Rejuvenating Customer Management: How to Make Knowledge *For, From* and *About* Customers Work

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In recent years, many companies have strived to enhance their customer-relating capability with knowledge management instruments. A survey conducted by the authors, however, indicates that successful implementations of such initiatives are still comparatively rare. In this paper we present a cross-case analysis of three companies that we identified as "good practices" in rejuvenating customer management through managing knowledge *for, from* or *about* customers effectively. From the case studies' findings we identify key success factors for implementing knowledge-based CRM initiatives by means of an orchestrated approach that considers strategy, processes, systems and change management aspects.
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Introduction

Customer relationship management (CRM) and knowledge management (KM) initiatives are directed towards the same goal: the delivery of continuous improvement towards customers. Initiatives stemming from this effort have been labelled 'customer knowledge management' (CKM) or 'knowledge-enabled CRM' (Gibbert, Leibold and Probst, 2002; Gebert, Geib, Kolbe and Brenner, 2003). In this contribution, we conceptualise CKM as the utilisation of knowledge *for* (e.g. product information) *from* (e.g. their ideas about product improvements) and *about* customers (e.g. their requirements and expectations) in order to enhance the customer-relating capability of organisations. Recent research shows that an organisation's KM capabilities are the most significant critical success factor affecting CRM impact (Croteau and Li, 2003). However, due to a history of poor solutions coupled with technology failures, many companies have a hard time justifying CKM initiatives in today's business world (Yu, 2001). Nevertheless, the idea of combining KM initiatives with CRM activities is still alive as it has also proven to bring about considerable benefits when done

correctly (Gibbert *et al.*, 2002). Therefore, we want to introduce the actual *status quo* of CKM initiatives within organisations and shed light on the question how companies successfully utilise knowledge *for*, *from* and *about* customers to achieve superior performance in CRM processes.

In order to address these issues, we applied a two-stage research approach combining quantitative-empirical data with results from a multiple case study design. The quantitative-empirical data was collected by means of a survey of 1,000 CRM executives of renowned companies in German-speaking regions such as Allianz, Deutsche Bank, Lufthansa and Audi. At the same time, we extended the insights derived from the survey by in-depth case studies at three companies where we identified successful practices of customer knowledge management: Union Investment, Siemens and Credit Suisse.

We present the theoretical foundation of this paper in the following paragraph. After a brief outline of our research approach we introduce the results of our survey regarding the status quo of CKM initiatives within organisations. Subsequently, the case studies of Union Investment, Siemens and Credit Suisse illustrate how these companies managed their knowledge *for*, *from* and *about* customers effectively. From this we suggest implications for practice by means of a managerial framework.

A CRM Process Map

In general, two core developments can be identified which finally led to the emergence of CRM. One of these developments was the shift from a focus on transactions to the establishment, marketing and nurturing of relationships with customers (Bose and Sugumaran, 2003). Companies that pursue a CRM approach focus on customer retention rather than on single sales (Webster, 1992). Formally, relationship marketing can be characterised as an integrated effort to identify, maintain, and build a network with individual customers, and the strengthening of this network for both sides' mutual benefit (Shani and Chalasani, 1992).

Due to the different influences leading to the development of the CRM concept, there are also many divergent perspectives on CRM. The different dimensions have been widely discussed by marketing practitioners and scholars alike (e.g., Massey, Montoya-Weiss and Holcom, 2001; Zablah, Bellenger and Johnston, 2004). For our research purposes, we follow a process-oriented approach by Shaw and Reed (Shaw and Reed, 1999), who define CRM as an interactive process achieving the optimum balance between corporate investments and the satisfaction of customer needs in order to generate the maximum profit.

Many researchers have addressed the lack of an integrated and comprehensive outline in the context of CKM (e.g., Winer, 2001; Massey *et al.*, 2001). For our purposes, we deployed a process map which describes the business processes relevant to CRM and KM initiatives (see Figure 1). The map is the result of ongoing research combining theoretical conceptualisation efforts with practical application. The theoretical findings elaborate on eight years of case study and action research that have been introduced to the research community (for further discussion see Gebert *et al.*, 2003; Bueren, Schierholz, Kolbe and Brenner, 2005; Geib, Kolbe and Brenner, 2004). Additionally, in collaboration with research partners, the research results have been discussed and validated in practice.

The process map comprises all identified business processes that are relevant to successful CRM implementation within an organisation. An important characteristic of the map is that it is geared towards customers' needs and desires. Ives and Learmonth apply the concept of the customer resource lifecycle (CRLC) in order to fulfil these needs (Ives and Learmonth, 1984, p. 1197). Österle similarly refers to the concept of the customer process (Österle, 1995) which is a sequence of activities performed by a customer in order to satisfy a need or to solve a specific problem (see ''Customer Buying Cycle'' in Figure 1). The importance of KM as part of the CRM process map is discussed in the following section.

Knowledge Flows in CRM Processes

The CRM discipline's relationship with KM approaches and technologies has widely been recognised as a relevant field of research (Winer, 2001; Massey *et al.*, 2001).

