Electronic Customer Relationship Management: Benefits, Considerations, Pitfalls and Trends

Shannon Scullin
School of Management
New Jersey Institute of Technology
Newark, NJ 07102

Jason Allora
School of Management
New Jersey Institute of Technology
Newark, NJ 07102

Geoffrey Owen Lloyd
School of Management
New Jersey Institute of Technology
Newark, NJ 07102

Jerry Fjermestad
School of Management
New Jersey Institute of Technology
Newark, NJ 07102
(973) 596-3255
Fjermestad@adm.njit.edu

Abstract

Electronic Customer Relationship Management (ECRM) has become the latest paradigm in the world of Customer Relationship Management. ECRM is becoming more and more necessary as businesses take to the web. No longer can web-enabled companies rely on the traditional brick & mortar strategies that have gotten them to where they are today. Such organizations have to evolve with the market instead of behind it. This paper promotes the value of ECRM, explores its benefits, outlines the focal points to address prior to implementation, outlines potential pitfalls during implementation and ways to avoid, takes a look at recent trends and presents a proven ECRM success story.

Introduction

All organizations involved in on-line business to business and/or business to consumer selling need to educate themselves about the new phenomenon of electronic customer relationship management (ECRM). According to Romano (2001), ECRM is concerned with attracting and keeping economically valuable customers and eliminating less profitable ones. Romano and Fjermestad (2002) are convinced that ECRM will continue to develop as an important area of study in MIS and such relevant referent disciplines as Computer Science, Marketing and Psychology. What, then, is the relationship between customer behaviors and corporate opportunities to implement

ECRM? Each day, business and consumer purchasing over the Internet increases. Customers purchase on-line for a number of different reasons. A Forrester Research (Sims, 2000) study of 70 retailers found that convenience was the number one ranked reason (84%) for purchasing on-line versus off-line. The fact that customer service ranks near the bottom of the list of reasons to purchase on-line suggests that customers are willing to trade off better levels of "off-line" service for the convenience afforded by on-line purchasing. Looked at another way, on-line customers are not coming to companies' web sites with very high expectations for the service levels. However, on-line retailers need to acknowledge that first-time purchasers at their sites will not necessarily, or even likely, become repeat customers.

A study by the Boston Consulting Group found that 65% of on-line customers who purchase at a given web site will never make a second purchase. These facts should be a wake-up call to web-enabled companies that there is a real service gap to address and that additional profits await those companies who quickly find a way to fill this gap. ECRM can help companies meet this challenge (Sims, 2000). The convenience of shopping on-line may bring customers in through the virtual door, but what keeps them coming back through that same door is the overall quality of the customer experience. Web-enabled organizations need to understand this, because the cost of marketing to an existing customer is $6.80 over the Internet versus $34.00 to attain a new web customer (Karpinski, 2001). In addition, Keen (in Greenberg, 2001) predicts that the share of business-to-business marketplaces using ECRM solutions will grow from 3% in 1999 to more than 50% in 2004. Investing in ECRM solutions will give companies the tools they need to create, maintain and extend competitive advantage in their market spaces. Ultimately, it's a matter of corporate survival. Having here established the ECRM imperative, this paper will detail the benefits of ECRM systems, discuss the major focal points to consider before implementing an ECRM solution, identify potential pitfalls during implementation, look at recent trends in ECRM and present a proven ECRM success story.

Benefits

A recent McKinsey & Co. study revealed that a 10% gain in repeat customers can add about 10% to the company's profits (Sims, 2000). On the other hand, a 10% reduction in the total marketing expenditures needed to attract new visitors adds only .7% to the bottom line (Sims, 2000). In essence, keeping existing customers happy is more profitable than going after greater numbers of new customers, even when a company is able to pare down the cost of attracting those new potential customers. The best way to keep these existing customers happy is to deliver value to them on their own terms (Jutla et al. 2000).

