Electronic customer relationship management

Revisiting the general principles of usability and resistance – an integrative implementation framework

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Abstract *Electronic customer relationship management (eCRM) has become the latest paradigm in the world of customer relationship management. Recent business surveys suggest that up to 50 per cent of such implementations do not yield measurable returns on investment. A secondary analysis of 13 case studies suggests that many of these limited success implementations can be attributed to usability and resistance factors. The objective of this paper is to review the general usability and resistance principles in order to build an integrative framework for analyzing eCRM case studies. The conclusions suggest that if organizations want to get the most from their eCRM implementations they need to revisit the general principles of usability and resistance and apply them thoroughly and consistently.*

Introduction

The goal of electronic customer relationship management (eCRM) systems is to improve customer service, retain valuable customers, and to aid in providing analytical capabilities. Furthermore, it is the infrastructure that enables the delineation of and increases in customer value, and the correct means by which to motivate valuable customers to remain loyal (Dyche, 2001).

The rush to implement eCRM systems is on! Organizations want to achieve the enormous benefits of high return on investments (ROI,) increases in customer loyalty, etc. (see Table I) from successful implementations (Scullin *et al.*, 2002.)

The Meta Group predicts that the eCRM craze will only intensify, with the market growing from $20.4 billion this year to $46 billion by 2003 (Patton,

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Benefits	Examples
Increased customer loyalty	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 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
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 CRM 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
Improved customer service and support	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
Greater efficiency and cost reduction	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

Source: Adapted from Scullin *et al.* (2002)

Table I.
Benefits derived from eCRM

2001) or perhaps to $125 billion by 2004 (Iconocast, 2000.) On the down side, a Gartner Group report (Patton, 2001) indicates that more than one-half of all eCRM projects are not expected to produce a measurable ROI. Furthermore, a Bain & Co. study (Patton, 2001) revealed that 19 percent of CRM users decided to stop funding their eCRM projects. Why are organizations having such a difficult time achieving their eCRM goals?

It is the objective of this paper to analyze the secondary data available in published sources (business trade magazines and academic journals) in the context of the basic usability and resistance principles. The paper first presents an introduction to eCRM. Next, it revisits the general usability and resistance principles and builds an integrative framework for case study analysis. Finally, it presents an analysis of 13 case studies followed by conclusions and recommendations for successful eCRM implementations.

eCRM defined

Romano and Fjermestad (2001-2002) suggest that successful eCRM requires attracting and keeping economically valuable customers while repelling and eliminating economically invaluable ones. Winer (2001) asserts that CRM is the new "mantra" of marketing. The traditional focus of marketing was the acquisition of new customers; however this has shifted to customer retention (Grönroos, 1994). Relationship building and management have become core principals of modern marketing approaches in both research and practice (Jackson, 1985; Dwyer and Shurr, 1987) as the paradigm in marketing strategy has shifted from "marketing mix" to "relationship marketing" (Grönroos, 1994). Relationship marketing emphasizes building relationships that lead to customer retention and long-term customer loyalty, in juxtaposition to traditional transactional marketing, in which making a one-time, immediate sale to the customer is the primary goal (Jackson, 1985; Dwyer and Shurr, 1987; McKenna, 1991; Grönroos, 1994; Buttle, 1996). Reichheld (1996) has shown that a small increase in retention (5 percent) can yield a 95 percent increase on the net present value delivered by customers.

What, then, is eCRM? It is a combination of hardware, software, processes, applications, and management commitment. Dyche (2001) suggests that there are two main types of eCRM: operational eCRM and analytical eCRM. Operational eCRM is concerned with the customer touch points. These can be inbound contacts through a telephone call or a letter to a company's customer service center or outbound contacts such as a sales person selling to a customer or an e-mail promotion. Thus, customer touch points can be everything from in-person, Web-based, e-mail, telephone, direct sales, fax, etc. Analytical eCRM requires technology to process large amounts of customer data. The intent is to understand, via analysis customer demographics, purchasing patterns, and other factors so as to build new business opportunities.

