indicators, it appeared that the rating given by the

majority of companies in this group was rather similar - they were quite low for both the measures (Figure 4.16).

In summary, the results from the descriptive analysis for all the three clusters showed a common theme. It seemed to be the case that less-successful companies had lower adoption rates of KPIs in the three clusters and they also appeared to give low rating for these KPIs in most cases.

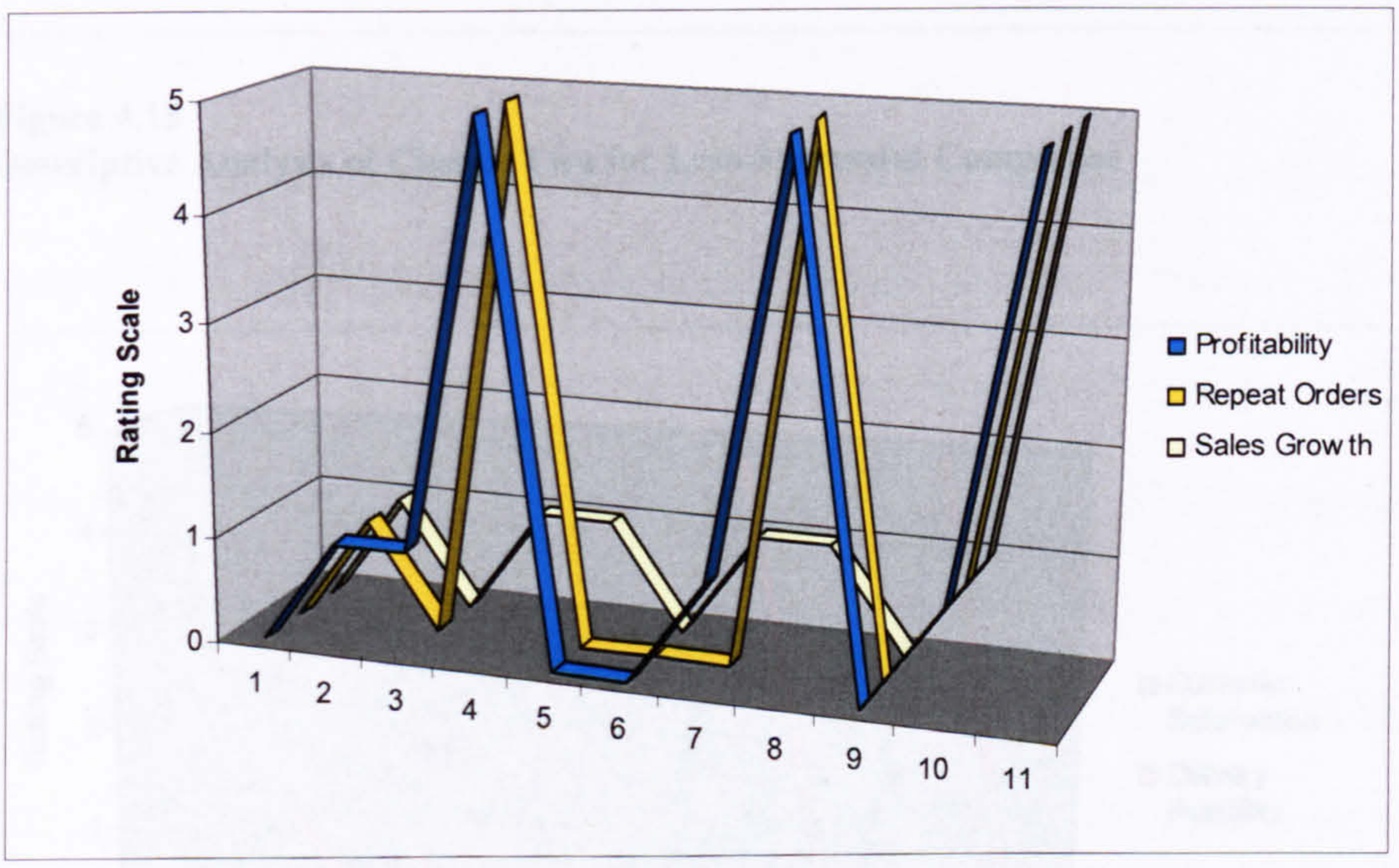

Figure 4.14
Descriptive Analysis of Cluster One for Less-Successful Companies

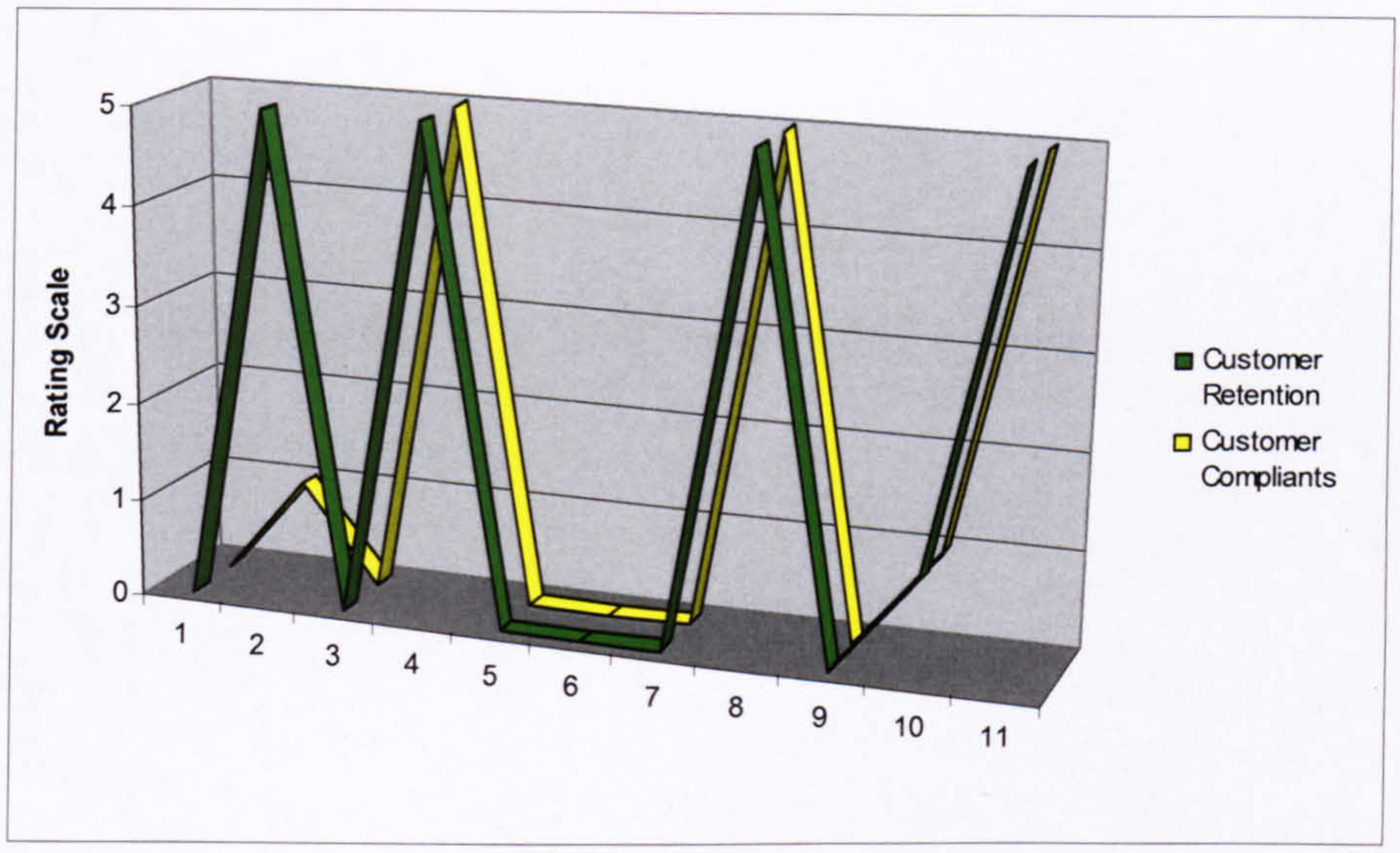

Figure 4.15
Descriptive Analysis of Cluster Two for Less-Successful Companies

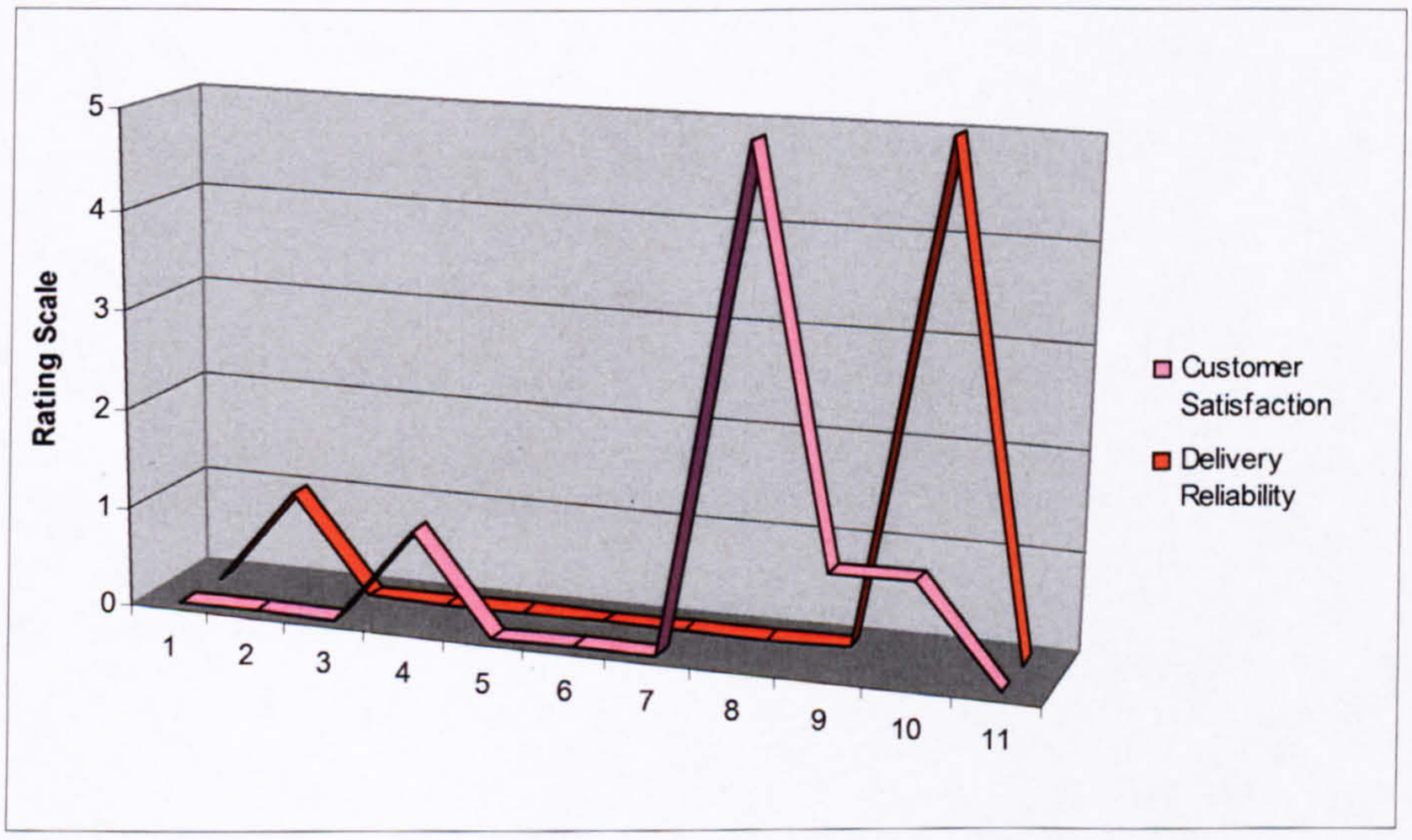

Figure 4.16
Descriptive Analysis of Cluster Three for Less-Successful Companies

- ***Logical Interpretations for Framework Two***

The logical explanations for the second framework which was derived from less-successful companies' data set (Figure 4.13) supported by the results from the descriptive analysis are discussed as follows:

When considering how important KPIs were grouped together in Cluster Two, it gave a logical sense how 'Customer retention' and 'Customer Complaints' might have impacts on each other. 'Customer Retention' was classified as a 'Proactive measure' whereas 'Customer Complaints' was classified as a 'Retroactive Measure' as discussed earlier. It was considered that customer complaints could significantly affect customer retention rate, for instance if a company was unable to handle customer complaints effectively, it would result in customer switching to its competitors.

Cluster Three, on the other hand, did not provide a clear logic to how 'Customer Satisfaction' and 'Delivery Reliability' were grouped together. 'Customer Satisfaction was classified as a 'Proactive Measure' whereas 'Delivery Reliability' was regarded as an 'Outcome measure' as previously explained. This grouping appeared to be a mismatch of important KPIs, although one could argue that poor delivery performance could influence the level of customer satisfaction. This mismatch of KPIs grouping also occurred in Cluster One where 'Repeat Orders' which was regarded as a 'Retroactive Measure' was grouped together with 'Outcome measures' like 'Profitability' and 'Sales Growth'.

It is worth emphasising that one of the main reasons for the grouping of KPIs for less-successful companies was that these companies either did not adopt the KPIs in those three clusters or for those who adopted these important indicators, they seemed to give similarly low rating to the KPIs in each cluster. In summary, it seemed to be the case that less-successful companies did not see the importance of using these KPIs in assessing their CRM performance (if they assess the CRM

performance at all). For those less-successful CRM companies who did measure these important indicators, a lack of true understanding why they need to measure such indicators was considered to be one of the key issues that need to be addressed.

- ***Discussions & Explanations for the finalised framework***

The first framework consisted of three clusters and an additional KPI. Each cluster contained KPIs that were closely related to each other as discussed earlier. A finalised framework was plotted based on the foundation of the first framework (derived from the successful companies' data set). This final framework separated Retroactive process measures like 'Repeat Orders' and 'Customer Complaints' from their clusters and grouped Proactive process measures like 'Customer Retention', 'Customer Satisfaction' and 'Accuracy of Customer Database' together. The final framework was called 'A CRM Performance Measurement Framework' (Figure 4.17).

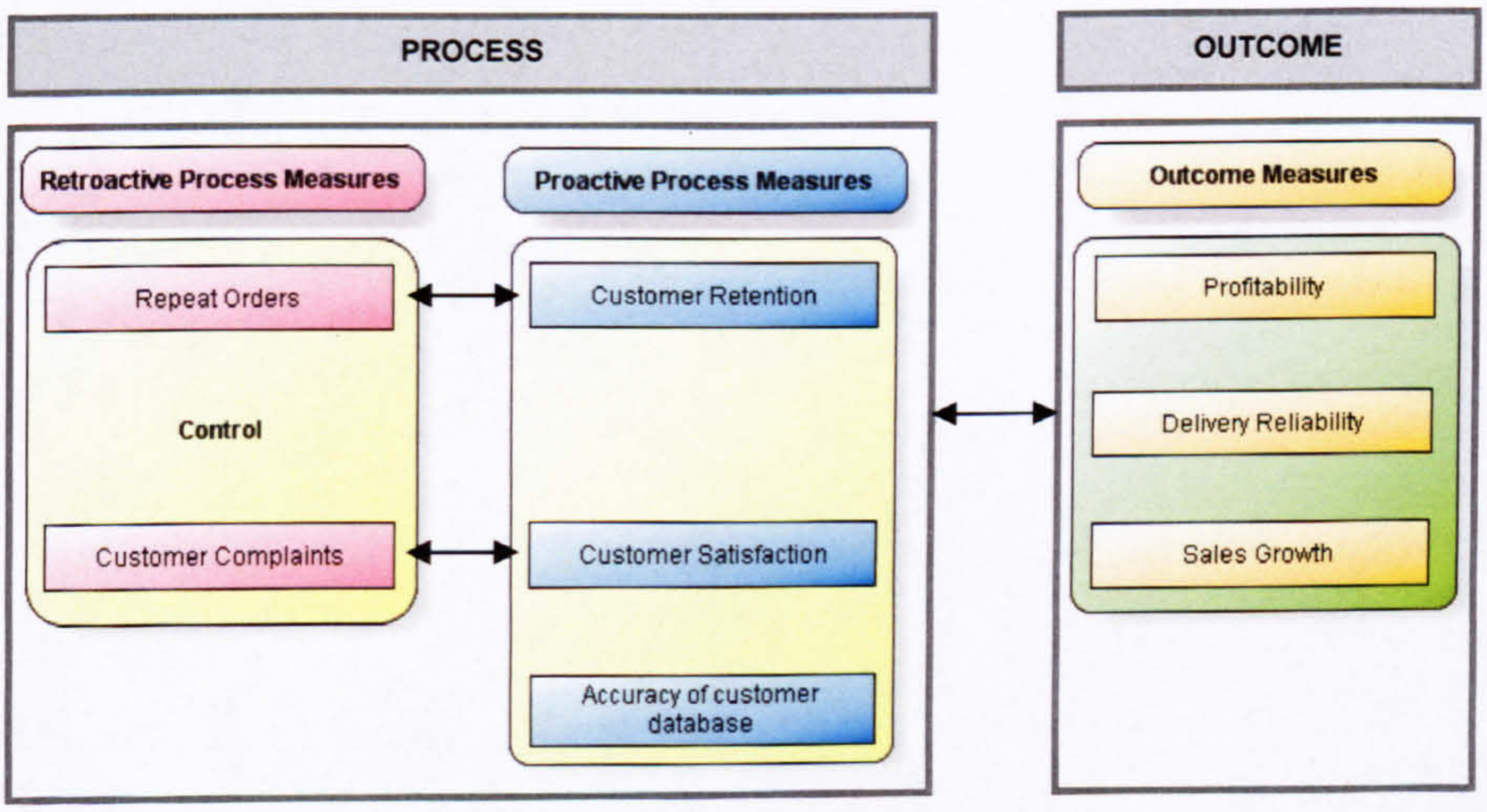

Figure 4.17
A CRM Performance Measurement Framework

According to the first framework, it suggested the way in which companies could utilise this framework - companies could choose to measure proactive indicators and use retroactive indicators as their control factors within that cluster. It was considered that this would allow companies to be more proactive and highly initiated. Findings also suggested that a company should focus primarily on getting the process measurement right. Since the process measures and outcome measures appeared to show some relationships that could create impacts (either directly or indirectly) on each other, thus concentrating on measuring the process measures effectively would then result in effective outcomes.

The key notion was that CRM was not considered to be similar to a campaign management but it was more like an on-going management process (Gamble et al, 2003). Getting a discrete outcome from any CRM project would be very difficult, as it would be virtually impossible to relate particular activities to particular outcomes like what a company could do with a campaign management. Rather than focusing purely on the final outcome from CRM (particularly financial outcomes), the focus should be placed on the process of CRM.

This notion appeared to be in disagreement with some views in the literature where the focus of the performance assessment lies in the bottom lines or financial outcomes of the business operations - return on investment (ROI) in particular. Aslett (2003) and Pearce (2002) commented on CRM performance measurement that criteria for *assessing ROI* should be based on the objectives of the CRM project and companies should be looking at changes in business performance of projects more tightly related to those objectives. Their views on

CRM performance although seem logical in regard to the link between CRM objectives and the assessment criteria, return on investment (ROI) appeared to be the key focus of the assessment. Another similar view was expressed by Nyberg (2003) who stated that the efficiency and effectiveness gains expected from a CRM project should translate into *potential revenues* then continue to track *returns* over the life of the CRM programme. Again, the view also focused mainly on the financial elements of the performance i.e. potential revenues.

A more recent work by Ang and Buttle (2006) was also based around ROI and business financial outcome – enhanced profitability. Their CRM measurement framework called CRM software performance ROI model was developed around the notion that if the software performance exceeds the company's expectations in each of customer lifecycle stages then logically it should result in a higher satisfaction with software's ROI.

An important point emerged from the findings was that although successful and less-successful companies seemed to be measuring the same things, but how successful companies gave the degree of importance to those measures was considerably different from the less-successful companies. The number of less-successful companies who assessed these important indicators was also incredibly small. Thus it suggested that companies who wish to be more successful should then follow the framework derived from successful companies' data set.

4.3.6 CRM Understanding and Success

Participating companies were requested to discuss how they understood what CRM was during the interview. The analysis was performed on Nvivo™ to identify any different patterns in the definitions of CRM given by successful companies as opposed to less-successful companies.

Definitions of CRM given by the participants were coded into the following categories: Technology perspective, Customer perspective and Strategy perspective. These three perspectives of CRM were introduced and discussed in chapter two – section 2.3. Each CRM definition given by the participating companies were therefore carefully analysed and coded into these three perspectives of CRM. The main aim for the analysis of CRM understanding was to compare definitions given by successful CRM users to those of less-successful CRM users. The results from the analysis revealed a different pattern between the two groups of user: the majority of successful CRM companies (50%) viewed CRM from a Customer perspective and 35% of them perceived CRM from a Technology perspective. Most of the less-successful CRM companies (46%), however, viewed CRM from a Strategy perspective (Figure 4.18).