In a recent study (Sims, 2000), Anderson Consulting found that a typical $1 billion high-tech company can gain as much as $130 million in profits by improving its ability to manage customer relationships. Anderson Consulting also found that as much as 64% of the difference in return on sales between average and high performing companies is attributable to ECRM performance. Such evidence indicates that the well-planned implementation of an ECRM system produces a winning situation for customers and companies alike. Improvements in the overall customer experience lead to greater customer satisfaction, which in turn has a positive effect on the company's profitability.

The following objectives can be achieved with a proper ECRM implementation (increased customer loyalty, more effective marketing, improved customer service and support and greater efficiency and cost reduction):

Increased customer loyalty

An effective ECRM system lets a company communicate with its customers using a single and consistent voice, regardless of the communication channel. This is because, with ECRM software, everyone in an organization has access to the same transaction history and information about the customer. Information captured by an ECRM system helps a company to identify the actual costs of winning and retaining individual customers. Having this data allows the firm to focus its time and resources on its most profitable customers (epiphany.com, 2001a). Classifying one's "best" customers in this way allows an organization to manage them more efficiently as a premium group, with the understanding that it is neither necessary nor advisable to treat every customer in the exact same way.

One tool that a company can implement in pursuit of customer loyalty is personalization (Waltner, 2001). Personalization software tools generate real-time profiles for each customer using data from many sources including customer databases, clickstream data and transaction systems. The tool selects the best offer each time a particular customer shops the company's web site based on what it "knows" about that customer. As an individual accepts or declines an offer, the personalization engine builds this knowledge of the customer into his/her profile, making it available for better-informed future offers (Greenberg, 2001).

Personalization is equally effective on business-to-business sites (Greenberg, 2001). Many consider its greatest value as a navigational aide within sites that offer wide arrays of products, services and content. The personalization concept is a timesaving mechanism that drives the advertising and content displayed on a web site based on customer interest.

Within the realm of personalization, there are two types of software: rules-based and collaborative filtering software (Waltner, 2001):

Rules-based personalization software: This software allows direct control of the type of sites shown to users. Companies structure the rules to reduce the volume of available information down to digestible levels. Unfortunately, rules-based software is hard to scale because rules require manual updating. On large web sites, this updating becomes unwieldy.

Collaborative filtering personalization software: This software inspires browsing of sites and choices based on personal taste. For example, Amazon.com shows purchasers of particular items sets of related items that other shoppers with similar shopping patterns have purchased. This encourages increased sales activity and adds value for the customer by presenting items that they may not have known would interest them. In business-to-business applications, personalization software can show customers pricing that reflects their own firm's specifically negotiated rates and can prevent customers from being shown the same advertisement over and over. In the first case, personalization software

overcomes the generic feel that many web sites still have. In the second case, it eliminates the chance that a customer will feel harassed by unwanted "spam".

A recent development in personalization software is ATG's "scenario" server, which tracks a customer's action over an extended time span. This can help with the timing of proactive marketing efforts, such as making new offers on the web site or beginning a new e-mail advertising campaign. In addition, there is a trend toward the convergence of collaborative filtering and rules based decision-making within the same software product. For example, Waltner (2001) suggests that with this new flavor of personalization software, a merchant could write a rule that limits the kinds of items presented by collaborative filtering to the two most profitable ones.

Contemporary organizations cannot afford to ignore their customers' electronic needs if they plan on maintaining and growing their customer base. CyberCash was a rapidly growing company that needed a way to retain their customers in a competitive marketplace (peoplesoft.com, 2001). The company opted to implement ECRM. It developed a web site that would allow customers the convenience of self-service. Customers could log on and find a solution to their problem without sending e-mails or making phone calls. CyberCash also combined multiple databases across the organization so that when customers did contact the call center, representatives had the information needed to serve them. CyberCash listened to their customer's "cyber" needs and rewarded their loyalty by making the changes required to meet these needs.

More effective marketing

Having detailed customer information from an ECRM system allows a company to predict the kind of products that a customer is likely to buy as well as the timing of purchases. In the short to medium term, this information helps an organization create more effective and focused marketing/sales campaigns designed to attract the desired customer audience (epiphany.com, 2001a). ECRM allows for more targeted campaigns and tracking of campaign effectiveness. Customer data can be analyzed from multiple perspectives to discover which elements of a marketing campaign had the greatest impact on sales and profitability (Greenberg, 2001). In addition, customer segmentation can improve marketing efforts (Rong, 2001). Grouping customers according to their need similarities allows a company to effectively market specific products to members of the targeted groups.