The key point is that eCRM takes on many forms depending on the organization's objectives. eCRM is not only about technology or software (Rigby *et al.*, 2002) it is about aligning business processes with customer strategies supported with software and technology. In short it is about business change. Rosen (2001) suggests that eCRM is about people, processes, and technology. The people and the process issues are paramount to success. How do we design systems that focus on people and processes? There are two sets of principles, which can aid in this regard, usability and resistance. The next section reviews the general usability and resistance principles in the context of eCRM.

Usability and resistance principles

Gould and Lewis (1985) suggest that any system designed for people to use should be easy to learn, easy to remember, and useful, that is, it should contain the necessary functionality to improve work and productivity, and be easy and

pleasant to use. This is further supported by Goodwin (1987) who argues that usability and functionality go hand in hand. Usability and functionality are an integral part of systems design. Usability contributes to the overall system functionality by making it accessible to the users and, in turn, facilitating effective use of the system features and capabilities.

Gould and Lewis (1985) recommended three basic principles of usability design:

(1) early focus on users and tasks;

(2) empirical measurement; and

(3) iterative design.

Early focus on users and tasks refers to the premise that the system designers need to know who the users of the indented system will be. In eCRM implementations, the users will be very diverse ranging from senior managers to marketing managers, from field sales engineers to temporary customer service workers and customers. Such a diverse group will have different behavioral and attitudinal characteristics than the more homogeneous set of users associated with traditional systems that cross fewer organizational boundaries and provide a smaller set of specific functionalities. Empirical measurement focuses on the development process. Gould and Lewis (1985) suggest that the users should actually be involved with the development process. This can be accomplished through simulations and prototypes. The user performance (functionality) and reactions to the system (usability) should be observed, recorded, and analyzed. In this fashion, when users find problems, they must be fixed through an iterative design process.

Nielsen's (1992) usability engineering life cycle is a modification and extension of Gould and Lewis's (1985) model. The model consists of three stages (see Table II):

(1) pre-design;

(2) design; and

(3) post design.

The basic elements include empirical measurement, prototyping, and an iterative design.

Pre-design stage

The first stage of the usability life cycle is the pre-design stage. This stage involves the gathering of information in order to gain a better understanding of the user community. Nielsen (1992) stresses the importance of this stage by suggesting that user differences and task variability are the two factors with the largest usability impact. Knowing the users and the tasks they perform is essential when designing any system, but it is imperative if the system is to be usable and useful. Spending time learning about the user's environment is a

Pre-design Understand the target population users and tasks	Design Objective: to arrive at a usable implementation that can be released	Post-design Objective: to collect data for the next version and for new future products
1. *Know the user* Visit customer sites Interview individual users Observe users and processes Analyze the tasks Business process reengineering 2. *Competitive analysis* Investigate competitive products and vendors 3. *Set usability goals* Learnability Efficiency Ease of use User satisfaction Frequency of use	1. *Participatory design* Prototyping Pilot projects 2. *Coordinated designs* Consistency Standards Product identity 3. *Guidelines and heuristic analysis* Use simple natural dialogue Speak the user's language Be consistent Provide feedback and shortcuts Provide good error messages Prevent errors 4. *Prototyping* 5. *Empirical testing* The users use the system The users test the system 6. *Iterative incremental design*	1. *Feedback from the users* 2. *Collect field data* 3. *Economic data* ROI Development time Customer satisfaction

Table II.
Usability engineering life cycle

Source: Adapted from Nielsen (1992)

key to understanding what they want from their system. It is therefore imperative to investigate the needs of the users if the desired outcome is a highly successful, useful, and usable product. There are a number of ways in which designers can become familiar with their users; the most obvious way is to visit their work environment and observe them in their natural work setting. Designers can also gain valuable information through questionnaires or interviews. They can identify areas in which current systems fail to meet the users needs or where users are unable to reach goals, because they do not understand the product. Once a design team comes to an understanding about the user group they are targeting and the user's current task, they need to identify the functionality that should be included in the product.

