

**Implementing CRM in SMEs: An Exploratory Study on the Viability of Using the
ASP Model**

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Author: Wu Tie

Abstract:

CRM (Customer Relationship Management) has been increasingly recognized as a business strategy to effectively understand, manage and sustain customer relationship with advanced information and communication technologies. Rapid development of CRM applications have seen the trend that more and more SMEs (Small and Medium-sized Enterprises) are seeking to implement CRM in order to survive and compete in the world of e-Business.

This thesis, therefore, aims to study the viability of using the ASP(Application Service Providers) model for SMEs to implement CRM. The study involves intensive review and induction of relevant theories on CRM, SMEs and ASPs, as well as empirical research on comparing currently prominent ASPs products: Upshot and Salesforce.com.

The findings in the study show that according to characteristics of SMEs and ASP products offerings, it is practically viable for SMEs to implement CRM by using ASP product offerings from business and technical perspectives. CRM-pursuing SMEs should conduct a thorough investigation

into candidate ASP products in terms of technical issues covered in the empirical study such as application functionality, security, user interface and support, application scalability, etc. Particularly, the evaluation checklists developed to compare ASP products in this study can serve as a useful tool for SMEs to select the suitable CRM application.

Key words: **CRM—Customer Relationship Management**
 SME—Small and Medium-sized Enterprises
 ASP—Application Service Provider

Table of Contents

1. Introduction.....	1
1.1. Background.....	1
1.2 Research Objective.....	1
1.3 Thesis structure.....	2
 Part I---Theoretical study	
2. CRM study.....	4
2.1. Objective and structure of the chapter.....	4
2.2. Defining CRM.....	4
2.2.1. CRM life cycle.....	5
2.2.2. CRM applications.....	6
2.3. CRM technologies.....	7
2.3.1. Operational CRM.....	7
2.3.1.1. eCRM.....	7
2.3.1.2. mCRM.....	8
2.3.1.3. EAI.....	8

2.3.2 Analytical CRM.....	9
2.3.2.1. Data warehouse.....	9
2.3.2.2. Data mining.....	10
2.3.3. Collaborative CRM.....	10
2.4. CRM market.....	11
2.5. Major CRM vendors.....	13
2.5.1. Siebel system.....	13
2.5.2. Netel/Clarify.....	13
2.5.3. PeopleSoft/Vantive.....	14
2.5.4. Oracle.....	14
2.5.5. SAP (MySAP).....	14
3. CRM for SMEs.....	15
3.1. Objective and structure of the chapter.....	15
3.2. Defining SMEs.....	15
3.3. Characteristics of SMEs.....	15
3.4. Benefits for SMEs from e-Business.....	17
3.5. CRM as an e-Business strategic imperative for SMEs.....	18
4. Implementing CRM in SMEs.....	22
4.1 Objective and structure of the chapter.....	22
4.2. Developing a CRM vision.....	22
4.3. Defining common CRM requirements for SMEs.....	23
4.4. Determining CRM readiness.....	26
4.5. CRM implementation approach.....	28

4.5.1. In-house CRM development.....	28
4.5.2. Outsourcing CRM.....	29
4.5.3. In-house VS Outsourcing.....	30
4.6. Key issues in CRM implementation.....	32
4.6.1. Organizational changes.....	32
4.6.2. Business justification of CRM.....	33
4.6.3. Risk management.....	33
4.6.4. Integration.....	34
4.6.5. Project ownership.....	35
4.7. Conclusion.....	35
5. Exploring ASP model.....	36
5.1. Objective and structure of the chapter.....	36
5.2. Introduction to ASP.....	36
5.2.1. Defining ASP.....	36
5.2.2 Types of ASP.....	36
5.2.3. ASP application range.....	38
5.2.4. ASP market.....	38
5.3. Benefits and risks of using ASPs.....	39
5.4. SMEs outsourcing CRM with ASPs.....	41
5.5 Conclusion.....	45
 Part II Empirical Study	
6. The research.....	46
6.1. Objective and structure of the thesis.....	46

6.2. Research methodology.....	46
6.3. Measurement instrument.....	49
6.4. Empirical data.....	49
6.4.1. Company overview.....	50
6.4.2. Selected products.....	52
6.5. Comparison.....	56
6.5.1. Business value comparison.....	57
6.5.2. Functionality comparison.....	58
6.5.2.1. Sales functions.....	59
6.5.2.2. Marketing functions.....	63
6.5.2.3. Customer service & support functions.....	64
6.5.3. Critical feature comparison.....	64
6.5.3.1. User interface.....	65
6.5.3.2. User support.....	65
6.5.3.3. Security.....	66
6.5.3.4. Integration with legacy systems.....	67
6.5.3.5. Application scalability.....	68
6.6. Result interpretation.....	69

Part III Conclusion

7. Summary.....	75
7.1. Objective and structure of the chapter.....	75
7.2. Research perspective and implication.....	75
7.3. Research limitation.....	76

7.4. Suggestion for further research.....	77
Reference.....	78
Internet sources.....	81
Appendix.....	83

List of Tables & Figures

Table 2.1: Focuses and strategies of CRM phases.....	6
Table 2.2: CRM applications in CRM life cycle.....	6
Figure 2.1: Global CRM market.....	11
Figure 2.2: CRM Solutions Market in Asia/Pacific, by sub-region 2001.....	12
Figure 3.1: Benefits from e-Business for SMEs.....	18
Table 3.1: Strategies that are successful in outperforming competitors.....	19
Table 3.2: The impact of CRM approaches on SMEs strategy framework.....	21
Table 4.1: Mapping CRM features to business requirements.....	24
Figure 4.1: Requirements driving technology.....	25
Table 4.2: An example of CRM Readiness Evaluation Metrics.....	27
Figure 5.1: Range of applications offered by ASP.....	38
Table 5.1: Benefits and potential risks of using an ASP.....	40
Figure 6.1: A snapshot of SPE layout.....	54
Table 6.1: An overview of UpShot modules and functions.....	55
Figure 6.2: A snapshot of UpShot layout.....	56
Table 6.2: Comparison of TCO (Total Cost of Ownership).....	58
Table 6.3: Score ranges of technical issues.....	65

Table 6.4: The result of functionality comparison.....71

Table 6.5: The result of critical technical issue comparison.....73

1. Introduction

1.1. Background

Nowadays, in the e-Business environment, companies are shifting their business strategies from product-oriented to customer-oriented. As a strategy to optimize lifetime-value of customers, CRM can help companies to succeed in the world of e-Business. Not only large, multi-national companies, but also SMEs are increasingly seeking to implement CRM in order to find a competitive advantage on which to base their business' prospects for longevity.

CRM is, essentially, a business strategy that aims to help companies maximize customer profitability from streamlined, integrated customer-facing processes. To play in the world of e-Business, companies have perceived CRM as a success enabler. Before going CRM, it is vitally important for SMEs to understand CRM strategies, technologies as well as key CRM implementation issues under circumstances of e-Business. In other words, clear awareness of strategic implications and implementation issues of CRM is a key to success of implementing CRM.

Unlike large companies, SMEs do not possess sufficient technology know-how, resources and IT personnel to implement CRM program. As a result, most SMEs cannot afford such expensive CRM products that are offered by traditional CRM vendors. Although an in-house CRM system development approach widely employed by large firms seems to be not applicable for SME, using ASPs (application service providers) is such an effective approach that SMEs can employ in order to take best advantage of CRM.

1.2. Research Objective

The overall objective of the thesis is to examine the viability of utilizing the ASP approach for

SMEs to implement CRM. To serve the objective, the theoretical study sums up previous literature and research about CRM and SMEs, detailing CRM definitions, technologies and market as well as general characteristics of SMEs, strategies of doing e-Business, how CRM serves as a strategic imperative for SMEs, and exploration of ASP as a viable strategic choice for CRM implementation. The ASP approach is studied as the focus of the empirical study, which is dedicated to identifying and comparing current prominent ASP product and service offerings.

1.3 Thesis structure

The remainder of this thesis comprises three parts: theoretical study, empirical study, and conclusion.

Part I sums up previous literature about relevant issues addressed in this thesis. It includes 4 chapters as follows,

Chapter 2 is concerned with CRM study, and presents CRM definition, application, technologies as well as the CRM market and major CRM vendors.

Chapter 3 discusses why CRM is suitable for SMEs. The chapter starts with identifying common characteristics of SMEs, and then describes benefits SMEs can obtain from e-Business. It ends up with proposing strategies SMEs could adopt in doing e-Business and how CRM can support those strategies.

Chapter 4 provides a description of the CRM implementation process in SMEs in terms of core activities: Consolidating a CRM vision, defining CRM requirements, assessing CRM readiness, comparing CRM development approach alternatives. The chapter concludes with a list of key issues that SMEs should consider in CRM implementation.

Chapter 5 is about exploring ASP as an outsourcing approach for SMEs. It starts with definition and

classification of ASPs, as well as possible benefits and potential risks of using ASPs from business, technology and economic perspectives. Subsequently, benefits SMEs can obtain from working with ASPs are identified, along with some associated disadvantages.

Part II is the empirical study in Chapter 6:

Chapter 6 depicts the actual empirical study. It starts with describing the research methodology where the research method is identified. Measurement instruments are subsequently developed to assist the actual research. Next companies and respective products are selected and followed by description and discussion. The major part of this chapter deals with comparison of identified products, and finally result interpretation will be attempted.

Part III concludes the thesis with summary in chapter 7

Chapter 7 provides a summary of the entire study. The research perspective and implications, and research limitations of the research will be discussed, followed by suggestions for further research.

Part I---Theoretical Study

2. CRM study

2.1.Objective and structure of the Chapter

The objective of the chapter is to introduce background information on CRM by illuminating relevant issues of CRM. Section 2.2 defines CRM in terms of its strategic positioning, and application areas. Components of CRM technologies are explained in detail in section 2.3. The chapter ends with a description of the CRM market situation and prominent CRM vendors in section 2.4 and 2.5, respectively.

2.2. Defining CRM

Since Gartner Group, a highly respected information technology research organization, came up with the term ‘CRM’, the past few years have seen a large amount of study and research done by academic researchers and professionals in IT industry. The following presents a brief look of various CRM definitions,

Ronald S. Swift in his book: Accelerating Customer Relationships---Using CRM and Relational Technologies, has defined CRM as “an enterprise approach to understanding and influencing customer behavior through meaningful communication in order to improve customer acquisition, customer retention, customer loyalty, and customer profitability”. He also points out that “CRM is an iterative process that turns customer information into positive customer relations”.

Chris Todman, in his book: Designing a Data Warehouse---- Supporting Customer Relationship Management, concisely defined CRM as “a strategy for optimizing lifetime value of customers” by achieving two things he mentioned: “1, Getting to know your customer better. 2, interacting appropriately with your

customers.”

Stanley A. Brown has defined CRM as “a business strategy to understand, anticipate and manage the needs of an organization’s current and potential customers” in the book: *Customer Relationship Management—A strategic imperative in the world of e-Business*.

The above views can be concluded with a general definition of CRM for this study---a comprehensive approach that integrates every business process that touches customers, namely sales, marketing and customer service and field support through integration of people, process and technology. In other words, CRM is neither a product nor a service, but a business philosophy aiming to maximize customer value in the long run.

2.2.1. CRM life cycle

CRM comprises three phases: acquiring, enhancing, and retaining. Each phase supports increased intimacy and understanding between a company and its customers. These three phases are:

1. **Acquiring new customers:** the company acquires customers by promoting product and service leadership.
2. **Enhancing the profitability of existing customers:** the company enhances the relationship by encouraging excellence in cross selling and up selling, thereby deepening and broadening the relationship.
3. **Retaining profitable customers for life:** Retention focuses on service adaptability-delivering not what the market wants but what customers want. (Kalakota et al 2000, P175)

Each phase impacts customer relationships in different ways so that focus and strategies vary from phase to phase. They are described in below table 2.1.

Phase	Focuses	Strategies
Acquire	Differentiation	<ul style="list-style-type: none"> ● Innovation ● Convenience
Enhance	Bundling	<ul style="list-style-type: none"> ● Reduce cost ● Customer service
Retain	Adaptability	<ul style="list-style-type: none"> ● Listening ● New products

Table 2.1: Focuses and strategies of CRM phases (source: Kalakota et al 1999)

2.2.2. CRM applications

As a customer-oriented business application system, CRM has particularly focused on front-office processes involved in CRM life cycle, consisting of sales, customer services and marketing automation. Below table 2.2 illustrates a number of recognized CRM applications throughout front-office processes.

Sales Force Automation	Customer Service	Marketing automation
<ul style="list-style-type: none"> ● Call center telephone sales ● E-commerce ● Field sales 	<ul style="list-style-type: none"> ● Call centers managing aspects of customer contact ● Web-based self service ● Field services and dispatch 	<ul style="list-style-type: none"> ● Campaign management ● Content management ● Data analysis and business intelligence tools

<ul style="list-style-type: none"> ● Retail ● Third-party brokers, distributors, agents 		
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Table 2.2: CRM applications in CRM life cycle (Adapted from Robinson 2000)

2.3. CRM technologies

According to Paul Greenberg (2000) in his summary of CRM definitions, “CRM is a disciplined business strategy to create and sustain **Long-term, profitable** customer relationships. Successful CRM initiatives start with a business strategy and philosophy that aligns company activities around customer needs. CRM technology is a critical enabler of the process required to turn strategy into business results.” The industry standard definition of the components of CRM technology was provided by the META group in “The Customer Relationship Management Ecosystem”. There are three main types of CRM technology:

2.3.1. Operational CRM

Operational CRM is the customer-facing applications of CRM---the aforementioned sales automation, enterprise marketing automation, and customer service. (Greenberg 2000, P47) Significantly, the operational CRM focuses on automation of horizontally integrated business processes, including customer touch-points, channels, and front-back office integration. (Berson. et al 2000). With the rapid development of Internet and communication technologies, operational CRM has evolved into two variants as eCRM and mCRM. Another necessary component of Operational CRM is EAI (Enterprise Application Integration) which works on integration of front and back-office processes.

2.3.1.1. eCRM

In simplicity, connecting the Internet to CRM has made this term: eCRM. It provides ability to take care of your customer via web, or the customers being able to take care of themselves online. That's the difference between CRM and eCRM, which lies in shift from client/server-based CRM to web-based CRM. Some issues of eCRM are generally related to the Internet, others are related to the creation of Internet applications for CRM. Perhaps the most important one is related to its actual value to e-Business.

The advent of eCRM is accompanied with current e-Business that makes traditional business from mass production to mass customization. To address the trend that nowadays customers are equipped with information more than ever so as to increase needs of obtaining personalized product and service, CRM performing companies have to accomplish the challenging task of putting 'E' into CRM.