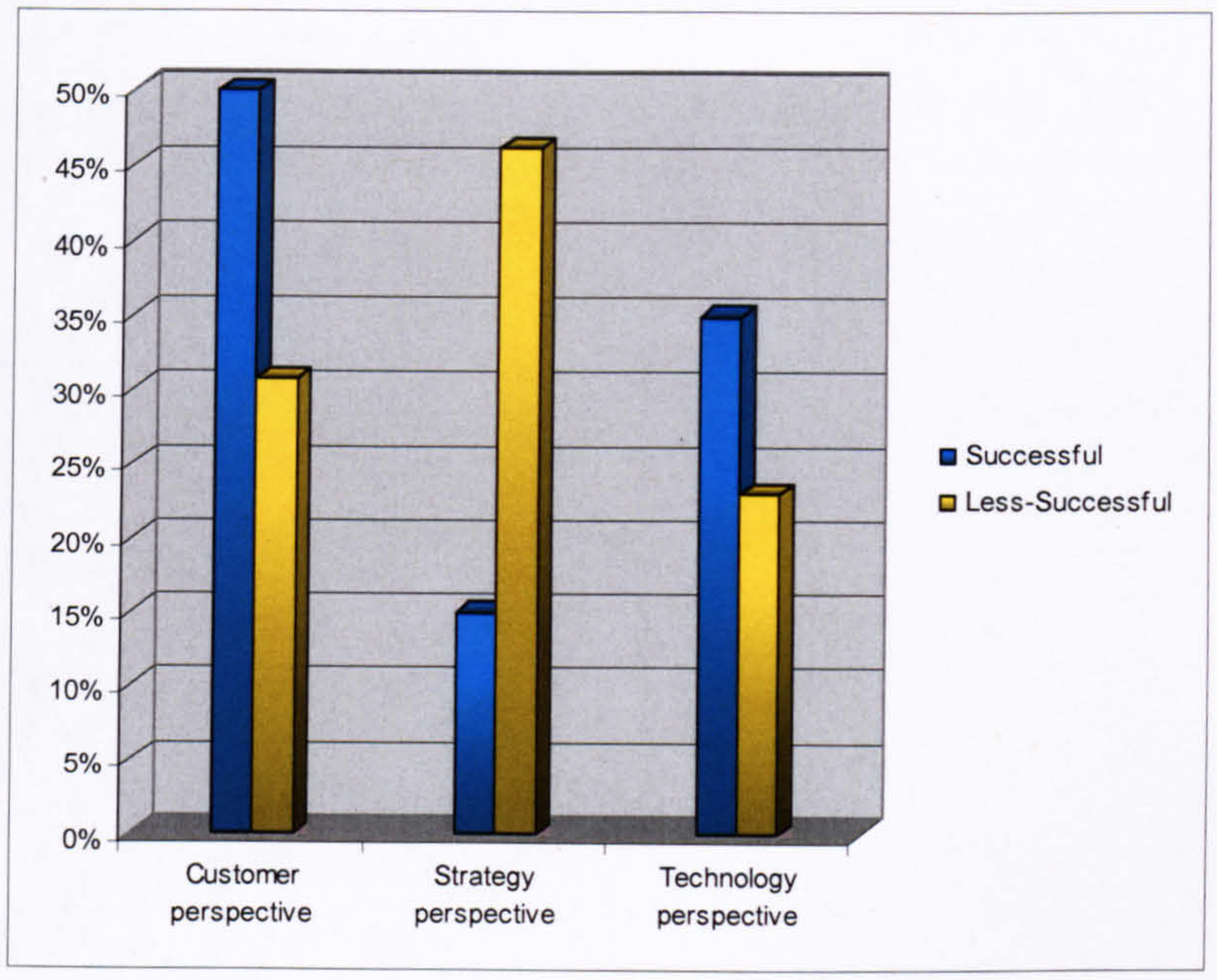

Figure 4.18
CRM Understanding by Company groups

The following quotes were extracted from the interviews with successful CRM companies whose definitions of CRM were of Customer and/or Technology perspectives.

- ***Customer perspective***

Company H: **"Understand your customers, understand your customer needs** and be consistent to your response. That is CRM! …"

Company I: "Well Customer relationship management is about a blend of **keeping close up to the customers** without being annoying to them to **identify their needs** and how best to meet their needs"

Company J: "We **ask our customers how we're doing** and if there is any area that they feel that we are not doing well in and then obviously we take some actions to do something about that…"

- ***Technology perspective***

Company K: "Basically it can mean …**having a system in place"**

Company L: "In its simplest form, it is…**having single Information** reportedly from all of the contact points that your organisation has with your customers"

Company M: "...How we manage our relationship with customers is we generally **keep everything on the database"**

Quotes from the interviews with less-successful CRM companies whose definitions fell into the strategy perspective are shown below:

- ***Strategy perspective***

Company N: "I think our opinion is just **having supplied a full package** to customers both the products and the after-sale supports..."
Company O: "Well it is the **gathering of detailed data** of individual customers to better ensure our service and products to them."

Company P: "Well CRM from our perspective is the **data capture of the historical trading patterns** of our customers..."

According to the results from the analysis, it could be implied that CRM user companies who perceived and understood CRM from a customer perspective: where customers are put at the centre of their operations, trying to understand their customer needs and satisfying those requirements and those participating companies who perceived CRM as technology that assists and facilitates interactions with their customers seemed to be more successful than those who perceived CRM as a process or strategy.

This was in disagreement to some of the views in the literature where CRM was believed to be viewed or should be viewed as a 'strategy enabled by IT' rather than a customer-focused and IT perspective. There were claims that most academics viewed CRM as a strategy to build a long-lasting relationship with customers enabled by the technology and most practitioners viewed CRM as an IT project (Little and Marandi, 2003). Some believed that CRM was technology-enabled relationship marketing (Ryals and Payne, 2001) or a technology-integrated business process management

strategy aiming to maximise relationships and encompass the whole organisation (Chen and Popovich, 2003; Goldenberg, 2000). This was then considered to be questionable whether the academics' perspective towards CRM has been correct.

4.3.7 Views on CRM Performance Measurement

In this section, CRM assessment criteria adopted by companies were analysed by company group (using Nvivo™). The aim of the analysis was to compare the assessment criteria used between successful and less-successful CRM user companies. It also aimed to relate the results to their understandings of CRM as presented in 4.3.6, in order to investigate relationship between CRM understanding and the way CRM was assessed.

Firstly the analysis was performed to identify numbers of successful and less-successful CRM user companies who set the assessment criteria for their CRM systems (Table 4.4). The results revealed that the majority of companies in both groups did not set any specific or formal criteria for assessing their CRM performance: there were only 27% of successful companies who set the assessment criteria for their CRM systems and there were even smaller proportion in a less-successful CRM user group (only 18%).

Table 4.4
Number of Companies with CRM Assessment Criteria

Do you set CRM Assessment Criteria?	Successful	Less-Successful
Yes	27%	18%
No	73%	82%
Total	100%	100%

Further investigation was conducted to discover what assessment criteria were adopted by those companies who set the criteria. For those participating companies who did not set any assessment criteria for their CRM systems, they were requested to indicate whether they used any basis at all to monitor the progress and the operations of their systems. The results showed that participating companies who did not set the assessment criteria appeared to have a rather similar assessment basis to the companies who stated that they had the assessment criteria for their CRM performance. The results were presented by company groups: successful and less-successful user groups and the common criteria used in both groups of company were 'Data Accuracy', 'Turnover & Profitability', 'Customer feedback', 'Supplier feedback', 'Delivery Performance' and 'System Performance - Technical & Functionality' (Table 4.5).

Table 4.5
CRM Assessment Criteria by Company groups

Assessment Criteria	Successful	Less-Successful
Data Accuracy	**5%**	**18%**
Turnover & Profitability	**18%**	**7%**
Customer Feedback	**31%**	**14%**
Supplier Feedback	5%	7%
Delivery Performance	8%	4%
System performance - Technical	**26%**	**29%**
System performance - Functionality	3%	11%
Growth	5%	4%
Staff Feedback	0%	7%

When looking closely at the assessment criteria or basis adopted by successful and less-successful companies shown in Table 4.5, the top three key criteria adopted by successful CRM companies were 'Customer feedback', followed by 'System performance – Technical' and 'Turnover & Profitability' (31%, 26% and 18% respectively). The top three key criteria for a group of less-successful companies were as follows - two of which were similar to successful companies: 'System

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performance - Technical' followed by 'Data Accuracy' and 'Customer feedback' (29%, 18% and 14% respectively).

It appeared that for successful companies, 'Customer feedback' was the most popular criteria adopted whereas it was 'System performance – Technical' that was mostly adopted by less-successful companies. This could be linked to the analysis results of CRM understanding perceived by the two groups of CRM user companies discussed in 4.3.6: successful CRM companies viewed CRM from a Customer perspective and the most popular criteria adopted by this user group was also in line with their CRM understanding i.e. Customer feedback. For the case of less-successful user group, there was however no strong link between their understanding of CRM and the assessment criteria used: the most popular criteria adopted by the majority of this user group were more related to the technology perspective, although their understanding of CRM was more of a strategy perspective. It could be implied that this contradictory approach - in the way they understand CRM and the way they assess their CRM performance - gave rise to the reasons why they were less successful than another user group with their CRM systems.

4.3.8 Views on Existing CRM Performance Measurement Tools

The results from questionnaire survey discovered the adoption rates and the perceived effectiveness levels of existing CRM performance measurement tools (i.e. Balanced scorecard, Return on investment, Knowledge management, Customer capital assets management and Customer management assessment tool). At the interview stage, it was determined that further investigation would be conducted to

gain insights into these tools and clarify what basis the companies used when giving the rating for the effectiveness of such tools.

According to the interview data, most of the comments received from the participating organisations regarding the effectiveness of Balanced Scorecard were rather negative. The average rating given by the companies at the interview stage was around five out of ten. The following quotes were extracted from the interview data:

> Company Q: "...I have been using Balanced Scorecard for 10 years in various businesses they are helpful but **they are a little bit of a gimmick.** If a manager really knows what is going on within their business, the scorecard should be telling them anything that is new to them"

> Company R: "Because **it is not a dynamic tool.** It is **just a snap shot in time** and also **it is an old hat:** I mean people having ravaging about Balanced Scorecard now since about 1997 and whenever somebody start talking now in the lectures and they bring out Balanced Scorecard, Best practice, I head for the nearest pillow because it is old news"

Knowledge management received the rating from the participating companies at an average of five out of ten and most of the comments received for this tool were negative. Below are some of the comments extracted from the interview data:

> Company S: "I believe that it is still **not utilised by all departments as effectively as it might be.** For example, it is heavily relied upon by the customer focusing departments in the business but perhaps not so much by the production departments. Moreover, there is often access/circulation to and of **such a volume of information that it can difficult to filter.**"

> Company T: "It [Knowledge Management] is **still very much under-used** .... So it is just about trying to get people to use it. I think if they use it and the information is there then it would a lot more effective."

> Company U: "Probably because we **only have one side of the picture** in terms of the customers we record all the transactions through our business but we don't capture as much information in terms of their own production systems ...we only have half of knowledge of their outputs, which is the finished products that they produce but we do not necessarily have great knowledge of how they produce it."

4.3.9 Extreme Views on CRM

According to the discussion on CRM performance assessment during the interview, it appeared that a particular and rather different perspective to the research was identified. This perspective on CRM was very much from a social/cultural stand: the focus was heavily placed on human factor and cultural aspects. The following quotes were extracted from the interview data:

Company V: **"The main reason we get good rating because we're good at what we do and that is not down to the system that we're good at what we do.** The system is a mean of recording how good we are but it isn't a reason why we are good. Although it is a useful tool to maintaining and hopefully improving how good we are, it is not the only reason."

Company W: **"...it is a human error it is nothing to do with the CRM system.** The machine is perfect. **The machine can never go wrong; it is humans that go wrong....**This is very quite important, **lots of companies will try to blame their systems for failure that result in customer dissatisfaction but actually the only thing that impact customer satisfaction is the way the employees of the business behave."**

"...If you have a bad system, it is not because it is a bad system; it is because the management made a wrong decision."

"...Putting in a system will provide a platform for easier access to information but it is how you use that information which will allow you to improve the business. **The system doesn't improve the business, people improve the business..... The system doesn't tell you what to do and anybody who believes the system can do that is wrong."**

Company X: I don't think we work that way to be honest with you. **Our view is that the system is the utility.** I wouldn't expect the business objective to fail from a system perspective. I expect the system to deliver. We are very much in the environment where our system is very top draw. **If we've got a business need, I don't concern about our CRM system whether will it have the ability to stand up to the business requirements.** I am very confident that our system can deliver.

It is worth mentioning that, these user companies did not have any formal assessment criteria set to assess their CRM systems. Their strong views on CRM assessment appeared to ignore intangible benefits of CRM performance which companies may measure. It seemed to be the case that these participating companies followed a

particular perspective of CRM performance measurement – cultural change/ people change point of views. These views were expressed by some groups of author in the literature (Chen and Popovich, 2003; Kos et al, 2001). It is worth emphasising that the focus of this research was on benchmarking, assessment models and metrics for CRM performance. It did not intend to cover and consider cultural or social aspect of performance measurement of CRM. These different views on CRM performance measurement were expressed by a minority of participating companies. It was, therefore, considered not to generate a significant impact on the main findings of the research.

4.4 Conclusions

Results from the questionnaire survey discovered the profile of Key Performance Indicators (KPIs) adopted by companies. It appeared that both CRM user and non-CRM user companies seemed to be using many similar KPIs to assess their performance. Further investigation through a statistical analysis revealed that there were some significant differences existed between CRM users and non-CRM users in the way they monitor their CRM performance. The differences were found among three indicators, namely 'Sales growth', 'Delivery lead time' and 'Availability of customer-facing staff'.

It is worth mentioning that two customer-focused indicators i.e. 'Customer lifetime value' and 'Customer complaints' which are closely related to CRM (Nykamp and McEachern, 2000) did not give significant results. The overall results from the survey also pointed to both CRM and non-CRM user companies having

information available within their organisations that could be used to assess their performance.

Further investigation conducted through the semi-structured interview stage revealed the perceived effectiveness levels of these identified KPIs by CRM user companies, including their impacts on the success of CRM. The results showed that there were eight KPIs regarded as highly effective by companies. The following eight KPIs were termed as 'Important KPIs':

- Sales growth
- Profitability
- Accuracy of customer database
- Delivery reliability
- Customer satisfaction
- Customer retention
- Customer complaints

Further investigation on relationships or linkages between eight important KPIs was done through 'Cluster analysis' technique. Cluster analysis allowed variables i.e. KPIs which share some similarities to be grouped together as a 'cluster'. Participating companies were classified into successful and less-successful CRM user company categories for comparative analysis of the clustering technique results. The results from cluster analysis revealed that grouping (clustering) patterns of the eight important KPIs appeared to be different between successful and less-successful CRM user companies. Draft frameworks were then derived and developed for both user groups for further comparative analysis.

It was concluded that less-successful companies did not seem to truly understand the importance of using these KPIs in assessing their CRM performance. The majority did not at all assess the CRM performance. The overall results allowed a finalised CRM performance measurement framework to be derived and developed (as shown previously in figure 4.17). The framework was developed based on the approaches undertaken by successful CRM user companies. Some adjustments were made to refine the model. The grouping of important KPIs identified by cluster analysis was put into a perspective of 'Process and Outcome measure'.

Process measures were divided into 'Proactive process measures' and 'Retroactive process measures'. The results from cluster analysis showed some relationships between proactive and retroactive measures, it therefore suggested that proactive indicators should be measured primarily and retroactive indicators should be used as control variables. This would allow a more proactive and highly initiated approach to be adopted within an organisation. The results from cluster analysis also revealed that there were some relationships existed between outcome measures and the rest of the important measures. It therefore suggested that the focus should be placed primarily upon the process measure – effective measurement of the process would result in the effective outcomes.

Other findings relevant to the subject area were also presented and discussed. Empirical findings were concluded that existing measurement tools (i.e. Return on investment, Balanced scorecard, Knowledge management, Customer management assessment tool and Customer capital assets management) were not widely adopted

or highly regarded by the companies. The reasons could be that such tools may be neither practical nor effective for CRM performance assessment.

Findings in regard to CRM understanding and its impact on the success were concluded that CRM user companies who perceived and understood CRM from a customer-focused perspective and those who viewed CRM as technology that assists and facilitates interactions with their customers seemed to be more successful than those who viewed CRM as a process or strategy.

Further investigation on relationships between CRM understanding and the way companies assess their CRM system discovered that there was, however, no strong connection for the less-successful user group: the criteria adopted by this group of users were related to the technology perspective, although their understanding of CRM followed a strategy-focused category. It concluded that such a contradictory approach in the way less-successful CRM users perceived CRM and the way they assessed the CRM performance could be one of the reasons why they were not so successful with their CRM projects.

Chapter Five: Summary and Initial Conclusions

5.1 Introduction

This chapter summarises and discusses key issues identified from research carried out into Customer Relationship Management (CRM). It discusses, in particular, main concerns in the area of performance measurement for CRM that were isolated by this research. It explains how the gap in knowledge identified from the research guided an establishment of research objectives and a formulation of research questions. This chapter also discusses the research methodological approaches undertaken including their justifications.

5.2 Key Issues of the Research

A review on customer relationship management literature has been presented in chapter two. Key concerns identified from the literature review can be summarised as follows:

It appeared that Customer Relationship Management (CRM) was perceived differently by various groups of authors. It was claimed that a common agreement on CRM definition does not seem to exist as it could mean different things to different people (Bull, 2003; Newell, 2003; Park and Kim, 2003; Sweat, 2000) It was considered that these various definitions of CRM could be classified in to four major categories, namely 'Technology perspective', 'Customer perspective', 'Strategy perspective' and 'Combined perspective'. In its simplest but the most comprehensive form, CRM can be defined as a set of tools that enable companies to enhance levels of customer interaction, service and customer data flow. Strategically, it is a

customer-focused business plan designed to optimise profitability, revenue and customer satisfaction (Smock and Watkins, 2002).

CRM industry was reviewed to investigate current situation of the market. It was revealed that CRM is a fast-growing and rather impressively huge industry where the entire CRM market worldwide is worth billions and billions of dollars. Statistical figures on CRM worldwide market size between 2001 to 2006 were collected from a number of market reports in the literature: the CRM market size in 2006 was worth around USD 6.5 billion, a steep rise from USD 3.7 billion back in 2001 (Bailor, 2007; Stojanovski, 2006; Bailor, 2005) It seemed to be the case that the CRM global market has been growing rapidly over the past years.

There was a key concern identified from the literature in regard to the CRM market growth forecasts, produced by a number of research firms in the industry. It was discovered that many of the market watchers were highly optimistic about the CRM market growth: the comparative analysis was conducted to signify the differences between their projections and CRM actual market growth between 2001 and 2005. The biggest difference between the predicted figure and the actual figure was found to be a staggering USD 36 billion.

It appeared that the growth of CRM industry could be influenced by a combination of this sort of overly-predicted market growth and vendor-led CRM offerings. Firstly, these misleading trends and growth in the CRM market could lead to the generation of interest in the CRM technology and its market and secondly, companies could be either directly or indirectly persuaded to invest into the CRM

systems. These misleading trends of the CRM market growth could be seen as propaganda where many companies could have been affected by. It, thus, could lead to an increased number of companies wanting to adopt the CRM systems.

Despite potential benefits of what a powerful and advanced technology like CRM can offer, in reality, many CRM projects have been reported to be such a disappointment. Many studies in the literature were found discussing on the aspect of CRM performance. Most of what was found, however, proved rather negative: high CRM failure rates of between 50%-80% have been reported by a number of research firms e.g. META Group, Gartner and Butler Group (Myron and Ganeshram, 2002). CRM was reported not to be working properly or does not work out in practice and also commented that the CRM industry has a problem (Bull, 2003; Kotler, 2003). There were also claims that CRM provides a positive result. The literature revealed that there were organisations who claimed to have fully succeeded with their CRM projects. Some claimed to have positive return on their CRM investments and some claimed to be successful with their CRM implementations (Comb, 2004; IBM, 2004; Gartner, 2003). There was, however, an issue concerning the quantification of these positive claims: these companies who reported positive feedback of CRM performance were not able to quantify their claims.

Regarding CRM performance found in the literature, there were both successful and unsuccessful cases. It seemed to be the case that many companies were unable to quantify their claims and there was little or no strong evidence that companies assess their CRM performance. This initial finding stimulated and created concern on justification of these claimed success and failure cases in the CRM industry. It could

be argued that CRM could work effectively to its full potential when appropriate performance assessment was adopted. It therefore suggested that further investigation was needed to focus on the assessment of CRM performance and related issues in the literature.

A thorough review on CRM performance measurement literature was conducted as a further investigation into the subject area. Several measurement tools/best practices were identified and critically reviewed as follows: 'Return on investment' (ROI), 'CRM Software Performance ROI Model', 'Balanced Scorecard', 'CRM Evaluation Model', 'Joint Balanced Scorecard/value Driver Analysis', 'CRM Scorecard', Customer Knowledge Management', 'Behavioural Determinants of CRM Effectiveness', 'CRM Measuring Scale Model' and 'Customer Management Assessment Tools'. It was concluded that these existing measurement tools shared a number of common limitations e.g. generalisation, investigation of relationships among perspectives, data gathering and reliability etc. The most important issue with the limitations which was identified as a gap in knowledge was the development approach undertaken for these existing tools. It appeared that these models were developed based on what companies should be doing when assessing the CRM performance. This suggested that there was a lack of considerations in terms of what companies may be actually doing or capable of doing in regard to the CRM performance measurement. This could generate different ways and perspectives to the CRM performance assessment and therefore was considered to be a gap identified from existing knowledge.