Once user knowledge has been assessed, the application designers need to engage in some sort of competitive analysis. A common technique used in this area is prototyping. The designers need to perform user tests and gather empirical data, which will be used to formulate a strategy to achieve usability goals. Rather than spend an enormous amount of time building a prototype, Nielsen (1992) suggests using a competing product for user testing. This will allow the designers to evaluate the strengths and weaknesses of a system

already in production and brainstorm ways to incorporate new and enhanced features into their own product.

The last step in the pre-design stage is to set the usability goals (see Table II). The purpose of establishing these usability goals is two-fold: first, specific usability goals help focus user interface design efforts during the design process by giving designers something concrete to aim for and something concrete to assess their design ideas against. The second purpose of usability goals is to serve as acceptance criteria during evaluation, especially towards the end of the design process. Specific goals allow empirical data to be collected and enable the team to gauge the success of the project. Overly general goals will not help to focus the team on the definition of success as it relates to the product. It is important that the designers be involved in setting the goals. Participation in goal setting will allow the users to have a clear understanding of what they can expect from the product and will allow them to assume the role of "stakeholder". The three phases of the pre-design stage, knowing your users, competitive analysis, and goal setting, may need to be repeated. It is an iterative process and insights gained in one area, may warrant the repetition of another area. Moving too quickly through the pre-design stage can have serious repercussions in the post-design stage of the product life cycle.

Design stage

According to Nielsen (1992) the objective of the design phase is to arrive at a usable implementation that can be released. The design stage consists of a number of specific design tasks involving different levels of design and different levels of user involvement and testing. Similar to the pre-design stage, design stage subtasks may need to be repeated if later tasks reveal that corrections need to be made. A participatory design process may be used to further address issues that were overlooked in the pre-design phase. Users test the product and advise the designers whether or not it helps them to accomplish their job tasks efficiently and effectively. Nielsen (1992) suggests that this stage is important because users often raise questions that the development team has not even dreamed of asking. The designers will need to translate the feedback of the users into usable product characteristics.

The consistency of the interface should transcend all media that are associated with the application including: documentation, online help, and any training material (Benbasat and Lim, 1990; Bennett, 1983; Davis and Jordan, 1997; Nielsen and Molich, 1990; Romano and Nunamaker, 1997; Satzinger, 1991; Shneiderman, 1987.) It is important that designers share the goal of a common interface and know how it should appear to users. Tools used to assure consistency in projects include interface standards, code sharing and product identity.

The next step involves developing guidelines and performing heuristic analyses, which provide a list of principles that the developers should follow in

designing the user interface. The purpose of the guidelines is to build a consistent interface, documentation, and a help and error message system that work for the users.

If a prototype has not already been created at this point, it is essential that one be built. The ultimate goal of building a prototype is to reduce risk at the lowest cost. One should be designed early in the process so users have an interface with which to test and provide feedback. The prototype gives the users hands-on experience with the eventual product. Basically, the later in the process changes are made, the more costly it becomes to the organization and the company (Boehm, 1981; Cockburn, 2000; Fagan, 1986; Jones, 1996; Jorgensen, 1988; Kelly and Sherif, 1992.) A prototype therefore becomes essential to the bottom line success of the project.

In order to assure a high quality finished product, empirical testing is conducted. When errors are encountered they must be corrected, thus, this process becomes an iterative, incremental one. It is important in this phase to ensure that users simulate the tasks they will perform on the job. Common empirical testing methods include: thinking aloud or GOMS analysis (Fountain and Norman, 1985,) attitude and usability questionnaires (Davis, 1989,) testing user knowledge before and after system use, user observations (Prasse, 1990; Sullivan, 1991,) and group elicitation (Boy, 1997; Sullivan, 1991).

