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Customer Relationship Management Systems Research: Voids in the Current Literature

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ABSTRACT

The status of the Customer Relationship Management (CRM) literature is investigated for the period of 2000 to 2004 in order to provide an overview of academic writing on the subject and to identify blind spots in the present literature.

The top ten MIS journals and proceedings of four international conferences were systematically screened. Selected publications were reviewed in a structured way and categorized according to the different phases in the CRM lifecycle: adoption, acquisition, implementation, use & maintenance, evolution and retirement. It appears that less attention has been paid to implementation issues and that the evolution and retirement phases have not sufficiently been explored yet.

With this structured overview of the literature and the identification of the voids, this paper offers suggestions for further research in the area and hopes not only to contribute to the orientation of our own research, but also to inspire future CRM research of peer researchers in our field.

Keywords

Customer relationship management, MIS journals and conferences, lifecycle classification.

INTRODUCTION

Although Customer Relationship Management (CRM) is a recent concept, its tenets have been around for some time (Peppard, 2000). However, researchers seem to have a difficulty in defining CRM and in mapping out how to implement it. The main problem is that CRM means different things to different people (Winer, 2001; Ryals & Knox, 2001). A number see it as a combination of business processes and technology that aims to understand a company's customers from the perspective of who they are, what they do, and what they are like. To some, CRM integrates marketing, sales, and service functions through business process automation, technology solutions and information resources in order to optimize each customer contact. Others opt to take an information technology (IT) perspective and focus on the fact that IT is the 'glue' that holds together and enables the whole to be operationalized. The current paper adopts the latter definition: "CRM is a process that utilizes technology as an enabler to capture, analyze and disseminate current and prospective customer data to develop insightful relationships, and more precisely identify customer needs" (Chen & Ching, 2004).

Worldwide IT-based CRM applications totalled \$11,2 billion in 2002 and is expected to reach \$20,6 billion by 2007 (Forrester.com). However, implementing a CRM system is a major task, and reaping the benefits of it does not appear to be easy (Chen & Ching, 2004). The performance impacts of CRM applications to date have been mixed (Ali & Alshawi, 2004). Only about 35% of all CRM applications have been estimated as a success (Davids, 1999). Even though the situation is improving, 55% of all CRM applications fail according to Gartner Inc. (Yoon *et al*, 2002). Because of the high investments and the high failure rate, research on CRM systems is definitely needed.

Romano and Fjermestad (2001a) have investigated the status and maturity of Electronic Commerce Customer Relationship Management (ECCRM) through an exhaustive literature review of 369 articles, from the first published article in 1984 up to conference papers presented in 2001 and 2002. They found that more conference proceedings articles had been published with regard to the subject than journal articles, which in their opinion could be considered a sign of relative immaturity. They also revealed a lack of CRM theory and conceptual model development. More recently, however, they were able to identify several papers addressing more theoretical IS-CRM issues and found the number of CRM publications in top ranked IS and related journals to be on the rise, indicating that IS-CRM research is gradually growing and maturing as a subfield of MIS (Romano & Fjermestad, 2005).

In 2001 Romano and Fjermestad also argued that since new topics like CRM, trust, Internet,... do not fit into previously defined classification schemes, there is a need to develop new frameworks in order to analyze the topics addressed by this new stream of research. Up to this day, they can reveal only one article attempting to classify IS research (i.e. Vessey *et al*, 2002), emphasizing that there is still work to be done to create new classification schemes that include the emerging MIS research areas of e-commerce and CRM (Romano & Fjermestad, 2005).

The current paper provides such a new classification scheme for CRM research. It reviews MIS journals and MIS conferences from 2000 to 2004, using a data collection and classification system, based on the one Esteves and Pastor (1999, 2001) have developed. They have researched Enterprise Resource Planning systems for the period of 1997 to 2000.