It is possible to argue eCRM is the future style of CRM; vendors who don't optimize their CRM applications for the Web are the vendors who are likely to be out of business soon.

2.3.1.2. mCRM

Another new promising variant of CRM is mCRM, which stands for Mobile CRM. As a matter of fact, mCRM can be regarded as a future variant of eCRM since most CRM vendors are providing solutions to link eCRM with wireless tools, such as: mobile phone, PDAs or laptop computers. The aim of mCRM is to enable two-way interactivity between the customer and the enterprise continuously at anywhere-----whether in an office or walking down the street. It also can be seen as a means to make CRM more powerful with utilization of advanced wireless communication tools.

2.3.1.3. EAI

According to the 2000 study done by the META Group, a main reason for the CRM project

failure and sometimes the cause of problems even when the implementation is successful is the inability to integrate with the legacy system. Therefore, at the operational level, it is important for major CRM applications including call center, web-enabled self-services to use integrated data from other back-office systems like financial and human resources functions, etc. An effective integration solution is Enterprise Application Integration (EAI) that acts as middle-ware bridging CRM system with legacy systems. EAIs will provide the messaging services and data mapping services that allow one system to communicate with disparate other systems, regardless of formatting. (Greenberg 2000, P41)

2.3.2. Analytical CRM

To put it in a simple way, Analytical CRM deals with strategic, effective and efficient use of data in order to provide management with good decision-making possibilities. Due to information technology and e-Business development, customer data accumulates by an ever-increasing quantity. To better address this situation, analytical CRM requires support from robust, best-practice enabled data processing and management technologies, typical examples of which are data warehouse and data mining.

2.3.2.1. Data warehouse

Data Warehouse is a blend of technologies aimed at the effective integration of operational databases into an environment that enables the strategic use of data. These technologies include relational and multi-dimensional database management systems, client/server architecture, metadata modeling and repositories graphical user interfaces, and much more (Berson et al 2000) In simplicity, the accepted definition of a data warehouse (attributed to Bill Inmon, "Father of Data Warehouse", 1992) is a database that contains the following four characteristics: 1.subject oriented 2.nonvolatile 3.Integrated 4. Time variant.

The linkage between CRM and Data Warehouse is established by vital requirements of easy, timely access to and effective, strategic use of valuable data and information for CRM decision

making and process management, which totally depends on the establishment of a data warehouse. As Chris Todman (2001) mentioned , “CRM can not be practiced in business without a major source of information, which, of course, is the data warehouse.”

2.3.2.2. Data Mining

Data mining is a new kind of business information analysis technique. It aims to find out ‘hidden’ correlations among data by extracting, converting, analyzing and modeling from huge amount of transaction data in business database. The goal of data mining is to create models for decision-making that predict future behavior based on analyses of past activity. In recent years, much importance has been attached to data mining from business perspectives mainly because of extensive use of enterprise database, data warehouse, and urgent need of acquiring valuable information. These key data can be applied into a variety of areas such as: business administration, production management, market analysis, project design, scientific exploration, etc.

Since the business competition of the 21st century lies in the competition between business models and the ability to acquire, accumulate, and effectively use the collective knowledge of companies, the key to success will be an effective data-management strategy of data warehouse and interactive data analysis capabilities --- that refers to data mining. (Berson et al 2000) In short, data mining can work better with a data warehouse because capabilities of data mining will be optimized with support of the data warehouse—an accumulated and pre-analyzed data pool.

2.3.3 Collaborative CRM

Collaborative CRM is an extension of traditional CRM application. It involves relationship management with external stakeholders in the value chain, including suppliers, distributors, value-added resellers, etc. It is a communication center, coordination network aiming to provide the neural paths to the customers and suppliers. (Greenberg 2000, P41) Major applications of collaborate CRM include enterprise portal based on extranet infrastructure, and partner relationship

management software that provides access to customers, resellers and business partners across the Internet.

2.4. CRM market

Today, CRM has grown and matured to become one of the most significant and fastest growing software segments of the past five years. Investments in CRM related software, hardware and services have exceeded \$7 billion in 2001. AMR research indicates that this investment will continue to grow by more than 30% per year through 2004.

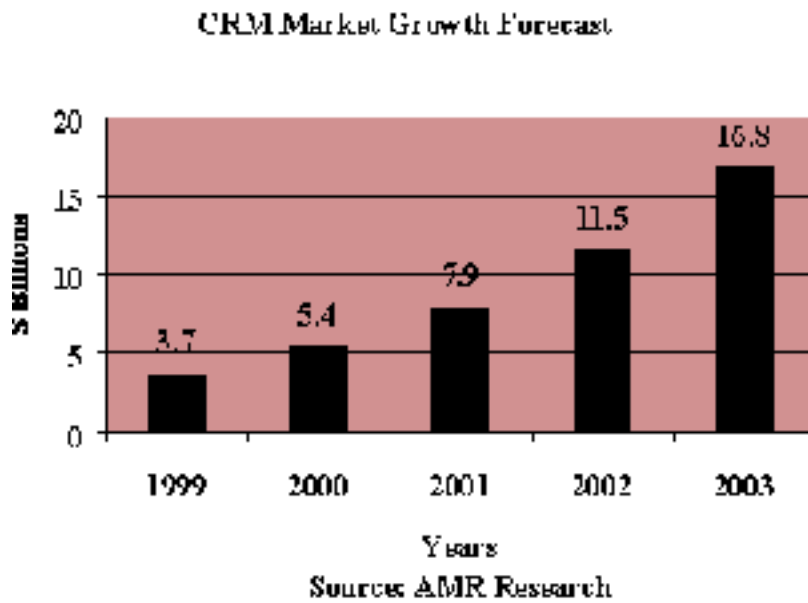


Figure 2.1: Global CRM market (Source: AMR Research 2001)

In addition, CRM nowadays has become a real global phenomenon, which means CRM market are not largely confined in US, but a great portion has been shifted to other regions such as: Europe and East Asia. The CRM solutions market in Asia/Pacific is estimated to maintain a five-year (2000-2005) compound average growth rate of 30%, according to IDC research. (Figure 2.2)



Figure 2.2: CRM Solutions Market in Asia/Pacific, by sub-region 2001 (Source: IDC 2001)

The exciting future trend of CRM industry will be rapid CRM growth for the small and mid-size market. Leading industry analysts anticipate that mid-market is where much of the growth will come in the CRM market space. Cahners In-stat predicted significant growth in the mid-market, beginning in 2002. The firm expected spending by mid-sized companies to be as high as \$490 million by the end of 2001.

Microsoft had revealed that it will launch Microsoft CRM, the first business application built on its emerging .NET architecture in the end of 2002. Microsoft has tapped into its ERP applications subsidiary, Great Plains, to sell and support the system, which will be tailored exclusively for small and medium-sized companies with revenues under \$1 billion. (Fletcher 2002)

PeopleSoft Inc., one of the leading business applications providers, announced PeopleSoft 8 Accelerated Enterprise, one of the first turnkey solutions that combine Internet-based applications, rapid implementation services, training, and financing for small-to-medium enterprises (SMEs) ranging from start-ups to companies with \$500 million in revenue.

IBM and PeopleSoft announced a partnership to speed up the delivery of business applications. PeopleSoft has selected IBM Business Partners to offer mid-market customers a rapid deployment program for PeopleSoft 8 applications. (Jakovljevic 2001)

2.5. Prominent CRM vendors

2.5.1 Siebel systems

Arguably the best-known CRM vendor in the marketplace, they hold a commanding share (approximately 36%) of the market, both in terms of software and mind share. Siebel products are originated in the customer service. Their product line is called Siebel eBusiness 2000. Siebel targets the following broad areas of CRM: call centers; field sales and service; marketing; channel management; dot-coms; and niche verticals such as finance, energy, and telecommunications. Their solutions are horizontal, vertical, wired, wireless, big, handheld, expensive to implement, and flexible to customize. Additionally, in mid-2000, Siebel released Siebel eBusiness 2000 Midmarket Edition, a product aimed at the smaller part of the enterprise market.

2.5.2 Nortel/Clarify

Nortel/Clarify is a joint-company due to acquisition of Vantive by Nortel Networks in 1999. The chief Nortel/Clarify product is eFrontOffice 9.0, which is a feature-rich major league player in the CRM world. The product range covers sales, marketing, orders/billing, inventory, online customer service, mobile field service, contracts, field logistics and development tools. It is aimed at consolidation of the multiple channels available to customers through a single set of interactions. Nortel/Clarify is often mentioned in the same tier as Siebel; one could argue that in the enterprise space, these are the only major players with a full range of product offerings. Nortel/Clarify's eFrontOffice product suite is similar to Siebel's in functionality and is sold in a similar manner.

2.5.3 PeopleSoft/Vantive

It is a two-company history---PeopleSoft and Vantive became one in January 2000 with the

acquisition of Vantive by PeopleSoft. With the release of PeopleSoft 8.0 and PeopleSoft 8 CRM, PeopleSoft is able to provide a full front-office suite of operational applications and a full back-office suite, including financial management applications, supply chain management applications, human resources management applications, e-commerce applications and portal products.

2.5.4 Oracle

Oracle is the second largest software company in the world, and the leading provider of specializing database products. Oracle delivered the first version of its CRM application in 1999. Due to Oracle's dominant market position in database sector, the first release of its CRM product suite had captured 2.2 percent of the total CRM market within approximately 18 months. The most recent product, Oracle CRM 11i, has evolved to be an eCRM solution---comprising modules like Oracle Sales, Oracle Marketing, etc. The product features consist of sales online, telesales, incentive compensation, ipayment, marketing online, and marketing intelligence. Additionally, another CRM solution, Oralesalesonline.com, have been primarily targeted to medium-sized companies in the world wide.

2.5.5 SAP (MySAP)

Founded in 1972, SAP is the world's largest inter-enterprise software company, and the world's third-largest independent software supplier overall. Its renowned product SAP R3 has taken a leading position in ERP market. It is also the recognized leader in providing collaborative e-Business solutions for all types of industries and for every major market. MySAP branded suite of applications features a CRM component that includes marketing, sales, configuration/commerce, order management, interaction management, and customer/field service functions. Although SAP entered into CRM market later than other leading vendors like Siebel, Clarify, PeopleSoft, SAP has released a fully functional suite of products that brings it back into the mainstream within the course of two years or so.

3. CRM for SMEs (Small and Medium-sized Enterprises)

3.1. Objective and Structure of the chapter

The chapter aims to explore how CRM serves as a compelling strategic choice for SMEs doing e-Business. Therefore, the chapter is organized as followings. Section 3.2 defines SMEs based on statistical nature, followed by identifying common characteristics of SMEs in section 3.3. Section 3.4 provides a set of benefits SMEs can obtain from doing e-Business. The chapter ends up with section 3.5 that illustrates impacts of CRM best practice on SMEs' generic competitive strategy derived from Porter's generic strategy framework.

3.2. Defining SMEs

Small and medium-sized Enterprises (SMEs) are a very heterogeneous group. They include a wide variety of firms---village handicraft makers, small machine shops, restaurants, and computer software firms--- that possess a wide range of sophistication and skills, and operate in very different markets and social environment. (Hallberg 2000) In this study, SME is defined by its statistical nature---- the typical small enterprise has revenues between \$20 million and \$100 million per year and fewer than 100 employees. Medium-size enterprises are those that have revenues between \$100 million and \$500 million per year and 100 to 1,000 employees.

3.3. Characteristics of SMEs

According to Carson et al (1995), SMEs have different characteristics from those of large companies. In addition to size, there are a number of qualitative characteristics which serve to underline the difference. These attributes are summarized as follows,

- Scope of operations. SMEs serve predominantly a local or regional market rather than a national or an international market.

- Scale of operations. SMEs tend to have a very limited share of a given market. They are relatively small in a given industry.
- Ownership. The equity of SMES is generally owned by one person, or at most, A very few people. Small firms tend to be managed directly by their owner or owners.
- Independence. SMEs are independent in the sense that they are not part of a complex enterprise system such as a small division of a large enterprise. Independence also means that the firm's owner/managers have ultimate authority and effective control over the business, even though their freedom may be constrained by obligations to financial institutions.
- Management style. Small firms are generally managed in a personalized fashion. Managers of small firms tend to know all the employees personally, they participate in all aspects of managing the business, and there is no general sharing of the decision-making process.

Other characteristics are pointed out from perspective of finance, organization and business operation. Compared with large firms, SMEs generally lack financial resources which suppresses their potential growth, similarly, they do not have the benefit of a team of specialist experts. Externally, SMEs have little control of or influence on the environment in which they operate, so they find difficult to position themselves against a strong competitor. (Carson 1995, P81) To sum up, there are two purposes of highlighting characteristics of SMEs. One is to help understand how SMEs can benefit from doing e-Business in terms of addressing major barriers to growth. The other is to determine options of strategy that SMEs can employ in doing e-Business.

3.4. Benefits for SMEs from e-Business

The distinguishing characteristics of SMEs represent both advantages and disadvantages to SMEs competitiveness and growth. For instance, compared with large firms, relatively smaller customer base makes it possible for SMEs to react faster and more dynamically to customer needs,

while a lack of financial resources and specialists will prevent SMEs from entering into global market. However, e-Business, referring to conduct of business with assistance of Internet and other information technologies, can effectively exploit SMEs advantages and offset drawbacks. In general, SMEs can benefit from e-Business in the following aspects, which are also depicted in figure 3.1.