As CRM processes can be considered semi-structured or even unstructured, they reveal a high complexity as well as a strong knowledge intensity. Since collecting, storing and distributing relevant knowledge for those CRM processes makes the deployment of KM techniques necessary, it is evident that an organisation's KM capabilities play a key role in CRM success (Croteau and Li, 2003). In this context, KM can be defined as ''the process of critically managing knowledge to meet existing needs, to identify and exploit existing and acquired knowledge assets and to develop new opportunities.'' (Quintas, Lefrere and Jones, 1997) Likewise, CKM can be defined as the systematic handling and management of knowledge collected at customer interaction points which is required for the efficient and effective support of business processes (Geib and Riempp, 2002).

As a further concretisation of this notion, we distinguish three kinds of knowledge flows that play a
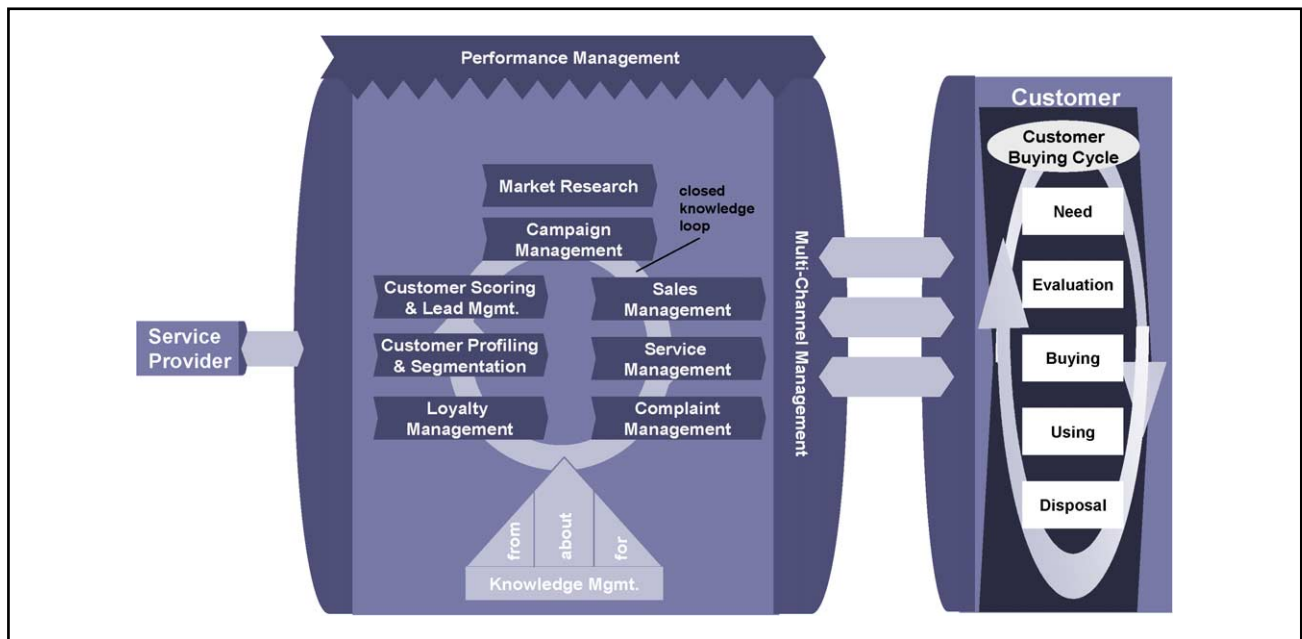
Figure 1 A Process Map for CRM

vital role in the interaction between an organisation and its customers: knowledge *for, from* and *about* customers. Firstly, in order to support customers in their buying cycle, a continuous knowledge flow directed from the company to its customers (i.e. knowledge *for* customers) is a prerequisite (Davenport and Klahr, 1998). Knowledge for customers comprises information about products, markets and suppliers (Garcia-Murillo and Annabi, 2002) and is primarily addressed by CRM service processes. This knowledge dimension also impacts the customer's perception of the service quality - which has been identified as an important determinant of satisfactory financial performance (Taylor and Baker, 1994).

At the same time, knowledge *from* customers has to be incorporated by the company for product and service innovation, idea generation as well as for the continuous improvement of its products and services (Thomke and von Hippel, 2002; Chesbrough, 2003). Capturing customer knowledge and involving customers in the innovation process can be achieved in various ways (Gibbert *et al.*, 2002). For example, customers' knowledge about products, suppliers and market trends can be used via appropriate feedback mechanisms to enable a systematic improvement and innovation of products (Garcia-Murillo and Annabi, 2002; Gibbert *et al.*, 2002).

The collection and analysis of knowledge *about* customers is certainly one of the oldest forms of KM activity in the CRM domain (Reichheld and Schefter, 2000). Besides the customer's master data and past transactions, knowledge about the customer encompasses the customer's present needs and requirements, future desires, connections, purchasing activity and financial capability (Davenport, Harris and Kohli, 2001; Day, 2000). Knowledge

about customers is collected in CRM service and support processes and analysed in CRM analysis processes.