To develop an overview of the current CRM literature, the top ten MIS journals and the proceedings of four international conferences were systematically screened. As mentioned before, this pilot study focuses on the IT-aspects of CRM. 130 publications dealing with this topic were reviewed in a structured way and categorized according to the different phases in the CRM lifecycle. Publications not concerning a specific stage in the lifecycle are categorized in general topics such as research issues and CRM development issues. The voids that emerged were identified and are discussed in this paper.

This study illustrates that the interest of the academic community is in alignment with the actual CRM adoption situation. Furthermore, it proposes that future opportunities for research lay in the evolution and retirement phases. Also the implementation phase should receive more academic attention in the future.

DATA COLLECTION

To develop an overview of academic writing on the subject of CRM, the top ten journals in the area of Management Information Systems (MIS) as well as the proceedings of four leading conferences in the field were systematically scanned, covering the period January 2000 – December 2004. The selection was based on the journal ranking of the Association for Information Systems¹:

- MIS quarterly
- Communications of the ACM
- Information Systems Research
- Management Science
- Journal of Management Information Systems
- Decision Science
- IEEE Transactions
- ACM transactions
- Journal of the ACM
- Harvard Business Review

Conference proceedings:

- AMCIS – Americas Conference on Information Systems
- ICIS – International Conference on Information Systems
- HICSS – Hawaii International Conference on Systems Science
- ECIS – European Conference on Information Systems

¹ Source: <http://63.151.43.10/csaunders/rankings.htm>

A search engine was applied to retrieve the appropriate papers using the keywords “CRM”, “Customer Relationship Management” and “Customer Relation”.

In a next step, the articles were reviewed. Each publication was examined in order to reveal whether the content was consistent with our definition of CRM, keeping our IT-focus in mind. For example, articles concerning only general relationship marketing issues were excluded from the research.

Tables 1 and 2 list an overview of the number of publications identified and found relevant:

	2000	2001	2002	2003	2004	Total	%
MIS quarterly	1	0	0	0	1	2	6,5%
Communications of the ACM	2	1	2	4	1	10	32,3%
Information Systems Research	0	0	1	0	0	1	3,2%
Management Science	0	0	1	2	1	4	12,9%
Journal of Management Information Systems	0	0	1	1	0	2	6,5%
Decision Science	0	0	1	0	1	2	6,5%
IEEE Transactions	0	0	0	0	0	0	0,0%
ACM transactions	0	0	0	0	0	0	0,0%
Journal of the ACM	0	0	0	0	0	0	0,0%
Harvard Business Review	1	3	3	1	2	10	32,3%
Total	4	4	9	8	6	31	100,0%

Table 1. CRM publications in selected journals

	2000	2001	2002	2003	2004	Total	%
AMCIS	6	17	14	8	15	60	60,6%
HICSS	1	6	6	6	3	22	22,2%
ICIS	0	2	3	0	0	5	5,1%
ECIS ²	0	-	4	3	5	12	12,1%
Total	7	25	27	17	23	99	100,0%

Table 2. CRM publications from selected conferences

Apparently academic attention has increased from 2000 to 2002 (cf. Figure 1). This observation may provide an answer to Firth’s (2001) question whether the year 2000 would present the apex of the CRM discourse curve or just a stepping-stone to greater heights. The latter appears to be the case.