- Reduced cost. Electronic commerce can alter the virtual value chain by redefining economies of scale, allowing small companies to achieve low unit costs for products and services in markets dominated by big companies. (McDonald 1996, P19)
- New business opportunities. For example, setting up a website where customers can view product catalog, place an order, and make online-payment.
- Access to wider customer base locally and internationally. By expanding their presence into World Wide Web, SMEs can interface with same amount of customers as large firms do. This enables SMEs to compete with large firms in a better position.
- Increased revenue from sales. Combination of traditional sales channels and Internet commerce offers SMEs more sales opportunities, resulting in increased revenue.
- Access to timely information. The Internet and other communication technologies provide SMEs with access to marketing, sales and customer information in real time.
- Increased speed to market. Equipped with timely information on customers and competitors, SMEs are able to speed up reaction to market dynamics.
-

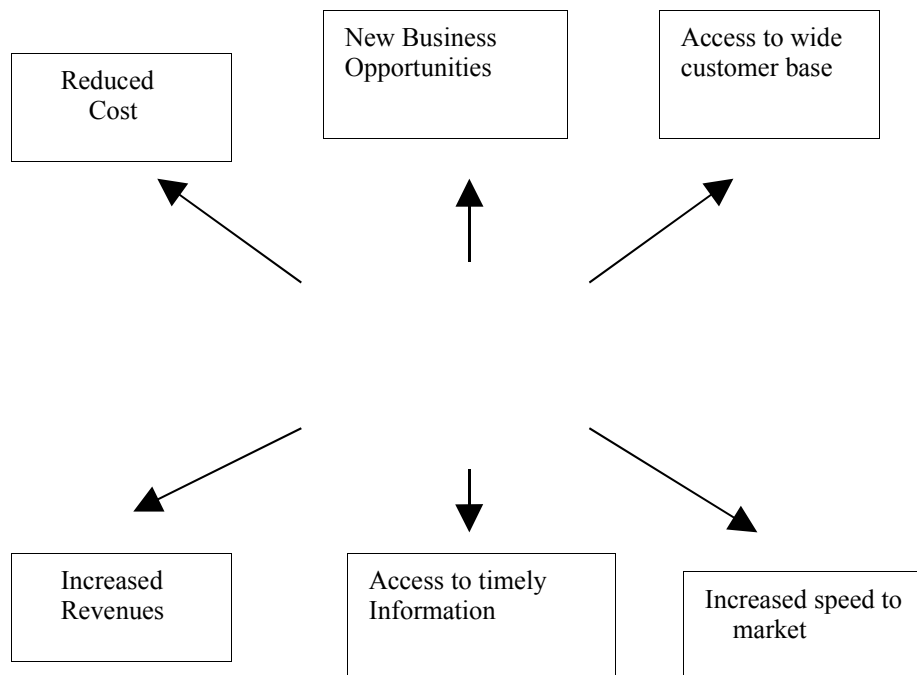


Figure 3.1 Benefits from e-Business for SMEs

To sum up, despite of above concrete benefits, the most significant opportunity SMEs get from the e-Business is to outperform large competitors regardless of relatively smaller capacity of human and financial resource.

3.5. CRM as an e-Business strategic imperative for SMEs

In order to optimally extract benefits from e-Business, the first and foremost thing for SMEs to do is to establish strategies that involve business goals and effective business models to achieve goals. Three generic strategies such as, overall cost leadership, differentiation and focus, have been introduced by M.E. Porter (1980), described in Table 3.1. The framework that aims to outperform competitors can serve as a theoretical underpinning to later development of e-Business strategies for SMEs.

overall cost leadership	Differentiation	Focus
To offer a product similar to the one of the competitors, at a lower price	By defining a product or service (the intermediate ones) that industry-wide is perceived as unique. E.g. Hewlett-Packard computers, Mercedes cars, B&O hi-fi designer garments	By focusing on a particular buyer segment to create value for this group, and thereby achieve a loyal group. E.g. apple computers, products for handicapped people, Special service for students.

Table 3.1: Strategies that are successful in outperforming competitors (source: Porter 1980)

It is, however, possible to argue that the above strategies are developed from perspective of product or service. This approach, in my opinion, can possibly improve a company's competition situation in the short term, but fail in supporting long-term growth. For instance, lowering price would incur competitors' malicious revenge in form of price competition, resulting in the serious consequence of ultimate elimination of industry profits. Even an industry-unique product will only bring the company short-term competitive advantages since competitors are racing to come up with more innovative products. In short, this approach does not seem to work well in e-Business world.

Today customers are in charge due to the fact that it is easier than ever for customers to comparison shop and, with a click of the mouse, to switch companies. As a result, the customer is becoming the most valuable but scarce asset of the company. Sustainable customer relationships are worth more than the company's products, stores, factories, web addresses, and even employees. In order to survive in the increasing competitive environment, a company's strategy should focus on how to find and retain the most profitable customers possible instead of just providing superior products or service. (Kalakota et al 2000, P169)

Based on above, companies that are not doing business in the way the customer wants are bound to be out of business. SMEs are operating in the contemporary world of sophisticated customers and intensifying competition against same-sized companies and large firms, therefore the only way for SMEs to succeed is by focusing diligently on customer needs. This urgently requires SMEs to build e-Business models that are flexible, fast moving and customer focused. CRM, with best practice in transforming customer relationships into profitability and competitive advantage, is such an ideal e-Business model. The ultimate goal of CRM is to help SMEs to turn into customer-focused organizations that conduct business processes centered on customers.

According to Kalakota et al (2000), creating a customer-focused company starts with a customer relationship management (CRM) strategy, which must include process reengineering, organizational change, incentive-program change, and totally revamped corporate culture. Due to the relatively small size and customer base of SMEs as well as the less complex organizational structure and independent nature, it is practically possible for SMEs to achieve strategic goals in terms of shifting from product or service-oriented to customer-oriented business models. Adapted from above presented strategies for outperforming competitors based on customer-oriented perspective, below table 3.2 intends to illustrate the impact of CRM approaches on SMEs strategy framework implementation.

Strategies	CRM approach	Feasibility factors	Impacts/Effects
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<p>Overall cost leadership</p> <p>(In addition to offering a product similar to the one of the competitors at a lower price, SMEs should aim to decrease overall customer servicing cost.)</p>	<p>An Internet portal website that can feature customer self-service for order entry and tracking, trouble-shooting and online payment.</p>	<p>Setting up a website with self-service feature is not very costly. It is much worth investing considering significant cost-cut later.</p>	<p>Significantly reduced customer-serving cost: cost of a self-service Internet contact is one-twentieth of a call center contact, and one-fortieth of a face-to-face contact.</p>
<p>Differentiation</p> <p>(In addition to providing a different range of products or services from competitors, SMEs should aim to differentiate themselves in overall customer servicing process.)</p>	<p>An integrated contact center that enables customer service representatives to recognize customers at any customer touch-points, and provide consistent customer service.</p> <p>One to one marketing or target marketing campaigns help SMEs to retain customers in an effective and efficient manner.</p>	<p>It requires less effort for SMEs to capture, integrate and capitalize on relatively limited amount of customer information.</p>	<p>Improved customer satisfaction and thus higher retention rate and better up-selling and cross-selling performance.</p>

<p>Focus</p> <p>(SMEs should be able to identify those valuable customers, and provides them with high-level, value-added, and personalized products and services.)</p>	<p>Use of data warehousing mechanisms to establish customer segmentation and data mining techniques for customer profiling.</p>	<p>Due to small customer base SMEs deal with, it is less likely to ignore those valuable customers that account for only 15—20% of all customers.</p>	<p>Efficiently addressing needs of profitable customers and thus enhanced customer loyalty.</p>
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Table 3.2. The impact of CRM approaches on SMEs strategy framework.

4. Implementing CRM in SMEs

4.1 Objective and structure of the chapter

The objective of this chapter is to describe the process of implementing CRM in SMEs by identifying key activities that a SME should perform in order to maximize the possibilities of CRM success. Sections 4.2 describes the importance of setting up a uniform CRM vision across the entire enterprise. Section 4.3 provides a description of best approaches that SMEs can employ in defining CRM requirements. A checklist of CRM readiness evaluation criteria is presented in section 4.4. Section 4.5 describes CRM development approaches in terms of in-house development and outsourcing; it concludes that CRM outsourcing is a better solution for SMEs based on the comparison of two alternatives. Finally, section 4.6 summarizes a list of key issues involved in CRM implementation that SMEs need to be aware of.

It is noted that the majority of content in the chapter is based on intensive study of 3 chapters-- from chapter 7 to 9, of Dyche Jill's book: The CRM handbook—A business Guide to Customer Relationship management. Appropriate adaptation has been conducted in order for the theory to be

applicable to the cases of SMEs.

4.2. Developing a CRM vision

One major determinant of successful CRM implementation is to set up a unified understanding of CRM vision throughout the entire enterprise, from top executives down to operational personnel. As far as SMEs are concerned, a clear CRM vision should explain why the firm needs CRM in terms of how CRM enables and supports the company's corporate strategies such as overall cost leadership, differentiation, and focus. This vision will guide a SME through following process of CRM planning. In short, the clearer the vision has formed and the more uniform the understanding of the CRM vision throughout the entire enterprise, the more smooth the following CRM planning process will be.

4.3. Defining CRM requirements for SMEs

CRM requirements consist of two elements: one is the business requirements that must be customer focused; the other is the CRM functional requirements that meet specific business needs. In detail, business requirements can be divided into two components: departmental requirements and cross-functional requirements. For example: Increasing the number of current campaigns by 400% is a requirement of the marketing department, while a cross-functional requirement might be in form of identifying which campaigns were more effective with resellers, with the Web and e-mail marketing. The ability to identify explicit business requirements is crucial since it can help determine the nature of CRM implementation---a corporate-wide program that will touch various business area or a department project requiring a single function, such as email marketing, or a self-service website. As far as most SMEs are concerned, the best practice would be incremental CRM implementation--- adopting a CRM program at a single department, and expanding CRM to the entire enterprise by promising value to other departments.

To identify business requirements that are mostly efficient addressed by CRM tactics, one effective means proposed by Dyche is to map them to specific applicable CRM tactics. On the other hand it also determines how effectively CRM capabilities can address certain business

requirements. The table 4.1 below illustrates a mapping between a set of common business requirements of the SME and CRM capabilities.

CRM Feature	Web-based Self service	Personalization	Contact center scripting	Cost generation (Productive)	Sales activity management
Greater number of website return visitor	○	●	○	○	○
E-commerce Efficiency	●	●	●	●	●
Increase in market share for core products	○	○	●	○	○
Higher customer satisfaction ratings	●	●	●	●	○
Intelligent marketing campaigns	●	●	●	●	●
Increased service and require effectiveness	●	○	●	○	●

● = Critical path ● = Related ○ = Unknown/low impact

Table 4.1 Mapping CRM features to business requirements (source: Dyche 2002)

This type of matrix provides a deep insight into critical CRM capabilities. For instance, one of the CRM features---personalization plays a prominent role with most of the business objectives. E-commerce and higher customer satisfaction ratings are two business requirements that be most significantly addressed by CRM capabilities. It also presents a forecast of what will be involved in realizing the business requirements. In other words, the “increased service and repair effectiveness”

requirement ultimately warrants a series of non—CRM features to be successfully implemented, meaning CRM in field services might require more sources and take a bit longer to deliver.

A CRM-pursuing SME should understand that listing business requirements is not enough to begin CRM implementation. Business requirements should drive a series of functional requirements. Although a business requirement describes the customer focused “need, pain, or problem” CRM must solve, a functional requirement describes how to solve it. It is the definition of these functional requirements that will make technology choices much clearer. As Dyche stated, a customer-focused business strategy drives a series of CRM business requirements (e.g. “The ability to track success of target marketing campaigns”). These requirements in turn elicit specific functional capabilities (e.g. campaign response modeling). When the functionality is understood, a list of products can be mapped to each specific function. Figure 4.1 shows the progression.

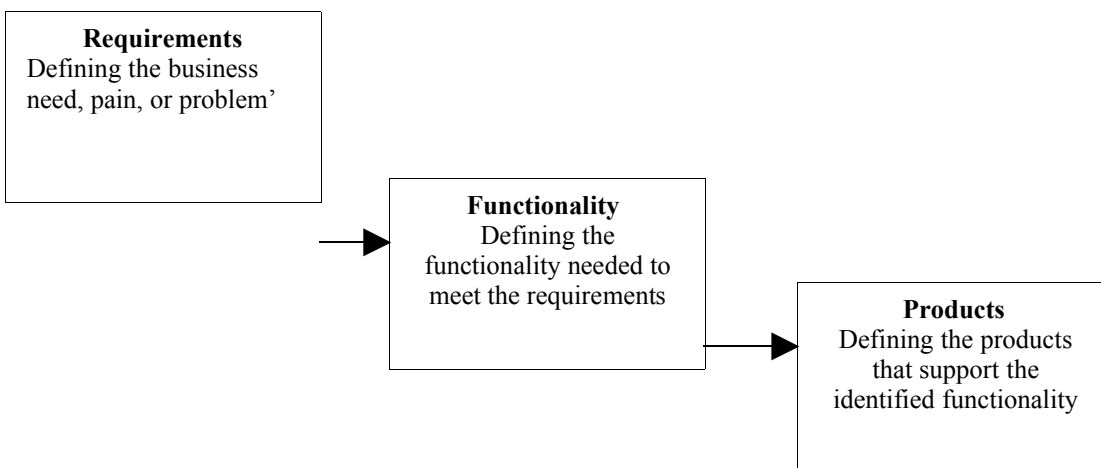


Figure 4.1 Requirements driving technology (source: Dyche 2002)

To efficiently identify CRM functionality, the CRM-pursuing SME should be able to map out business process and identify the functions within it. Each function should map back to a business requirement. The key question to ask when defining necessary functionality is “What aspect of customer-focused processes do we need to support with CRM capabilities?” For example: assuming a SME decided to use CRM to generate a list of five different product recommendations for each

customer, based on the customer's likelihood to buy them. The process had to involve these steps:

1. Analyze customer purchase history to understand the most frequently purchased products by other 'like' customers.
2. Score the likelihood that a customer will buy an individual product.
3. Communicate resulting customer list and product scores to call center application system.
4. Collect response rates.
5. Refine scores based on campaign results.

In this case, the business requirement can be formulated as launching a campaign based on the five products a customer is most likely to buy. Notice that 'Analyze customer purchase history' is a function that supports the requirement; it is also a step in the campaign process. This method is helpful for SMEs to define their own unique requirements and record the functionality for each one. Once the necessary functionalities are identified, they can be mapped to the candidate technologies by answering the question, "Is there a CRM tool that can perform each of these core functions?" In conclusion, a CRM-pursuing SME needs to bear in mind that defining CRM requirements is such a vitally important activity that, only if properly performed, it will optimize the entire process of CRM implementation in terms of reduced cost and time in selection process of CRM products as well as improved possibility of finding the most appropriate CRM tool.

4.4. Determining CRM readiness

As Dyche (2002) pointed out, many CRM projects failed just because those companies are anxious to implement CRM with currently advanced CRM technologies however lack a thorough assessment to determine whether the company is ready for CRM. To avoid making same destructive mistake, a CRM-pursuing SME should thoroughly evaluate its CRM readiness before development. The part of evaluation approach involves identifying relevant factors that reflects CRM readiness. Typically, a scoring method, weighting to specific factors, can be employed to help the SME determine its overall readiness for SME. Below table presents an example of CRM

readiness checklist including readiness assessment factors, explanation and following rating scale to measure CRM readiness:

Factor	Explanation	Scoring
1.Management displays an understanding of CRM and accompanying benefits	Not only must executives understand what CRM means; they should also understand its value proposition and be able to articulate it consistently. And They should understand which corporate objectives depend on CRM	1 2 3 4
.	.	
.	.	
.	.	
.	.	
	Total readiness score:	***
NOTE:	.4: Very descriptive	
	.3: largely descriptive.	
	.2: partially descriptive.	
	.1: not at all descriptive.	