Improved customer service and support

An ECRM system provides a single repository of customer information. This enables a company to serve customer needs quickly and efficiently at all potential contact points, eliminating the customer's frustrating and time-consuming "hunt" for help (epiphany.com, 2001a). ECRM-enabling technologies include search engines, live help, e-mail management, news feeds/content management and multi-language support. With an ECRM system in place, a company can:

- more accurately receive, update and close orders remotely
- log materials, expenses and time associated with service orders
- view customer service agreements

- search for proven solutions and best practices
- subscribe to product-related information and software patches
- access knowledge tools useful in completing service orders (peoplesoft.com, 2001).

All of these expanded capabilities work together to keep the customer right where s/he belongs: at the center of the company's attention.

Two key ways to improve customer service and support are through e-mail and direct mail campaigns (Patton, 2001a). A robust bulk e-mail management tool can help get offers to a wide range of prospective customers and can customize how that offer is presented. However, highly targeted e-mail and direct mail approaches have much better results. The right tools facilitate sending the right offers to the right customers at the right time.

An additional way to assist customers is through improved call center interaction. When customers dial in to a call center, they expect superior service and timely results. ECRM call center technology helps manage call routing and tracking. Service representatives are quickly provided with the information they need to troubleshoot and solve problems (whatis.com, 2001). In addition, call center representatives generate orders that are immediately routed to fulfillment, providing an integrated customer experience.

Greater efficiency and cost reduction

Data mining, which is the analysis of data for exploring possible relationships between sets of data, can save valuable human resources (whatis.com, 2001). Integrating customer data into a single database allows marketing teams, sales forces, and other departments within a company to share information and work toward common corporate objectives using the same underlying statistics (epiphany.com, 2001a). Examples of this are identifying unproductive/underutilized resources, closer tracking of costs, better forecasting for the pipeline and setting realistic project metrics and measurements to quantify return on investment.

Pre-Implementation Considerations

Once a company has identified the need for ECRM, it can begin to plan for implementation. The following focal points should be considered at the pre-implementation phase (Greenberg, 2001). Figure 1 presents the basic framework for pre-implementation consisting of business strategies, retooling business functions, process re-engineering, technology, and training.

Developing customer focused business strategies

The objective of this step is not to try to mold the customer to the company's goals but to listen to the customer and try to create opportunities beneficial to each. It is important to offer customers what they are currently demanding and anticipate what they are likely to demand in the future. This can be achieved by providing a variety of existing access channels for customers, such as e-mail, telephone and fax, and by preparing to provide for future access channels such as wireless communication. Offering solutions rather than obstacles is possible when a company empowers its customer service agents

to "make it right, right away" and when customers have access to the latest sales and promotions via their own communication channel of choice (ecrmguide.com, 2001).

Retooling business functions

Starting to do business via ECRM will require disruptive organizational change in order to determine which departments/functions are truly servicing the customer and which ones are only adding to overhead. After identifying and trimming redundant head-count, administrative time and cost should drop. A major factor here is that the changes required during an ECRM implementation will only be possible with buy-in from the top levels of management and with company-wide accountability of all stakeholders. Positive organizational change will not simply materialize on its own. It is the responsibility of senior management to ensure that all employees understand the necessity of the changes, how the new structure will benefit them, and how it will enhance their ability to serve their customers. Senior management must stress that ECRM itself is only a tool (Hackney, 2001). Armed with this tool, employees are the ones who now have the power to build better customer relationships and even achieve higher levels of job satisfaction.

Work process re-engineering

The departmental role and responsibility changes from retooling business functions will necessitate adopting new work processes. The choices here are to take the traditional step-wise approach or an integrated one toward improving work efficiency. Under the step-wise approach, departments are treated as separate efficiency entities. This rarely produces good results because the goals of each department can become too parochial, and departments tend to compete internally for their own benefit at the expense of what's best for the company. We recommend the integrated approach. It tends to produce superior results because it recognizes the interdependencies among the company's multiple functions/departments and how these create the larger perspective of the entire organization. With an integrated framework, hidden waste as well as opportunities for enhanced efficiency should reveal themselves.