It concluded that much work has been carried out to try and establish standards of measurement for CRM systems. Yet disappointment with CRM performance remains extremely high within companies. The question arisen was whether the standards of measurement identified were inappropriate, or companies were not using them in an accurate or appropriate way. In either case it was acknowledged that the issue must be addressed. It was suggested that a programme of work was required that could lead to a simplified, clearly understood approach that may be used by companies of any size, but particularly by Small and Medium Sized Enterprises (SMEs), who simply do not have the resources to implement the complex approaches identified. A rational approach to achieving this would be to identify what companies are actually doing successfully and then see if such activities may usefully be modelled.

5.3 Methodological Approaches of the Research

Regarding the identified gap in knowledge, the following research objectives were then developed:

- To identify key performance indicators that can be specifically and practically applied to CRM systems.

- To identify whether companies have information required to operate existing measurement tools

- To develop practical and business-orientated measures for the assessment of CRM performance.

The following research questions were then derived:

1. What are the Key performance Indicators (KPIs) being used by companies and how do they reflect the success of CRM systems?

1.1 What are companies doing to monitor the efficiency of their CRM systems?

1.2 How do they perceive the effectiveness of their assessment approaches?

1.3 How these approaches can be related to the success of their CRM systems?

2. What are the difficulties companies facing with existing CRM measurement tools?

3. What measurement solutions can be developed for companies to adopt realistically as a framework in assessing the success of the CRM systems?

The research methodological approaches undertaken were guided by the knowledge gap discovered. It gave a direction to where the research methods were designed to discover what companies are actually doing or capable of doing regarding the CRM performance assessment. The methodological approaches untaken for the research were hierarchical in nature, consisting of two major stages: Stage one aimed to identify Key Performance Indicators (KPIs) adopted by companies and to also create a profile of CRM users for the next phase of study. The questionnaire survey was used as a research tool. Stage two intended to drill down into more insightful information in regard to CRM performance assessment. This was considered to aid a

development of a CRM performance measurement framework. The tool used for this stage was semi-structured interviews with CRM user companies.

The research context was set within UK industry and commerce. It focused on Small and Medium-sized enterprises (SMEs) in particular due to the concerns with resources barriers identified previously in 5.1. Secondary data were collected through published resources e.g. journal articles, conference proceedings, text books, research reports and internet sources. Primary data were collected through two major stages as mentioned previously: questionnaire survey and semi-structured interviews.

The questionnaire survey stage covered the scope of 2,200 organisations across the nation. Stratified sampling method was used to select samples from across the UK by region. Pilot test suggested some minor adjustments with wording and pre-paid reply facility. Data analytical tools and techniques were determined: a statistical tool (SPSS) was chosen for the analysis of survey data. The statistical technique was decided based on the nature of data collected - ordinal data, Kendall's Tau technique was considered to be suitable and employed for the analysis.

Companies were requested to state their willingness to take part in the future stage of the research during the questionnaire survey. These self-selected companies were then contacted in order to arrange an appropriate interview date and time. There were 26 CRM user companies participated in the semi-structured interview stage.

Interview questions were designed aiming to discover how CRM user companies assess their CRM performance. Pilot interviews were conducted to test the quality of

the question and any major issues that may exist. The results from the pilot test suggested minor changes in the wording. It also suggested the elimination of non-CRM user companies due to a lack of knowledge of and experience with CRM – they were unable to give much relevant information that would contribute to the outcome of the research. The interviews were conducted through telephone due to the geographical, time and financial constraints. Nvivo™ was chosen as a qualitative analytical tool to extract insights from interview data. SPSS was also employed using 'Cluster analysis' as a particular technique to further investigate initial findings from Nvivo™. Following the research designs, analytical procedures for the semi-structured interview stage were determined and discussed in relation to the research objectives and questions formed as follows:

- Step one: Identification of successful CRM users
- Step two: Identification of important KPIs
- Step three: Framework Development
- Step four: Interpretations of relationships between important KPIs
- Step five: CRM understanding and success
- Step six: Views on CRM performance assessment

There were other aspects of CRM performance measurement that were considered to be relevant to the research such as views on existing measurement tools and extreme views on CRM.

5.4 Conclusions

The chapter has summarised and discussed significant issues arisen from the investigations into Customer Relationship Management (CRM), particularly the aspect of CRM performance measurement as follows:

An identified issue with justification of reported successful and unsuccessful cases of CRM performance led to a critical review of existing CRM performance measurement tools. It was concluded that the existing measurement tools shared a number of common limitations but most importantly were developed based on what companies should be doing regarding CRM performance assessment. It suggested that there was a lack of considerations in terms of actual performance measurement activities of and capabilities within an organisation. This could generate different ways and perspectives to the CRM performance assessment and therefore was considered to be a gap identified from existing knowledge.

Another identified issue relevant to the research was variation in CRM definitions. It was considered that these various definitions of CRM could be classified in to four major categories, namely 'Technology perspective', 'Customer perspective', 'Strategy perspective' and 'Combined perspective'. It was decided that an investigation into relationship between the success in CRM and understanding of CRM would be conducted.

It was identified that there was an issue with the accuracy of CRM market growth predictions produced by a number of independent market watchers. Results from the comparative analysis have highlighted the differences between their projections and

the actual CRM market growth e.g. the biggest difference being USD 36 billion. These misleading figures in CRM market growth could be seen as propaganda many companies affected by due to either an indirect or direct influence over the decision to invest into their CRM systems. It thus results in an increased demand of CRM systems within the industry.

The chapter has also discussed the research methodological approaches undertaken for the study. The identified gap in knowledge guided the establishment of research objectives and questions including particular research methodological approaches to be adopted i.e. hierarchical nature of research method comprising of questionnaire survey (to identify KPIs and a CRM user profile) and semi-structured interview stages (to produce insightful information that aids a development of a realistic CRM performance measurement framework).

Chapter Six: Conclusions and Recommendations

6.1 Introduction

This chapter concludes the main findings of the research which have been discussed and reported in chapters four and five. The discussion in this chapter covers the CRM performance measurement developed from this research and the new perspectives of performance measurement. Limitations of both the research area and the methodological approaches undertaken are discussed. Research contributions and business implications are explained including possible implications for future research.

6.2 The Main Findings of the Research

This section discusses and concludes the main findings i.e. the developed CRM performance measurement framework and the new perspectives of performance measurement.

According to the results from the semi-structure interviews (conducted with 26 self-selected CRM user companies identified from the questionnaire survey stage), there were eight KPIs regarded as highly effective by the user companies as follows – these were termed as 'Important KPIs':

- Sales growth
- Profitability
- Accuracy of customer database
- Delivery reliability

- Customer satisfaction
- Customer retention
- Customer complaints
- Repeat Orders

Further investigation on relationships between the eight important KPIs was done through a statistical analysis technique called 'Cluster analysis' (on SPSS). Cluster analysis allows variables i.e. KPIs which share some similarities to be grouped together as a 'cluster'. The analysis was done separately for successful CRM user group and less-successful CRM user group: it was to discover differences in the results between the two groups of user company. The results from cluster analysis (Table 6.1) revealed that grouping (clustering) patterns of the eight important KPIs appeared to be different between successful and less-successful CRM user companies.

Table 6.1
Cluster Analysis Results

Successful CRM users	**Less-successful CRM users**
Cluster One ▪ Profitability ▪ Delivery Reliability ▪ Sales Growth	Cluster One ▪ Profitability ▪ Repeat Orders ▪ Sales Growth
Cluster Two ▪ Customer Retention ▪ Repeat Orders	Cluster Two ▪ Customer Retention ▪ Customer Complaints
Cluster Three ▪ Customer Satisfaction ▪ Customer Complaints	Cluster Three ▪ Customer Satisfaction ▪ Delivery Reliability
Individual Important KPI ▪ Accuracy of Customer Database	Individual Important KPI ▪ Accuracy of Customer Database

These results from cluster analysis also helped in developing a framework for CRM performance measurement. The draft frameworks were created for both successful and less-successful CRM users - this was to aid the comparative analysis between the two CRM user groups and identify reasons why one group were more successful than another. Descriptive analysis was performed to help provide explanations to the outcomes of cluster analysis. Logical interpretations for the overall results were discussed and summarised as follows:

Regarding the results of cluster analysis for successful CRM users, the eight important KPIs identified from Nvivo™ were grouped in to three clusters with 'Accuracy of Customer database' as an individual Important KPI (as shown in Table 6.1). It was logically interpreted that KPIs in each cluster appeared to have some relationships between them: 'Customer retention' could have great impact on 'Repeat orders' (cluster two) and, similarly in cluster three, 'Customer satisfaction' could have direct impact on 'Customer complaints' or vice versa. 'Delivery Reliability' could significantly contribute to 'Profitability' and 'Sales Growth' (cluster one).

It was also concluded that KPIs from cluster three, cluster two and 'Accuracy of Customer Databse' were regarded as *'Process measures'* – all these measures in are generally used to assess the effectiveness and the efficiency of operational processes. KPIs from cluster one were regarded as *'Outcome measures'* – 'Profitability' and 'Sales Growth' are the bottom lines or the final outcome of the business and 'Delivery Reliability' is an outcome of operational performance.

These eight important measures were also divided into *'Proactive measures'* and *'Retroactive measures'*. Proactive measures involve proactive activities or initiations i.e. 'Customer retention', 'Customer satisfaction' and 'Accuracy of Customer Database'. Retroactive or after-the-event measures assess consequences of a company's effectiveness levels of its operations and can be influenced or impacted either directly or indirectly by many factors. For instance, 'Profitability' and 'Sales Growth' are much of financial measures, they can, therefore, be affected by many aspects of operational, marketing and also CRM performance. 'Repeat orders' and 'Customer complaints' were also regarded as retroactive measures as they are consequences of operational effectiveness.

According to the descriptive analysis, successful companies appeared to give high rating for the effectiveness of these indicators. It was implied that the successful CRM user companies perceived these eight indicators to be important to the assessment of their CRM systems and their business performance.

When considering the results of cluster analysis for less-successful CRM users, there were also three clusters identified with @Accuracy of Customer Database' shown as an individual important KPI (Table 6.1). The eight important KPIs were, however, grouped differently from the case of successful CRM companies. It was discovered that although the grouping in cluster two may be logical i.e. 'Customer retention' and 'Customer complaints' could have impact on each other, the grouping of KPIs in cluster one and three did not give a logical sense. In cluster three, 'Delivery reliability' which is an outcome of operational performance was grouped together with 'Customer satisfaction' which is a process measure. This

illogical grouping also occurred in cluster one where a process measure (i.e. Repeat orders) was grouped together with outcome measures like 'Profitability' and 'Sales growth'. It is worth emphasising that one of the main reasons for the grouping of KPIs for less-successful companies was that these companies either did not adopt the KPIs in those three clusters or for those who adopted these important indicators, they appeared to give similarly low rating to the KPIs in each cluster.

It was concluded that less-successful companies did not seem to see the importance of using these KPIs in assessing their CRM performance. For those less-successful CRM companies who measured these important indicators, a lack of true understanding why they need to measure such indicators appeared to be one of the key issues that need to be addressed.

The overall results allowed a CRM performance measurement framework to be derived and developed as shown in Figure 6.1. The framework was developed based on the approaches taken by successful CRM user companies. Some adjustments were made to refine the model. The grouping of important KPIs identified by cluster analysis was put into a perspective of 'Process and Outcome measure'. Process measures were divided into 'Retroactive process measures' and 'Proactive process measures'.

The results from cluster analysis showed some relationships between proactive and retroactive measures, it is therefore suggested that proactive indicators should be measured primarily and retroactive indicators should be used as control variables. This would allow a more proactive and highly initiated approach to be adopted

within an organisation. The results from cluster analysis also revealed that there were relationships existed between outcome measures and the rest of the important measures. It is therefore suggested that a focus should be placed on the effective measurement of the process in order to obtain the effective outcome. Furthermore, CRM is not a campaign management but it is an on-going management process. Getting a discrete outcome from any CRM project could be very difficult as it is virtually impossible to relate particular activities to particular outcomes. It is therefore explained why a company should focus on the process measures rather than the final outcome.

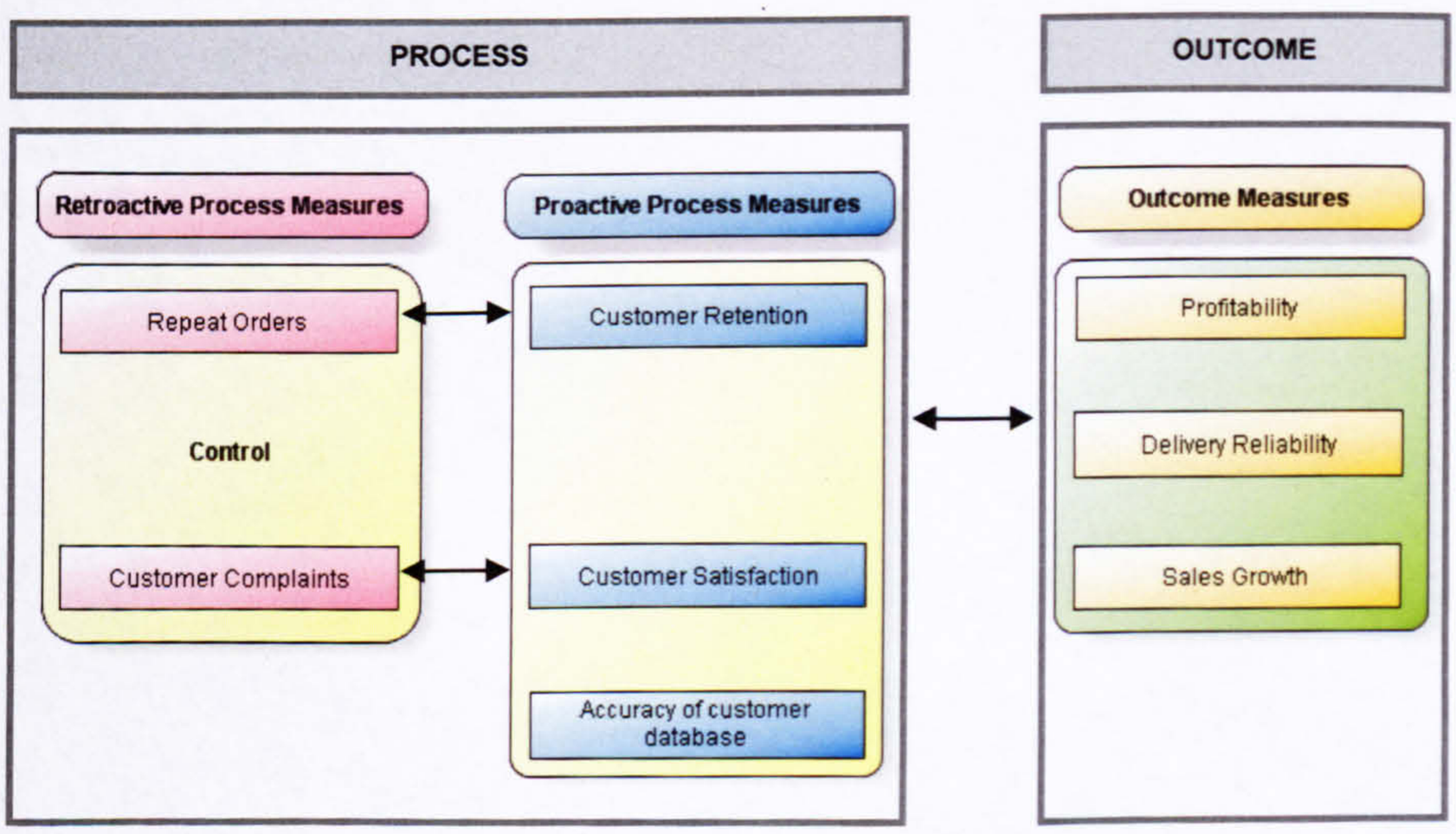

Figure 6.1
CRM Performance Measurement Framework

It is worth mentioning that although literature (Gummesson, 2004; Gamble et al, 2003; Fitzgerald et al, 1994; Maskell, 1991; Parasuraman et al, 1985) suggested five dimensions of performance measurement namely, competitiveness, financial, quality, flexibility and customer-focused, the main findings of the research has generated the three new and different perspectives into performance measurement as follows:

'Outcome measures', 'Proactive process measures' and 'Retroactive process measures' (Table 6.2).

Performance indicators of the new performance measurement perspectives i.e. important KPIs are based on the existing perspectives. The main difference between the existing and new perspectives of performance measurement was that relationships exist among the new perspectives, as previously discussed, allow in-depth understanding to be obtained when assessing CRM performance. In regard to such relationships, a different way of assessing CRM performance has then emerged as an outcome of the research.

Table 6.2
New Perspectives of Performance Dimension

EXISTING PERSPECTIVES		NEW PERSPECTIVES	
Dimensions of Performance	**Measurement Indicators**	**IMPORTANT KPIs**	**PERSPECTIVES**
• Competitiveness (Group 1)	- Percent of market share and position - Sales growth - Changes in the size of customer base	**- Sales growth**	**OUTCOME MEASURES**
• Financial (Group 2)	- Profitability - Revenue per customer - Cost per customer	**- Profitability**	
• Quality (Group 3)	- Availability of customer-facing staff to provide services - Delivery reliability - Response times (to any form of customer's contact - Delivery lead time	**- Delivery reliability**	
	- Accuracy of Customer database	**- Accuracy of Customer database**	**PROACTIVE PROCESS MEASURES**
	- Customer satisfaction	**- Customer satisfaction**	
• Flexibility (Group 4)	- Customer retention	**- Customer retention**	
	- Repeat orders	**- Repeat orders**	**RETROACTIVE PROCESS MEASURES**
• Customer-focused (Group 5)	- Customer lifetime value - Customer complaints	**- Customer complaints**	

Source: Adapted from Gummesson, 2004; Gamble et al, 2003; Fitzgerald et al, 1994; Maskell, 1991; Parasuraman et al, 1985

6.3 Limitations of the Research

It was suggested by Parasuraman (1991) that cautionary notes of any unexpected or unavoidable methodological weaknesses or external events that may affect research's findings should be disclosed. Problems in the execution of the project are likely to be encountered by the researcher, its related incidence should, thus, be made aware to the readers (Webb, 2002). The information on the limitations of the research is essential for an assessment of the validity of the research (Kinnear and Taylor, 1996). This section discusses and presents limitations found in CRM literature and general limitations of methodological approaches undertaken. The impacts of these limitations in CRM literature are also discussed in relation to the research methods employed – why certain research methods and approaches were adopted as a result of the restrictions in the literature.

It appeared that information on some aspects of CRM was rather restricted. Firstly, it was intended that a list of potential respondents for the research (i.e. CRM user companies from various locations in the UK) was to be obtained. There was however no such information available in the public domain. Attempts to identify this potential list of user companies who adopt CRM systems were extremely difficult and yet to be succeeded. Secondly, it also appeared that there was no information available in the public domain on CRM adoption by industry either. These issues address the major limitations in the CRM industry and literature.

Another identified limitation of the literature was the information on CRM market growth. It appeared that the only sources of information available in the literature on CRM market growth figures were based on CRM vendors' revenue and market

share. Although many reports on the CRM market share/market growth were produced by independent market research firms, such vendor-based information could be potentially biased. This echoes the issue addressed in chapter two regarding the inaccuracy of CRM market forecasts produced by the independent research firms. It also echoes an issue of possible propaganda in the CRM industry generated by the major CRM vendors. These limitations in the CRM literature, particularly the availability of information on CRM users, have affected the methodological approaches undertaken for this research to some extent. These impacts are discussed in further detail as follows:

Firstly, restricted information on a list of CRM user companies forced alternative sources of information to be considered. Contacts were made to 100 CRM vendors in the UK for permission to obtain their list of clients. The covering letter, using a standard university headed paper, indicated the following four requests:

- The details of products offered by the company i.e. features, modules, functions
- Examples of successful implementation of the software
- Examples of less-successful implementation
- Information about their UK customer base

None of the vendor however agreed to give out such information and the majority did not respond to the requests. Some of the vendors who responded to the requests did not release the information because of the confidentiality issues.

It was acknowledged that a chance of identifying and obtaining a list of CRM user companies was diminished. It was then considered that a list of general companies

was to be obtained and the identification of CRM user companies was to be done through the survey. This suggested that a large sample would be required for the survey in order to obtain a fair number of CRM users for the analysis. Another attempt to get hold of a list of general companies was then made through the University of Hertfordshire commercial links. It was believed that this option would give benefit to the research in terms of better response rates due to the prior-established business connections the University has with these potential companies. However, delay in cooperation and time constraints forced the crucial decision to be made: it was decided that the source of company list was to be obtained from Bureau Van Dijk - FAME database in order to carry out the empirical work within the timescale. This database was a public source of information available for obtaining a list of potential respondents for the questionnaire survey. These difficulties in obtaining a list of potential companies, however, resulted in a slight delay in the distribution of the questionnaire forms.