Table 4.2 an example of CRM Readiness Evaluation Metrics (Adapted from Dyche 2002)

4.5 CRM development approaches

In general, CRM development approaches comprise two alternatives: one is in-house, also called as home-grown development, meaning a company build its own CRM system through acquiring and installing CRM vendor's software products in place. It usually requires a certain amount of customization and integration with legacy systems. The other is outsourcing CRM development to a third party that usually is an ASP (Application service provider). This section attempts to examine two alternatives in terms of their respective advantages and disadvantages. It will conclude with identifying which approach is more suitable for SMEs intending to develop CRM system.

4.5.1. In-house CRM development

Companies usually employ in-house development approach in two forms: top-down or bottom-up. According to O'Leary (2000), the top-down approach, also called as "Big Bang", means implementing an entire suite of applications at all locations at the same time within the enterprise. This approach is based on a single corporate vision and equally fine-tuned customer knowledge, plus sufficient financial and IT resources. Benefits derived from the "big bang" approach are shorter implementation period, no need for temporary interfaces since new systems replaces a number of legacy systems all at once, etc. However the 'Big Bang' approach may suffer from higher risk of total system failure due to the huge peak resources may be required and the shorter implementation time. On the other hand, companies with less resource like SMEs can possibly employ a 'bottom-up' approach. It means implementing the CRM system incrementally----from a point solution to a corporate wide program. In other words, a single department like customer service and support can have a CRM project like call center at first, and delivers values of CRM to other departments such as marketing, sales over time. Finally all departments are CRM-enabled through incrementally building CRM modules or functions and linking them to others. This approach is much cheaper than the "Big Bang", and it does not require much resource at once. However the adopting company runs risks of inability to support corporate CRM vision and strategy. According to Dyche (2002), this departmental CRM system eventually can probably become yet another of many legacy systems in case of failure in promising values to other departments. In general, companies that choose to build its CRM system in-house can benefit from

two aspects: 1. Established CRM systems are better aligned with the corporate CRM strategies by self-developing required CRM functions whereas unavailable from current vendors' offerings. 2. Maintain competitive advantage in the sense that competitors are unable to adopt the same CRM technology. For SMEs with relatively more resources or only differentiation from competitors in business process for example, marketing campaign strategies, in-house CRM development in 'bottom-up' approach, in my opinion, can be a good strategic choice in CRM implementation. The CRM-pursuing SME should, however, beware the inherent risk of inability to get other departments involved. Sharing and communicating of customer data and knowledge with other departments is an effective solution to resolve this issue.

4.5.2. Outsourcing CRM

According to the outsourcing definition (2002), outsourcing is "an arrangement in which one company provides services for another company that could also be or usually have been provided in-house." Outsourcing is a trend that is becoming more common in information technology. In some cases, the entire information management of a company is outsourced, including planning and business analysis as well as the installation, management, and servicing of the network and workstations. Outsourcing can range from the large contract in which a company like IBM manages IT services for a company like Xerox to the practice of hiring contractors and temporary office workers on an individual basis.

In recent years, outsourcing CRM has been an increasingly popular alternative for companies. Since the huge investment of money and IT resources in CRM development still keeps many companies, especially SMEs hesitating to go CRM, outsourcing CRM is such an approach that provides companies with low total cost of ownership in terms of savings on infrastructure, staff, and other CRM-related expenses. Other benefits involve rapid implementation speed and availability of advanced CRM technologies. Internally hosted and managed CRM implementations take from six to 24 months to deploy compared with one to three months for most hosted implementations. In addition, companies can get access to highly-performance CRM applications such as intelligent marketing campaign management and sales force automation that they usually cannot afford. There

exist, however, certain disadvantages in outsourcing CRM approach. One major one is customer data security. For instance, having CRM applications hosted by outsiders may possibly lead to sensitive customer data being compromised. The other is difficulty to handle integration issues. Data integration between internal and hosted applications can be practically tough especially for large firms with a number of complicated legacy systems, databases. For instance, some hosting providers offer pretty straightforward import-export of data but integration with other systems and databases is all but impossible.

4.5.3. In-house VS Outsourcing

As far as SMEs are concerned, outsourcing CRM can be a better solution than in-house development for the following reasons:

- **Cost advantage:** a typical CRM point solution offered by major vendors like Siebel, PeopleSoft costs approximately \$50,000 in average, while the company having a similar hosted CRM application could pay only one tenth of the amount per-month. Considering limited financial budget of many SMEs, a hosted solution that meets company's CRM requirements can save significant cost in system maintenance and follow-up upgrade.
- **Faster implementation:** Internally hosted and managed CRM implementations take from six to 24 months to deploy, while it takes one to three months for most hosted implementations. In today's fast-changing e-Business world, SMEs need rapid CRM implementation in order to employ advanced technologies to react faster to customers' needs than competitors.
- **Reduced IT requirements:** In case of outsourcing, there is no need for a SME to buy and install any hardware and software, thereby the number of responsible IT staff is greatly decreased.
- **Access to high-performance and scalable technologies.** Leading ASPs have invested millions of

dollars to develop a scalable infrastructure because they must be ready to accommodate the fast-evolving needs of companies. As a result, SMEs with limited resources can possibly utilize and leverage high technologies that usually only their large competitors can afford to have. This, to some extent, increases SMEs' competitive force.

In addition, as some SMEs have limited system infrastructure and technique expertise, they are likely to require an 'out-of-the-box' CRM application with little customization. The integration with legacy systems is, therefore, not such a major issue that will lead to total CRM implementation failure compared with large firms cases. As for customer data security, SMEs that outsource CRM should highly focus on addressing this issue by setting up a series of control procedures, for example, regularly monitoring the ASPs' performance on customer data management, negotiating and formulating financial penalties for any verifiable infraction.

4.6. Key issues in CRM implementation

Due to their small sizes, SMEs are often more dynamic and reactive to the needs of their customers than are their larger competitors. It is evident to assert that Customer Relationship Management should be a critical component for SMEs to achieve and sustain competitive advantage. However a high failure rate of CRM implementation has been widely witnessed around past few years. Myron et al (2002) revealed that nearly 60% of CRM projects failed worldwide in 2001 due to inability of the performing companies to resolve certain key issues, like organizational changes, integrations, etc.

Critical issues that SMES need to consider in CRM implementation are summarized as follows:

4.6.1. Organizational change

Implementing CRM is likely to cause some organizational change in terms of business units reforming, acquiring new staff, and changing existing business activities. A key question needed to be clarified is that, should business process or CRM software be changed? Dyche (2002) pointed out that CRM engenders business change; a successful CRM program not only changes the way a company deals with its customers, but also changes the way customers deal with the company. Some CRM studies have revealed that most SMEs will prefer fast and simple implementation of CRM system, and require as little customization as possible because of limited financial and IT resources. SMEs should be aware of what kinds of organizational change might occur when adopting CRM strategy and technologies, identifying possible cost drivers from those changes, and developing proactive business models to deal with changes as well as contingencies.

4.6.2. Business justification of CRM

Like other huge enterprise-wide projects namely ERP, SCM, the implementation of CRM project can involve an immense amount of money, people and resource. This is often the prohibitive factor that impedes the implementation of CRM in SMEs since most SMES are generally facing steeping budget constraints. To extract maximum benefits from CRM implementation, it is, therefore, imperative for SMEs to perform cost-benefit analysis of CRM project in terms of business value. In other words, SMEs should be able to identify that, how much does a CRM program cost and what benefits in monetary terms can companies obtain after running CRM. Suffice it to say, ability to obtain accurate result of ROI has enhanced the confidence of companies that want to go CRM. However, the bigger the CRM project size is, the harder the analysis of ROI (Return On Investment) is going to be. To address this problem, SMEs should spend the requisite time and money on accurately scoping the project, undertaking thorough analysis of the preferred CRM solution to ensure a better ROI prediction.

4.6.3. CRM risk management

Due to its key significance to success of project implementation, risk management is an essential part of whole project management. However, “The time for risk management to get involved with CRM is at the beginning.” is stated by Mclaughlin (2001) in the article: your face to the customer: what if it is wrong? Managing CRM risks. The author points out that risks occur when companies make changes to their internal functions in order to be CRM enabled. To provide a deeper insight into this issue, he described two type of risks exist with CRM initiatives as followings,

- Downside risk is defined as the risk of negative things that are not anticipated. Examples include inaccurate or unavailable web site content, fraud, theft and so on.
- Upside opportunity risk is the risk that good things will not happen and therefore the benefits will not be realized. For example: declining customer satisfaction and service levels, inability to effectively up-sell or cross-sell products and services.

As the author says, risk management is quite new to CRM. So far there is little systematic research on this area. As a result, due to the fact that many SMEs are seeking to be CRM-enabled, thorough analysis on this area is, undoubtedly, making valuable contribution to CRM implementation success.

4.6.4. Integration

In order to provide a uniform, consistent way by which customers are interacting with companies, CRM does not just require integrating all front-office processes including sales, marketing and customer services, but also linking them with other legacy systems such as accounting, production and distribution Myron et al (2002) have revealed that lack of integration of CRM system is a significant contributor to CRM failure.

According to Goldenberg (2002), to achieve CRM success, companies are well advised to take the time to understand the issues impacting people, process and technology components individually, but also to proactively manage the integration of all three components to ensure that the people, process, and technology mix is right during all phases of CRM initiatives.

Thus, SMEs should carefully consider integration issues before implementing CRM, in order to avoid a long and expensive integration path following CRM implementation. Some typical examples of issue are: how implemented CRM applications communicate to and share data with others; is additional EAI (Enterprise Application Software) software required to address system incompatibility and how much is its relevant cost; What possible changes may occur to other systems when CRM applications get updated, etc.

4.6.5. Project ownership

Although there are many aspects to be considered when implementing a CRM solution, a key issue that must be addressed is project ownership. There must be a driving force within the organization whose role is to ensure that the intended users are ready, willing and able to use the technology.

Unfortunately, in many SMEs, there are no “spare” resources to dedicate this role to, and so project ownership can become difficult to manage. It is also one of the leading factors that contribute to CRM failure. Kalakota et al(2000) suggested that ownership of the end-to-end project be put in the hands of a single manager, and team members partner with experienced business leaders and developer who understand how to deliver and deploy integrated applications.

4.7. Conclusion

Three core activities are vitally important for SMEs to implement CRM. They are setting up a unified CRM vision across the entire enterprise, accurately identifying CRM requirements in terms

of business goals and CRM functionalities, and carefully assessing CRM readiness. SMEs need to be aware of some key issues in CRM implementation, including organizational changes, business justification, integration, etc.

The CRM outsourcing segment has grown rapidly in the overall CRM market in recent years. Most companies outsourcing their CRM are SMEs with limited resources but that urgently need to implement CRM in order to enhance competitive advantage. Based on the very nature of SMEs and comparison of in-house and outsourcing approaches as well as benefits possibly derived from outsourcing CRM, it is possible to claim that outsourcing CRM is the appealing choice for most SMEs that want to implement CRM. ASPs (Application Service Providers) are those professional firms that provide hosted CRM applications and services to SMEs in need of outsourcing CRM.

5. Exploring ASP model

5.1 Objective and Structure of the Chapter

The objective of this chapter is to deeply explore the ASP (Application Service Provider) model as an outsourcing approach for SMEs that intends to implement CRM. Section 5.1 presents an introduction to ASP in terms of ASP definition, ASP types, application ranges and ASP market. Benefits and potential risks are identified in section 5.2. Section 5.3 determines advantages SMEs can obtain from outsourcing to ASP as well as disadvantage, concluded as key issues needed to be taken into account by SMEs.

It is noted that dominant content covered in this chapter is developed based on previous researches on ASP conducted by Kern et al (1999-2002).

5.2 Introduction to ASP

5.2.1. Defining ASP

Application service providers (ASP) have been characterized as among the first players in a

third wave of information technology (IT) outsourcing, called 'netsourcing'. This follows facilities management of the 1980s and strategic outsourcing of the 1990s. Put it simply, ASPs are service firms that provide on a contractual basis, rental based or 'pay-as-you-use' access to centrally managed applications made available to multiple users. (Kern et al 2002)

5.2.2. Types of ASP

There are many ways to define types of ASPs. Based on difference of ASP offerings, Smith et al (2002) have stated that types of ASPs available to modern business practices, include but not limited to, the following:

- EASP (Enterprise ASP) provides enterprise-class software and applications such as CRM and e-procurement and B2B (Business to Business) exchanges;
- FSP (Full-service provider) provides full service systems integration and IT management services in addition to ASP service; and
- VASP (vertical ASP) targets a vertical industry such as a financial services industry.

Based on difference in service delivery mechanisms, Swift (2001) has divided ASPs into two categories:

- PAsPs (Packaged ASP) are companies who rent brand name software application their customers. Basically they buy name brand applications such as Siebel 7.0, Peoplesoft CRM, implement software applications at the location of customers, and charge them on a rental basis.
- NASPs are network-native ASPs who develop their own applications and deliver them as a

hosted service on the Internet.

Although the large majority of ASPs fall into the PASP category, there is a noticeable trend that more and more ASPs want to position themselves as NASPs. Kern et al (2002) have explicitly explained why ASPs have increasingly employed the Internet as a delivery mechanism to become a NASP. “On the one hand, technology developments such as the rapid maturing of the Internet as a reliable and secure network, the acceptance of browsers as the new application interface, the increasing adoption of server-based computing (i.e. network computers and thin-client server systems) form one set of drivers behind this shift. Another driver is the demand for complex electronic commerce, supply chain management and customer relationship management applications. Changing market forces, on the other hand, sometimes creates a shortage of fundamental IT/application skills, and increasing demand for value added IT services (1999-2000), then from 2001, led to a push to minimize overhead costs and revived focus on organizational core competencies, forcing companies to rethink their sourcing strategies.”

5.2.3. ASP application range

An exploration of the product and service offerings of a large cross section of ASPs in 2001 indicated that a wide range of business applications could be accessed through an ASP model based on market review of ASP offering. (Kern et al 2001) Applications in general are said to support or enable certain business processes in organizations. When these applications are then grouped according to business processes, certain types can be identified as available from ASPs in Figure 5.1.