Technology choices

The focus here is to consider the company's industry, the company's position within its industry, and which ECRM implementations are good candidates for the company in particular. Criteria for technology selections include:

- scalability of software
- tool set flexibility for customization
- stability of the existing ECRM application code
- compatibility of ECRM application with legacy and Internet systems
- level of technical support available during and after implementation
- upgradable support
- availability of additional modules (Sims, 2001)
- security

We can not stress enough that an in-depth analysis of the compatibility of the proposed ECRM system with a company's existing ERP system is absolutely essential. Customer-facing applications must be coherently linked to the transactions that they

generate behind the scenes. Without integration of ERP and ECRM systems, organizations risk redundancy of data, increased response times and loss of customers due to delays and botched transactions. With such integration, however, improved business intelligence is possible by capturing data at every point of customer contact, from order-entry to fulfillment, via multiple media channels (White, 2000).

Furthermore, providing security to one's company and customers is becoming an ever more important aspect of customer service. There are two types of security that an organization should address. The first type is security from a *company perspective*. A recent study by the Boston-based company Meridien Research indicated that the rising rate of Internet fraud could be slashed by an amazing two thirds if e-businesses were to adopt currently available authentication and fraud-detection technologies(Roberts-Witt, 2001). This could save such companies nearly $10 Billion over the next four years. Clearly, it is in a company's best interest to protect itself from such infringements. Organizations should consider setting up flags in the security software that will be tripped when the number of transactions or dollar amount purchased within a particular time span exceeds a predetermined amount.

The second type of security is focused on one's customers. *Customer focused* security deals with steps that a company should take to inspire trust from its customers that their on-line transactions are secure. Through the use of authentication, non-repudiation, automated clearinghouse, or 128-bit data encryption, the risk of customer fraud is greatly reduced. Authentication is a process used to confirm the user's identity. This can be accomplished with user ids and passwords. Non-repudiation is legally proving the message is sent or received (Deitel, 2001).

Financial applications and the US government use the automated clearinghouse. ACH is a privately operated, secure electronic-funds transfer network that links many of the financial companies in the U.S. With 128-bit data encryption, data is encrypted in groups. Grouping the data makes it harder for cyber thieves to "crack open (Roberts-Witt, 2001). For large companies with many employees who may require access to multiple servers, turning over ID management to vendors like Verisign can help to streamline the security function. Additionally, with the emergence of smart cards, digital wallets, person-to-person payments, micropayments systems and stored value and incentive-based platforms, customers can now limit their exposure to on-line fraud risk. E-businesses offering such options, in addition to the other security methods mentioned, will have gone a long way toward winning the confidence of their customers.

Training and preparation

This focal point is arguably the most important one in ECRM implementation. Depending on the number of users, training times will vary from company to company. Training of employees should occur before the new ECRM system has been implemented to ensure a seamless transition for customers. Examples of training include sending users to training facilities at considerable cost or bringing in an on-site consultant. Anyone who requires access to the system should receive full, appropriate and timely training. Training should be an ongoing, managed activity as systems must continuously change and evolve. All training and tools used should be thoroughly documented for current, new and future employees. Without a documentation management scheme, the value of

the ECRM system will degrade rapidly. A firm should plan to spend about 5% - 7% of its total ECRM implementation on training (Patton, 2001b).