It is worth noting that information regarding the position of respondents and participants was not always available for all the sampled companies. It was intended that marketing director or manager would be primarily selected for the questionnaire to be sent to and where information was not available the managing director, functional director or manager was targeted as an alternative. It was also considered that although not all the respondents were in the marketing roles, responses received in regard to CRM from the top management and middle-management from various functions would also be appropriate in respect to the corporate or cross-enterprise perspectives CRM entails.

Secondly, limitations on the information of CRM users by industry had an effect on the sampling selection procedure. The impacts impelled a different approach to sample selection process. Rather than choosing the samples by industry in the representative proportions to the population (CRM users by industry), the samples were selected by geographical location i.e. 12 regions of the UK. In order to ensure that good representative samples were obtained, sampled companies were drawn from such locations in the same proportions to the whole population of SMEs in the UK (details of sampling procedure were discussed in chapter three, section 3.6.4). Apart from these limitations identified from the CRM literature and their impacts upon the research methodological choices made, it is worth discussing general limitations of the research methods employed as follows:

Interviews were conducted through telephone and it was acknowledged that, telephone interview method does have some weaknesses. Wilson (2006) stated that the biggest inherent disadvantage of telephone interview is related to the attitudes respondents may have towards the telephone. Telephone usage has been growing in the tele-marketing purposes - it is better known and referred to as 'sales calls'. As a result, people are more concerned with the telephone research. Another disadvantage of this research method was that it is not so difficult for the respondents to say 'I have to go soon' on the phone (Hague et al, 2004).

These general limitations associated with telephone interview method were recognised and carefully considered when choosing the appropriate research method for the research. Participating companies in this research were self-selected and therefore were aware of the purposes of the interview. They were also contacted to

arrange an agreed suitable time at their preferences so that they could participate without any interruption. In some cases, participating companies were opting for the telephone interview as opposed to face-to-face interviews e.g. senior management who tended to be travelling around preferred to have the telephone interviews through their mobile phones while they were travelling or after working hours. It was then considered that the advantages of telephone interview method outweighed its weaknesses (details on the advantages of telephone interview method were fully discussed in chapter three, section 3.8.1).

6.4 Implications

This section discusses contribution this research has made to both theoretical and business perspectives. The theoretical implications are discussed in regard to what new knowledge has been discovered and how it has contributed to the existing literature. The business implications are discussed and explained how companies in the industry could benefit from the findings and outcomes of the research.

6.4.1 Theoretical Implications

This research gave a number of contributions to the existing CRM literature. Each contribution is discussed as follows:

Findings from initial literature review made it become clear that an area of CRM performance measurement has been relatively under-researched to date. Attempts to investigate further into the aspect of CRM performance assessment were one of the contributions to the knowledge this research has made. It was intended that clarifications to the subject area would be revealed. The investigation involved a

critical review of existing CRM performance measurement tools. It was concluded that much work has been carried out to try and establish standards of measurement for CRM systems. Yet disappointment with CRM performance remains extremely high within companies. The findings from this investigation have provided clarifications to the issues of CRM performance measurement: it is questionable whether the standards of measurement identified from existing literature were inappropriate, or companies were not using them in an accurate or appropriate way. In either case it was clear that the issues must be addressed.

Limitations identified from the existing measurement tools have led to the revelation of the gap in knowledge. It has been discovered that existing measurement tools were developed from the idea of what companies are expected or supposed to be doing regarding CRM performance assessment. This ignores the notion of what companies are actually doing or capable of doing when assessing their CRM systems. This has suggested that a simplified, clearly understood approach that may be used by companies of any size, but particularly by Small and Medium Sized Enterprises (SME), who simply do not have the resources to implement the complex approaches identified from the existing literature, is needed. A rational approach to achieving this would be to identify what companies are actually doing successfully and then see if such activities may usefully be modelled. As a result, a realistic CRM performance measurement framework was then derived and developed as a second contribution from the research.

The third contribution to knowledge is based on findings from the literature in regard to CRM market growth forecasts. These findings have led the research to recognise

and address an important issue - the inaccuracy of the CRM market growth forecasts. Literature search suggested that there was no information available on the variations between the actual market size and predictions produced by independent market research firms. Data on actual market size figures were collected from the secondary sources and a simple comparative analysis was conducted. This was to investigate the accuracy and variations of the predictions of CRM market size. The results showed that there were significant differences between the actual figures and the forecasts of CRM market size (full details of this analysis are presented and discussed in chapter two, section 2.4.2).

It is worth pointing out that the growth in the CRM industry could be influenced by this type of overestimated market trends. These misleading trends could affect the interest of companies in regard to the CRM technology. Companies could be either directly or indirectly persuaded and tempted to invest into the CRM systems. This could also be influenced by attractive offerings from the vendors. These misleading trends of the CRM industry could be seen as propaganda which many companies could have been affected by. This could be what market watchers such as research firms and particularly CRM vendors expect to happen in the market - an increased competition followed by an increased number of companies determining to adopt the CRM software. It is therefore advisable that these CRM market growth projections should be used with caution.

This research has recognised that important information on CRM in some aspects was not currently available in public domain. A lack of information on CRM user profiles and statistics was considered to be a critical issue that needs to be addressed

for future research. This was considered to be the fourth contribution this research has made as an addition to the existing knowledge.

6.4.2 Managerial Implications

According to the research findings, the derived CRM performance measurement framework (as shown in Figure 6.1) suggested that firstly companies should not focus purely on the bottom line or financial outcome of the business. This appeared to disagree with some views in the literature (Ang and Buttle, 2006; Aslett, 2003; Nyberg, 2003; Pearce, 2002) where the focus of CRM performance assessment is heavily placed on the financial outcome of the business and return on investment.

There was a key reason for companies not to concern only the financial outcome when it comes to CRM performance assessment: the research findings revealed close linkages between outcome measures and process measures. The outcome measures as shown in the framework (Figure 6.1) are basically the bottom line of the business (i.e. profitability and sales growth) and also the outcome of operational activities (i.e. delivery reliability). These outcome measures showed close relationships with the process measures (i.e. customer retention, customer satisfaction, accuracy of database, repeat orders and customer complaints). It was then advised that the focus should be put primarily on the process. Effective measurement of the process would result in the effective outcome.

Secondly, close relationships among process measures suggested a division of process measures into proactive- and retroactive-measure categories. It was advisable that companies should primarily assess proactive process measures and

retroactive process measures should be utilised as the control variables. The findings showed that these proactive and retroactive measures could create impacts on each other, this would allow companies to detect any problems occurred within their processes and react in a timely manner.

Results from the research regarding CRM understanding perceived by user companies showed that putting customer at the centre of their operations, trying to understand customers' needs and satisfying them using the CRM technology appeared to make user companies more successful than those who perceived CRM as a strategy. This appeared to disagree with some views from the literature (Chen and Popovich, 2003; Little and Marandi, 2003; Ryals and Payne, 2001; Goldenberg, 2000) where CRM is mainly seen as a strategy enabled by IT. It could mean that academics have not been right about how they view CRM. Results revealed that CRM understanding was related to the way CRM system was assessed: user companies who were clear with their understanding of CRM appeared to have a better alignment for their CRM assessment criteria and more successful than those who were not. It, thus, advised that user companies should be clear with their understanding of CRM – it should be seen from customer and IT perspectives and they should align their assessment criteria with their understanding.

This research has also discovered that non-CRM user companies appeared to be adopting the same key performance indicators as CRM user companies. Although some of the indicators showed some significant difference between these two groups of companies (details of the analyses can be found in chapter four, section 4.2.4), the findings pointed to non-CRM user companies having similar information available

within their organisation to assess their CRM performance. This means that if they are ever to adopt the CRM systems, they can assess their system effectively and properly using the developed framework from this research.

6.5 Future Research

Based on the limitations identified within this study and a solid foundation the current study has established, a number of suggestions for possible aspects of further research have been arisen.

Firstly, it has been recognised that there was no published information currently available on CRM user profiles (i.e. either general profile or profile by industry). It is worth emphasising that there was no information on the total population of CRM user companies either. This has suggested that it could be one of the useful areas for future research to work on. It is advisable that future studies of this particular aspect are best to be carried out by independent government bodies: this is to gain best possibly accurate information with minimal or none bias. Information on the CRM profile should also be presented by industry and/or size and/or region. This would usefully enable representative selection of samples for further studies in the subject area.

This suggestion for future studies on the CRM profiles is also related to the next aspect of future research. According to the context of this research, it was specifically set within the SMEs in UK industry and commerce. It investigated into the area of CRM performance measurement in particular. It would therefore be interesting to also investigate further once a profile of CRM users by industry has

become available. This would create more insights into the CRM industry in terms of performance measurement of CRM: it would be very interesting to see whether different frameworks could be developed for different types of industry – to avoid any possible demand-like effects of the developed assessment framework. Future studies in a wider scale or different context would also be very useful to the existing knowledge by utilising the developed framework from this research as a foundation for future investigations to be built upon.

There is also another recommendation for future directions. This could be undertaken once information on the CRM user profiles has been made available. It would be very useful and interesting to conduct similar studies to this research but incorporating better targeted samples i.e. target respondents would be CRM user companies only. Although the selected samples of this research were considered to be sufficient and highly representative of the total SMEs population, if the selected samples were CRM user companies only, it would have provided higher volume of data for the investigations, given the better response rates would be received. This could give higher level of reliability and validity to the future developed frameworks, using a good foundation this research has already established. Future researches can also be benefited from the research methodological approach adopted by this research i.e. the design of research instrument (interview) as guidance for their investigations.

A case study based on a close cooperation along side CRM user companies through their CRM journey is considered to be a very interesting possibility for the future research. A potential case study company for this plan has been identified: a

voluntary offer to be a studied case was made by a participating company during the interview stage of this research. This company had just acquired a new CRM system and was about to implement the software at the time of the interview. Due to the time constraint and the timescale determined for this research, this possible plan for further investigation was not able to be conducted. It would, therefore, be very useful for the future research to work along side the case study company through out their CRM project i.e. from acquiring the CRM software through to the implementation of the system till the systems go live and then investigate the performance assessment process using the framework developed from this study. It would also be beneficial in providing additional insights into the practicality of the developed framework. This however, does not mean that the developed framework would be invalid, instead it would give an opportunity to improve aspects of the framework where relevant issue may possibly been overlooked. It could be argued there is always room for improvement after all.

It is clear that despite limitations within the research, the study has provided a firm foundation on which future investigations can be built upon. Findings from the study have also enabled new research avenues to be pursued in a wider scale or different context, generating potential contributions to existing knowledge.

6.6 Conclusions

This research has highlighted a significant issue concerning CRM performance measurement. It was found that many companies are unable to quantify their performance claims and there is little or no strong evidence that companies measure their CRM performance. It is therefore questionable in regard to the justification of

reported cases of CRM success and failure. Further literature evidence on the area of existing CRM performance measurement tools was critically reviewed. Overall the evidence points to the need for a simplified and realistic measurement tool that is based on what CRM user companies are actually doing or capable of doing regarding the assessment of CRM performance as a gap in knowledge.

Two stages of hierarchical empirical work were conducted as an approach to fill the identified knowledge gap: questionnaire survey and semi-structured interviews. The survey aimed to identify Key Performance Indicators (KPIs) adopted by companies and to also create a profile of CRM companies for the second stage. The interview stage aimed to gain insight into CRM performance measurement in order to aid the development of a practical and business-orientated CRM performance measurement framework. Results from the quantitative analysis of survey data revealed a number of KPIs adopted by companies including the profile of CRM users. The qualitative and quantitative analyses of interview data allowed a CRM performance measurement framework to be derived and developed.

The research findings and the developed CRM performance measurement framework have generated the following insights to existing knowledge:

The three new CRM performance assessment perspectives namely 'Outcome measures', 'Proactive Process measures' and 'Retroactive process measure' have emerged from the study as illustrated previously in Table 6.2. These perspectives are different to the existing performance measurement dimensions introduced within the existing literature i.e. competitiveness, financial, quality, flexibility and customer-

focused. Although performance indicators of the new perspectives i.e. important KPIs are based on the existing performance measurement dimensions, relationships exist among the three new perspectives within the developed framework provide in-depth understanding to be obtained when measuring CRM performance which is lacking among existing performance dimensions.

Additionally, the developed framework also allows the assessment approach to be more proactive using the proactive measures introduced from the study. This enables any problems occurring within the business processes to be detected and acted upon effectively and timely.

The close relationships between process and outcome measures have also introduced a new shift in a focus in regard to CRM performance assessment. It was recommended the primary focus should be placed upon assessing business processes effectively and not purely upon the financial outcome of the business in order to obtain the effective business outcome.

In regard to the theoretical implications, the findings have provided clarifications to the issues of CRM performance measurement which have been relatively under-researched to date. The study critically reviewed existing CRM performance measurement tools and concluded that much work has been carried out to try and establish standards of measurement for CRM systems. Yet disappointment with CRM performance remains extremely high within companies. It has been discovered that existing measurement tools were developed from the idea of what companies are expected or supposed to be doing regarding CRM performance assessment rather

than what companies are actually doing or capable of doing. This has suggested that a simplified, clearly understood approach is needed and a rational approach to achieving this would be to identify what companies are actually doing successfully and then see if such activities may usefully be modelled. As a result, a realistic CRM performance measurement framework was then derived and developed from the research.

The research has recognised and addressed an important issue regarding the accuracy of CRM market growth predictions. Literature search suggested that there was no information available on the variations between the actual market size and predictions produced by independent market research firms. A comparative analysis between actual market size and estimated market growth figures was conducted and the results showed considerable differences of these figures. It was concluded that CRM market growth could be influenced by such overestimated predictions and therefore advisable that the market growth forecasts should be used with caution.

The research also identified that a lack of information on CRM user profiles and statistics is a crucial issue that needs to be address in order to benefit potential future research within the subject area.

In terms of the managerial implications of the research, it was suggested that companies should not focus purely on the financial outcome of the business in regard to CRM performance assessment. The developed framework showed close relationships between process and outcome measures. It was then advised that companies should put their focus primarily on the process as effective measurement

of the process would result in the effective outcome. The developed model also suggested that companies should primarily assess proactive process measures and utilise retroactive measures as control variables. This allows companies to detect any problems occurred within their processes and react timely and effectively.

The findings regarding relationship between CRM understanding and success in CRM suggested that companies should be clear with their CRM understanding and align that to their CRM assessment criteria. According to the findings, it is advisable that companies should view CRM from a customer and IT perspectives i.e. trying to understand customers' needs and satisfying them using CRM technology as a tool rather than perceiving CRM purely as a strategy.

This research has identified a number of potential avenues for future research to be pursued, based upon a firm foundation the current study has produced and limitations within the study. The research suggested a future study on the identification of total population of CRM user companies either by industry, size or region. This would be potentially useful for representative and better targeted selection of samples for future studies in the subject area. It was recommended that a similar study conducted by industry or a wider scale of or a different context to this work would be an interesting investigation into the development of different frameworks that are built upon the developed framework of current research.

Another possible avenue for future research is a case study based on a close cooperation along side a CRM user organisation through their implementation of CRM project. This includes the point where the CRM system is acquired through to

the implementation of the system and till the system become active within the organisation. It is very interesting to investigate the performance assessment process using the framework developed from this study. It is believed to generate additional insights into the practicality of the developed framework and relevant issues. The potential case study has already been identified during the interview stage upon a voluntary basis.

A vital and critical issue regarding CRM performance measurement, which has been under-researched, was addressed and clarified within this study. This research has highlighted a significant issue concerning CRM performance measurement including other issues relevant to the CRM industry and commerce. The findings from the research have generated novel insights contributing to the existing knowledge i.e. a realistic CRM performance measurement framework and a new proactive approach to performance assessment for CRM. This research has also suggested potential future research and enabled other avenues to be pursued which can be built upon a firm foundation this study has provided. Thereby, this research generated a novel solution and made a contribution to the existing body of knowledge.

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Appendix I

1. 1: Preliminary Questionnaire Survey Form

University of Hertfordshire

This survey is being undertaken as part of a research programme designed to examine the performance of Customer Relationship Marketing Techniques in UK industry and commerce.
Note: The contents of this form are absolutely confidential. Information identifying respondents will not be disclosed under any circumstances.

INSTRUCTION: Please fill in the blanks or tick the appropriate box.

1. Company Name: _____

2. Contact Details:-
   Name: _____ Position Held: _____
   Address: _____
   _____
   Tel: _____ Fax: _____ Email: _____

3. Type of Business: _____ SIC Code: (if known) _____

4. What is your company size?

   By Turnover:-
   [ ] Under £2.8 millions [ ] £2.8 millions to £11.2 millions [ ] Over £11.2 millions

   By Number of Employees:
   [ ] Under 50 [ ] Between 50 and 250 [ ] Over 250

5. Does your company carry out any of the following activities?

	Yes	No	Don't know
▪ Customer Satisfaction Survey	[ ]	[ ]	[ ]
▪ Sales Order Processing	[ ]	[ ]	[ ]
▪ Customer Database Management	[ ]	[ ]	[ ]
▪ Sales Lead Tracking	[ ]	[ ]	[ ]
▪ Customer Data-driven Forecasting	[ ]	[ ]	[ ]
▪ Data Mining	[ ]	[ ]	[ ]
▪ Call Centre and Services (e.g. email response system)	[ ]	[ ]	[ ]
▪ On-line/Off-line Customer Interactive Services	[ ]	[ ]	[ ]
▪ Loyalty Scheme	[ ]	[ ]	[ ]
▪ Order Status and Tracking	[ ]	[ ]	[ ]
▪ Customer Contract Management (e.g. billing , credit limits)	[ ]	[ ]	[ ]
▪ Other (Please specify)_____			

6. Does your company use any recognised Customer Relationship Management (CRM) or similar software?

   [ ] Yes (Go to Question 7)

   [ ] No (*Thank you for your cooperation! Please return the questionnaire*)

7. Who is your CRM vendor? _____

8. What does your company use CRM software for?
   _____

9. How long have you had your CRM software? _____Year(s)

10. Please select your overall level of satisfaction with your CRM software.

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Thank you for your cooperation! Please return the questionnaire.

Contact Details: **Miss Siriphan (Pam) Wangstitstaporn (Researcher/Part-time tutor)**
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Hatfield, Hertfordshire AL10 9AB
Tel: 01707 285570 Mobile: 07967 612590
Email: s.wangstitstaporn@herts.ac.uk

Appendix II

2.1: Definitions by Author in a Context of Four Common CRM Perspectives

CRM Perspective	Authors	Year	CRM Definitions
Technology Perspective	Boon, et al.	2002	CRM is about requirements engineering that involves all the activities of analysis, discovery, design, maintenance and documentation in information system project.
	Goldenberg	2002	CRM is an enterprise integration of sales, time management, marketing (including telemarketing and e-marketing), customer interaction, business intelligence, electronic business, field service support, multi-modal access, and information sharing systems.
	Nelson	2003	…the benefit of technology and data intelligence to help manage customer relationships on a larger scale. We call it CRM.
	Xu, et al.	2002	CRM is an information industry term for methodologies, software and usually Internet capabilities that help an enterprise manage customer relationships in an organised way.
Customer Perspective	Adebanjo	2003	CRM is defined as a management approach that enables organisations to identify, attract and increase retention of profitable customers, by managing relationships with them.
	Bradshaw and Brash	2001	CRM can be defined as the management approach that involves identifying attracting, developing and maintaining successful customer relationships over time in order to increase retention of profitable customers.
	Cade and Almas	2002	CRM can be defined as company's activities related to increasing the customer base by acquiring new customers and meeting the needs of the existing customers.
	Chavda, et al.	2001	Customer Relationship Management (CRM) encompasses several areas, including customer retention, increasing sales to existing customers, understanding customer needs, improving customer satisfaction, and building long-term customer relationships.
	Light	2003	It is impossible to ignore the striking similarities between CRM and relationship marketing which based on the idea that the happier a customer is with a relationship, then the greater the likelihood they will stay with an organisation.
	Lindgreen	2004	Customer Relationship Management (CRM) can conveniently be viewed as that part of Relationship Marketing (RM) that is concerned with managing customer relationships.
	Mathur, et al.	2002	CRM is an industry with a high annual growth rate and is an inevitable response to the increasing customer-centric approach of business organisations. CRM helps collaborating and interacting with the customers to understand their needs and continually innovate on products and services.
Strategy Perspective	Chin, et al.	2003	CRM is of vital importance to organisations and requires business approach to support effective marketing, sales and services processes.
	Deck	2003	CRM is a strategy used to learn more about customers' needs and behaviours in order to develop stronger relationships with them.
	Doshi	2004	CRM is first and foremost a strategy and corporate philosophy that provides 360-degree view of customer and integrate all necessary information about the customer.
	Hannigan	2002	CRM is about building the process that fosters longer, more profitable customer relationships.