Business process and application type	Examples
Finance and accounting	Great Plains, J.D. Edwards, Oracle, Peoplesoft, SAP
Human resource management	J.D. Edwards, Lawson, Oracle, Peoplesoft, SAP
Customer relationship management and sales force support	Clarify, Onyx, Oracle, Peoplesoft, SAP, Siebel, Vantive
Manufacturing and logistics	Aspen technologies, EXE
Supply chain management	Baan, Peoplesoft, SynQuest, Flextronics
Product development	Aspect development, Parametric Technologies
E-commerce	Ariba, BroadVision, CommerceOne, Open Market
Industry specific (vertical application suites)	Cerner, McKesson HBOC
Desktop productivity	MS Office
Messaging and collaboration services	MS Exchange, Lotus Notes

Figure 5.1 Range of applications offered by ASP (Source: Kern et al 2002)

5.2.4. ASP market

As Kern et al (2001) stated, more than 800 firms fitted the ASP definition in 2001, and predicted revenues are from \$5 billion to a much less likely \$22 billion in 2005. By late 2001, the ASP market consisted of a diverse range of established and new start-up service firms, including Internet service providers (ISPs), telecommunication and network infrastructure providers (Telcos), independent software vendors (ISVs), online software companies, system integrators and outsourcing service vendors. Together they have been offering access to an immense array of applications. It was widely expected that the market would see a shakeout and consolidation of players down to something like 300, and in its maturing phase an aggregation shift as large outsourcing providers, such as IBM, EDS and CSC determined their netsourcing strategies. These firms would be the ones most able to offer the long investment time, resource capabilities, expertise, technology and geographical presence to make ASP-type business models attractive to global Fortune 1000 businesses.

5.3. Benefits and risks of using ASPs

Benefits claimed by ASPs have been painless frequent application upgrades, lower total cost of

IT ownership and value added business services (Kern et al 2001). On the other hand, employing ASPs also involves a number of risks that SMEs should be aware of. An overview of the most common ASP benefits and risks is presented in below table 5.1

Type	Benefits	Potential risks
------	----------	-----------------

Business	<p>Reduce the need to attract and retain skilled IT professionals.</p> <p>Enable company to concentrate on the strategic use of IT.</p> <p>Enable small and medium-sized companies to use tier-1 applications (e.g. ERP, SCM, CRM).</p> <p>Application scalability enables rapid growth of company.</p>	<p>Less of control and high level of dependence on ASP</p> <p>Inability of ASP to deliver quality of service: lack of skills and experience.</p>
Technical	<p>Fast and easy application deployment.</p> <p>Higher degree of application standardization.</p> <p>Access to wide range of applications.</p> <p>Application maintenance simplified and performed by ASP.</p> <p>Simplified user support and training.</p>	<p>Level of customization and legacy system integration offered by ASP is insufficient.</p> <p>Reliability and speed of delivery due to bandwidth limitations.</p> <p>Low capability of ASP to deal with security and confidentiality issues.</p>
Economic	<p>Low cost of ownership.</p> <p>Low up-front investment on hardware and software.</p> <p>Improved cost control as result of predictable subscription costs.</p>	<p>Price changes by ASP unpredictable for applications update service.</p>

Table 5.1 Benefits and potential risks of using an ASP (Source: Kern et al 2002)

According to Kern et al (2002), the main business benefits revolve around two main aspects: ASPs reduces the need of customers to retain in-house skilled IT professionals, and ASPs provide access to the latest applications of any complexity. In contrast, business risks relate to the concern for loss of control over applications and their management, and the yet unproven ASP business concept in general. Secondly, the technical benefits touted by ASPs are probably the most

compelling. It is often claimed that application problems or limitations associated with the use of applications to support business operations can be overcome by working with an ASP. However, there still remain a number of technical limitations. These include network bandwidth, and issues of security, scalability and reliability. Finally, ASPs offer a number of economic advantages. The pricing model of ASPs enables predictable and controllable usage and application costs. On the other hand, it is unclear what pricing looks like when technology or business needs change during a deal, as they often have done.

5.4 SMEs outsourcing CRM with ASPs

The ASP community has increasingly favored CRM due to the rapid growth of CRM industry in recent years. The Gartner Group has forecast that ASPs will deliver 40% of all CRM applications by 2003. Likewise, Forrester Research has estimated that 64% of all ASP revenues come from CRM applications. The targeted market of most ASPs is Small and Medium-sized Enterprises (SMEs) that in general lack sufficient financial and IT resources, but urgently need to access high-performance enabled business solution like CRM to stay competitive. As illustrated in above figure, one benefit of using an ASP from business perspective is to enable SMEs to access expensive enterprise applications like CRM, ERP. There are some compelling reasons for SMEs to implement CRM by using ASP offerings. The following are summarized advantages of using an ASP from strategic and economic perspective:

- **Focus on core competence:** based on Porter's competitive strategy, competitive advantages of the company come from the strategic focus on its core competence. As far as SMEs are concerned, the probably best way to outperform competitors is to differentiate them in the way that customer relationships are managed and optimized. To meet this strategic goal, SMEs are required to focus on all customers—facing business processes such as sales, marketing and customer service and support. The degree of focus depends on capability of distinguishing core business processes and supportive business processes as well as respective resource allocation. In a typical SME, core process can be defined as either process of sales, marketing and customer services, while supportive processes that can be outsourced as information system

development (CRM technology infrastructure), human resource management and procurement, etc. With the ASP model, the CRM software and its required infrastructure (including support) are provided by the application service providers, and the actual business process operations are handled by the SME. This, in turn, enables the SME to put most of effort on the core CRM process operations. As Dyche (2002) stated, “ASPs free up your business to concentrate less on technology deployment issues and more on your customers.”

- Cost leadership. As mentioned in chapter 3, SMEs can achieve total cost leadership in terms of reducing transaction costs occurred during all customer-facing activities with the use of CRM applications such as call center and self-service portal website. However those CRM applications are very costly to develop in-house, and even some SMEs cannot afford a single stand-alone CRM software module like sales force automation. Outsourcing to an ASP can greatly reduce the cost of CRM implementation for SMEs. The ASP buys the software and licenses it out to SMEs, who effectively become end users. The cost is a just fraction of what the customer might otherwise pay in software license and update fee. Thus the ASP is able to meet CRM needs of those SMEs who could never fund a data center, let alone some of the key technologies necessary to enable CRM. Most importantly, the ASP can absorb the huge cost of system administration and maintenance as well as the staff resources and skills necessary to keep the technical environment humming. (Dyche 2002, P218) As some ASPs claimed, basically there is no need for the customer to buy any software and hardware; a web browser and Internet connectivity are just required to access high-performance CRM applications. In short, a hosted CRM solution offered by ASPs is much less expensive than a CRM module or packaged software from CRM vendors. Low total cost of ownership of CRM implementation in terms of price is a compelling reason for SMEs to choose ASPs.

There are also other advantages of using ASP for SMEs implementing CRM from the technical perspective:

- Rapid implementation: According to Greenberg (2001), ASPs implement the same products on

the same platform over and over again. This enables them to become extremely proficient at this task, even to the point of being able to automate the most repetitive parts of the process. As a result, the human effort and total time required for the implementation are further reduced. This approach effectively meets SMEs needs of rapid CRM implementation, which in turn timely addresses fast-changing needs of customers nowadays.

- Availability, durability of robust technology and service: ASPs have developed mature technology infrastructures that include robust servers, wide-area networking, operations and database software, application development technologies, and wireless client support for quick and thorough delivery of multiple software packages. (Dyche 2002, P219) This enables SME customers to get access to high-performance CRM technologies and applications on a regular basis. In addition, ASPs can provide the SME customer with 24/7/365 system uptime, which is an especially significant guarantee for mission-critical applications like CRM.
- Scalability of CRM applications. Along with the SME growth, the need of upgrading CRM system is increasingly arising. For example: need to add another 50 users to CRM system or half million customers more into the database. ASPs have invested immensely to develop a scalable infrastructure, which is ready to accommodate the growing needs of SMEs customers. The company avoids normal system update activities such as justifying, procuring and installing new disk drivers to database server. Instead the ASP can do these all for the company as long as the ASP is informed of clear new requirements.
- Sufficient technology support: ASPs hire and train their staffs to become experts on specific CRM products, therefore a pool of diversified CRM experts are maintained in place. According to Dyche (2001), ASP staffs apply a CRM product to multiple user environments; they can see the product's strengths and weakness. As a result, by referring to ASP staffs on system support, SME customer can reduce needs of hiring external CRM consultants and retaining internal IT staff.

Along with advantages of ASP model, some disadvantages or potential risks exists in following aspects, which would likely undermine efficiency of SMEs outsourcing CRM to ASPs:

- Security concerns: Customer data, knowledge is a strategic resource for SMEs to stay competitive. Therefore SME customers are likely to have security concerns since customer data is usually stored in the data center maintained by ASP in an outsourcing arrangement. In other words, some companies are nervous about having customer data in hands of ASPs. Likewise, due to one-to-many relationship between ASP and customers, there is a higher likelihood that ASP servicing many SMEs in the same industry would compromise one SME's customer data to the other competitors. Other security concern arises in Internet connectivity. Some SMEs, with low-speed dial-up lines, are likely to view the Internet as unsecured and unreliable communication channel. They are, therefore, worried about integrity of large data set in transition.
- Increasing dependency on ASP: It often makes the SME customer highly dependent on the ASP, especially where required applications and services are restricted to a small number of ASPs. (Kern et al 2002) High dependency can possibly lead to lock-in with ASP, resulting in unaffordable switching cost for SME customers with limited IT budget.
- System integration: Because CRM applications are hosted outside the SME customers, integration with other enterprise applications becomes challenging especially to those medium-sized companies who already have a number of different legacy systems in place. Additionally, the fact that the applications (and the experts who manage them) are not part of the enterprise's core IT function makes integration efforts more complex. (Greenberg 2001, P307)
- Uncertainty if ASPs can address future technological changes: Changing business needs of SMEs incur accompanying technological changes. It is uncertain, especially in the long run, if

and how ASP can maintain adequate IT expertise to respond to changes in technology and customer's business requirements. There are likely two consequences of this issue. One is that customer choosing to switch or bring service back home may confront significant additional costs in case of current ASP service termination. The other is that the ASP may charge the customer more as a result of technological change. (Kern et al 2002)

5.5. Conclusion

To sum up, advantages of outsourcing to ASP for SMEs outweigh disadvantages. There are a certain solutions to overcome disadvantages. For data security, the ASP and SME customer can formulate a Service Level Agreement (SLA) where data security policy, security solutions as well as fault penalty are specified. This can largely reduce the SME customer's data security concern. In addition, the SME customer should maintain the capability of switching to an alternative ASP with ease, which reduces the degree of dependency on ASP and the switching cost. All in all, it is evident that using ASP offerings to implement CRM is a compelling choice for most SMEs. Furthermore, based on SME characteristics, it is possible to claim that most SMEs would require a web-based CRM application that is either a point or a multi-functional solution offered by NASPs. This constitutes the baseline of the subsequent empirical study.

Part II Empirical Study

6. The Research

6.1. Objective and structure of the chapter

This chapter aims to depict the actual process of the empirical study. Section 6.2 describes research methodology by identifying the research problem, discussing the nature of the research and determining the way to perform empirical study. That is a comparative study on products offered by

two currently prominent ASPs. Measurement instrument is, subsequently, identified as the scorecard developed in conformity with research objective in section 6.3. Section 6.4 describes the selected empirical data in terms of company overview, product introduction. The actual comparison of selected products in functionality and critical technical features will be documented in section 6.5. Finally, section 6.6 attempts to interpret the comparison results.

6.2. Research methodology

Since the overall objective of this thesis is to study the viability of using ASP models for SMEs to implement CRM, the theoretical part has attempted to establish the foundation for following empirical study---Chapter 3 explains why SMEs need CRM by highlighting its strategic importance and benefits in doing e-Business; Chapter 4 describes process of implementing CRM in SMEs by identifying and detailing key activities like setting up a uniform CRM vision, defining CRM requirements, determining CRM readiness, comparing CRM development approaches, etc; According to the conclusion drawn from comparison of CRM development approaches in Chapter 4, Chapter 5 has summarized advantages and disadvantages of ASP model as an outsourcing option to SMEs from both business and technical perspective based on previous ASP research. The purpose of theoretical part is to possibly draw a linkage between CRM, SMEs and ASP model based on relevant theories, and consequently point out the research problem: how effectively ASP approaches in terms of product and service offerings in practice address the CRM needs and requirements of SMEs.

The actual research is defined as exploratory in nature with aim to provide an insight into limited previous research on ASP model especially in terms of decision and evaluation criteria from technical perspective. This is largely due to considerable lack of empirical study on ASP model from technical perspective, as Kern (2002) suggested that technical perspective should be integrated to make theoretical framework more relevant for studying ASP in his research limitation statement. To serve the objective, the empirical study can be conducted in several ways:

- Performing a case study.
- Making a survey by written questionnaire.
- Conducting interviews with ASP reps.
- Comparing and evaluating ASP offerings by using trial programs of ASPs.

Although making a case study helps research deeper into a particular problem, it sometimes fails in reflecting the whole problem situation. Results of a case study is generally useful to a single case, however sometimes cannot be applied to other cases. (Routio1995) In this study, SMEs are defined as a whole instead of industry-specific, thus results of a case study on a specific SME will provide little empirical value to generic SMEs implementing CRM with ASP.

In general, survey by questionnaires is an effective mechanism for efficient collection of certain kinds of information. It involves advantages like standardized format of response, quick data gathering and access to a large portion in question. (Milne 2000) Although a survey by questionnaires is a feasible research method of the study due to its critical mass on either SMEs or ASPs in this study, designing questionnaires is time-consuming and distributing questionnaires via post mails or emails result in probability of low response rate. Therefore, the empirical study may run risks of incomplete data upon which a valid conclusion bases.

Since the study aims to explore how ASP offerings can benefit SMEs implementing CRM, ASP offerings are more appropriate to be identified as research objects than SMEs, due to industry-specific features of the SME in question cannot provide a holistic picture of SMEs. This allows for research method of conducting interviews with ASP reps. In practice, however, some ASPs' foreign subsidiary reps are more business oriented and therefore generally lack adequate technical knowledge of their products. This approach seems to inefficiently meet defined objective of the study as examining ASP offerings from the technical perspective.

Based on above discussion of alternative research methods in terms of respective disadvantages

as far as this study is concerned, a comparative analysis of ASP products has been decided as a means to perform the empirical study. Compared with above research methods, following three primary reasons explain why a comparative analysis is more suitable to this study:

- Unlike a case study that usually targets to an industry-specific SME, the comparative analysis can appropriately serve the objective of the thesis by studying ASP CRM products that meet common CRM functional requirements of SMEs.
- Compared to survey by questionnaires, the comparative analysis collects empirical data in a different way---data about software products will be obtained from ASP's website and product review publications from other CRM-specialized website. Additionally, by personally testing full-functional trial applications, strengths and weakness of studied products can be more efficiently identified.
- Product data obtained from interviewing ASP reps is likely to be of business attribute, such as ROI calculation, sale revenue growth rate, etc. It is, therefore, impossible to collect sufficient technical data of studied applications. Instead, the comparative analysis will focus on studying relevant documents and online tutorials of trial applications as well as their functionality testing. The data obtained in this way is, therefore, more technical in nature to address the study objective.