At this point, the developers will need to engage in iterative design. The developers will need to revisit earlier stages in an attempt to refine the product. Developers will address scenarios in which they solve and correct certain design flaws only to uncover additional or create new problems. It is important to conduct additional testing and retest the product after usability issues are resolved. Designers must be careful not to over expose testers to the point where they become experts and are no longer good test subjects. After a number of "loops through the life cycle" the development team, along with sign-offs from their management and users will make the decision to release the product and therefore move into the post-design stage.

Post-design stage

The main objective of the post-design stage is to begin gathering information for the next release. The designed product will now act as the prototype for the later versions. Designers will need to conduct follow-up studies and gather complaint information that will form the basis for new product designs. Designers are encouraged to visit real-user sites and observe how they interact with and use the product. They can also gather economic data on increased user productivity, opinions of the product through surveys and supervisor and user interviews. In essence, the process begins all over again, as the designers "reacquaint" themselves with their users and work towards developing a new and enhanced version of the existing product. At some point, management and the development team will need to make a decision on when a new version

should be released. When enough product enhancements have been requested by users, sufficient errors have been uncovered, it is cost effective for the organization and/or the development team has added additional functionality are all scenarios in which a new product version will be introduced.

Resistance

Markus (1983) suggests that resistance can be defined in terms of usability because it guides user behavior and influences the actions taken by managers and systems designers concerned with implementing computer-based applications like eCRM. Some basic rules of thumb in regards to reducing resistance and improving usability are:

- get top management support;
- have users involved in the design process;
- systems which respond flawlessly are more likely to be used than those that do not;
- people resist change – get them to buy in; and
- bring systems in within budget and time.

Markus (1983) integrated and enhanced Kling's (1980) earlier work to develop three basic theories of IS resistance. The first theory is the people-determined theory, which asserts people or groups of people organized into organization subunits (i.e. remote sales force or customer service representatives for eCRM) may resist a new information system simply because people resist all change. Keen (1981) suggests that resistance could be due to failure of an earlier system that left the systems designers lacking credibility with the users. The systems design team would need to develop counter implementation tactics (Keen, 1981) in order to overcome these issues. Such a tactic might be to create a small local success prior to an organization-wide rollout.

The second resistance theory is the system-determined theory, which states that the person or group may have resisted the new IS because of factors inherent in the application or system being implemented (Markus, 1983.) In other words, a person or a group may resist an information system implementation because of system design features that are specific to the system. eCRM examples of this are:

- a slow unresponsive system where the sale representatives were unable to help the customers;
- an overly complex system;
- slow access to the system; or
- data being unavailable to the sales representatives.

Interaction theory (Markus, 1983) is the third theory, where resistance results from the interaction between people (social context, organizational scope, etc.)

and the technical design features (interface/usability, performance/functionality, etc.) eCRM examples are: required the sales people to use the system and learned from a past implementation.

The framework for analysis

Gorry and Scott Morton (1971) suggested that frameworks for viewing management information systems are essential if an organization is to plan effectively and make sensible allocations of resources to information systems tasks. Zwass (1996) also recommends that the recognized method to examine and develop complex systems or concepts (such as eCRM systems) is to organize them into a meaningful structure or framework. In building their framework for management information systems Gorry and Scott Morton (1971) integrated Anthony's (1965) taxonomy for managerial activity and Simon's (1960) decision-making strategies. The resulting seminal framework has aided managers in examining the purposes and problems of information systems' activity.

For eCRM, two important types of frameworks that should be considered are usability frameworks (Gould and Lewis, 1985; Nielsen, 1992) and Markus's (1983) resistance model. Taken together, usability and resistance (Table III) can provide an integrated framework for designing and implementing eCRM systems that will aid in minimizing resistance while maintaining high usability standards. The table columns depict the usability portion of the framework, while the rows recommend example activities aimed at reducing and eliminating resistance. For example, under "Usability design" the "People determined" factors are:

- add users and modules slowly;
- pilot projects; and
- work closely with teams.