² Conference of 2001 not included

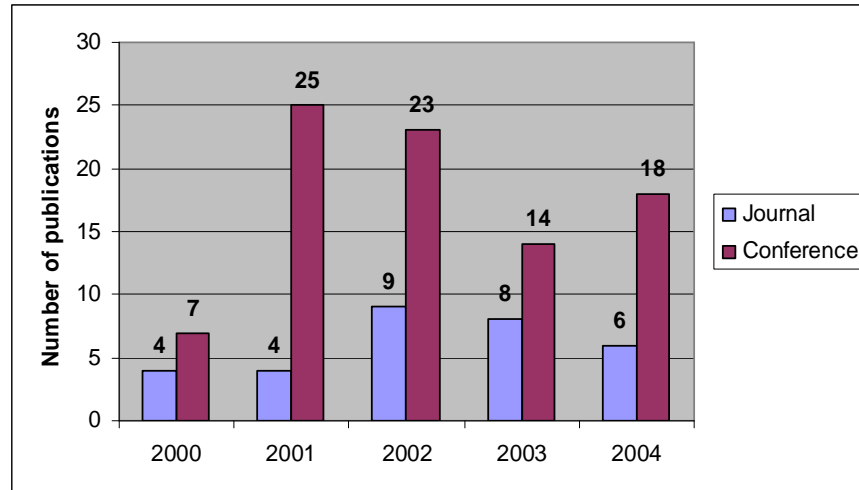


Figure 1. Number of publications by publication medium and year³

We can also observe that there are still more conference proceedings, than top tier journal articles being published on the CRM topic. Making a similar observation, Romano & Fjermestad (2001a) argue that this can be considered as a sign of the relative immaturity of the subject. The decreasing difference may nevertheless reveal a maturing trend.

In a last stage the relevant publications listed in tables 1 and 2 were classified within a lifecycle classification framework, which will be elaborated in the following paragraph. For each lifecycle stage, a summary will be provided of the main topics researched and possible topics for further research will be suggested.

DATA ANALYSIS

Classification framework

One way to analyze qualitative data is to use a classification system that includes a quest for regularity and standards, as well as topics encompassed by the data. The classification must then be summarized by words or phrases (Bogdan & Biklen, 1982). We used this process to analyze and categorize the publications found.

In a similar analysis with regard to ERP-systems, Esteves & Pastor (2001) suggest the following lifecycle stages: adoption, acquisition, implementation, usage, evolution and retirement (see *infra*). They argue that within the hosting organization an enterprise wide system evolves through these phases during its lifetime. In our opinion the proposed lifecycle stages are appropriate for the categorization of the examined CRM publications as well.

For this study, the content of the 130 selected articles was analyzed profoundly in order to allow us to file every publication in a category of this predefined classification system, based on the lifecycle framework. The articles that did not fit into a specific stage of the lifecycle, were categorized in a more general section (e.g. Esteves & Pastor, 2001). The classification was made by the first author for straight forward publications, in case of uncertainty the opinion of the co-authors was asked.

In the remaining part of this section, the different categories of the lifecycle are discussed.

P1 Adoption Decision Phase

During the adoption phase of a (technology-based) innovation, such as a CRM system, decision-making and planning activities are conducted to address “whether, why and how” to implement the innovation (Markus & Tanus, 2000). Managers also need to consider the consequences of its implementation. In short, at this stage managers need to define the system’s requirements, goals and benefits, and analyze the impact of adoption at a business and organizational level.

³ Without ECIS for comparison between years

P2 Acquisition Phase

During this phase a system needs to be chosen that fits the requirements formulated in the previous stage. There are a lot of factors to consider such as functionality, price, training and maintenance services.

P3 Implementation Phase

This phase deals with the implementation of the CRM-system. With or without the help of consultants the following issues should receive attention: implementation methodologies, know-how and training. The implementation should be conducted in such a way that the system fulfills the requirements of the firm.

P4 Use & Maintenance phase

This phase consists of the use of the system in a manner that ensures the realization of the expected benefits and minimizes possible negative effects. One also has to assess the value of the implemented system. Functionality, usability and adequacy to the organizational and business processes are keywords in the use and maintenance process.

Once a system is implemented, it must be maintained because malfunctions have to be corrected, special optimization requests must be met and system improvements have to be implemented.

P5 Evolution phase

In this phase additional capabilities are integrated into the CRM system in order to extend or optimize the capabilities of the system and thus to obtain additional benefits. Managers also have to think about further integration of the system with the other business systems.

P6 Retirement phase

The CRM system can become inadequate to the company's needs or new, more performant technologies can appear. At this moment management has to decide whether they want to replace the current system with a more appropriate one. There are different reasons that can trigger this decision, as there are: bad implementation experiences, strategic changes or simply because another product seems more adequate. The topic of version control is also situated here. Is there a new version of the CRM system launched, is this a better version, will the old version still be supported?