	Peelen	2005	CRM is a business strategy...it affects the organisation as a whole, the CRM strategy will have to provide direction to each department or employee that maintains contact with customers.
	Stone, et al.	2003	CRM is a continuous process of strengthening customer relationships by providing products, services and delivery systems that more closely match customers' changing needs.
	Suresh	2002	Customer Relationship Management (CRM) is a process by which a company maximises customer information in an effort to increase loyalty and retain customers' business over their lifetimes.
	Swift	2001	CRM is a process designed to collect data related to customers, to grasp features of customers, and apply those qualities in specific marketing activities.
	Verhoef and Langerak	2002	CRM is a managerial process that focuses on the development and maintenance of relationships with individual customers.
Combined Perspective	Bailey	2003	Customer Relationship Management has been defined as a business approach that integrates people, process and technology to maximise relationships with all customers.
	Bose	2002	CRM is an integration of technologies and business processes used to satisfy the needs of a customer during any given interaction.
	Brooke and Suntook	2002	CRM has tended to be defined in terms of IT systems and processes relating to the mechanics of supplier-customer communications and transactions.
	Burghard and Galimi	2000	Customer relationship Management (CRM) is an innovation encompassing methodologies, software and usually internet capabilities combined with a customer-focused strategy designed to optimise profitability, revenue and customer satisfaction.
	Chan	2005	Analytical CRM creates customer intelligence that enhances future customer operations... Operational CRM on the other hand, captures vital data required for the analytic processes.
	Chen and Popovich	2003	Customer Relationship Management (CRM) is a combination of people, processes and technology that seeks to understand a company's customers.
	Curry and Kkolou	2004	CRM is a customer focused business strategy that is designed to keep customers and prevent the competition gaining them.
	Davenport, et al.	2001	CRM is defined as all the tools, technologies and procedures to manage, improve, or facilitate sales, support and related interactions with customers, prospects, and business partner throughout the enterprise.
	Liehr	2002	Transactional CRM deals with the optimisation of customer interaction processes, involving issues such as integration of customer touch points and collection of customer data. The data collected through transactional CRM are analysed through analytical CRM to obtain insight, which will be used to refine business processes in the transactional CRM.
	McKenzie	2001	CRM is a combination of strategy and information systems aimed at focusing attention on customers in order to serve them better.
	Meltzer	2003	Customer relationship management represents both strategic and tactical application of people, processes and technologies to retain, gain, grow, enhance and improve relationship and transaction experience with actual and potential customers for profit to all parties involved.
	Smock and Watkins	2002	Customer Relationship Management is a set of tools that enable companies to enhance levels of customer interaction, service and customer data flow. Strategically, it is a customer-focused business plan designed to optimise profitability, revenue and customer satisfaction

2.2: A list of CRM Solutions by Vendor (Girishankar, 2000)

Customer-Relationship Management Solutions

Vendor	Product	Price	Application type	Solution	Functions
Applix 800-827-7549 www.applix.com	Applix iEnterprise	$64,995	Front office, Web	Packaged, component, custom	Product management, Web and field sales, field services, partner collaboration, marketing automation, customer service and support, ERP
Aspect Communications 800-226-8441 www.aspect.com	Aspect Customer Relationship Portal	Contact vendor	Web	Packaged	Partner collaboration, marketing automation, customer service and support, ERP
Baan 703-471-6785 www.baan.com	BaanFrontOffice Direct	Contact vendor	Front office, Web	Packaged, component, custom	Product management, Web and field sales, field services, marketing automation, customer service and support, ERP
Broadbase Software 650-614-8300 www.broadbase.com	Broadbase E-Business Application Suite	Contact vendor	Front office, Web	Packaged	Marketing automation, customer support
Business Resource Software 800-423-1226 www.brs-inc.com	Insight for Sales Strategy	$129.95 per user	Back office	Packaged	Web and field sales, marketing automation
Cable & Wireless 800-486-8686 www.cwusa.com	WebReady	$2,000 per month	Front office, back office	Packaged	Product management, Web sales, partner collaboration, marketing automation, customer service
Cisco Systems 408-526-4000 www.cisco.com	Cisco eMail Manager	$1,500 per seat	Web	Packaged, ASP	Web sales, customer service and support
Clarify 888-252-7439 www.clarify.com	Clarify eFront Office	Contact vendor	Front office	Packaged, component, custom, ASP	Web and field sales, field services, marketing automation, customer services, customer support
CustomerCast 650-314-2300 www.customercast.com	SalCast	$15,000 and up	Web	Custom, ASP	Customer service and support
	AccountCast	$15,000 and up	Web	Custom, ASP	Field sales, customer service and support
	SupportCast	$15,000 and up	Web	Custom, ASP	Customer service and support
eHNC 877-755-7562 www.ehnc.com	Select Response	Contact vendor	Back office	Packaged, custom, ASP	Customer service and support
Epiphany 877-764-4163 www.epiphany.com	Epiphany E4 System	$250,000 and up	Front office	Packaged, custom, ASP	Marketing automation, customer service
Epicor Software 888-937-4267 www.epicor.com	Epicor eFront Office powered by Clientele	$2,100 and up per user	Front office	Packaged	Web and field sales, marketing automation, customer service and support
Firstwave Technologies 800-540-6061 www.firstwave.net	Firstwave eRM	$1,000 to $1,300 per user	Front office, Web	Packaged, custom, ASP	Product management, Web and field sales, partner collaboration, marketing automation, customer service and support
Great Plains Software 800-456-0025 www.greatplains.com	Great Plains Siebel Front Office	Contact vendor	Front office, back office, Web	Packaged, component, ASP	Web and field sales, field services, partner collaboration, marketing automation, customer service and support, ERP
HNC Software 800-462-3977 www.hnc.com	Capstone CRM Decision Platform	Contact vendor	Back office	Custom	Web sales, marketing automation, customer service
IBM 800-426-4968 www.ibm.com/e-business/crm	IBM CRM Solutions	Contact vendor	Front office, back office, Web	Custom, ASP	Web and field sales, field services, marketing automation, customer service and support

Customer-Relationship Management Solutions (continued)

Vendor	Product	Price	Application type	Solution	Functions
Hyperion Solutions 800-286-8000 www.hyperion.com	Hyperion CRM Analysis Suite	Contact vendor	*Front office*	*Packaged*	*Product management, Web and field sales, field services, marketing automation, customer service and support, analysis*
	Hyperion Essbase OLAP Server	Contact Vendor	Front office	Custom	Product management, Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support, ERP
I2 Technologies 800-800-3288 www.i2.com	Rhythm Customer Management	Contact vendor	Front office, back office, Web	Packaged, component, custom, ASP	Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support
Kana Communications 877-480-5262 www.kana.com	Kana 5	Contact vendor	Front office, Web	Packaged, ASP	Web sales, marketing automation, customer service and support
Lawson Software 800-477-1357 www.lawson.com	Relationship Management Solutions	$50,000 for base server, plus $1,500 per named user	Front office, back office, Web	Packaged, component, custom, ASP	Product management, Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support, ERP
Lucent Technologies 877-367-2761 www.lucent.com/crm	CRM Central 2000	Contact vendor	Front office, back office, Web	Packaged, component, custom	Customer service and support
Multiactive Software 800-804-6299 www.multiactive.com	Entice	$25,000 for 10-user license, $1,000 per seat for additional users	Front office, Web	Packaged, custom	Web and field sales, field services, partner collaboration, marketing automation, customer service and support
Octane Software 877-462-8263 www.octane.com	Octane 2000	$2,500 and up per user	Front office, Web	Packaged, ASP	Web and field sales, partner collaboration, marketing automation, customer service and support
Onyx Software 888-275-6699 www.onyx.com	Onyx Front Office 2000	Contact vendor	Front office, Web	Packaged, custom, ASP	Product management, Web and field sales, field services, partner collaboration, marketing automation, customer service and support
Oracle 800-672-2531 www.oracle.com/applications/ebusiness.html	Oracle E-business suite/CRM	Contact vendor	Front office, back office, Web	Packaged	Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support, ERP
PeopleSoft 800-380-7638 www.peoplesoft.com	Vantive enterprise	Contact vendor	Front office, Web	Packaged	Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support
Pivotal 877-748-6825 www.pivotal.com	Pivotal eRelationship 2000	Contact vendor	Front office, Web	Packaged, custom	Product management, Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support
Quintus 800-337-8941 www.quintus.com	eContact	Contact vendor	Front office, Web	Packaged	Customer service
Remedy 650-903-5200 www.remedy.com	Remedy Sales Continuum	$9,500 for application server, $5,500 for CRM server, one per site, includes 3 licenses	Front office	Packaged custom, ASP	Product management, Web and field sales, field services, marketing automation, customer service and support

Customer-Relationship Management Solutions (continued)

Vendor	Product	Price	Application type	Solution	Functions
Remedy (continued)	Remedy Quality Management	$15,000: $9,500 for application server, $5,500 for CRM server, one per site, includes 3 licenses	Front office	Packaged, custom, ASP	Product management, Web and field sales, field services, customer service and support
	Remedy Leads Management	$15,000: $9,500 for application server, $5,500 for CRM server, one per site, includes 3 licenses	Front office	Packaged custom, support, ASP	Product management, Web and field sales, field services, partner collaboration, customer service and support
	Remedy Customer Support	$15,000: $9,500 for application server, $5,500 for CRM server, one per site, includes 3 licenses	Front office	Packaged, custom, support, ASP	Product management, Web and field sales, field services, customer service
SalesLogix 800-643-6400 www.saleslogix.com	Interact	$19.95 and up per user	Front office, Web	Packaged, component, custom, ASP	Product management, Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support
	SalesLogix 2000	$3,995 to $14,995 for server, $595 to $995 for each named user	Front office, Web	Packaged, component, custom, ASP	Web and field sales, field services, partner collaboration, marketing automation, customer service and support
	Act 2000	$199 per user	Front office, Web	Packaged, component, custom, ASP	Web and field sales, field services
SAP 800-872-1727 www.sap.com	Customer-relationship management with mySAP.com	Contact vendor	Front office, back office, Web	Packaged, component, ASP	Product management, Web and field sales, field services, partner collaboration, marketing management, customer service and support, ERP
Saratoga Systems 877-272-7286 www.saratoga systems.com	Avenue	Contact vendor	Front office, Web	Packaged, component, custom	Web and field sales, field services, partner collaboration, marketing automation, customer service and support
Siebel Systems 800-647-4300 www.siebel.com	Siebel ebusiness Solutions	Contact vendor	Front office, Web	Packaged, custom, ASP	Product management, Web and field sales, field services, partner collaboration, marketing automation, customer service and support, ERP
Silknet Software 603-625-0070 www.silknet.com	Silknet eBusiness Experience	$400,000	Front office, back office	Packaged, component, custom	Marketing automation, customer service and support
Tenuteq International 800-793-6642 www.tenuteq.com	eRelationship	$1,750 per seat	Front office, back office, Web	Packaged, custom	Product management, Web and field sales, field services, partner collaboration, brand management, marketing automation, customer service and support, ERP
Trilogy Software 888-687-4549 www.trilogy.com	MultiChannel Commerce 2.1	Contact vendor	Front office, back office, Web	Packaged, component, custom, ASP	Product management, Web and field sales, field services, partner collaboration, marketing automation, customer service and support
UpShot.com 888-700-8774 www.upshot.com	UpShot.com	Free for first 5 users per business, $29.95 per user per month for additional users	Web	Packaged, custom, ASP	Web and field sales, partner collaboration, marketing automation, customer service and support
YouCentric 800-275-4314 www.youcentric.com	YouCentric 3.0	$2,000 per seat	Front office, Web	Component, custom	Product management, field sales, partner collaboration, marketing automation, customer service and support, ERP

DATA: INFORMATIONWEEK

2.3 CRM Implementation Models and Best Practices

2.3.1 Best Practices for CRM Implementation

According to Gamble et al (2003), implementing CRM is considered to involve several independent projects carried out in parallel under a programme management. Such a programme provides an implementation framework for the whole range of business strategies and initiatives of multiple projects. In regard to the implementation process, a typical programme begins with a strategic plan to be defined at board level. The plan will require changes to business culture, organisation, skills, processes, systems, technology and infrastructure. The programme is characterised by long implementation periods (usually more than 5 years) and suggested that it should be implemented in stages. This is supported by Zikmund et al (2003) who proposed a phased development approach for CRM implementation. Each stage must give measurable and deliverable outcomes contributing to the overall goal. There should be a consistent framework for business processes for co-ordination between projects. Projects should be prioritised for shared/scarce resources. A defined common architecture for applications, data, and technology across projects should be established. Lastly, the programme requires excellent communications and commitment to the long-term goal by everyone involved in the projects (Gamble et al, 2003).

There are a number of practitioners who suggested typical steps for successful implementation of CRM: According to Syspro (2002), typical steps for successful CRM implementation are as follows:

- Define Implementation Strategy
- Prioritise the business areas that need to be addressed
- Re-engineer the business processes for these business areas
- Model the processes to ensure operational effectiveness
- Train people
- Deploy the application
- Validate the implementation and strategy
- Periodically review and tweak to meet any changing requirements of the company and strategy.

McCabe (2005) suggested nine steps for successful CRM implementation as follows:

- Develop corporate-wide CRM engagement from key stakeholders
- Envision the company's CRM strategy
- Determine and prioritise CRM drivers and requirements
- Develop a CRM roadmap (key processes)
- Think integration (of CRM and other application systems)
- Do your homework and create a sort list (of potential CRM vendors)
- Apply 80-20 rule in the selection process
- Keep everyone in the loop
- Learn, adjust and evolve

Microsoft (2005) introduced implementation planning process which involves the following four key steps:

- Planning
    - Defining the strategy
    - Identifying the implementation team
    - Creating a schedule
    - Analysing business processes
    - Identifying technology requirements
    - Identifying training and ongoing support requirements
- Development
    - Setting up and testing the system
    - Importing data
    - Integrating the CRM system with existing systems
- Deployment
- Post-deployment (review and control)

2.3.2 CRM Implementation Models

Chen and Popovich (2003) proposed a CRM implementation model based on three key elements; people, process and technology. The model is set within the context of an enterprise-wide, customer-focused, technology-integrated, cross-functional organisation (Figure A2-1). Within the framework, the focus is placed heavily on the three key elements namely, people, process and technology. The authors discussed the importance of management commitment and organisational culture change in the people element. Business process changes and their impacts are pointed out in the process element. CRM technology evolution and advances in the information technology factor are discussed in the technology element.

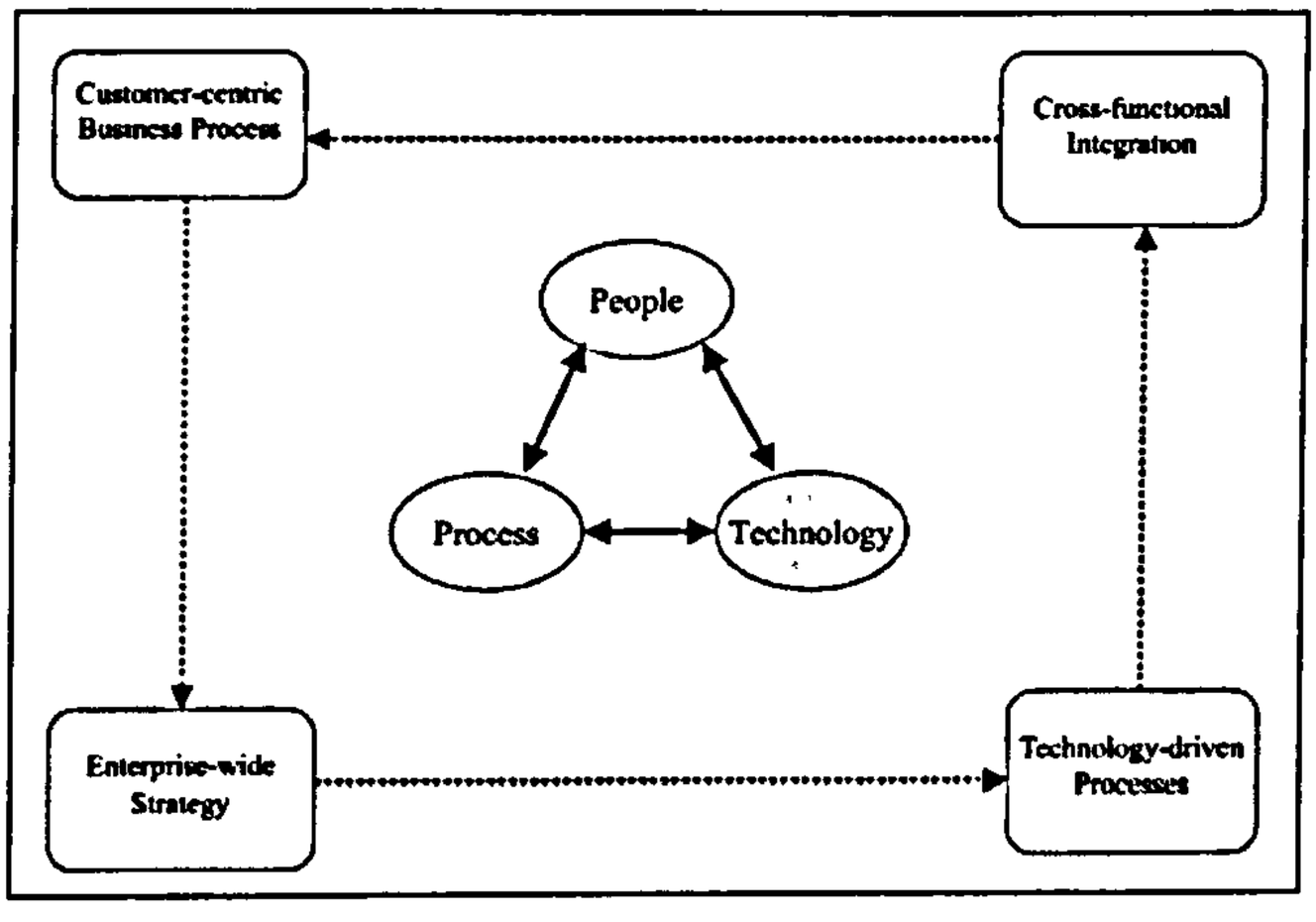

Figure A2-1
A CRM Implementation Model
Source: Chen and Popovich, 2003, p. 676

Another CRM implementation model created by Lindgreen (2004) as illustrated in Figure A2-2 consists of the following aspects:

- Commitment of senior management
- Situation report
- Analysis of the organisation
- Strategy formulation
- Implementation
- Loyalty building processes
- Management development
- Employee involvement

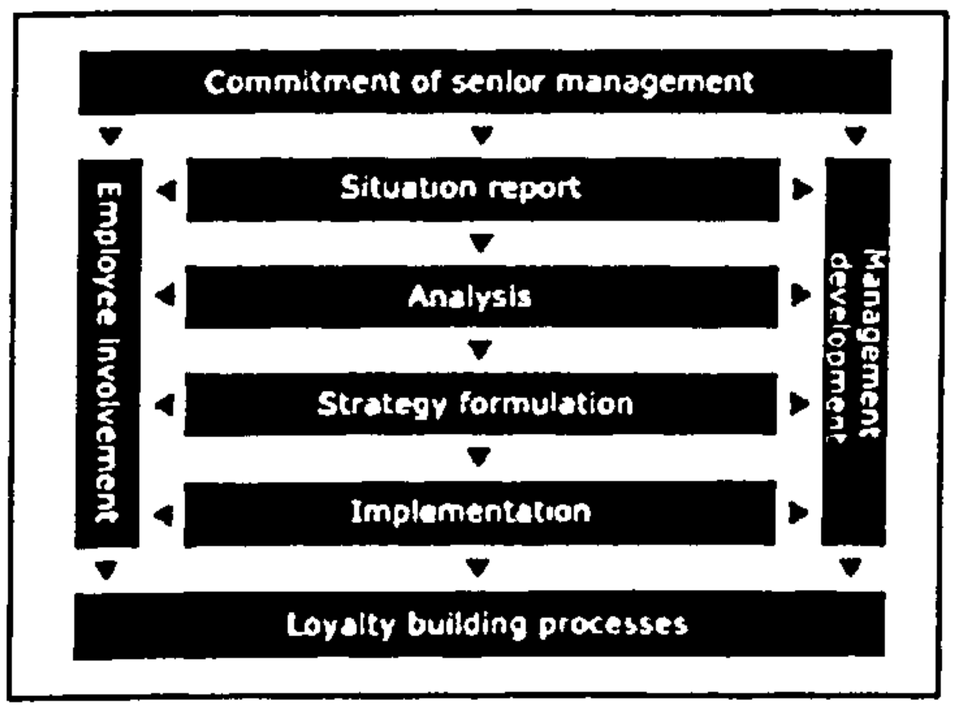

Figure A2-2
CRM Implementation Model
Source: Lindgreen, 2004, p.163

Another study was conducted by The IRIS Group at the Univeritat Jaume I, Spain who had been working on a project titled 'CRM-Iris Methodology' since 2000. They aimed to develop formal

methods that guide the process of CRM system implementation (Chalmeta, 2006). The proposed framework (Figure A2-3) for developing and implementing a CRM system using the CRM-Iris methodology consists of the following aspects as the implementation processes:

- Project management and prerequisites
- Definition of the company's organisational framework
- Definition of a customer strategy
- Designing a customer relationship assessment system
- Process map
- Human resources organisation and management
- Construction of the information system
- Implementation
- Monitoring

It is worth mentioning that implementation activities as shown in Figure A2-3, according to the proposed framework are neither independent of one another nor to be carried out sequentially.