Analysis of eCRM implementations

The framework is tested by categorizing 13 secondary case studies (see Table IV for a list of the case and details of the problem) published in three business press magazines (*CIO Magazine*) and one academic journal (*Decision Support Systems*).

These cases were chosen simply because they were readily available and presented enough information to proceed with an analysis. Two separate analyses were conducted. The first analysis (Table V) was conducted on the cases that achieved limited success. Table V highlights the reasons why the organization achieved limited success from its eCRM implementation. The second analysis (Table VI) highlights reasons for successful eCRM implementations.

	Pre-design	Design	Post-design
		Participatory design Coordinated design Guidelines and heuristic analysis	
Resistance/usability principle	Know the user Competitive analysis Setting usability goals	Prototyping and empirical testing Iterative design	Collect feedback from users
People determined	Change people Job rotation Educate users Train users Coerce users User participation to gain commitment System champion Restructure incentives for users	Add users and modules slowly Pilot projects Work closely with teams	Create credibility Develop long term plans
System determined	Understand the technology	Improve systems efficiency Improve data entry Improve human factors Understand and simplify organizational procedures and processes	Iterative, incremental implementations
Interaction theory	Integrate with existing technology	Use cross functional teams Use positive users in pilots	Build systems for valid business reasons Fix organizational problems Restructure relationships Assign a system champion

Table III.
An integrated framework for system implementation success minimizing resistance and enhancing usability

Reasons for limited success

Table V lists the cases with limited success and the reasons for such a limited success. In terms of the people-determined issues in the pre-design phase Monstor.com (Patton, 2001) hired inexperienced consultants to lead the implementation. eCRM is complex enough with its many potential customer/user touch points (Dyche, 2001) that having inexperienced consultants leading the implementation is an early sign of potential failure. Rigby *et al.* (2002) suggest that one of the basic perils of eCRM is implementing the system before creating a customer strategy. They suggest that an effective

Paper	Company	Details of problem
Patton (2001) The truth about CRM	Monster.com The initial failure resulted in millions of dollars in added expenses and months of effort to re-implement the system	Rolled out a high-end software package to provide its telephone sales representatives with instant information on prospective customers
	Telecommunications company	Launched a CRM to 1,000 sales reps at a cost of $10,000 per user. One year later only 10 percent were using the system
	Mshow	Implemented a $300,000 CRM to aid in acquiring new customers and improve the bottom line. The 50 member sales force refused to use the system. The second time the implementation was more successful
	CopperCom	The company abandoned a $500,000 CRM after an ASP failed to provide adequate support for the complex system
	Barclay Global Investors	A successful implementation
	Fingerhut	Spent five years looking for the best ways to use its data warehouse
	RadionShack	Using a measured approach to CRM development based on past struggles and failure reports
Deck (2001) CRM made simple	Tipper Tie	Alternative packaging methods began making inroads with Tipper Tie's customer base. The company sought to change the way the staff interacted with the customers
	Hewlett-Packard	HP was not using the Web effectively. There was no central program or strategy for e-mail marketing
	Student Connections	Developed a CRM project to better understand how its products were being used and to maximize ROI
Patton (2002) Get the CRM you need at the price you want	Group Health	Successful CRM implementation. The next steps are to enhance the current system and automate other processes
Overby (2002) The little banks that could	Union National Bank	Faced with growing competition from bigger banks a CRM solution was implemented to keep its customers

(*continued*)

Table IV.
eCRM Implementations

Paper	Company	Details of problem
Massey *et al.* (2001) Re-engineering the customer relationship: leveraging knowledge assets at IBM	IBM	IBM was faced with a declining market share and customer defection. The CRM task force was guided by five key strategic issues: exploit IBM technology; deliver on the promise technology; achieve leadership in network-centric computing; be the best at delivering value to the customer; leverage IBM's size and scale

Table IV.

eCRM is based on segmentation analysis, which is what Gould and Lewis (1985) ascribe to as an early focus on the users and what they need. Consultants are typically hired to lead such an effort.