P0 General

The publications, not concerning a CRM lifecycle phase, were subdivided into two general topics, namely research issues and CRM development issues. The subtopic of research issues covers such aspects as research agendas, a CRM research overview and how to deal with CRM research projects. CRM development covers new emerging technologies and trends concerning CRM.

The classification of the publications

General overview

After studying the relevant publications, the following classification could be made (cf. *Figure 2: Lifecycle phase classification of CRM publications*). As could be expected, a great deal of attention has gone to the use phase (25%). The acquisition phase also received a lot of attention (24%). The adoption and the implementation phase received a little less attention (15%). The retirement phase has not been thoroughly investigated yet (0%) and the evolution phase has not received a lot of attention either (2%). Nevertheless, this is according to our expectations, because CRM is a relatively new way of using today's technology. Hence, most implementations have not reached these phases yet. Finally, in this study 18% of the selected CRM-articles were classified as dealing with more general issues, not related to a particular lifecycle stage. This was also the case for 20% of the classified ERP-articles in the Esteves and Pastor (2001) study.

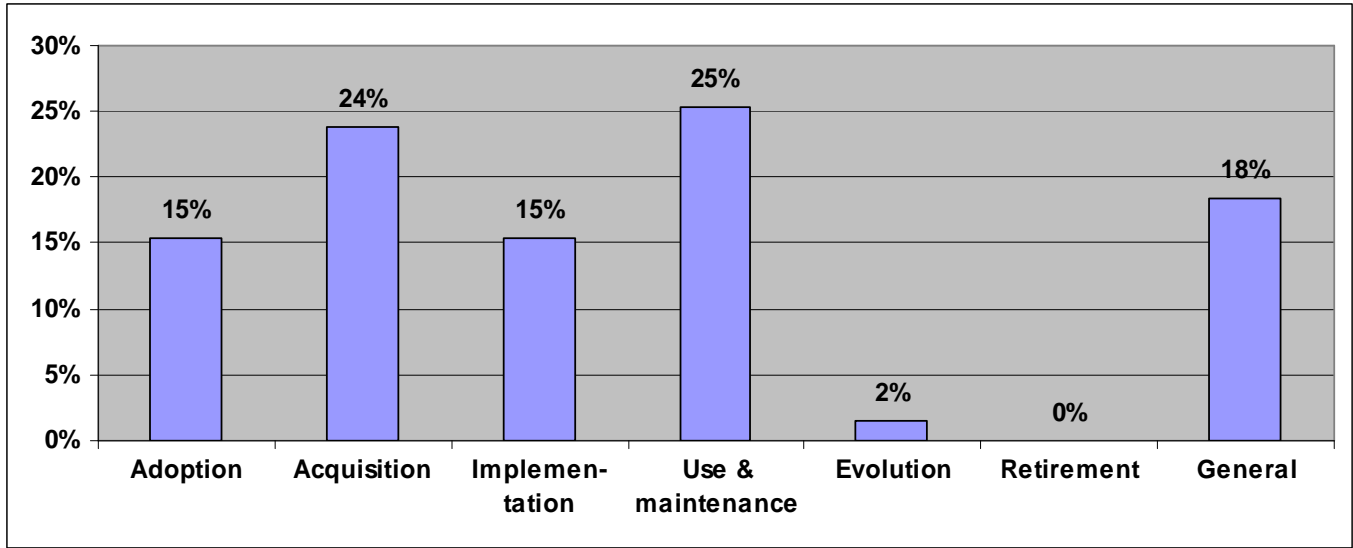


Figure 2. Lifecycle phase classification of CRM publications

Apparently, the number of scientific studies in each lifecycle is rather comparable to the current number of companies situated in these phases (cf. Figure 2: The diffusion of CRM technology). A recent survey, carried out during the summer of 2000 (Firth & Swanson, 2001), indicated that only 25% of the investigated companies were already using CRM technology (25% of the publications, classified in the use and maintenance phase in our research) while another 25% were still implementing CRM (only 15% of the publications, classified in the implementation phase in our research). Approximately 15% were still in the decision making process, which we can compare to our acquisition phase in which 24% of the publications could be classified in our research. Finally, approximately 17% of the companies investigated was still watching and waiting (15% of the publications, classified in the adoption phase in our research). Hence, the academic attention to the different phases reflects the business world’s attention; it is therefore reactive and not proactive in the domain of CRM.