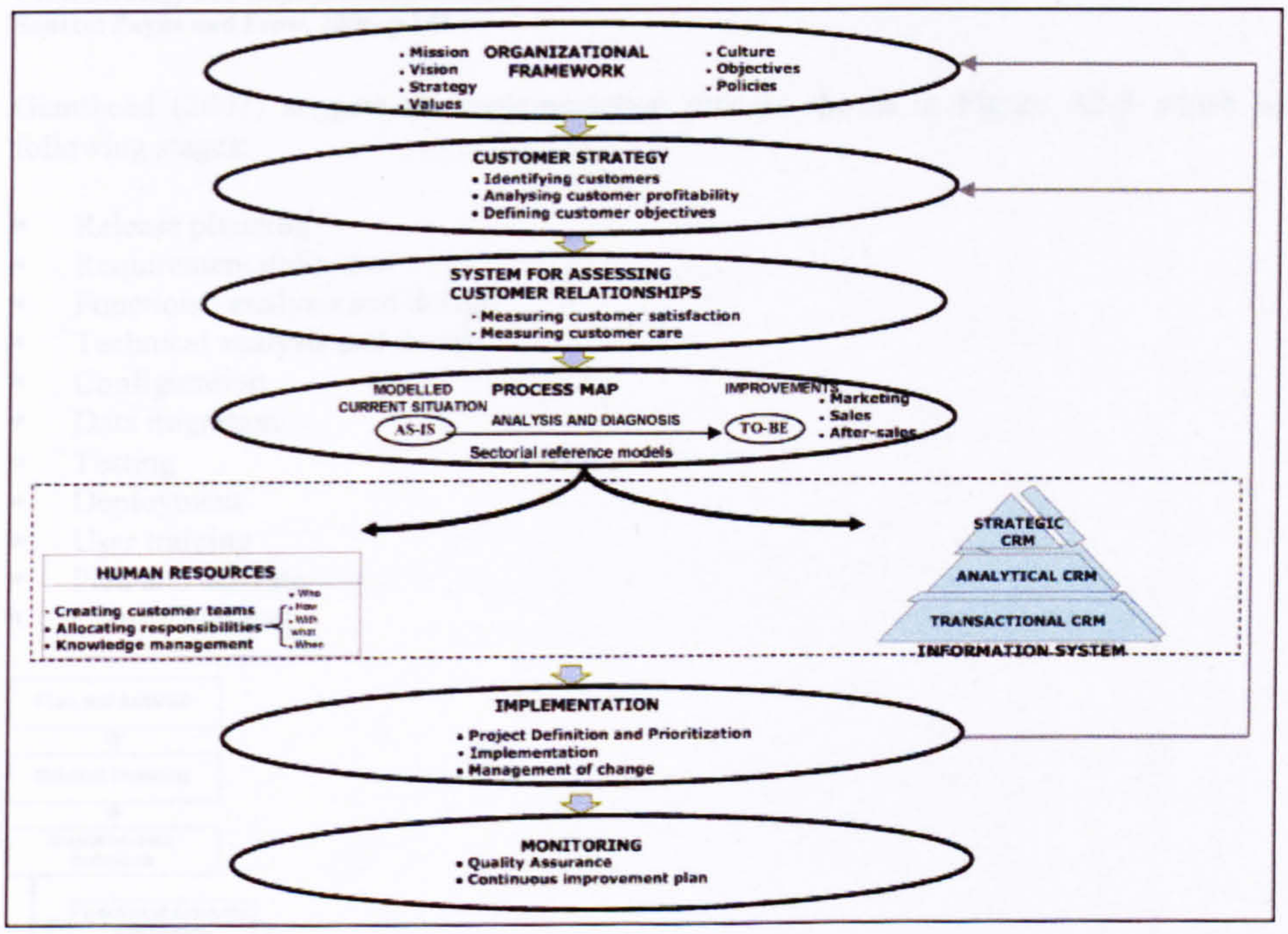

Figure A2-3
CRM-Iris Methodology - CRM Implementation Model
Source: Chalmeta, 2006, p.1018

Payne and Frow (2006) created a CRM strategy and Implementation model which consists of two main components: key CRM implementation elements and core cross-functional CRM processes. They identified four critical factors for successful implementation of CRM as follows: 'CRM readiness assessment', 'CRM change management', 'CRM project management' and 'Employee engagement'. These four key elements are integrated with the five core processes namely Strategy development, Value creation, Multi-channel integration, Information management and Performance assessment (Figure A2-4). Each process within the implementation model is not linear therefore many of the activities within the model need to be managed simultaneously. In most cases, some elements may need to be revisited as a consequence of later activities.

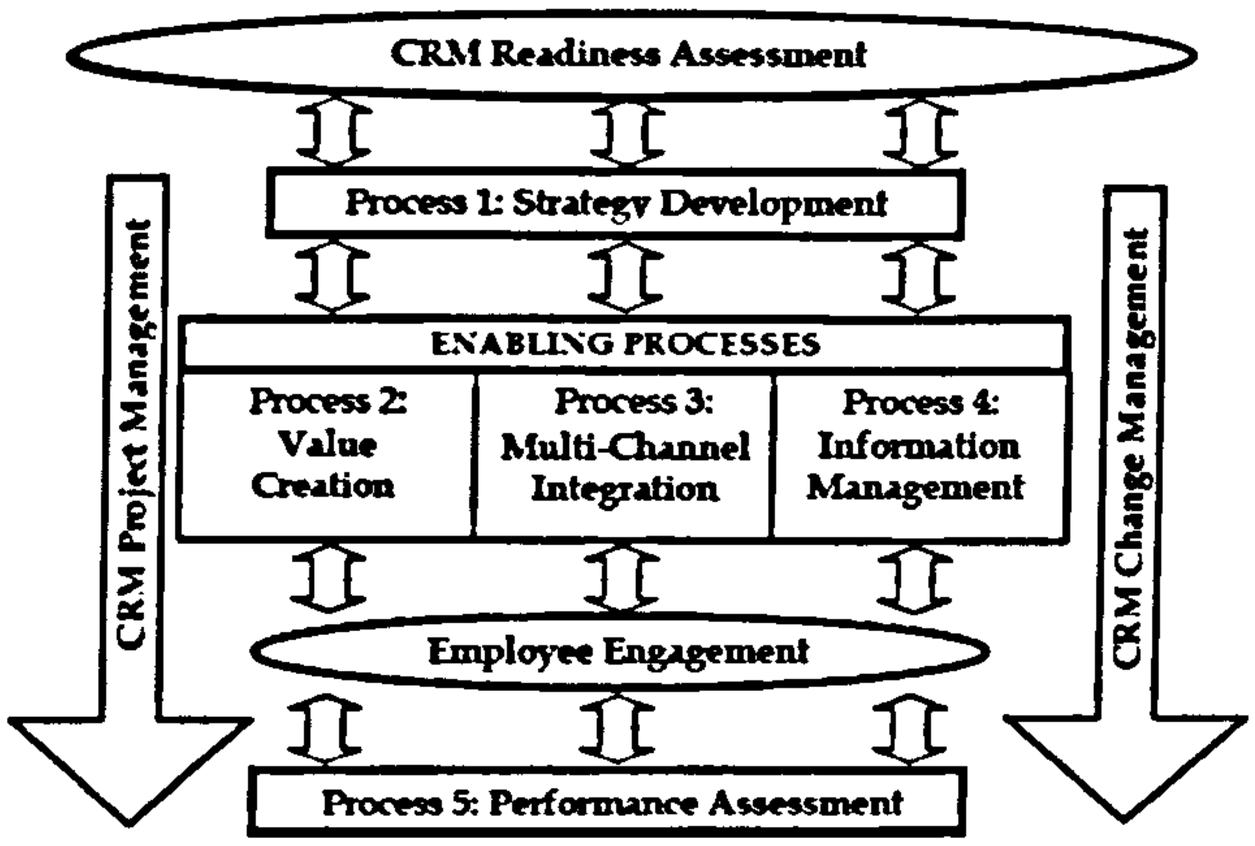

Figure A2-4
CRM Strategy and Implementation Model
Source: Payne and Frow, 2006, p.143

Gantthead (2007) suggest an implementation process shown in Figure A2-5 which includes the following stages:

- Release planning
- Requirement definition
- Functional analysis and design
- Technical analysis and design
- Configuration
- Data migration
- Testing
- Deployment
- User training
- Plan and activate
- Control and end

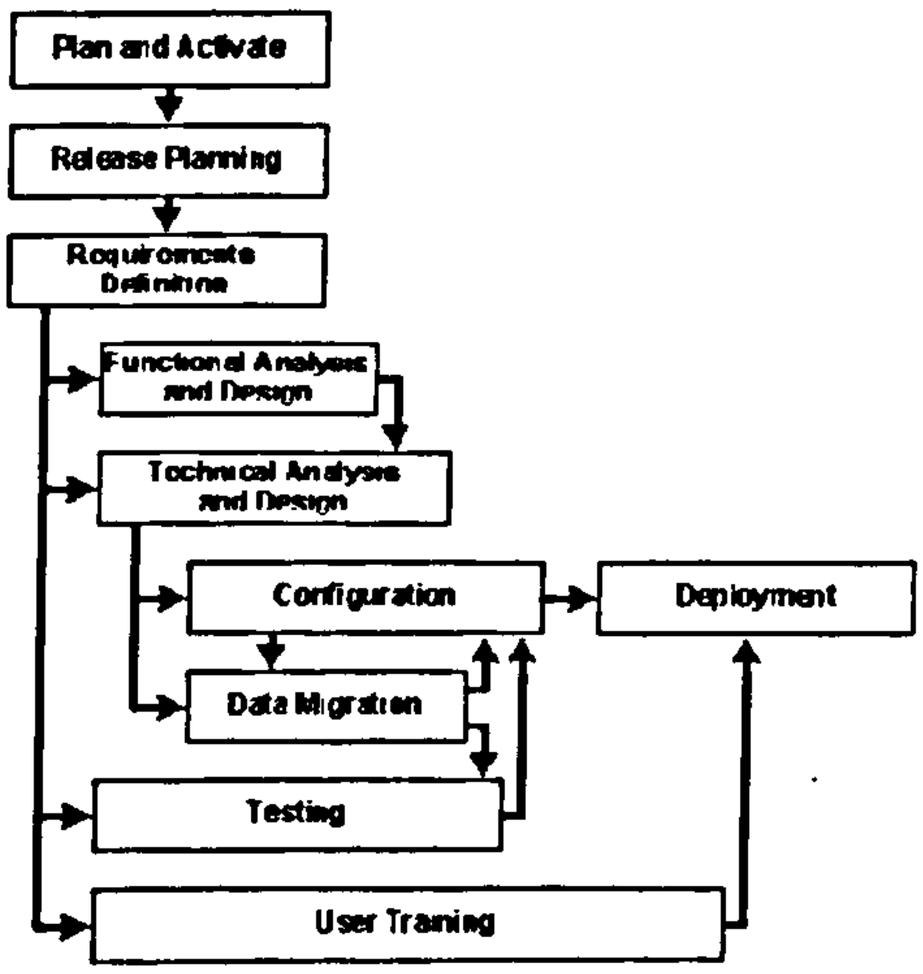

Figure A2-5
CRM implementation Process Diagram
Source: Gantthead, 2007

A rather recent study by Osarenkhoe and Bennani (2007) proposed an integrative framework for implementing a CRM strategy. The key notion of the framework is that it addresses not only technological aspects of the performance-boosting strategy but also the cognitive behavioural elements. They believe that the behavioural aspect is the contributing key to a successful CRM implementation. The model basically consists of three main steps (Figure A2-6):

- ***Step 1: Analysis***
  This first step involves the analysis of relationship management tradition or historical background of relationship marketing. This is to identify key components which are regarded as important to the implementation of a customer-focused strategy.

- ***Step 2: Strategy Formulation & Selection***
  In this step, the identified key components from step one are then used as a basis to analyse the current situation of a company and a CRM strategy is then derived as a result. The content of the CRM strategy includes the following six criteria: 'Emphasis on quality', 'Customer satisfaction & customer services', 'Invest in people', 'Dialogue with customers', 'Realistic goals & performance assessment' and 'Relationship-based interface'.

- ***Step 3: Strategy Implementation***
  In the last step of the framework, the '5-S' concept (i.e. Staff, Style, Structure, Systems and Schemes) is then introduced. The key aim of this 5-S concept is to relate the strategy formulated in step two to the implementation of social and structural ties in the relationship, in other words, by integrating people, organisational systems and processes together.

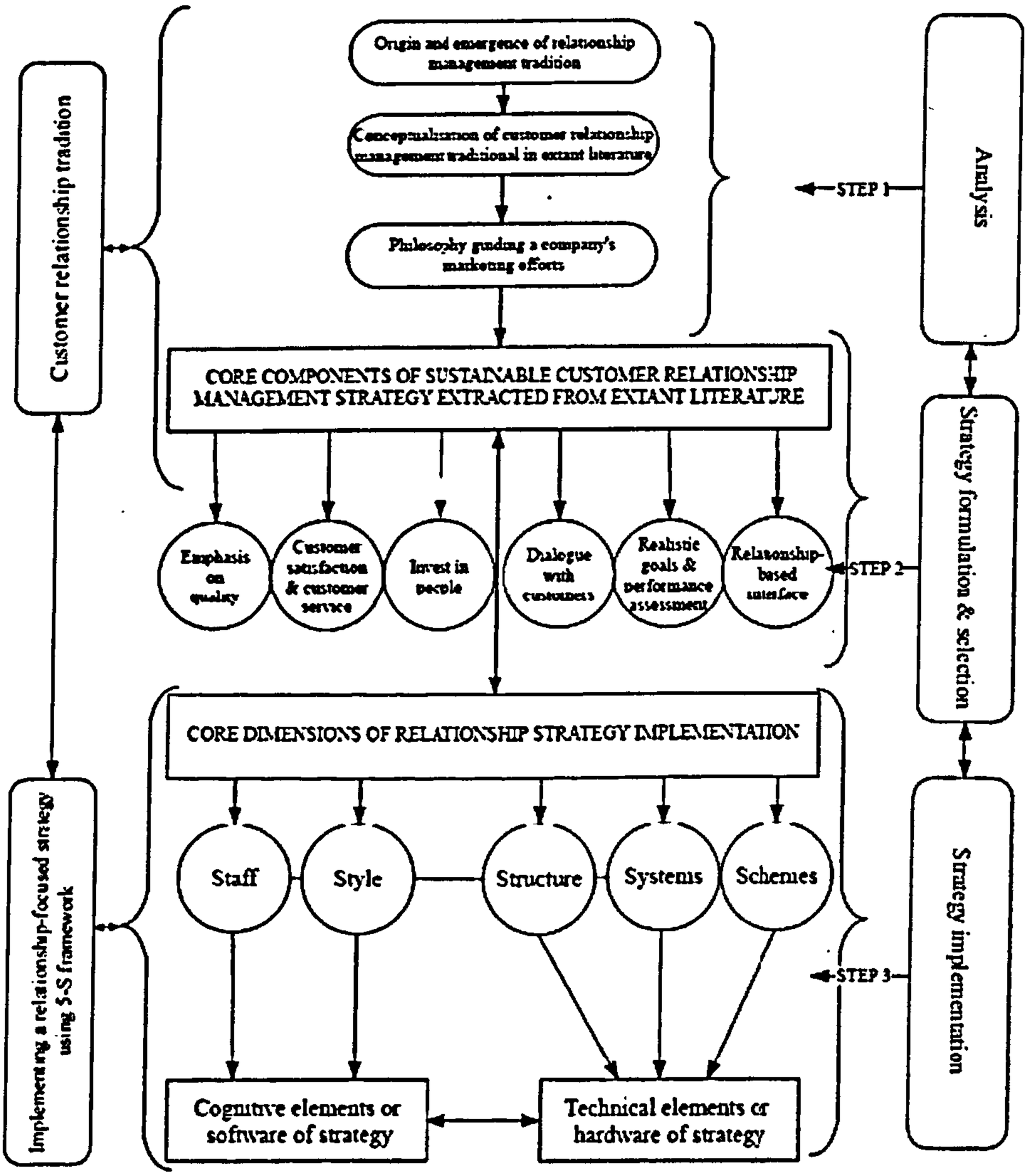

Figure A2-6
An Integrative Framework for Implementing CRM Strategy
Source: Osarenkhoe and Bennani, 2007, p. 142

2.4: Identified Causes of CRM Failure by Author in a context of CRM Mistake Perspectives

CRM Mistake Perspectives	No.	Causes of CRM Failure	Authors
Strategy	1	Lack of executive sponsorship/ commitment	Amerongen, 2003; Bailey, 2003; Bass, 2000; Bland, 2003; Bull, 2003; Chalmeta, 2006; Chen and Popovich, 2003; Chin et al, 2003; Compton, 2004a; Compton, 2004b; Doshi, 2004; Forsyth, 2003; Gentle, 2002; Langerak and Verhoef, 2003; Mahieu, 2002; Murtha, 2002; Myron, 2003; Newell, 2003; Nguyen et al, 2007; Patton, 2001; Pearce, 2002; PeopleSoft, 2002; Petersen, 2003; Picarille, 2002; Ray, 2003; Tanoury and Ireland, 2003; Trembly, 2002
	2	Ineffective Steering Committee	Tanoury and Ireland, 2003
	3	Lack of clear vision/ initiative/ realistic goals	Amerongen, 2003; Bailey, 2003; Bass, 2000; Bland, 2003; Bull, 2003; Callaghan, 2004; Chalmeta, 2006; Cholewka, 2002; Dodge, 2001; Glazer, 2004; Hannigan, 2002; Kaneshige, 2002a; Langerak and Verhoef, 2003; McKenzie, 2001; Myron, 2003; Newell, 2003; Outlaw, 2004; Patton, 2001; Pearce, 2002; PeopleSoft, 2002; Pettit and O'Connor, 2002; Ray, 2003; Scullin et al., 2002; Tanoury and Ireland, 2003; Taschek, 2001
	4	Poor Communication	Amerongen, 2003; Bland, 2003; Bull, 2003; Cambell, 2001; Chu and Pike, 2002; Deck, 2003; Goldenberg, 2004; Kaneshige, 2002b; Light, 2003; McKenzie, 2001; PeopleSoft, 2002; Tanoury and Ireland, 2003; Taschek, 2001
	5	Poorly defined business processes/Poor Planning	Amerongen, 2003; Booker, 2002; Chalmeta, 2006; Cholewka, 2002; Meltzer, 2003b; Murtha, 2002; Newell, 2003; Outlaw, 2004; Picarille, 2002; Scullin et al, 2002; Tanoury and Ireland, 2003; Taschek, 2001
	6	Poor change management	Amerongen, 2003; Bass, 2000; Bland, 2003; Booker, 2002; Boon et al, 2002; Burrows and Williams, 2001; Cade and Almas, 2002; Chalmeta, 2006; Chen and Popovich, 2003; Chin et al, 2003; Cholewka, 2002; Chu and Pike, 2002; Doshi, 2004; Gentle, 2002; Hall, 2003; Kaneshige, 2002b; Newell, 2003; Mahieu, 2002; Meltzer, 2003b; PeopleSoft, 2002; Petersen, 2003; Pettit and O'Connor, 2002; Ray, 2003; Schubert, 2004; Tanoury and Ireland, 2003; Trembly, 2002
	7	Lack of clear implementation scope	Amerongen, 2003; Gentle, 2002; Hannigan, 2002; Scullin et al, 2002; Tanoury and Ireland, 2003
	8	Poor training plan	Amerongen, 2003; Cholewka, 2002; Durand et al, 2003; Goldenberg, 2004; Hall, 2003; Mahieu, 2002; Newell, 2003; Patton, 2001; Pearce, 2002; Ray, 2003; Schubert, 2004; Tanoury and Ireland, 2003; Taschek, 2001; Trembly, 2002
	9	Lack of functional collaboration/ data sharing across enterprise/ integration with other systems	Amerongen, 2003; Bass, 2000; Boon et al, 2002; Bull, 2003; Chan, 2005; Chase, 2001; Chen and Popovich, 2003; Cholewka, 2002; DeWid, 2003; Doshi, 2004; Hall, 2003; Kestelyn 2003; Krass, 2003; Leon, 2001; Light, 2003; Mahieu, 2002; McKenzie, 2001; Myron, 2003; Newell, 2003; Outlaw, 2004; Pearce, 2002; PeopleSoft, 2002; Pettit and O'Connor, 2002; Ryals and Payne, 2001; Scullin et al, 2002; Syspro, 2002; Vellmure, 2003