It is, therefore, decided to perform the comparison and evaluation of product offerings of selected ASPs that targets to SMEs. In detail, it intends to identify respective strengths and weakness of selected products from technical perspective.

6.3. Measurement Instrument

The research will focus on examining technical aspects of ASP product offerings like application

functionalities, data security, integration, etc. A number of checklists of evaluation criteria that suit SME customers will be generated later. Particularly, the scoring method will be used to measure the level of studied ASP product capabilities in meeting SMEs requirements. Appendix 1 presents a description of common CRM functional requirements of SMEs. And based on it, the scorecard to compare and evaluate selected ASP products in terms of functionality is presented in Appendix 2.

6.4. Empirical data

According to above theoretical studies, most SMEs would prefer accessing CRM applications via web browsers over the Internet because of low cost of system development and maintenance, ease of use, reduced needs of internal IT personnel, etc. As a result, NASP vendors—ASPs that deliver CRM applications to the SME customer over the Internet, are selected for the empirical study. Two NASPs have been identified--**UpShot and Salesforce.com**--as research objects based on their leading ASP market situations, wide range of CRM applications and integrated solution offerings. Section 6.3.1 presents an overview of two selected companies as well as general similarities and differences between their business models. Section 6.3.2 describes two selected applications from each company in terms of general product features, modules, etc. It is noted that UpShot and Salesfroce.com are not only the names of the companies, but also that of the selected products. To avoid possible confusion, UpShot and Salesforce.com stand for names of selected products, unless specified, in section 6.3 and following sections.

6.4.1. Company overview

- **UpShot**

Founded in 1996, UpShot Corporation provides an online, sales-focused CRM solution designed to help companies increase sales and forecast more accurately. UpShot's customers include blue-chip companies such as Hewlett-Packard, Sanmina-SCI, and Xerox, as well as thousands of organizations of all sizes. [UpShot Sales](#) and [UpShot Marketing](#) create a tightly integrated, closed-loop system that lowers the cost of getting high quality leads by up to 40%, and improves the conversion of those leads to closed sales by as much as 20%. [UpShot XE](#) extends the capabilities of

[UpShot Sales](#) and [UpShot Marketing](#) by providing integration with other enterprise applications, customized views of information, and automated business processes to companies and divisions with \$1 billion or more in revenue. UpShot is based in Mountain View, California and has offices throughout the U.S.

- **Salesforce.com**

The company was founded in 1999 by former Oracle executive Marc Benioff, who pioneered the concept of using a simple Web site to deliver enterprise applications. Based in San Francisco, the company introduced its first Web Service (sales force automation) in the fall of 1999. By 2000, the company had developed the first full online CRM service including customer support and marketing automation. In February 2002, the company introduced its Enterprise Edition designed specifically to meet the needs of larger, more complex organizations. Later in 2002, the company will launch an offline edition and an e-Business suite with full back office integration capabilities.

Today large customers of Salesforce.com include Daiwa Securities, USA Today, Autodesk, Dow Jones Newswires, First Union National Bank, Siemens PT&D, and Textron Fastening Systems. A list of global business partners to salesforce.com includes Informatica, Miller Heiman, Data Junciton, Bersonander Group, TIBCO, and a nationwide network of Certified Service Partners.

- **Upshot VS Salesforce.com**

UpShot and Salesforce.com share numerous characteristics: Both companies are privately held and based in the Bay Area. Both started with Sales Force Automation and broadened their offering to additional areas of CRM. And both are growing companies with a large installed base of SME customers. In current ASP market, UpShot and Salesforce.com are two major sources from which SME customers consider to acquire online CRM solutions. Two companies view each other as major competitors with similar business model and product features in terms of monthly rental fee and web-based solutions. A recently study conducted by Topline Strategy Group(2002), an

independent research firm, revealed that UpShot holds a better market position against Salesforce.com. About 66% of companies considering CRM finally choose UpShot, while 34% for Salesforce.com. The difference greatly attributes to, according to the study, UpShot's superiority of product features to that of Salesforce.com. Other decision factors cited by customers in the study involve sales experience with vendors' sales reps, and public awareness. As revealed by the study, Salesforce.com was found to perform better than Upshot in advertising and public relations.

6.4.2. Selected products for research

The comparative analysis will be performed on web-based and sales-focused CRM applications that two companies provide. This is largely due to the nature of selected products that serves the research objective—examining technical features of an online integrated CRM system that particularly meets the needs of SMEs. The other reason for choosing the products is concerned about facilitating research process in practice---both companies offer subscribers free trial, so applications can be accessed for 30 days long by signing a free trial agreement with companies. This greatly reduces the cost and time constraints of the actual research.

- **Salesforce.com—professional edition**

The online salesforce.com solution comprises 4 applications: sales force automation, marketing automation, customer service & support and report& analysis. It is available as team edition, professional edition, enterprise edition, off-line edition and e-Business suite. The newly launched team edition is designed for small companies with less than 10 system users. The professional and enterprise edition are respectively designed for mid-sized and large enterprises. The off-line edition works as a supplement to both professional and enterprise edition. It enables users to access applications without the Internet connection in the way that users download all working data into a 'briefcase' application, then work on it when offline, and finally update online databases with changes. Available later this year, the e-Business suite will seamlessly integrate back-office applications into your front office, aiming to give the entire organization a complete 360-degree view of customers.

For comparative analysis, the Salesforce.com Professional Edition (SPE) has been chosen because it particularly targets to SMEs that need a full-featured CRM functionality. In detail, SPE is a menu-based application that allows users to view, create, edit, update and delete information on following defined data elements:

- Accounts - information on specific companies.
- Contacts - information for individuals associated with your accounts.
- Leads - information on prospective clients.
- Campaigns - information on marketing programs.
- Opportunities - specific sales you're pursuing at individual accounts.
- Forecasts - projected quarterly sales targets.
- Cases - information on customer problems and questions.
- Solutions - resolutions to your customer's problems.
- Reports - data analysis for individuals and the entire organization.

In addition, users have access to tasks and calendar events, competitor and partner information, notes for contacts, accounts, opportunities, and cases. Coupled with above components, SPE provides straightforward and easy-to-use customization, integration, and administration tools to facilitate deployment in SMEs. Figure 6.1 shows a snapshot of SPE layout.

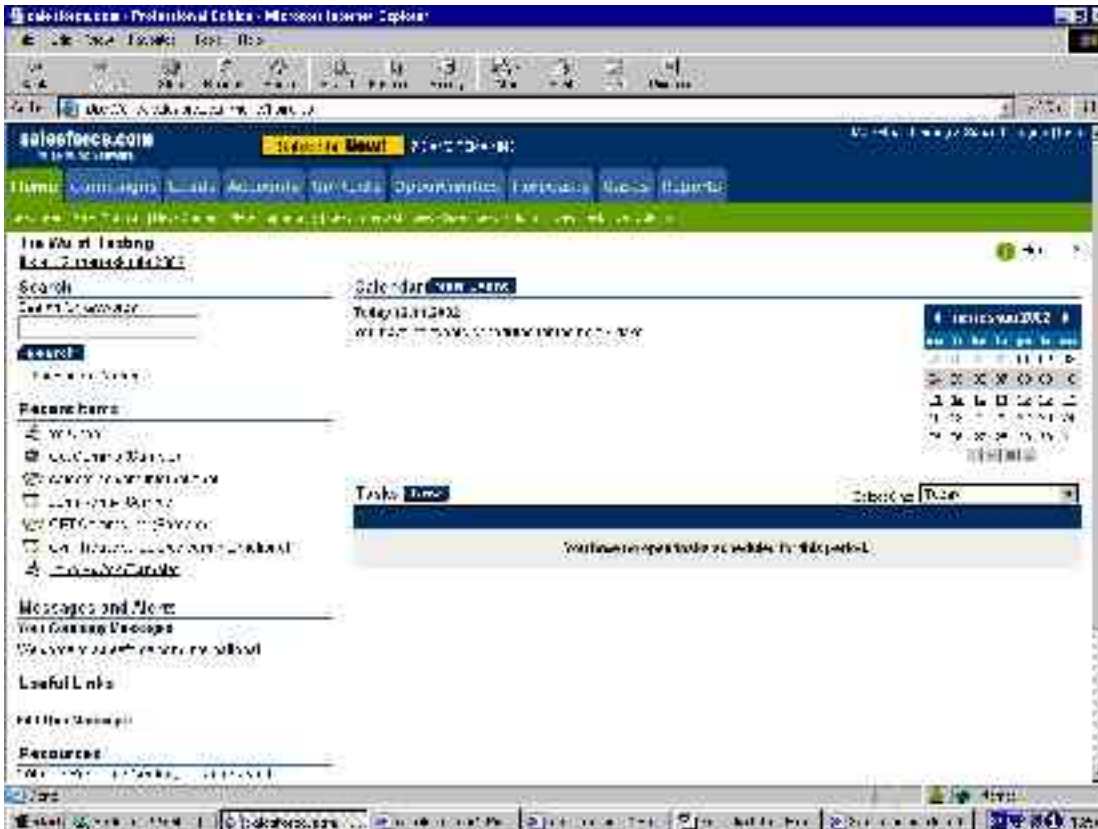


Figure 6.1: A snapshot of SPE layout

- **UpShot**

The first online CRM solution, UpShot was introduced in 1999. Continuously enhanced since its introduction, UpShot provides the Web-based CRM focused entirely on increasing sales. In addition, Upshot aims to promote closer coordination of sales and marketing activities, help sales organizations close deals faster and more predictably. UpShot solution is now available as two editions: UpShot for SMEs and Upshot XE designed and launched in 2002 to meet needs of large, more complex enterprises.

Like salesforce.com professional, UpShot is also a menu-based application that simplifies user operations and is tailored to meet the SME needs. It has, therefore, been selected on study purpose.

The table 6.1 below presents an overview of a set of modules and functions that UpShot supports.

Sales Force Automation	Marketing Automation	Sales rep productivity
<ul style="list-style-type: none"> Account/Contact/ Opportunity management 	<ul style="list-style-type: none"> Campaign management 	<ul style="list-style-type: none"> Outlook Integration— appointments, to dos, contacts, and e-mail
<ul style="list-style-type: none"> Activity management 	<ul style="list-style-type: none"> Campaign execution and response management 	<ul style="list-style-type: none"> Offline Access
<ul style="list-style-type: none"> Forecasting 	<ul style="list-style-type: none"> Lead management— automated lead capture, scoring and distribution 	<ul style="list-style-type: none"> MS Office/ Desktop integration infrastructure
<ul style="list-style-type: none"> Reports and analytics 	<ul style="list-style-type: none"> Reports and analytics 	
<ul style="list-style-type: none"> Support for Palm, RIM, and PocketPC 		
<ul style="list-style-type: none"> Partner Management 		

Table 6.1. An overview of UpShot modules and functions.

The comparative analysis will be performed on the UpShot trial application claimed to be a full-featured CRM product by UpShot company. Figure 6.2 presents a snapshot of UpShot layout.

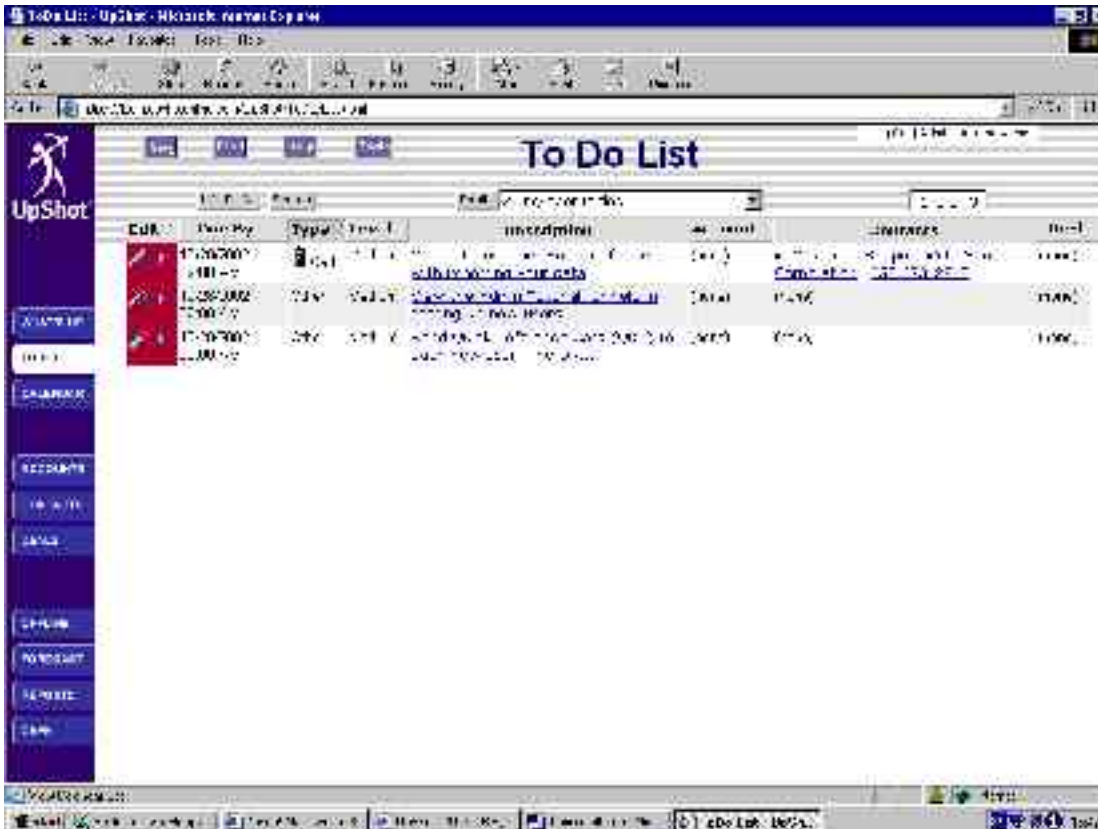


Figure 6.2: A snapshot of UpShot layout

6.5. Comparison

Even though as mentioned above the comparative analysis will focus on technical aspects of selected products, it is still worthwhile examining the value of the studied ASP products to SME customers from strategic perspective. It is because of compelling business benefits involving small upfront CRM investment, rapid implementation and less required system maintenance personnel that SME customers perceive as major drivers of decision on using ASP products. Therefore the first step of comparison is to find out how much value each application brings from business perspective. Followed by functionality comparison, it aims to examine how selected applications fulfill a set of common CRM functional requirements identified for SMEs. A deep investigation into application functions will be attempted---by filling some data, and processing it throughout the entire application. The investigation results will be in form of the scores that intend to indicate performance levels of applications in fulfilling certain requirements. Followed by the reason for why certain scores are rated, the comparison study attempts to draw a conclusion according to the total score each application obtains. The next step aims to examine how each application addresses

certain technical issues such as user interface, security, integration, and application scalability. Those issues to a great extent reflect technical concerns of most SME customers. The comparative study will also use a scoring mechanism to measure the level of each application’s performance in certain technical aspects. Finally, a conclusion will be drawn based on total scores.