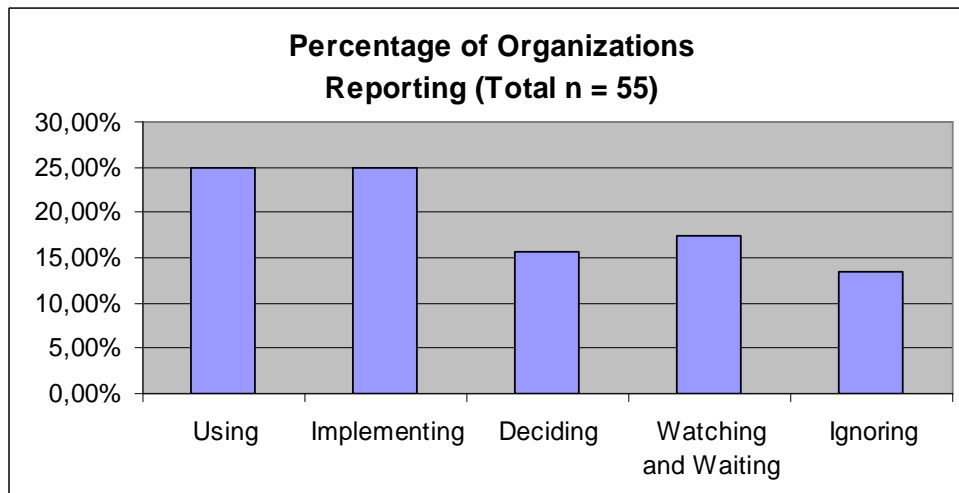


Figure 3: The diffusion of CRM technology (extracted from Firth and Swanson, 2001)

Next, we will discuss the publications categorized in each stage in more detail. For each stage we will present an overview of the research that has been done and suggest some ideas for future research.

Adoption phase

In the adoption phase a company will assess its readiness for CRM and set goals and requirements for the system. Twenty articles could be classified in this phase.

Some research has been conducted with regard to the question *whether* a company should implement a CRM system. A couple of models have been developed to assess CRM readiness (Jutla *et al.*, 2001; Ocker & Mudambi, 2003). Special interest has been devoted to CRM adoption in UK local government authorities (Batista & Kawalek, 2004) and financial services alliances (Geib *et al.*, 2004). Furthermore, the impact of organizational factors on CRM effectiveness has been investigated (Chen *et al.*, 2002). Anderson (2002) has examined when and why firms should treat customers as partners. Shaw and Craighead (2003) provided seven critical points of interest to recover from service failure in an e-service context and how technology can help. Finally, Sheng (2002) argues that not all companies will benefit to the same degree from CRM adoption. For this he proposes a customer-product model to guide pre-adoption evaluation of CRM projects. The importance of CRM in the hotel industry was questioned by Sutanto (2004).

The second question, *why* a company should choose for a CRM system, involves the impact such a system can have and what benefits or risks it can bring along. The possible effects of the CRM system have been investigated. There are positive implications such as the retainment of customers when their contact person leaves (Bendapudi & Leone, 2001) or increased customer profitability reached by asking customers for their opinion (Dholakia & Morvitz, 2002). A negative effect was found in decreased corporate profitability because important data was aggregated and condensed (Madeja & Schoder, 2003).

Topics for further research

The adoption phase appeared to be well covered. An interesting subject here was whether or not a company will benefit from CRM, even if it is ready for it. This topic might be interesting for further research.