Another observation from Monster.com, is that the field representatives were "locked out" of the system. This again suggests that the organization did not have a clear focus on its objectives and strategy. Similar observations at Mshow (Patton, 2001) revealed that the sales force refused to use the system, perhaps because the company did not articulate its needs well enough and also had inexperienced consultants. Thus, based on these observations an organization needs to focus on the users and their needs and on the overall strategy it has for implementing an eCRM system if it is to be successful.

There were several observations of limited success from system-determined issues in the design phase. Both Monster.com and Mshow had slow system response rates, which prevented the customer/sales representatives from helping their customers in a timely manner (Patton, 2001.) Additionally, data was unavailable for the Mshow sales representatives. Comments from users at CopperCom suggested that the implemented system was too complex and that the application service provider did not provide adequate support. Based on the integrated usability framework, it is evident that educating designers on how to build a technically-sound system and focusing on the general usability goals could overcome these anomalies.

The managers at Mshow and CopperCom learned from their earlier "failures". Mshow hired consultants first, to investigate the organizations' needs before purchasing the technology for their second eCRM implementation. They developed an implementation plan that included a smaller scale eCRM and required the salespeople to use the system from the very beginning. Similarly, CopperCom focused on their users throughout the development process by following an iterative prototype strategy. Furthermore, CopperCom implemented an incentive plan to encourage staff to use the system. Clearly these strategies helped to avoid problems of usability and resistance.

Table V.
Reasons for limited success

Company	Resistance/usability	Pre-design	Design	Post-design
Monster.com	People-determined	Field reps locked out of the system Inexperienced consultants		
	System-determined		Slow systems, reps were unable to help customers	
	Interaction theory			Complex systems
Telecommunications Company	People-determined System-determined Interaction theory		10 percent of the intended users were using the system No clear support from top management	
Mshow	People-determined	The company did not articulate its needs Sales force refused to use the system Inexperienced/poor consultants		*Second implementation* Hired consultants first
	System-determined		Slow access to system by remote sales people Data unavailable for the sales reps	Implemented small scale CRM
	Interaction theory			Required sales people to use the system
CopperCom	People-determined			*Second implementation* Focus on users throughout the process Incentive plan to encourage use
	System-determined		Complex system ASP failed to provide support	
	Interaction theory			Iterative and prototype development

Company	Resistance/usability	Pre-design	Design	Post-design
Barclays	People-determined			
	System-determined	Survey the technology two years ahead of time	Iterative, incremental	
	Interaction theory	Found a solution that works with existing software		
Fingerhut	People-determined			
	System-determined		Pilot tested the system on 10 percent of its customers for one year Looked for pieces instead of trying to fit into one solution	
	Interaction theory			
RadioShack	People-determined		Plans to add sales force gradually	A guarded approach based on past struggles failure reports
	System-determined		Pilot projects 20 people in first roll out	Past success were completed in "bite-size pieces"
	Interaction theory	Developing multiple small CRM projects		
Tipper Tie	People-determined	Soft sell to management Interviewed sales reps Interviewed call center staff Interview consultants to find the best fit	Worked closely with consultants Team members work the system then made presentations to other users	
	System-determined			

(*continued*)

Table VI.
Reasons for success

Table VI.