Major ECRM Pitfalls and how to avoid them

In an attempt to quickly implement ECRM, too many companies start spending money before developing a comprehensive ECRM strategy. Through our research we have found a number of reports that suggest many companies are dissatisfied with their CRM implementations. Meta Group, an IT consultancy in Stamford, Conn., predicts that the CRM craze will only intensify, with the market growing from $20.4 billion this year to $46 billion by 2003 (Patton, 2001a). Research by Gartner Group (Patton, 2001a) indicates that more than half of all CRM projects are not expected to produce a measurable return on investment (Goldberg, 2001). A study by Forrester Research also indicated that 57% of companies surveyed could not justify investment in customer service programs due to the difficulty in measuring their impact on profitability (Goldberg, 2001). A Bain & Co. study (Patton, 2001a) in June showed that 19% of customer relationship management users decided to stop funding their CRM projects. Two out of five respondents said that their CRM projects are either "experiencing difficulty" or are "potential flops," according to a Data Warehousing Institute survey released in May. These points echo a warning from experts like Berkeley Enterprise Partners that, in spite of their popularity, most CRM projects do not result in measurable benefits (Patton, 2001b).

In a typical CRM implementation, 28% of the total cost goes to buying software, and 38% of the cost goes to services such as software customizations, application integration and training, according to Wendy Close, a research director at Gartner in Stamford, Conn. Hardware makes up 23% of the cost, while telecommunications expenses make up the remaining 11% (Patton, 2001a). In order to justify the millions of dollars needed to successfully implement a CRM system, the firm's decision-makers must of identify and define their corporate strategy in order to see positive returns for their investment. The following list outlines potential pitfalls with ECRM implementation and how to avoid them:

- Mismatch between a company and the vendor's CRM software. Every effort must be made to find a vendor whose product is flexible enough to emulate the company's best practices and does not force the company to adopt the vendor's best practices. Realistically, no single software solution will handle all ECRM needs equally well. Therefore, each company should select the solution that best handles the critical customer-facing functions and maintains robust links to the existing ERP system.
- A poor understanding of the company's business processes. Each of the business processes should be reviewed, analyzed and documented before shopping for a vendor.
- ECRM implementations that take more than 90 days have a high failure rate. A company should be skeptical about implementations that are considerably longer than the 90 days.

- Vendor stability should be a criteria used in selection. Check the financial stability of the vendor to assess whether or not it is likely to be able to survive a softening economy.
- Rejection by end users is always is a possibility when business functions are retooled. If the new processes required for a successful ECRM implementation are not developed with the knowledge, help and acceptance of the employees who will be relied upon to use them, the project is doomed.
- Size of project. Some ECRM implementations have failed because their initial scope was too broad. In light of the state of the American economy in the fall of 2001, it would be prudent to start small with a pilot ECRM implementation. The risk associated with a failed pilot is much lower than for a full rollout, and it gives your company the opportunity to evaluate the positives and negatives of the pilot as you plan for a larger scale implementation.

Unfortunately, avoiding these "pitfalls" is, in many cases, easier said then done. Often this is because sales and marketing teams are reluctant to adopt the new, automated CRM systems. Considering that companies are investing up to $70 million in a CRM launch and millions more during rollout, CIO's need to both refrain from being seduced by vendor hype and to work closely with top management to ensure successful implementations (Patton, 2001a).

Howard Berg, president of Berkeley Enterprise Partners, a Boston-based consultancy, warns that up to 70% of CRM projects don't produce measurable business benefits (Patton, 2001a). Bob Ogdon, CEO of Mshow (Patton, 2001a), which provides Internet training and marketing programs, learned the hard way about the importance of selling CRM to those who are supposed to use it. At first, the promise of CRM appealed to Ogdon. For a $300,000 investment, his sales force would get the latest technology to follow sales leads, acquire new customers and boost the bottom line. Unfortunately, after a months-long implementation of Siebel Systems' Mid-Market Edition software in 1999, Ogdon's 50-member sales force refused to use it. Ogdon blames the initial CRM flop both on the company's failure to articulate its needs and the consultancy hired to implement the system. For Mshow's remote salespeople, access was slow and data was unavailable. Fortunately, Mshow's second attempt to implement a CRM system went smoothly. This time, they secured consulting services before procuring any technology, and the sales force is comfortable using the system. Others who have experienced problems with CRM projects stress the importance of focusing on the users throughout the process, letting them try out different programs, and creating an incentive plan to encourage use of a new system. (Patton, 2001a).

Trends

Recent developments in the field of ECRM include a CRM package evaluation/procurement service, hosting of CRM component applications and the use of Online Analytical Processing (OLAP) tools to develop Customer Intelligence in order to enhance the effectiveness of ECRM.