Acquisition phase

In the previous phase the company has given a green light to start developing a CRM system. In the acquisition phase the system has to be designed and the necessary accessories and knowledge need to be bought. Thirty-one articles could be classified in this phase.

Some research was conducted with regard to the design of a CRM system. To answer this question, models have been developed to guide website design for e-commerce (Zhang & Von Drang, 2001 and Grandon & Ranganathan, 2001) and customer centered web-based systems (Albert *et al.*, 2004). An event-driven approach to CRM has been developed (Chiu *et al.*, 2003) and the concept of the management of customer relationships in Business Media (MCR-BM) has been introduced (Körner & Zimmerman, 2000). Finally, Shankaranarayan *et al.* (2000) have proposed an architecture for e-business systems like CRM.

There are a lot of ways to use CRM technology, demonstrated by the number of papers concerning special interest technologies such as virtual communities (Holmström, 2001), neural networks (Rong *et al.*, 2001), personalized websites (Fink *et al.*, 2002), instant messaging (Guan & Alkinkemer, 2002), web mining (Huang & Hsu, 2002), message sense maker (Roussinov & Zhao, 2003), data warehouses (Chan, 2003) and classification methods for unbalanced data (Lu *et al.*, 2004).

Frameworks have been developed by Fingar (2000): a framework for e-commerce applications and by Rosenbaum & Huang (2002): a framework for web-based CRM.

Two papers investigated the acquisition process itself. Howcroft & Light (2002) studied user involvement in packaged software selection and Poulson *et al.* (2004) examined how managers evaluate CRM options based on the differentiation between core competencies and commodity processes.

Topics for further research

Despite of the large number of publications classified here, there is room for further research dealing with the acquisition phase. Topics such as CRM system selection methods and criteria affecting this selection need to be examined. The selection of a proper supplier and implementation consultants may also be of importance. Other open issues are: contractual agreement analysis, different price models, analysis of hardware and base software needs associated with CRM system acquisitions. We did not find much research on these topics.

Implementation phase

The publications related to the implementation phase were categorized into three main topics, namely implementation approaches (four articles), implementation success (ten articles) and implementation case studies (six articles).

Implementation Approaches, the first sub category focuses on how to deal with a CRM project. There has been some research on the subject of implementation approaches but limited. Two publications dealt with the development of an implementation framework (Kundisch *et al* , 2001 and Fjermestad & Romano, 2003) and a third presented implementation strategies for CRM adoption in China (Ou & Sia, 2004), while the fourth dealt with CRM implementation in the hotel industry (Sigala, 2003).

The second sub category *Implementation Success* received more attention. It deals with the issues of how to succeed with a CRM implementation. Critical success factors and reasons of rejection are two topics dealt with here. The implementation success research identified in this study involved critical success factors (Kim *et al* , 2002; Alt & Puschmann, 2004; Rigby & Ledingham, 2004; Payton & Zahay, 2002; Batenburg & Versendaal, 2004; Buehrer & Mueller, 2002), implementation team responsiveness (Gefen & Ridings, 2002) and the salvation of a failing project (McNulty, 2003). Rigby *et al* (2002) discuss four perils of CRM.

Finally, articles in the *Implementation Case Studies* sub category present case studies of CRM implementations. Case studies were brought forward describing CRM cases in the First American Company (Cooper *et al*, 2000), an internet service provider (Esichaikkul & Sukaramula, 2000), a pharmaceutical company (Puschmann & Alt, 2001) and an Irish company. Finally, a case study was conducted to investigate different roles in systems development (D'Andrea *et al*, 2003)

Topics for further research

In the area of implementation approaches there is still room for further investigation. Additional general implementation frameworks should be developed and because of cultural differences the implementation strategies used in different cultures and their success may be of particular interest.

Implementation success can be further explored by analyzing successful implementations. Also of importance is the operationalization of these critical success factors. There is a need to develop practical approaches to manage the critical success factors identified in some studies. More in-depth case studies are also more than welcome. They would be very useful to analyze the critical success factors and other important implementation factors, like user involvement and change management.