	10	Sole focus on technology side	Amerongen, 2003; Bailey, 2003; Booker, 2002; Cade and Almas, 2002; Cambell, 2001; Chalmeta, 2006; Chu and Pike, 2002; Dodge, 2001; Dunne, 2002; Durand et al, 2003; Gentle, 2002; Krass, 2003; Langerak and Verhoef, 2003; Mahieu, 2002; Meltzer, 2003b Murtha, 2002; Newell, 2003; Pearce, 2002; Ray, 2003; Schubert, 2004; Simms, 2003; Syspro, 2002; Trembly, 2002; Weinberger, 2004
	11	Misaligning business processes with CRM strategies	Brohman et al, 2003; Bull, 2003; Chen and Popovich, 2003; Goldenberg, 2004; Hannigan, 2002; Langerak and Verhoef, 2003; Meltzer, 2003b; Myron, 2003; Nguyen et al., 2007; Outlaw, 2004; Ray, 2003; Young, 2003
	12	Insufficient measurement of marketing programmes	Ryals and Payne, 2001; Young, 2003
	13	Unrealistic Budget	Amerongen, 2003; Hannigan, 2002; Newell, 2003; Pettit and O'Connor, 2002; Ryals and Payne, 2001
	14	Driven from top down	Bailey, 2003
	15	Not targeting area of the highest adoption	Bailey, 2003; Durand et al, 2003
	16	Driven by IT rather than business leaders	Bailey, 2003
	17	No passion for customers (not a customer-focused organisation)	Chalmeta. 2006
	18	Not involving users in the design of CRM solution	Chalmeta, 2006; Gentle, 2002
	19	Failure to understand the benefits	Ryals and Payne, 2001
	20	Not having an approach to analytics	Chan, 2005
	21	Lack of organisation readiness for CRM	Gentle, 2002
People	22	Lack of CRM understanding & knowledge	Nguyen et al, 2007
	23	Lack of Management & Leadership skill	April and Harreld, 2002; Chin et al, 2003; Doshi, 2004; Nguyen et al, 2007; Petersen, 2003; Tanoury and Ireland, 2003
	24	Weak or inappropriate project staff/ CRM skills	Amerongen, 2003; Bull, 2003; Hannigan, 2002; Newell, 2003; Pettit and O'Connor, 2002; Ryals and Payne, 2001; Tanoury and Ireland, 2003; Taschek, 2001; Trembly, 2002
	25	Poor working conditions	Tanoury and Ireland, 2003
	26	Clashing team members, political conflict	Gentle, 2002; Newell, 2003; Tanoury and Ireland, 2003
	27	Unmanaged client expectations (over promising)	Tanoury and Ireland, 2003
	28	Employee resistance	Amerongen, 2003; Bull, 2003; Chen and Popovich, 2003; Cholewka, 2002; Dodge, 2001; McKenzie, 2001; Myron, 2003; Newell, 2003; Patton, 2001; Ray, 2003; Scullin et al, 2002; Syspro, 2002; Tanoury and Ireland, 2003

Process	29	Unrealistic schedule	Langerak and Verhoef, 2003; Tanoury and Ireland, 2003
	30	Poor project time frame	Tanoury and Ireland, 2003
	31	Poor design/Eliminate critical activities	Bass, 2000; Tanoury and Ireland, 2003
	32	Poor quality assurance & testing	Chase, 2001; Tanoury and Ireland, 2003
	33	Poor management control	Chase, 2001; Tanoury and Ireland, 2003
	34	Poor quality of data	Amerongen, 2003; Chalmeta, 2006; Gentle, 2002; Hannigan, 2002; Mahieu, 2002; Myron, 2003; Outlaw, 2004; Rich, 2004; Ryals and Payne, 2001
Product	35	Over customisation	Tanoury and Ireland, 2003
	36	Delivering everything at once	Myron, 2003; Tanoury and Ireland, 2003; Peoplesoft, 2002
	37	Sacred requirements (no link between critical success factors and best practice)	Tanoury and Ireland, 2003
	38	Sacred Processes (no link to benefit vs cost)	Pearce, 2002; Tanoury and Ireland, 2003
	39	Limited product vision	Bailey, 2003; Bass, 2000; Brown, 2001; Light, 2003; Newell, 2003; Tanoury and Ireland, 2003
	40	Too complicated user interface	Hall, 2003; McKenzie, 2001
	41	Difficult to integrate with existing systems	Hannigan, 2002; Mahieu, 2002
	42	Insufficient help from CRM vendors	Nguyen et al, 2007

Appendix III

3.1: Standard Industrial Classification: SIC (The Office of National Statistics: ONS, 2005)

Section	Subsection	Business Description	SIC
A		Agriculture, hunting, and forestry	01.XX
B		Fishing	05.XX
C		Mining and quarrying:-	
	CA	Mining and quarrying of energy producing materials	10.XX
	CB	Mining and quarrying except energy producing materials	13.XX
D		Manufacturing	
	DA	Manufacture of food products, beverages and tobacco	15.XX
	DB	Manufacture of textiles and textile products	17.XX
	DC	Manufacture of leather and leather products	19.XX
	DD	Manufacture of wood and wood products	20.XX
	DE	Manufacture of pulp, paper and paper products; publishing and printing	21.XX
	DF	Manufacture of coke, refined petroleum products and nuclear fuel	23.XX
	DG	Manufacture of chemicals, chemical products and man-made fibres	24.XX
	DH	Manufacture of rubber and plastic products	25.XX
	DI	Manufacture of other non-metallic mineral products	26.XX
	DJ	Manufacture of basic metals and fabricated metal products	27.XX
	DK	Manufacture of machinery and equipment not elsewhere classified	29.XX
	DL	Manufacture of electrical and optical equipment	30.XX
	DM	Manufacture of transport equipment	34.XX
	DN	Manufacture of not elsewhere classified	36.XX
E		Electricity, gas and water supply	40.XX
F		Construction	45.XX
G		Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods	50.XX
H		Hotels and restaurants	55.XX
I		Transport, storage and communication	60.XX
J		Financial intermediation	65.XX
K		Real estate, renting and business activities	70.XX
L		Public administration and defence; compulsory social security	75.XX
M		Education	80.XX
N		Health and social work	85.XX
O		Other community, social and personal service activities	90.XX
P		Private household, employing staff and undifferentiated product activities of households for own use	95.XX
Q		Extra-territorial organisations and bodies	99.XX

3.2: The Broad Industry Classification Groups (ONS, 2005)

Description	Section	Division
Agriculture	A and B	01/05
Production	C, D and E	10/41
Mining/quarrying & utilities	C and E	10/14, 40/41
Manufacturing	D	15/37
Construction	F	45
Motor trades	G	50
Wholesale	G	51
Retail	G	52
Hotels & catering	H	55
Transport	I	60/63
Post & telecommunications	I	64
Finance	J	65/67
Property	K	70/74
Education	M	80
Health	N	85
Public admin & other services	L, O, P and Q	75, 90/99

3.3: The Classification of Company Size (Department of Trade and Industry: DTI, 2004)

Size of Company	Annual Turnover	Number of Employees
Small	Under £2.8 million	Under 50
Medium	£2.8 - £11.2 million	50 – 249
Large	Over £11.2 million	250 and over

3 4: Number of Businesses in All Industries by Regions and Employment Size Band in 2005 (DTI, 2005)

Locations	Employment Size band							% proportion
	0 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	Total SMEs	
NORTH EAST	35,130	11,040	6,390	4,680	1,570	900	59,715	2.91%
NORTH WEST	129,585	33,325	18,825	13,740	4,575	2,555	202,605	9.87%
YORKSHIRE AND THE HUMBER	97,945	25,055	14,575	10,055	3,485	1,890	153,000	7.45%
EAST MIDLANDS	93,125	21,685	12,505	8,710	2,890	1,600	140,510	6.84%
WEST MIDLANDS	112,440	26,990	15,035	10,860	3,855	2,075	171,250	8.34%
EAST	138,015	29,500	16,320	11,030	3,795	2,035	200,690	9.77%
LONDON	211,075	42,880	24,115	15,675	5,940	3,450	303,130	14.76%
SOUTH EAST	215,915	45,355	25,035	16,770	5,660	3,145	311,875	15.19%
SOUTH WEST	130,790	28,860	15,635	10,080	3,330	1,800	190,490	9.28%
WALES	64,465	14,270	7,185	5,185	1,680	875	93,655	4.56%
SCOTLAND	102,615	28,295	15,920	10,540	3,460	1,945	162,780	7.93%
NORTHERN IRELAND	44,580	10,045	5,320	2,820	895	405	64,060	3.12%
						Total	2,053,760	100%

3.5: Questionnaire Survey Form

Ref.....

University of Hertfordshire

The survey will be undertaken as part of a research programme designed to examine performance measurements used in UK industry and commerce.

Note: The contents of this form are absolutely confidential. Information identifying respondents will not be disclosed under any circumstances.

INSTRUCTION: Please fill in the blank(s) or tick the appropriate box(es).

SECTION A

1. Company name ....Location (town).....

2 Type of business or SIC Code (if known)..... ....

3. Job Title..... ....

4 Annual Turnover

[ ] Under £2 8 million [ ] Between £2 8 to £11.2 million [ ] Over £11.2 million

5. Number of employees

[ ] Under 10 [ ] Between 10 to 49 [ ] Between 50 to 249 [ ] 250 and over

SECTION B

1. Do you use any of the following indicators to measure the company's performance?
(Please tick [✓] as many as appropriate)

Performance Indicators	DO YOU USE IT? Yes	No	Don't know	FREQUENCY OF MEASUREMENT Wk	Mth	Qtr	Yr	Don't know	Other (please specify)
Profit-Loss	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Repeat orders	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Revenue per customer per year	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Cost per customer per year	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Customer lifetime value	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
% market share and position	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Sales growth	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Changes in size of customer base	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
No. of customer complaints	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Customer satisfaction survey	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Customer retention	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Accuracy of customer database	[ ]	[ ]	[ ]						
How do you measure it?									
[ ] Through Customer survey				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Other (specify).....				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Delivery reliability and punctuality	[ ]	[ ]	[ ]						
How do you measure it?									
[ ] Through Customer survey				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Through Internal monitoring system				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Other (specify).....				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Response times to any form of customer's contact (e.g. email, calls)	[ ]	[ ]	[ ]						
How do you measure it?									
[ ] Through Customer survey				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Through Internal monitoring system				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Other (specify)				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Delivery Lead time (time from the point where the request is received to delivery)	[ ]	[ ]	[ ]						
How do you measure it?									
[ ] Through Customer survey				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Through Internal monitoring system				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Other (specify).....				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
Availability of customer-facing staff to provide services	[ ]	[ ]	[ ]						
How do you measure it?									
[ ] Through Customer survey				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Through Internal monitoring system				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....
[ ] Other (specify).....				[ ]	[ ]	[ ]	[ ]	[ ]	[ ].....

Ref.....

2. Do you use any other performance indicator(s) not shown in question 1 above?

[ ] Yes (Please specify (1).....how often do you measure it?.....)

(2)..... ..... how often do you measure it?.....)

[ ] No

3 Do you measure Return on Investment (ROI) *BEFORE* implementing any customer -related systems?

[ ] Yes [ ] No [ ] Don't know

4. Do you measure ROI *AFTER* implementing any customer -related systems?

[ ] Yes [ ] No [ ] Don't know

5. Only answer this question if you answer 'Yes' in BOTH Question 3 and 4 above, otherwise please go to Question 6.
Do you compare your ROI *BEFORE* implementing customer -related systems with ROI *AFTER* the implementation?

[ ] Yes [ ] No [ ] Don't know

6 Please tick any of the following performance measurement tools if you use them.
(Please indicate its effectiveness i.e. 0 = not effective and 10 = very effective)

[ ] Balanced Scorecard	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)
[ ] Knowledge Management	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)
[ ] Customer Management Assessment Tool (CMAT)	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)
[ ] Customer Capital Asset Management (CCAM)	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)
[ ] Other (Specify) (1).....	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)
(2).....	(Effectiveness level: 0 1 2 3 4 5 6 7 8 9 10)

SECTION C

1. Do you use any computerised system to manage your customer data?

[ ] Yes, System Name.....

[ ] No (please go to Section D)

2. Do you use any recognised Customer Relationship Management (CRM) or similar software?

[ ] Yes, Vendor name ..... (e g. Siebel, PeopleSoft , Salesforce)

[ ] No

SECTION D

1. Would you like to receive a short report (summarised results) of this research?

[ ] Yes

[ ] No

2. Would you consider taking part in the future stage of this research?

[ ] Yes, Name.....Tel.....Email..... .....

[ ] No

*****Thank you for your cooperation!*****

PLEASE RETURN THE QUESTIONNAIRE EITHER;

- **BY FAX: 01707 285455 (ATTN: Pam Wangstitstaporn) OR**
- **By PRE-PAID ENVELOPE ENCLOSED**

Contact: Pam Wangstitstaporn (Researcher)
University of Hertfordshire, de Havilland Campus, Hatfield, Herts AL10 9AB
Tel: 01707 285570 Mobile: 0779 274 3096
Email: s.wangstitstaporn@herts.ac.uk

3.6: Interview Questions

PART ONE: BASIC INFORMATION OF THE COMPANY

Q1: Could you give us your Company name and your position please?

Q2: How long have you been in this position?

Q3.1: Could you explain what type of industry your company is and exactly what the business is all about please?

Q3.2: What business environment is your business in? (e.g. B2B or B2C or both)

Q4.1: Do you know what Customer Relationship Management or CRM is?

- If **YES**, then ASK: **Q4.2**: Could you explain how you understand what CRM is please?

  THEN CARRY ON WITH Q5.

- If **NO**, then ASK: **Q4.3**: Could you tell us what activities you have carried out that related to your customer or customer information please?

  THEN ASK CASE NO. 3 QUESTIONS.

Q5: Is your company currently adopting CRM software?

- If **YES**, then GO TO **Q6**
- If **NO**, then GO TO **Q7**

Q6: How long has your company had the CRM software?

THEN CARRY ON WITH CASE1 QUESTIONS.

Q7: Has your company ever adopted CRM software before?

- If **YES**, then GO TO **Q8 and Q9**
- If **NO**, then GO TO **Q10**

Q8: What was the name of CRM system you used to adopt? Please give us the provider name??

Q9: What were the reasons your company stopped using that CRM software?

THEN CLOSE THE INTERVIEW.

Q10: Does your company have any plan to adopt CRM system in the future?

- If **YES**, then **GO TO CASE No. 2 QUESTIONS**
- If **NO**, then **ASK ONLY Q2 of CASE No. 3 QUESTIONS and CLOSE THE INTERVIEW**

3.6.1: Interview Question - Set A (For a company who was currently adopting CRM)

PART TWO: INFORMATION ON THE CRM SYSTEM

CASE 1.1: Using Packaged-CRM Software	CASE 1.2: Using In-house CRM Software
1. What were the main reasons for adopting CRM software?	
2. How did you find out information about CRM software?	
3. Who is your CRM provider?	
NOW , ASK QUESTIONS BY CASE 1.1 OR CASE 1.2	
4. What were the factors that influence your choices of CRM provider?	**4.** What did make you decide to have in-house CRM rather than purchased CRM?
5. Could you please tell us what CRM does for your company?? OR What does your company use it for?	**5.** Could you please tell us what it does for your company OR What does your company use it for?
6. What were the factors that influence functions/package(s) choice of your CRM?	**6.** What were the factors that influence functions/package(s) choice of your CRM?
7. When did you implement your CRM?	**7.** When did you implement your CRM?
8. How did you implement your CRM? (e.g. Vendor assisted service, External consultants)	**8.** How did you implement your CRM? (e.g. External consultants, In-house consultants)
NOW, ASK THE FOLLWING QUESTIONS FOR BOTH CASES	

PART THREE: CRM PERFORMANCE ASSESSMENT

9. Do you have a formal CRM project plan?

- **If YES, then GO TO Q10 and Q10.1**
- **If NO, then GO TO Q9.1**

9.1 How do you monitor the progress and the operations of your CRM system?

THEN CARRY ON WITH Q11

10. Who is in charge of the CRM project plan **AND** who are in this project team? (e.g. Position Name)

10.1. Do you hold meetings with CRM project team?

- **If YES, then GO TO Q10.2**
- **If NO, then GO TO Q11**

10.2 How often do you have the meetings?

THEN CARRY ON WITH Q11

11. Do you set objectives for your CRM project?

- **If YES, then GO TO Q11.1**
- **If NO, then GO TO Q11.2**

11.1 What are objectives of your CRM project?

THEN CARRY ON WITH Q12

11.2 What do you adopt CRM software for?

THEN CARRY ON WITH Q12

12. Do you set criteria to assess your CRM system performance?

- **If YES, then GO TO Q12.1**
- **If NO, then GO TO Q12.2**

12.1 Could you tell us what your criteria are please?

THEN CARRY ON WITH Q12.3

12.2 Then, what basis do you measure your CRM system performance on?

THEN CARRY ON WITH Q12.3

12.3. How often do you revise/review your set criteria (basis)?

13. Do you monitor your CRM performance?

- **If YES, then GO TO Q13.1**
- **If NO, then GO TO Q13.2**

13.1 Can you please explain how do you monitor it? **AND** how often?
NOTE: Write down measures they mention in this question:
A.....
B.....
C.....
D.....

THEN CARRY ON WITH Q13.3

13.2 Then, how do you assess your CRM system performance?

If possible then **MAYBE CARRY ON WITH Q13.3**
OR
GO STRAIGHT TO **13.4**

13.3 You have mentioned *A, B, C, D etc.* as the indicators to assess your CRM system performance, How would you rate each of them out of 5 in terms of the effectiveness (1 = 'Very Poor' and 5 = 'Excellent')?
Note: How good they are to indicate the performance of CRM system?
A.....*Rating* =
B.....*Rating* =
C.....*Rating* =
D.....*Rating* =

13.4 From the Questionnaire you filled out for us, You indicated a number of KPIs your company uses. May I also ask you to rate them out of 5 in terms of their effectiveness in assessing your CRM system performance. I will read them out for you and you could give me the rating.
(1 = 'Very Poor' and 5 = 'Excellent')

1.....*Rating* =
2.....*Rating* =
3.....*Rating* =
4.....*Rating* =

14. Once you have got these measurement results *(mentioned in Q13.1and/or Q13.4)*, What do you do with them?
14.1 ***If they mention that they review/revise them in Q14,*** then **ASK:** How often do you revise/review your indicators?
15. How would you rate your overall CRM system performance out of 5? (1 = 'Very Poor' and 5 = 'Excellent')
16 Could you explain on what basis did you use to give us that overall rating?
17. Do you assess your performance before adopting the CRM system? ▪ **If YES, then GO TO Q18** ▪ **If NO, then GO TO Q19**
18. Do you compare your performance before and after CRM implementation?
19. What area(s) of CRM system performance do you think the most efficient?
20. What area(s) of CRM system performance do you think the least efficient?
21. Referring back to the effectiveness level rating of the existing performance measurement tools (i.e. BS, KM, CMAT, CCAM) that the company may have given at the questionnaire survey. **ASK: what was the basis you use for that rating???** (To find if there are any issues or difficulties faced by companies for such tools).
22. We are trying to develop realistic CRM performance measurement tool/framework/model/benchmark ...What would be your advice for us?

Anyway, that is the end of the interview. Thank you very much for your time and contribution.

****
****

3.6.2: Interview Question - Set B (For a company who was thinking of adopting CRM)

1. What will be the main reasons for adopting CRM software?
2. How will you find out information about CRM software?
3. Who would be your potential CRM providers?
4. What would be factors that influence your choices of CRM provider?
5. What CRM aspect(s) would you choose to adopt? OR What would your company use it for?
6. What would be factors that influence the choice of aspect(s) of your CRM?
7. What would be area(s) you want to improve by adopting the CRM software?
8. From the Questionnaire you filled out for us, You indicated a number of KPIs your company uses. May I also ask you to rate them out of 5 in terms of their effectiveness in assessing your CRM system performance. I will read them out for you and you could give me the rating. (1 = 'Very Poor' and 5 = 'Excellent') *1.....Rating =* *2.....Rating =* *3.....Rating =* *4.....Rating =*
9. Referring back to the effectiveness level rating of the existing performance measurement tools (i.e. BS, KM, CMAT, CCAM) that the company may have given at the questionnaire survey. **ASK: what was the basis you use for that rating???** (To find if there are any issues or difficulties faced by companies for such tools).
10. We are trying to develop realistic CRM performance measurement tool/framework/model/benchmark ...What would be your advice for us????

Anyway, that is the end of the interview. Thank you very much for your time and contribution.

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3.6.3: Interview Question - Set C (For a company who had no intention to adopt CRM software)

1. Firstly give a brief explanation of what CRM is. THEN ASK: Would you now be interested in adopting CRM? • **If YES, then GO TO Interview Question – Set B (Appendix 3.6.2)** • **If NO, then GO TO Q2**
2. What are the main reasons for not adopting CRM?
3. Referring back to the effectiveness level rating of the existing performance measurement tools (i.e. BS, KM, CMAT, CCAM) that the company may have given at the questionnaire survey. **ASK: what was the basis you use for that rating???** (To find if there are any issues or difficulties faced by companies for such tools).

Anyway, that is the end of the interview. Thank you very much for your time and contribution.