- CRM package evaluation/procurement service: ITenol is a California start-up company that offers a service called CRM Solution Acquisition Manager for

automating the stages involved in choosing and implementing a CRM package (Bednarz, 2001). All phases are covered, from defining a company's requirements and evaluating vendors to negotiating contracts and generating purchase orders. Once the service is set up, users collaborate to specify business objectives and generate a request for proposal (RFP). ITenol contacts vendors when an RFP is available and vendor reps can collaborate online in response. The service is free of charge to CRM vendors. Once a company has purchased a CRM package, ITenol supplies web-accessible project management tools to help the company install the software.

- Hosted CRM component applications: The market for hosting of fully-fledged ECRM solutions is in decline, partly because of the current economic climate and partly because the levels of customization demanded by client businesses to meet their particular needs are too complicated to provide in a packaged solution. Nevertheless, the market for hosted CRM component applications, such as a hosted package from Satmetrix for gauging customer satisfaction, is faring better. The level of investment required is much lower, yet the hosted applications do provide added value to the client companies (Pepe, 2001).

- Customer Intelligence (CI): As mentioned previously, integration of a company's legacy systems, especially it ERP system, with ECRM functionality is critical to the success of any ECRM implementation. Taking this one step further, Customer Intelligence focuses on applying the insights derived from customer analysis to ECRM strategies, and then acting upon these strategies to build value into customer relationships. The CI enabling technologies must be tightly integrated with the ERP and ECRM solutions in order to provide near-real-time data access and analysis. (Harvey, 2001). OLAP tools, available from companies like Cognos, are the core enabling technologies that make the advanced analytics required by Customer Intelligence possible. OLAP software enables the predictive modeling, data mining and data visualization that are needed to uncover hidden relationships in customer data that hold the keys to understanding customer behavior and determining customer value.

Proven ECRM Success

Paul Horstmeier, newly appointed e-marketing manager of Hewlett-Packard, quickly discovered that the computer industry giant had made a muddle of its attempts at e-mail marketing (Patton, 2001a). The company's typical customers include IT managers who have purchased servers, printers and services before. HP had been launching separate, uncoordinated e-mail campaigns from nine different marketing groups. Horstmeier saw that in order to provide useful benefits to HP, his group needed to take over management of the e-mail campaigns from the nine different marketing groups. It also had to promote the idea that marketing should be a long-term process that focuses on the life cycle of customers instead of looking at a sale as a one shot transaction. This demanded that Horstmeier's group focus on the e-mail marketing operation while coordinating its efforts with the larger corporate structure that included other customer-facing groups like call centers and customer service teams. To meet these integration

needs, the e-marketing group brought in e-mail analysis, segmentation and personalization tools from San Mateo, CA based Digital Impact. By analyzing its e-mail databases, HP found that its business customers fell into two groups; IT managers and end users. Rather than flooding the two segments with immediate additional e-mail campaigns, HP started to learn what these groups wanted through small pilot tests. The company found that IT managers were willing to tell HP exactly what kinds of general product support alerts and newsletters they'd like to get (such as laptop discussion forums, print driver updates, and new product introductions) whereas end users wanted more specific information about the exact product that they had bought (network server, PC or printer model number) and how to use it.

H.P.'s results showed that more of their customers responded to the low-cost e-mail offer than to the direct mail offer, making the e-mail offer both more productive in terms of sales generated and more cost-effective in terms of expenses saved. Customers also said they liked getting the e-mail alerts and updates with more than 85% saying they were quite satisfied with the content that they received. The e-mail campaigns generate an estimated $15 million in new monthly sales revenues, as well as half a million dollars in monthly cost savings from the consolidated e-mail campaigns. By sending out product support alerts and e-mails, the resulting reduction in calls made to support lines saves nearly an additional $150,000 per month (Patton, 2001a).