Use and maintenance phase

Because of the large amount of publications concerning the topic of usage and maintenance we will split them up into two emerging subcategories: *value* and *user satisfaction*.

In this phase a company has to assess the *value* brought by the implemented system. There has been research on the valuation of CRM systems with regard to call centers (Subramanyam & Krishnan, 2002), internet advertising (Foroughi *et al*, 2001), e-commerce applications (Schubert & Dettling, 2002), e-business initiatives (Shin, 2003) and customer information systems (Zahay and Griffin, 2004). More general research has been done on the effect of CRM on IT effectiveness and firm performance (Mithas, 2003), the valuation of intangible assets (Baruch, 2004) and returns on relationship programs (Reinartz & Kumar, 2002). Chen and Ching (2004) examined CRM performance, partnership quality and customer lock-in.

Another aspect of interest concerning operational CRM systems is *user satisfaction* and their *intention to use* the CRM system. User satisfaction is influenced by a lot of factors and will influence the intention the user has to use the system. If the users don't intend to use the system it will not pay off. Researchers have tried to explain users' intentions to shop online (Han *et al*, 2001; Case *et al*, 2001; Muthitacharoen *et al*, 2002; Kimery & McCord, 2002) and their willingness to share intimate information (Cochran, 2004). Furthermore, attention has been paid to influences with regard to the satisfaction of the users (Johansson *et al*, 2001; Kim *et al*, 2001; Schaupp and Belanger, 2003; Balasubramanian *et al*, 2003; Bharati & Chaudhury, 2004). Bharati and Chaudhury (2001) investigated the effect of the 'choiceboard' system on perceived service quality. Choiceboards are interactive, on-line systems that allow individual customers to design their own products by choosing from a menu of attributes, components, prices, and delivery options. Cass and Lauer (2002) examined the effect of the use of a personal relationship language. Finally, Hackney *et al* (2004) present a conceptual analysis of customer motivations to engage in certain attention behaviour. A final paper deals with the segmentation of users (Yoon *et al*, 2003).

Topics for further research

It is very important to find out whether the investment in a CRM system paid off. Not only because of the huge amount of resources involved but also because CRM will need continuous attention and improvement.

The users are another very important piece of the CRM puzzle, so further research here will certainly be of interest. Some experiments on this topic are welcome. Furthermore, the topic of segmentation should receive more attention in the future.

The topic of maintenance appears not covered yet and therefore it should get some attention in the future.

Evolution phase

Some features might not have been within the original boundaries of the CRM-system but may be interesting to be included in the second round of the system. Only two publications were situated in this phase.

Ganapathy, Ranganathan and Sankaranarayanan (2004) present how visualization tools can be effectively applied to improve and enhance the different stages of the CRM function. Holton and Dreiling (2003) show how CRM and Supply Chain Management information can be integrated to provide supply chain managers with relevant information.

Topics for further research

There has not been much research involving the evolution stage of the CRM lifecycle. Additional features should be investigated because CRM systems will be subject to migration sooner or later. Also the further integration of the CRM-system with other business systems has not been thoroughly explored during the investigated period (2000-2004) and should get more attention in the future.

Retirement

As was the case for ERP systems in the study of Esteves & Pastor (2001), there were no publications categorized in the phase of retirement. At present, the majority of organizations are in the adoption, implementation and usage phases (cf. *Figure 2: The diffusion of CRM technology*, p6).

Companies, who implemented CRM systems in the late 90's, could get to this stage soon and therefore the academic community has to put this subject on the research agenda. These early CRM systems will trigger questions about version control and retirement.

General topics

The general topic publications were divided in *research issues* (eleven articles) and *CRM development issues* (thirteen articles).