6.5.1. Business value comparison

According to chapter 5, SMEs can benefit from using an ASP in terms of cost leadership and focus on core competence from strategic and economic perspective. This section intends to find out actual business values in terms of Total Cost of Ownership (TCO) SME customers can obtain from two selected applications. The TCO reflects the total expense involved in purchasing, deploying, and maintaining an enterprise solution. Components that constitute TCO are identified as application license & subscription fee, support/upgrade costs, deployment time, hardware investment, cost of IT personnel and training cost. In this section, the comparison will be performed between two applications and conventional CRM solutions. Below table 6.2 illustrates comparison between two applications and conventional CRM solutions in TCO aspect. It is noted that figures in table are obtained from webpages of studied ASPs, therefore the validity of figures is impossible to be confirmed by this study.

Components of TCO	Conventional CRM	Salesforce.com: Professional Edition	Upshot
Number of Users	50	50	50
Application License & Subscription	\$100,000.00	\$39,000.00	\$44,100.00

Support/Upgrade fee	\$18,000.00	\$0.00	\$0.00
Implementation cost	\$100,000.00	\$9,750.00	\$7,500.00
Deployment time	180 days	15 days	15 days
Hardware Investment	\$100,000.00	\$0.00	\$0.00
Cost of IT Additional Personnel acquisition	\$50,000.00	\$0.00	\$0.00
Training cost	\$15,000.00	\$3,900.00	\$3,600.00
Totals(\$)	\$383,000.00	\$52,650.00	\$54,200.00
Cost(%)	100%	14%	15%

Table 6.2. Comparison of TCO(Total Cost of Ownership) (Source: Upshot and Salesforce.com websites)

Considering the overall objective of the empirical study is set to compare ASP products in technical aspects, this study will not go deeper into examining business values of ASP products. The result of this comparison will be attempted in section 6.6.

6.5.2 Functionality comparison

This section is dedicated to compare functionality of selected two applications. It aims to examine how applications support identified functional requirements presented in appendix 1. Common functional requirements for SMEs consist of three categories: sales functions, marketing functions and customer service & support. Each category has been further divided into subcategories such as: calendar/scheduling, contact management and lead management in sales functions; marketing campaign management, email-marketing in marketing functions; customer segment and customer profiling in customer service & support functions. The comparison will employ a scorecard that defines descriptive implications as specific scores ranging from 1 to 5. (See appendix 2). The followings present actual comparison of two applications. The result of comparison will be

illustrated in section 6.6.

6.5.2.1. Sales functions

- **Calendar/scheduling:** Both applications enable users to create, edit, and delete activities associated to accounts, contacts and opportunities. An activity is described as call, visit, email, meeting, fax and mail as well as specified attributes such as priority, due date, and status. Users can then handle the activity themselves, or assign it to another user. Any completed or scheduled activities can be viewed in calendar page by hour, day, week and month.
- **Contact Management:** Both applications support contact management so that users can store, view, sort, filter, delete, edit and find contact info associated with the account. Each single contact is recorded with details such as title, contact means (address, cell phone, work phone, fax, email address), date of creation and modification, contact owner name and description. In addition, both applications allow users to create a new contact with the existing info in current contacts. In the same page of the contact, users can view, sort activity history and create to-dos like appointment, visit, email, call, etc. However it is noted that salesforce.com empowers an email functionality that enables users to email the contact in question with available templates. Users can send up to 100 contacts for small-scale sale. Another function is the call log that allows users to enter results of unplanned phone calls for later activities history review. While UpShot is short of similar functionalities. And there is no TCI (Telephone-Computer Integration) functionality enabled in either application with which users can make a direct call with the computer to the contact in question.
- **Key account management:** In both applications, accounts are defined as all of company users can track including customers and partners. Account info consists of company name, company website, industry, annual revenue, billing address, employee numbers, account owner, date of

creation and modification, etc. Accounts can be sorted by standard views or customized views, and users can add new account and edit current accounts. Associated contacts, activities are also listed in the same page of the account in question where users can manipulate other operations like viewing, adding, and editing if necessary. As far as key account management is concerned, Upshot performs better than salesforce.com. Upshot provides more detailed view of the key account by a research capability, which is a yahoo-service to check out the company financial information in stock market, local map and weather. Furthermore, UpShot manages key accounts by means of account classification ranging from customers, partners and subsidiaries. This intends to improve the accuracy of profitability analysis of key accounts in different groups. Compared to Upshot, salesforce.com focuses on sorting accounts based on time variables, for instance: view recent modified or created accounts, new account this week, and so on. However it is found that neither application provides a robust method to identify new key accounts other than annual revenue comparison and current deal situation.

- **Lead management:** According to the UpShot user manual, a lead is a potential deal that has not been qualified. A deal that has moved beyond the lead stage is a potential revenue opportunity that has been qualified and is in the sales pipeline. The same definition is also provided in Salesforce.com. Both applications enables manual lead generation and lead import from outside. However the way to import leads varies. UpShot allows users to purchase leads from its partner InfoUS.com that is a business leads selling website, and import them to UpShot database by using an online import wizard. Salesforce.com, however, enables users to import leads by using a Online Lead Capture function to gather lead info from the customer company's website. Importing leads from outside applications like MS office in the organization is also possible by using an online import wizard provided by Salsforce.com. Additionally, both applications support lead edit, duplication and deletion as well as operations on lead-associated activities, account and contacts. While salesforce.com provides more lead management functions in the way that users can sort, filter leads by standard views or customer list views and easily convert leads to opportunities defined as a pending sales deal.

- **Pipeline management:** In both applications, sales pipeline analysis is effectively supported by reporting capability. Basically, users can view sales opportunities reports by stage in current sales cycle in either summarized or detailed format. For analysis purpose, descriptive reports with business value calculation can be generated according to user requirements. For example, users can generate report displaying active opportunities in certain stage between specified dates. In addition, both applications enable transforming reports to graphical presentation like bar and pie chart, and users can customize report layout and export the report to the excel file for further calculation.
- **Territory Management:** In both UpShot and Salesforce.com, territory management is concerned with user role hierarchy that manages roll-up of information among territories. A user's role also determines which data is accessible to him or her in forecasts. Territory can be set up by administrator or sales manager of a sales team. Users can always view the information of other users assigned to roles directly below them in the hierarchy. Both applications enable administrator or sales manager to create a profile that displays all accounts, related activities in a specific territory. This function improves the sales manager's capability of monitoring and controlling sales activities of his sales people.
- **Sales forecasting and report:** Sales forecasting capability in UpShot and Salesforce.com allows users to best estimate how much revenue can be generated in a given quarter. Both applications are pretty powerful in sales forecast report. For instance, user can view summarized or detailed monthly forecasts with opportunities contributing to the forecast. It is worth noted that UpShot provides sales managers with a graphical overview of active opportunities and their location in the pipeline, while salesforce.com is currently short of the similar function. However, salesforce.com allows sales representative users to create a forecast according to their assigned quota. Additionally, Salesforce.com provides users with more flexibility in customizing forecast reports than UpShot----users can generate reports based on their own views, and therefore decide what to display in the report. As for other reports, both applications offer a variety of report templates such as account and contact reports, activity

reports, lead reports, forecast reports and sales reports.

- **Customer team selling:** Although both applications are sales-focused, they all support information sharing and task coordination with other CRM departments such as marketing, and customer service. For example, by using the same application, sales representatives can collect information by importing leads that are usually results of a certain market campaigns. Reversibly, marketing executives can design specialized market campaigns based on information on sales forecast of key opportunities. However, it is noted that the studied trial applications do not include marketing functions, as a result it is possible to claim that actual applications support customer team selling according to the vendor product demo and online user tutorial, but towards what degree the applications support customer team selling remains unclear.

6.5.2.2. Marketing functions

Both UpShot and Salesforce claimed that their online CRM products fully support and integrate marketing functions such as market campaign management, lead management, reporting and analysis, response tracking. In particular, the linkage between sales functions and marketing functions lies in lead management. Both applications are claimed to have a strong focus on optimizing lead management process in marketing and sales departments from online or offline leads capture, through leads assignment based on lead scoring rules, to closed deals. In addition, other key features, claimed in marketing function description, include marketing campaigns plan, target & execution, campaign response tracking, campaign effectiveness analysis, e-mail market campaign, customized report & analysis, etc. It is noted that UpShot Company assumes that most of his customers have sales and marketing departments separated, therefore UpShot requires marketing and sales users to log on to two separate modules. On the contrary, Salesforce.com includes a dedicated campaign tab to enable market and sales users to work on a single system. This can facilitate marketing users to access sales information for their campaign management. However, due to the fact that the above claimed marketing functions are not available for testing in both studied trial applications, it is hard to measure the effectiveness of applications in supporting

and executing such functions. As a result, those functions are supposed to be supported by applications according to each vendor's online product demo and relevant industry study papers. Likewise, it remains unknown if studied applications support other marketing functions like mail management, show/seminar management, documentation/collateral management and banner ad management in the functionality evaluation scorecard.

6.5.2.3. Customer service functions

It seems that currently no relevant functions of customer service management are available in UpShot, because the company is particularly focusing on Sales Force Automation. While in Salesforce.com, customer service & support reps can track all interactions with customers in terms of customer enquiries, problems and feedbacks by using case management function. In detail, users can create a case manually or capture cases from the company website. Cases can be assigned to users based on territory, issue category and any other customized criteria. Other case operations involve editing case, deleting case and viewing case reports as well as creating and finding solutions for the case. A solution to the case in question can be published by managers and accessed by other users. In short, Customer service & support functions of Salesforce.com can help users effectively address customer issues, and finally improve customer satisfaction level. However neither Upshot nor Salesforce.com supports advanced customer service functionality listed in the scorecard, such as customer segmentation, customer profiling, customer share and profitability calculation and customer lifetime value analysis.

6.5.3. Critical feature comparison

This section is dedicated to the comparison of Upshot and salesforce.com on other identified key technical issues such as user interface, user support, security, integration with legacy system and application scalability. Based on above theory, those are contributing issues to ASP customer's

decision making, as a result this section attempts to examine how studied applications address those issues. The comparison will use the scorecard presented in table 6.3. It aims to make more sense to the result of comparison by defining descriptive implication as specific scores ranging from 1 to 5. The listing of issues is not subject to the order of random since the identified technical issues are regarded as equal importance to each other. The following subsections depict the actual comparison of two applications in each identified issue. The results of comparison will be interpreted in section 6.6.

Technical issue	Descriptive range	Scoring range
User Interface	Very difficult to use-----very easy to use	1-5
User Help & Support	Content: very difficult to understand---self intuitive	1—5
	Availability: not available-----available from multiple channels	1—5
Security	Very high probability of security threats--Very low probability of security threats	1-5
Integration with legacy systems	No integration---- -----full integration	1--5
Application scalability	No scalability-----strong scalability	1-5

Table 6.3: Score ranges of technical issues

6.5.3.1. User interface

Both Upshot and Salesforce.com develop a menu and tab-based user interface similar to those of popular web portals like My Yahoo. The tab-intensive user interface of UpsShot facilitates user's navigation throughout the entire application, but the scattered buttons around the top frame sometimes brings users feelings of mess-up. When users are displaying a large amount of data, the

text-based links in salesforce.com works better. As far as application layout is concerned, Upshot layout is decorated with a few colors while salesforce.com uses multiple colors and icons to highlight important information such as key accounts, opportunities, etc. In short, salesforce.com features a user-friendlier layout than UpShot.

6.5.3.2. User support

User support in both applications involves user manual, online tutorial, web-based seminar and training courses. By extensively reviewing user support documents, it is found that the content is explicitly understandable to non-technical users. For instance, clear definitions of key concepts like lead, opportunity and account and their relationship are provided in the beginning of associated function description pages. The whole user support document is structured in a logical way that users can follow it to complete a workflow. Take the lead management function for example: the user support document is organized according to lead lifecycle from lead generation and import, through lead assignment and distribution, to deal or opportunity close. In addition, user support of both applications is available via multiple channels: web, email, telephone, fax, mail and personal visit. For new users, introductory tutorial are conducted by means of free web-based training sessions on a weekly basis. Instruction is available to every user operation in form of online help files. In case of some unforeseen or formidable problems, users can always refer to FAQ list or email and call the customer support team. It is worth noted that salesforce.com featured an online knowledge base searching function that enables users to quickly locate an answer for the question instead of manually searching throughout the entire online help document. When necessary, customers can ask company's customer support personnel for an on-the-spot support. Therefore, it is possible to claim that Salesforce.com performs better than UpShot in terms of user support availability.

6.5.3.3. Security

Many companies are still reluctant to let their most important resource, customer data, out of their hands. Data security is one key factor that affects SMEs' decisions on using CRM ASPs. Both Upshot and Salesforce.com companies claimed that they have developed a variety of solutions

to address security issues. Security technologies claimed to be used by both companies are SSL (Secure Sockets Layer) for data and password confidentiality, secure firewalls with anti-spoofing technology, intrusion detection software and hardware, etc. Both applications performs data backup on a daily basis, and disaster plan is in place. In addition, customers are able to download all working data into local database by signing some special service agreements. UpShot has offered a data delivery service that allows customers to either download a copy of UpShot database on a weekly basis, or receive monthly CD with data burn onto. Likewise, Salesforce.com provides customers with similar “week export” service in order to meet customer’s needs. It is worthwhile noted that with the introduction of off-line edition by both applications, customers’ data security concerns will be considerably reduced by means of keeping a copy of working data in local computers. As far as data privacy is concerned, UpShot and Salesforce.com have formerly stated in privacy policy that customer data will not be viewed by any third parties unless required by law or operational issues managed by ASPs. As stipulated in SLA (Service Lever Agreement), customers are authorized to ask for financial compensation from ASPs in case of security breaches. Based on above, it is possible to conclude that both applications are of very low probability of security threats.