Conclusion

ECRM has arrived and whether or not the name remains, the concept is here to stay. We have looked at the recent success of ECRM at Hewlett-Packard. We have addressed recent trends in the field, most notably the pairing of CI with ECRM solutions to gain a deeper understanding of the economics of customer behavior and value. We have also explored the kinds of problems that can accompany an ECRM implementation and how to avoid them. In addition, we have identified the critical issues that companies must consider at the threshold of ECRM implementation. Finally, we have examined the customer-centric and corporate benefits of implementing an ECRM solution, with the understanding that ECRM efforts will only succeed when organizations make their customers win. Increasingly, the knowledge age has inspired a new breed of customer who is not willing to take "No" for an answer when the question is: "Will your company use its talent and resources to allow me to pull from it the products and services I need in order to be productive in my professional and private life?" ECRM solutions give companies the power to say "YES!" The very survival of these organizations depends on their commitment to this answer.

Acknowledgments

References

Bednarz, Ann "CRM painkiller debuts", Network World, September 24, 2001.

Cho, Yooncheong;Im, Il; Hiltz, Rozanne; Fjermestad, Jerry "Causes and Outcomes of Online Customer Complaining Behavior: Implications For Customer Relationship Management (CRM).

Deitel, H.M., Deitel, P.J., Steinbuhler, K. *e-Business and e-Commerce for Managers*, Prentice Hall 2001.

Deck, Stewart. "*CRM Made Simple",* CIO Magazine**,** September 15, 2001.

Ecrmguide.com; http://www.ecrmguide.com/news/article/1,3376,10382_582371,00.html Last Viewed February 2001

Epiphany.com http://www.ephany.com/market/crm_benefits.html2001; Last Viewed February 2001a

Epiphany.com http://www.ephany.com/market/crm_tools.html; Last Viewed February 2001b

Goldberg, Harold. "*10 Ways to Avoid CRM Pitfalls*", B to B, September 17, 2001.

Greenberg, Paul, Capturing and Keeping Customers in Internet Real Time, McGraw-Hill, 2001.

Greenspan, Robyn "Are your customers clicking or cursing?" www.internet.com, November 2000.

Greenspan, Robyn "9 Navigational Steps", www.internet.com, February 2001.

Hackney, Raymond; Burn, Janice "SPECS: Strategic Planning for E-Commerce Systems – Towards an E-Customer Focus", 2001 – Seventh Annual Conference on Information Systems.

Harvey, Lynne, "Building Customer value Across the Enterprise", Patricia Seybold Group, 2001.

Karpinski, Richard "To keep suppliers, e-marketplaces getting CRM-savvy", www.btbonline.com, January 2001.

Patton, Susannah. *"The Truth About CRM",* CIO Magazine**,** May 1, 2001a.

Patton, Susannah. *"Talking to Richard Dalzell",* CIO Magazine**,** September 15, 2001b.

Pepe, Michele "Is there a market for hosted CRM solutions?" Computer Reseller News, September 24, 2001.

Peoplesoft.com,
http://www.peoplesoft.com/en/us/products/applications/crm/product_content.html Last
Viewed February 2001

Roberts-Witt, Sarah L. "Bad News Gets Better. New fraud protection solutions will help
on-line merchants – if only they'll use them", PC Magazine, March 20, 2001.

Romano, N.C., and Fjermestad, J., "Electronic Customer Relationship Management: An
Assessment of Research," *International Journal of Electronic Commerce*, 6, 2 (2002),
61-113.

Rong, G., Wang, M., Liao, S. "Building an ECRM Analytical System with Neural
Network", 2001 – Seventh Annual Conference on Information Systems.

Sims, David "A New ROI for New Economy CRM And Just Why Doesn't High-Tech
Get It?" crmguru.com, April 2000.

Verisign.com : http://www.verisign.com/products/site/secure/index.html (Datasheet);
Last Viewed October 2001

Waltner, Charles "CRM makes on-line Shopping Personal", InformationWeek, January
29, 2001.

Whatis.com http://whatis.techtarget.com/whatis_definition_page/0,4152,211901,00.html
2001; Last Viewed February 2001

White, Richard "Building a sustainable e-business CRM Strategy", Call Center Solutions,
January 2000.

Figure 1 Pre- implantation considerations