The topic of *research issues* covers such aspects as "research agendas", a "CRM research overview" and "how to deal with CRM research projects". A CRM research overview was performed by Romano (2000), five research areas were identified by Romano & Fjermestad (2001) and the diffusion of CRM as an IS innovation was investigated by Firth (2001). The maturity and development of e-commerce CRM was investigated by Romano (2001). Trust types have been developed by McKnight & Chervany (2001a) and distrust was discussed as a possible research object (McKnight & Chervany, 2001b; McKnight *et al*, 2003). Furthermore, there has been some research on business models for virtual communities (Brandtweiner & Mahrer, 2002) and Sathich *et al* (2002) took a new approach to defining and studying CRM providing a framework to carry out future research.

CRM development focuses on new emerging technologies and trends. Trends may change CRM systems in the near future or may change CRM at present. Hot topics at the moment are privacy policies (Liu & Arnett, 2001), ubiquitous computing (Fano & Gershman, 2002), CRM for the web-access challenged (Romano, 2002), e-commerce becoming e-service (Rust & Kanman, 2003), mobile commerce (Chan *et al*, 2004) and the possible outsourcing of CRM (Motiwalla & Mehta, 2004). Further, Malhotra (2004) states that there should be a shift of CRM focus from maximizing transaction values to more customer oriented values. Finally, cultural issues are an emerging trend in CRM research (Ali & Alshawi, 2004) as is customer ontology construction (Hongwei *et al*, 2003).

Furthermore, some new technology is being developed such as the combination of data mining and optimization for analytical CRM applications (Padmanabhan & Tuzhilin, 2003) and of neural networks and choice models for modeling selection decisions (Papatla *et al*, 2002).

Topics for further research

Research issues and overviews will always be needed because it helps to guide further research.

CRM is still developing, demonstrated by the number of publications that deal with this topic. As long as CRM keeps on maturing, research will be needed.

The topic of new technologies is more a computer science issue, we are less suited to address the further research here.

LIMITATIONS

This study might have been affected by some limitations.

First, the study was conducted for a limited period of time, only the publications for the period 2000 to 2004 have been investigated. Therefore, in cases where only a limited amount of research on a certain topic could be revealed, it might be possible that this topic has already been covered extensively in the past. We tried to address this drawback by inspecting earlier CRM research overviews, such as the one by Romano and Fjermestad (2001a).

Secondly, this study was also restricted by the number of journals and conferences that have been examined. Furthermore it was only focused on MIS journals and conferences. Perhaps certain topics and phases have been covered to a greater extent in other journals or conferences. For example, in a similar study covering marketing papers large differences appeared (Paulissen *et al*, 2005). 49% of the marketing papers were classified in the use phase (cf. 25% for MIS), focusing mainly on the optimal use of data through CRM technology. In the acquisition phase no publications were classified (cf. 24% for MIS) and the implementation phase was covered in only 5% of the classified articles (cf. 15% for MIS).

Finally, we have chosen the lifecycle classification framework developed by Esteves and Pastor (2001). There might be other, better frameworks for the classification of CRM literature.

CONCLUSION

This lifecycle model, proposed by Esteves & Pastor (2001) for the classification of innovative IS research, has not been applied to CRM research yet. Therefore, this paper provides a CRM systems' research overview seen from a new angle.

The first phases, adoption, acquisition, implementation and use appear to be well covered whereas the last two phases, evolution and retirement seem not to have received any attention. This could be anticipated because CRM technology is a relatively new technology. In the future however, there will probably be CRM systems reaching these phases, thus it might be encouraged to start investigating these phases in the near future.

From this review we can also conclude that the academic community is in alignment with the actual CRM adoption situation, demonstrated by the comparison between academic attention per lifecycle and the percentage of companies within these cycles. To some point the academic community should become more proactive by starting to investigate the evolution and retirement phases. We can also observe that the amount of publications increased from 2000 to 2002, to remain rather steady since, perhaps indicating a maturing effect of CRM.

Finally, we note that, while approximately 25% of the companies were implementing CRM systems in 2001, only 15% of the publications (period 2000-2004) covered this stage in the CRM lifecycle. There are a lot of companies in this lifecycle at the moment and more will reach this challenging phase in the near future. Therefore, more research with regard to the implementation phase may be required.

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