6.5.3.4. Integration with legacy systems

Based on extensively reviewing documentation and testing applications, it is found that both applications support a certain degree of integration with legacy systems. Both UpShot and Salesforce.com companies assumed that Microsoft Windows environments are popular among legacy systems of SME customers, as a result their applications enable close integration with Microsoft applications. It is, furthermore, found that UpShot supports more forms of integration with Microsoft applications than Salesforce.com. For example, UpShot recently released the Microsoft outlook integration that enables users to manage emails, contacts, appointments and tasks either in UpShot or outlook. As mentioned above, both applications support flat-file import from and export to Microsoft excel, while UpShot allows users to work with other Microsoft applications like MS word, MS powerpoint and MS project in terms of information sharing. One integration innovation in both applications is offline-edition application that allows users to download a copy

of working data, store in local database, and integrate data into other applications. Furthermore, integration functionality has been greatly enhanced by using XML, .net and API (Application Programming Interface) technologies. However, it is impossible to measure how effectively those two applications support integration because of no chance of testing integration functions like Upshot outlook integration and off-line editions in this study. As far as two applications are concerned, it is possible to conclude that both applications support a certain degree of integration with legacy systems, while UpShot provides customers with more options.

6.5.3.5. Application scalability

SME customers are likely to concern about if the application can scale up along with the company growth. It is found that both applications enable system administrators to add more users and support increased data volume. Other functions like marketing campaign management and off-line editions are available to be included in current system upon customer requests. With the business growth, customers can also upgrade their current application to more advanced editions like UpShot XE and Salesforce.com—Enterprise Edition that feature enterprise capabilities including product revenue tracking, customer self-service portal, advanced integration with back-office processes, etc. Compared with traditional CRM solution, both applications cost much less in scalability due to the fact that there is still no additional hardware or software to buy. However in order to compare the two applications in terms of scalability, attention has been paid to the question how many options can vendors offer to meet customers' various needs of application scalability. As far as product category is concerned, UpShot company is currently offering two options: UpShot and UpShot XE, targeting to SMEs and large enterprise, respectively. While Salesforce.com has developed a variety of products including Salesforce.com---Team Edition, Salesforce.com---Professional Edition, Salesforce.com---Enterprise Edition, Salesforce.com---e-Business Suite. Each of them serves a particular customer group: Team Edition is designed for Small-business with 5-10 users; when business grows up, team edition can be upgraded to Professional Edition that supports more users and data volume, and followed by Enterprise Edition with more functionality. Latest product, e-Business Suite, is designed for those companies who have increased their business volume via Internet channel and therefore need to scale up to an online CRM solution with back-office

visibility. To sum up, it is, therefore, possible to claim that Salesforce.com provides customers with stronger application scalability than Upshot.

6.6. Result interpretation

Based on above comparison of selected applications in terms of business values, functionality and critical technical issues, this section attempts to interpret the comparison results.

From business perspective, significant difference exists between two studied applications (Upshot and Salesforce.com) and traditional CRM solutions in terms of Total Cost of Ownership (TCO). As shown in table 6.3, using ASP products equates to saving of greater than 80% of traditional CRM solution for a 50-users CRM application. Upshot and Salesforce.com cost only 15% and 14% of traditional CRM solutions, respectively. In particular, using ASP products eliminates three TCO components such as application upgrade & support fee, hardware investment and cost of additional IT personnel acquisition. On the contrary, those are areas where huge cost occurred in traditional CRM solution. Additionally, ASP products can be deployed much faster than traditional CRM solutions. Both Upshot and Salsforce.com can be deployed in 15 days, while a traditional CRM system has to be set up in 180 days. On the other hand, there is slight difference founded between two applications in terms of TCO as shown in table 6.3. Annual expense of UpShot and Salesforce.com for 50 users equals to \$52,650 and \$54,200, respectively. The findings here show that SMEs can find both Upshot and Salesforce.com as appealing choices compared with other traditional CRM solutions according to TCO calculation, while the difference of Upshot and Salesforce.com still remains unclear from business perspective, thus pending for further investigation into technical features of two applications.

Consequently, based on exploration of application functionality depicted in section 6.5.2, the table 6.4 in next page presents results of functionality comparison of two applications by using the measurement instrument developed in Appendix 2.

Functionality evaluation scorecard

Instructions: This scorecard evaluates how identified CRM functional requirements for SMEs are supported by studied CRM solution.

Scoring range: 1= Not Available/unknown; 2= slightly support; 3=support; 4= strongly support/extra capabilities

CRM Functionality	UpShot	Salesforce.com (Professional Edition)
Sales Functions		
Calendar/Scheduling	4	4
Contact Management	3	4
Key Account Management	4	3
Lead Management	3	4
Pipeline Management	4	4
Territory Management	4	4
Sales Forecasting and report	3	4
Customer Team Selling	3	3
Sub Total (Percentage)	28(62%)	29(61%)
Marketing Functions		
Campaign Management	3	3
Direct Mail Management	1	1
Email Management	3	3

Show/Seminar Management	1	1
Documentation/Collateral Management.	1	1
Banner Ad Management	1	1
Sub Total (Percentage)	10(22%)	10(20%)
Customer Service functions		
Customer Segmentation	1	1
Customer Profiling	1	1
Customer Potential	1	1
Customer Share	1	1
Customer Profitability	1	1
Customer Satisfaction	1	3
Customer Life time value Analysis	1	1
Sub Total (Percentage)	7(16%)	9(19%)
Grand Total	45	48

Table 6.4: The result of functionality comparison.

Total scores of two applications indicate that there is a little difference between overall functionality of two applications. Indeed two applications are very similar in nature-- particularly focused on SFA functionality, due to largest percentage of sales function scores in total score. Both applications strongly support all common sales functions such as lead management, account management, territory management, etc. Each application has its own strengths and weakness in sales functionality. For instance, Upshot is found to be more powerful in key account management in terms of research capabilities that provide a more complete view of accounts, as well as more

effective accounts segmentation. However, Upshot is functionally weaker in contact and lead management than Salesforce.com that provides users with mass template-enabled email to a group of customers, and online leads capturing capability. It is also found that Salesforce.com lacks powerful reporting capability for key accounts. As for other CRM functionalities, neither application has full support to marketing and customer service & support functions. In particular, there seems to be no customer service & support capabilities in UpShot, while Salesforce.com supports only one small part of customer service & support functionality in terms of case management that allows users to manage, track customer issues like customer questions, complains and feedbacks. Marketing functionality is claimed to be included in both application. However UpShot requires sales and marketing user to log onto two separated systems, while Salesforce.com features a more integrated solution that enables both marketing and sales users to access respective functions within a single interface. The study also found that two applications are not supporting other marketing functions such as show/seminar management, banner/AD management, etc.

To sum up, Salesforce.com is a more tightly integrated CRM solution than UpShot in the sense that it does not only focus on sales functionalities, but also supports a certain areas of marketing and customer service & support functionality. UpShot, however, remains as a SFA solution because of no included customer service & support functionality.

After functionality comparison, below table 6.5 indicates comparison results of two applications in terms of technical issues that most SMEs found critical when choosing CRM products from ASPs.

Technical issue		UpShot	Salesforce.com(Professional Edition)
User Interface		4	5
User Support	Content	5	5
	Availability	4	5
Security		5	5

Integration with legacy systems	4	3
Application scalability	3	4
Total	25	27

Table 6.5: The result of critical technical issue comparison.

The findings indicate that Salesforce.com has been rated higher than UpShot in such technical aspects as user interface, user support, security and application scalability in this study. The only weakness lies in application integration with legacy systems because salesforce.com only supports flat-file import from and export to Microsoft excel. In contrast to Salesforce.com, UpShot is particularly powerful in integration capability since it empowers integration with almost every popular Microsoft office applications like word, excel, PowerPoint and MS project. It is based on assumption of both companies that their customers have the whole IT system operated in Microsoft environments. Although this is often the case in many SMEs, integration work might become a challenging task in a small portion of SMEs where a variety of legacy systems are maintained and other hardware or software needs to be acquired along with business growth. As for security issues that becomes the biggest concern of many SME customers, both applications have been found to protect customer data by utilizing robust security mechanisms such as SSL data encryption, secure firewall with intrusion detection, multiple data backup on a daily basis, etc. Development of privacy policy and SLA (Service Level Agreement) has largely reduced customer concerns on data privacy. It is possible to claim that even though customers are still nervous about having ASPs manage their important data, their concerns can be eliminated as long as ASPs are able to sustain a reliable security service in the long run.

As far as application scalability is concerned, both applications enable system upgrade in terms of more numbers of user support, greater data volume and superior enterprise functionality. However it is found that Salesforce.com provides more scalability options than UpShot. In other words, along with customers' business growth, Salesforce.com can probably meet customer needs in a more effective and efficient manner than UpShot; that is featured by multiple types of products offered by Salesforce.com Company.

Part III Conclusion

7. Summary

7.1. Objective and structure of the chapter

The objective of this chapter is to conclude the thesis with research perspective and implication, research limitation and suggestion for further research. Therefore, the chapter has been divided into 3 sections: research perspective and implication are presented in section 7.2, followed by research limitation and suggestion for further research in section 7.3 and 7.4, respectively.

7.2. Research perspective and implication

The objective of this thesis is to study the viability of using ASP model for SMEs to implement CRM. In first 3 chapters of the theoretical part, relevant literatures were reviewed and induced in order to shed a light on CRM approach and technologies, find out the strategic significance of CRM to SMEs and clarify key issues involved in CRM implementation. The first 3 chapters attempted to pave the way for the core theme of this thesis: Using ASP model is a viable choice for most SMEs to implement CRM. To support this theme, chapter 5 is dedicated to deeply exploring ASP model by defining ASP, identifying and describing benefits and potential risks of using ASPs. It came to the conclusion that advantages of using ASPs outweigh disadvantages, thus SMEs can possibly benefit from using ASPs.

To investigate how much benefit SMEs can obtain from using ASP model in practice, the empirical study was conducted to study and compare two applications from major ASP companies: Upshot and Salesforce.com. The comparison has been conducted in three categories: business value, functionality and critical technical issues, and with a particular focus on later two. It aims to cast a new light on pervious limited ASP studies especially from technical perspective. The comparison results did not reveal any significant difference between two studied applications from either business or technical perspectives, despite of a slight superiority of Salesforce.com to Upshot in a few aspects. It is, however, worthwhile pointing out that two studied ASP applications possess a considerable competitive advantage against traditional CRM solutions in terms of TCO (Total Cost of Ownership), as far as SMEs that seek to implement CRM are concerned.

The actual research implied that CRM-pursuing SMEs should conduct a thorough investigation into candidate ASP products in terms of technical issues covered in the empirical study such as application functionality, security, user interface and support, application scalability, etc. It is possible to claim that the evaluation checklists developed in the empirical study can serve as a practically useful tool for SMEs to select the suitable CRM applications from ASP offerings. In addition, it is also important for SMEs to be aware of mechanisms to prevent potential risks associated with using ASP products.

7.3. Research limitation

This study is exploratory in nature with aim to find out technical strengths and weakness of ASP products. However, due to time constraints and limited access to applications, the study seemed to run risks of overlooking some important details on selected applications. Additionally, a major limitation of this study is a lack of investigation into the difference of user experience in using applications. Studying and testing applications oneself did the empirical study, therefore the conclusion may involve a certain degree of subjectivity.

7.4. Suggestion for further research

This study has offered room to go further into ASP research from the technical perspective. To overcome limitations of this study mentioned above, it is suggested that further research should compare CRM applications from at least over 3 ASP vendors, but also investigate the difference of user experience in using applications. The evaluation checklists developed for the empirical study can be elaborated to suit the further research. Additionally, it is suggested that further research be carried out for a longer period of time. It is because that the clarification of some issues like application scalability requires long-term observation and study.

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Appendix

Appendix 1: Common CRM functionalities for SMEs (Source: Jay Curry 2002, HOW TO SELECT A CRM SOLUTION FOR A SMALL TO MEDIUM-SIZE ENTERPRISE)

CRM Functionality	Description
Sales Functions	
Calendar/Scheduling	Enables the planning and schedule of activities regarding a customer/prospect.
Contact Management	Manages multi-media contacts (sales visit, telephone, e-mail, etc.) with relations.
Key Account Management	Manages contacts with the decision-making unit of a client.
Lead Management	Manages relations with non-customers that signal an interesting in starting a dialog.
Pipeline Management	Analysis of all current sales cycles.
Quotation Management	Manages the process of making, revising and approving a quotation for products/services.
Territory Management	Enables a sales manager to monitor and control the activities of his salespeople.
Sales Forecasting and report	Estimation of actual revenues in a period of time and compared to planned revenues.
Customer Team Selling	Allows a marketing/sales/service team to plan and coordinate activities.
Marketing Functions	
Campaign Management	Manages plans and monitors marketing communications campaigns.
Direct Mail Management	Plans and executes a direct mail project
Email Management	Plans and executes an email project.
Show/Seminar Management	Plans and executes a seminar/exhibition project.

Documentation/Collateral Management.	Manages plans and executes a brochure or documentation project.
Banner Ad Management	Manages plans and executes a banner advertising project.
Customer Service functions	
Customer Segmentation	Creates clearly defined customer segments based on data analysis.
Customer Profiling	Assigns customers to previously determined customer segments.
Customer Potential	Estimates "Total Spend": the amount of money a customer will spend on your category of product/service.
Customer Share	Calculates per customer the present and expected percentage share - the "Total Spend."
Customer Profitability	Calculates the current and expected operational profit of each customer (before taxes, interest, and depreciation).
Customer Satisfaction	Improve and measures the satisfaction level of each customer on a variety of product, service and relationship issues.
Customer Life time value Analysis	Calculates the current and expected profit contribution of a customer during his lifetime.

Appendix 2: The scorecard to evaluate CRM functionality (Adapted from CRM software evaluator by The Customer Marketing Institute 2001)

Functionality evaluation scorecard

Instructions: This scorecard evaluates how identified CRM functional requirements for SMEs are supported by studied CRM solution.

Scoring range: 1= Not Available; 2= slightly support; 3=support; 4= strongly support

CRM Functionality	UpShot	Salesforce.com (Professional edition)
Sales Functions		
Calendar/Scheduling		
Contact Management		
Key Account Management		
Lead Management		
Pipeline Management		
Quotation Management		
Territory Management		
Sales Forecasting and report		
Customer Team Selling		
Marketing Functions		
Campaign Management		
Direct Mail Management		
Email Management		
Show/Seminar Management		

Documentation/Collateral Mgt.		
Banner Ad Management		
Customer Service functions		
Customer Segmentation		
Customer Profiling		
Customer Potential		
Customer Share		
Customer Profitability		
Customer Satisfaction		
Customer Loyalty Analysis		