Company	Resistance/usability	Pre-design	Design	Post-design
	Interaction theory		Piloted the systems with "positive upbeat" people Semi-weekly progress updates Cross functional pilot teams – the key to success	
HP	People-determined	Used small tests to uncover issues Learned what the customers wanted		
	System-determined		Controlled project comparing e-mail campaign with direct-mail offer	
	Interaction theory	Analyzed and segmented its e-mail databases		
Student Connections	People-determined			
	System-determined		Pilot program to analyze new programs Dicing database into small segments for *f* analysis	
	Interaction theory	Used pilot programs		Learned from one implementation and applied to the next
Group Health	People-determined			
	System-determined			
	Interaction theory			Implementing the next technology based on a successful implementation

(*continued*)

Table VI.

Company	Resistance/usability	Pre-design	Design	Post-design
Union National Bank	People-determined	Early focus on the user	Create power users	
	System-determined	Analyze the available technology		
	Interaction theory	Align CRM solutions with strategy		
IBM	People-determined	Interviewed customers Focus groups Surveys	Prototype and test new processes – change the processes that do not work	
	System-determined Interaction theory	External benchmarking	Pilot implementations	

Reasons for success

Table VI lists the cases with successful eCRM implementations. Four organizations focused on people-determined issues during the pre-design phase: soft sell to management, interviewed customer or users, used focus groups to understand the issues, and/or interviewed consultants to find the ones with the best fit. Four organizations focused on technology-determined issues in the pre-design phase. IBM, for example, focused on external benchmarking (Massey *et al.*, 2001) Student Connections (Deck, 2001) used pilot programs to uncover its requirements. Union National Bank (Overby, 2002) analyzed the available technology to uncover the best solutions for its company. Barclays (Patton, 2001) spent two years surveying the technology before selecting one to purchase. Furthermore, Barclay's solution worked with the company's existing software and Union National Bank aligned the eCRM solution around the company strategy (interaction theory.)

Six organizations focused on system-determined issues during the design phase. They included pilot projects (Fingerhut, Tipper Tie, Student Connections, and IBM) or incremental and iterative rollouts (Barclays and RadioShack). Tipper Tie (Deck, 2001) piloted the systems with super users who were considered positive and upbeat people. The lead manager also required semi-weekly meetings to assess progress and considered cross-functional pilot teams the key to success. These issues are closely linked to the interaction theory.

Three organizations (Student Connections, Group Health (Patton, 2002) and RadioShack) learned from one implementation and applied that knowledge to the next. These are examples of the interaction theory working in the post-design phase.

Conclusions

The integrated eCRM framework provides a guideline for systems designers and the corresponding management team to improve usability and reduce resistance. In many cases, focusing on usability can reduce resistance (training and educating users) and focusing on resistance can improve usability (use of pilot programs and prototyping.) These two strategies go hand-in-hand.

The organizations that had limited success in implementing eCRM did not initially realize how much of an effect people could have on system success. For example, both Monster.com and Mshow did not design the systems around their primary customer contacts (field representatives and sales force.) In addition, both implemented systems with inexperienced consultants. Mshow learned its lesson. The second time around, people were given the primary focus; thus minimizing or eliminating resistance and involving people with the design.

The key reasons for successful eCRM implementations, from the analysis, were that the organizations' focus was on people and iterative, incremental

approaches. By applying the basic usability and resistance principles proposed in this framework, organizations should achieve higher levels of success.

CRM is a very complex combination of technology, software, people, and business processes. In order to get the most out of an implementation it is recommended that the systems designers and implementation managers design for usability and know how to manage, reduce, and overcome resistance.

This study of 13 cases emphasizes the need for organizations designing and implementing eCRM systems to review and apply the principles of usability and resistance. It also underscores the need for additional research into why such a large percentage of eCRM systems, and information systems in general, fail. Further research is needed to develop appropriate frameworks for analyzing system failures and developing guidelines that will lead to successful implementations. Larger analyses with additional cases and more detailed study of the reasons for failure my lead to additional insights that can aid designers and managers that build eCRM systems. Achieving the goal of designing a system that users are both "able" and "willing" to use will be the true measure of success for eCRM systems.

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