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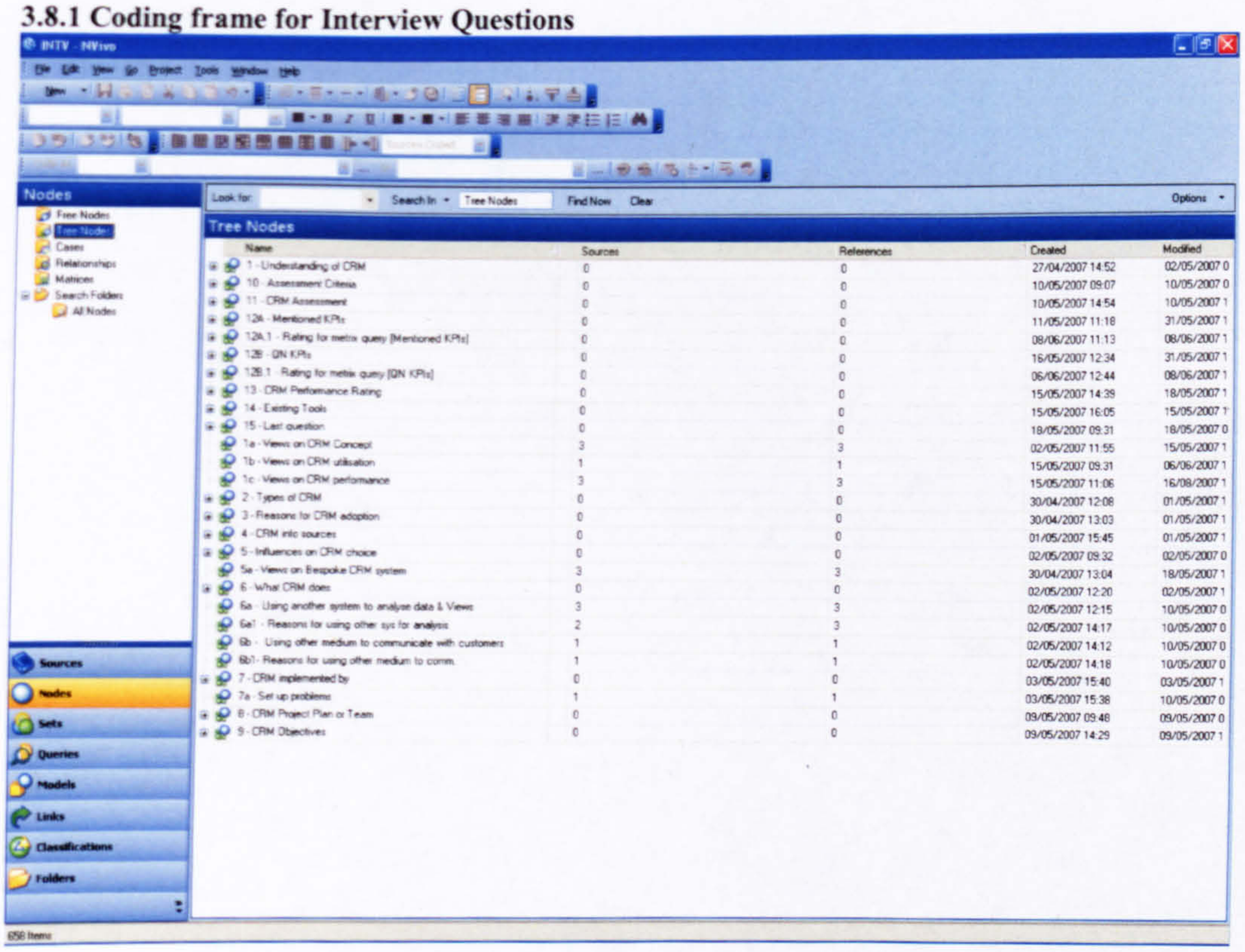
3.7 Profile of Interview Participant by Position and Time in Position

Code	Position	Time in position (year)
• *General: Top-management positions*		
P10	Managing Director (MD)	5
P12	Chief Executive Office (CEO)	4.5
P13	MD	9
P18	MD	7
P25	MD	2
P33	CEO	3.5
P34	CEO	5
P35	MD	15
P36	MD	1
P16	Contracts Director	4
P23	Operations Director	10
P26	Finance Director	4.5
P30	Business Support Director	10
• *Marketing: Top-management positions*		
P14	Head of Marketing Services and Product Centre	5
P27	Sales & Marketing Director	3
• *Marketing: Middle-management positions*		
P01	Marketing Manager	1.5
P02	Sales & Marketing Manager	2.5
P03	Senior Marketing Manager	5
P07*	Customer Services Manager	5
P08	Marketing Manager	4
P24	Group Marketing Manager	1.5
P29	Marketing Manager	4
• *Others: Middle-management positions*		
P09*	Commercial Manager	1
P11	Quality Manager	12
P15	IT Manager	3
P19	Financial Controller	3

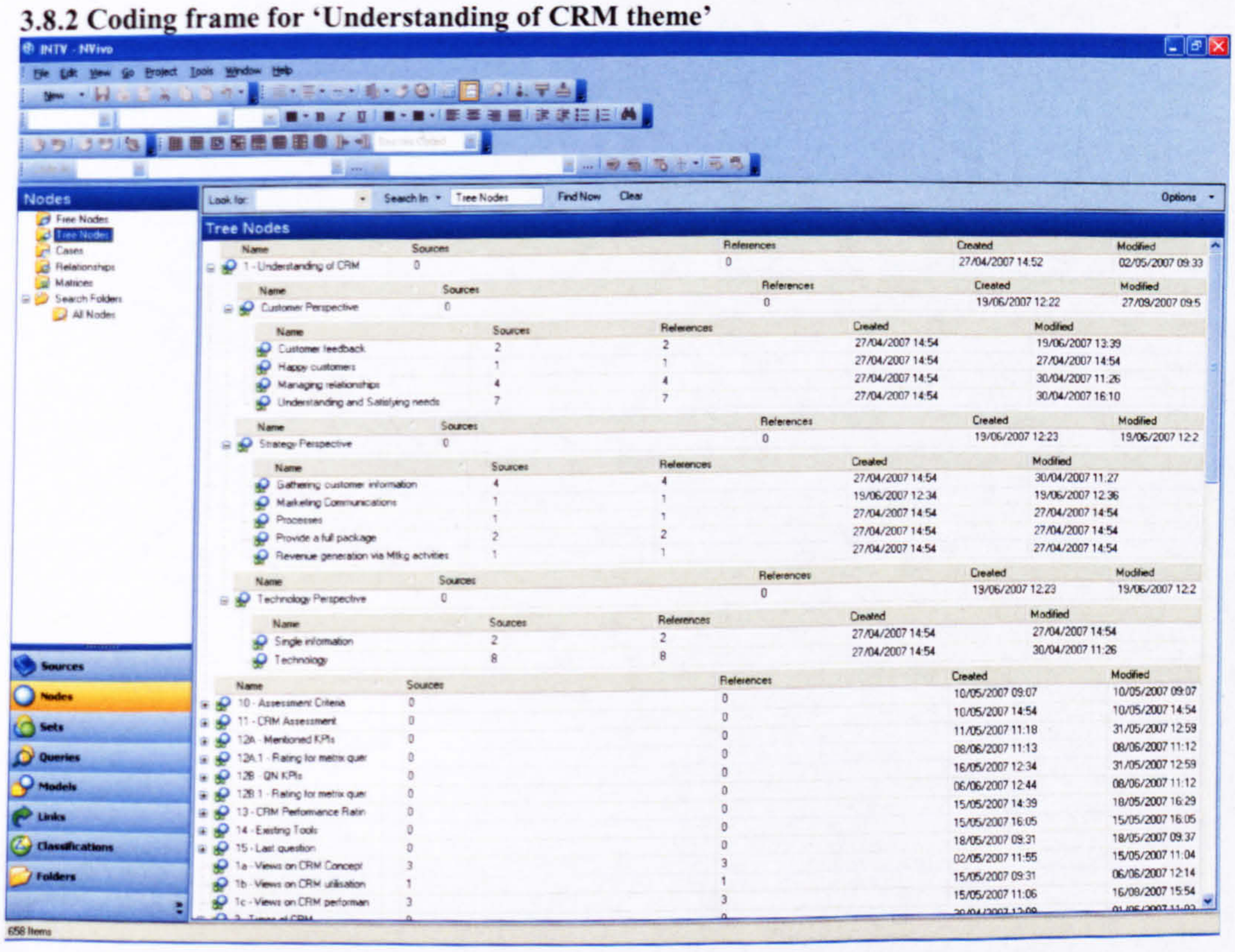
Remarks:
* Participant had previously worked for the organisation for many years in a different position.

3.8: Tree Node – Coding Frame

3.8.1 Coding frame for Interview Questions

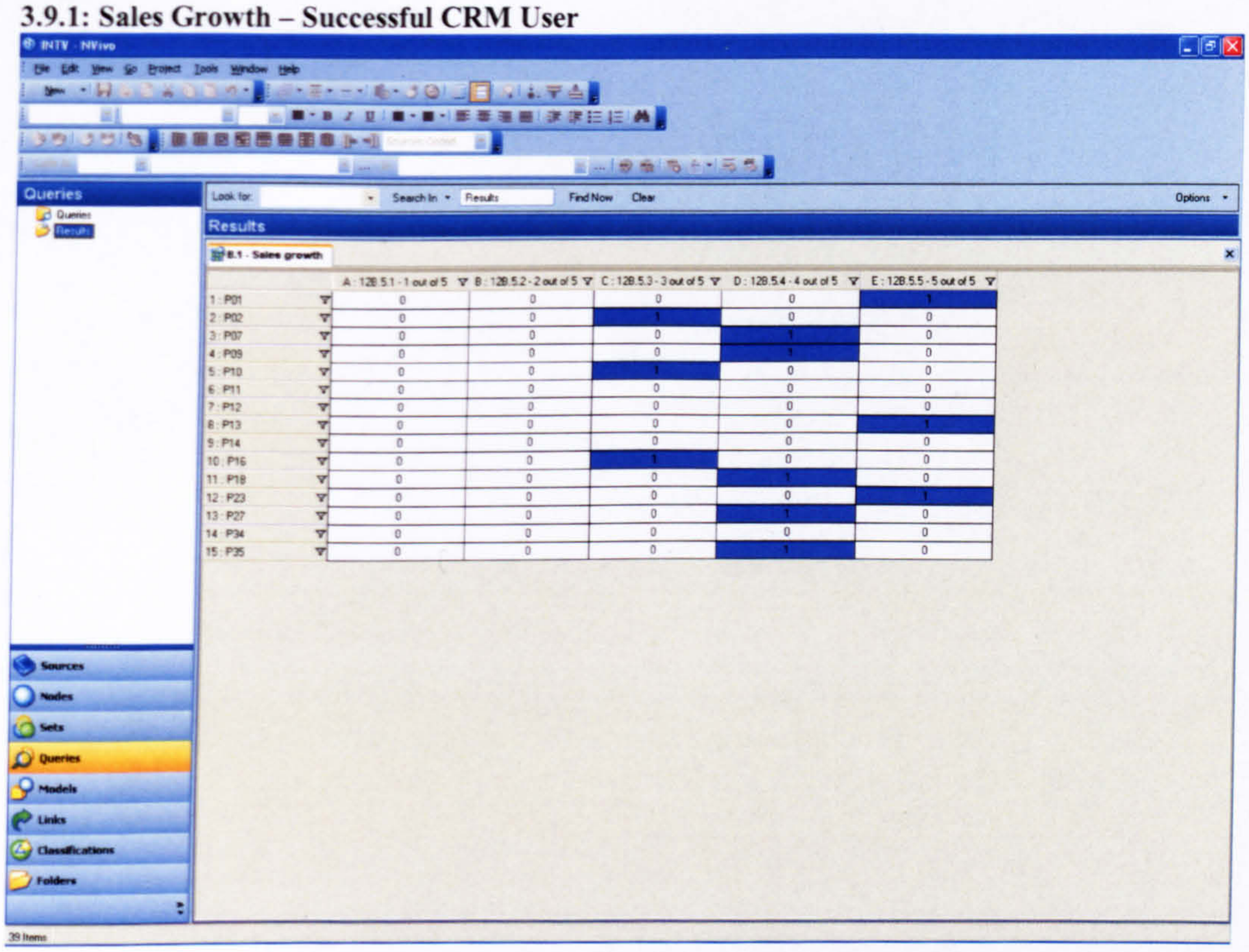


3.8.2 Coding frame for 'Understanding of CRM theme'



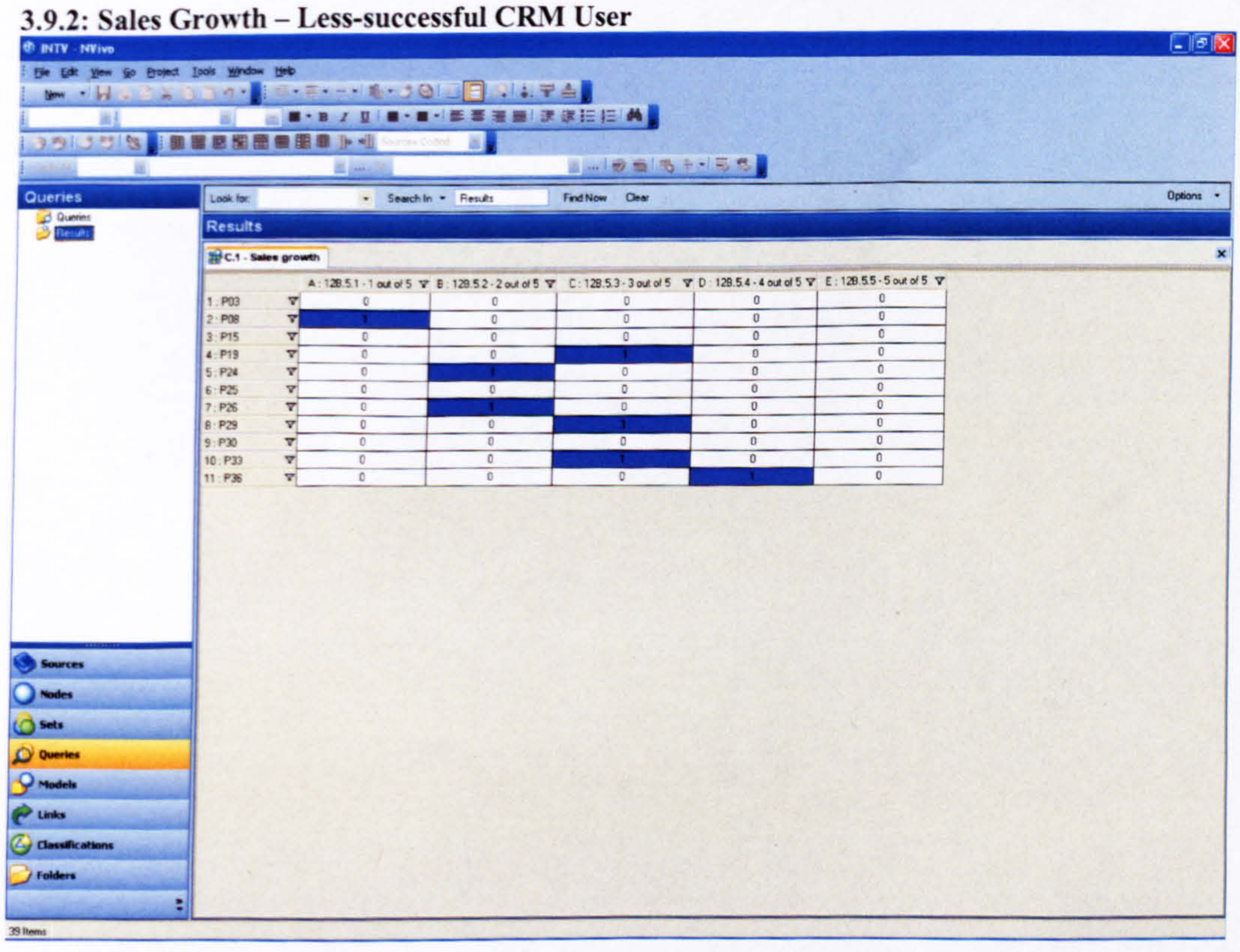
3.9: Examples of Matrix Coding Queries Output

3.9.1: Sales Growth – Successful CRM User



	A : 128.5.1 - 1 out of 5	B : 128.5.2 - 2 out of 5	C : 128.5.3 - 3 out of 5	D : 128.5.4 - 4 out of 5	E : 128.5.5 - 5 out of 5
1 : P01	0	0	0	0	1
2 : P02	0	0	1	0	0
3 : P07	0	0	0	1	0
4 : P09	0	0	0	1	0
5 : P10	0	0	1	0	0
6 : P11	0	0	0	0	0
7 : P12	0	0	0	0	0
8 : P13	0	0	0	0	1
9 : P14	0	0	0	0	0
10 : P16	0	0	1	0	0
11 : P18	0	0	0	1	0
12 : P23	0	0	0	0	1
13 : P27	0	0	0	1	0
14 : P34	0	0	0	0	0
15 : P35	0	0	0	1	0

3.9.2: Sales Growth – Less-successful CRM User



	A : 128.5.1 - 1 out of 5	B : 128.5.2 - 2 out of 5	C : 128.5.3 - 3 out of 5	D : 128.5.4 - 4 out of 5	E : 128.5.5 - 5 out of 5
1 : P03	0	0	0	0	0
2 : P08	1	0	0	0	0
3 : P15	0	0	0	0	0
4 : P19	0	0	1	0	0
5 : P24	0	1	0	0	0
6 : P25	0	0	0	0	0
7 : P26	0	1	0	0	0
8 : P29	0	0	1	0	0
9 : P30	0	0	0	0	0
10 : P33	0	0	1	0	0
11 : P36	0	0	0	1	0

Appendix IV

4.1: Chi-square Test for Responses – Questionnaire Survey

Location	% population	Observed no. of received responses (O)	Expected no. of received responses (E)	Chi-Sq Value $\sum \frac{(O-E)^2}{E}$
NORTH EAST	2.91%	5	2.939	1.445
NORTH WEST	9.87%	14	9.969	1.630
YORKSHIRE AND THE HUMBER	7.45%	13	7.525	3.984
EAST MIDLANDS	6.84%	5	6.908	0.527
WEST MIDLANDS	8.34%	7	8.423	0.241
EAST	9.77%	12	9 868	0.461
LONDON	14.76%	8	14.908	3.201
SOUTH EAST	15.19%	9	15.342	2.622
SOUTH WEST	9.28%	6	9.373	1.214
WALES	4.56%	7	4.606	1.245
SCOTLAND	7.93%	12	8.009	1.988
NORTHERN IRELAND	3.12%	3	3.151	0.007
Total	100.00%	101	101	18.565

Remarks

Degree of Freedom = $(n-1)$ = 11
n = 12 locations
Confidence level of 0.05 (5%)
Chi-Square Test = 0.069 [Calculated by MS Excel : "=CHIDIST (18.565, 11)"]

4.2: Chi-square Test for Participant Profile – Interview

Location	% population	Observed no. of participated companies (O)	Expected no. of participated companies (E)	Chi-Sq Value $\sum \frac{(O-E)^2}{E}$
NORTH EAST	2.91%	3	0.757	6.652
NORTH WEST	9.87%	4	2.566	0.801
YORKSHIRE AND THE HUMBER	7.45%	2	1.937	0.002
EAST MIDLANDS	6.84%	1	1.778	0.341
WEST MIDLANDS	8.34%	2	2.168	0.013
EAST	9.77%	5	2.540	2.382
LONDON	14.76%	3	3 838	0.183
SOUTH EAST	15.19%	0	3.949	3.949
SOUTH WEST	9.28%	1	2.413	0.827
WALES	4.56%	2	1.186	0.559
SCOTLAND	7.93%	3	2.062	0.427
NORTHERN IRELAND	3.12%	0	0.811	0 811
Total	100 00%	26	26	16.948

Remarks

Degree of Freedom = $(n-1)$ = 11
n = 12 locations
Confidence level of 0.05 (5%)
Chi-Square Test = 0.109 [Calculated by MS Excel : "=CHIDIST (16.948, 11)"]

4.3: Kendall's Tau – Sales growth (Adoption)

		Value	Monte Carlo Sig.		
			Sig.	99% Confidence Interval	
				Lower Bound	Upper Bound
Ordinal by Ordinal	Kendall's tau-b	.249	.019(a)	.019	.020
	Kendall's tau-c	.146	.019(a)	.019	.020
N of Valid Cases		100			

4.4: Kendall's Tau – Delivery lead time (Adoption)

		Value	Monte Carlo Sig.		
			Sig.	99% Confidence Interval	
				Lower Bound	Upper Bound
Ordinal by Ordinal	Kendall's tau-b	.262	.015(a)	.015	.016
	Kendall's tau-c	.220	.015(a)	.015	.016
N of Valid Cases		96			

4.5: Kendall's Tau – Availability of customer-facing staff (Adoption)

		Value	Monte Carlo Sig.		
			Sig.	99% Confidence Interval	
				Lower Bound	Upper Bound
Ordinal by Ordinal	Kendall's tau-b	.248	.022(a)	.022	.023
	Kendall's tau-c	.223	.022(a)	.022	.023
N of Valid Cases		96			

4.6: Kendall's Tau – Availability of customer-facing staff (Way of measurement)

		Value	Monte Carlo Sig.		
			Sig.	99% Confidence Interval	
				Lower Bound	Upper Bound
Ordinal by Ordinal	Kendall's tau-b	.407	.017(a)	.016	.017
	Kendall's tau-c	.375	.017(a)	.016	.017
N of Valid Cases		32			

Remarks
(a): Based on 1000000 sampled tables with starting seed 1502173562.