Research Methodology

For our research purpose, we adopted a two-stage strategy that combines quantitative-empirical data, based on a large-scale survey with an explanatory multiple-case study approach. In the first stage, we used data derived from a survey of 1,000 CRM executives in order to identify the *status quo* of knowledge-enabled CRM initiatives within organisations. This part covers aspects referring to ''who'', ''how many'' and ''how much'' (Yin, 2002). Therefore, the survey represents the exploratory part of our research, providing us with data and propositions for further inquiry in the second stage.

This second stage consisted of an explanatory multiple-case study approach. We therein addressed the questions related to the ''how'' and ''why'' of our research. In this context, we were especially interested in ascertaining why CKM initiatives succeed within companies and how CKM can enhance the performance of a particular CRM processes. The deployment of case studies in order to generate explanations follows the research approach proposed by Yin (Yin, 2002).

Data Collection

Survey Design
The goals of our survey were to evaluate the status quo of today's CRM activities with particular regard

to critical success factors and common pitfalls. 1,000 CRM executives in the German-speaking regions (i.e. Germany, Austria and Switzerland) were invited to participate. The survey was carried out from July to August 2004. Finally, 89 online questionnaires were returned, which is a return rate of approximately 9%.

The survey's respondents belong to a variety of different industries. The industry represented most often is ''Banking/Financial Services'' with 35% (see Appendix A). Furthermore, the respondents are mainly representatives of large-scale enterprises. The majority of the participating companies have a turnover of more than EUR 1 billion, more than 500,000 customers and more than 5,000 employees. Allianz, Deutsche Bank, Lufthansa, Audi and other renowned enterprises are among the participants.

Although the sample size is not representative with regard to the universal set of companies in the German-speaking regions, the results of the survey can be regarded as empirically well-founded for the purpose of describing the *status quo* in knowledge-enabled CRM.

Case Sites
The case data were collected in a study of Union Investment, Siemens and Credit Suisse in the second half of 2004. These sites were chosen for theoretical rather than statistical reasons, and selection was based on two criteria: purposeful sampling (different exposure to customer knowledge, see Table 1) and a willingness to cooperate (Yin, 2002). By analysing different approaches to CKM, we adapted different views and consequently gained a more complete picture of the possible challenges (Eisenhardt, 1989). Table 1 provides a brief overview of the case sites.

The structure for the central component, the semi-structured interviews, was provided by Senger and Österle's case study method (Senger and Österle, 2002). Following the business engineering principles, this method describes three generic steps: (a) the old situation and the resulting problem perception, (b) the transformation project as well as (c) the new solution with discussions relating to the costs and benefits. For our research purpose, we adopted the proposed structure in respect of the topic of how CRM processes are enhanced by KM initiatives. The interview questions can be summarised as follows:

- ❖ *CKM challenges*: In which respect is knowledge *for*, *from*, or *about* your customers needed to improve your products and services?
- ❖ *Knowledge impact*: Which approach to managing customer knowledge did you employ to improve your products and services?
- ❖ *Performance outcome*: What are the tangible and intangible results of knowledge-based CRM at your company?

To clarify and elaborate on the case descriptions, they were reconciled with the interview partners, and sometimes required further interviews.

Data Analysis

For the case analysis, we used both within-case and cross-case analysis of the data (Yin, 2002). The objective of the within-case analysis was to build an explanation of the case by using a deduction and induction cycle. The data's validity was ensured through the use of multiple sources of evidence, the interviewees' reviews of the case interpretations and a chain of evidence provided by the case data. The cross-case analysis was carried out in order to locate and examine the similarities and differences

Table 1 Overview of Case Sites

Company characteristic[*]	Union Investment	Siemens	Credit Suisse
Description	German fund managing company	German electronics company	Swiss universal bank
Total assets/revenue	€122 billion assets	€75 billion revenue	€800 billion assets
Employees	ca. 2,000	ca. 430,000	ca. 60,000
Business segments	Investment funds, asset management	Information and communication systems and products, transportation, energy, health care, household appliances, lighting, etc.	Investment banking corporate/ retail/private banking
Analyzed Business Unit(BU)	Whole company	Information and Communication Mobile	Corporate/retail/private banking
Assets/revenue of analyzed BU	€122 billion assets	€11 billion revenue	€470 billion assets
Customers in analyzed BU	ca. 4 million private and institutional investors	ca. 20 million private and corporate customers	ca. 3 million private and institutional customers
Exposure to Customer Knowledge	Knowledge *for* customers	Knowledge *from* customers	Knowledge *about* customers

[*]As of 2004; figures taken from annual reports

across the three cases. The objective was to generalise beyond the data and, through this, discover the challenges that play an important role in knowledge-based CRM. These challenges are described and a guiding framework is derived in the concluding section of our paper.

Analysis and Discussion of Knowledge-based Customer Relationship Management in Practice

A Survey on Knowledge-based CRM

As outlined above, we structured the survey's questions on CRM process implementation according to the process map for CRM introduced in the theoretical foundation of this paper. The knowledge management category was explained to the participants as comprising two perspectives on the management of customer knowledge within the organisational context: (a) knowledge exchange between customers and the organisation and (b) knowledge dissemination within the organisation to those entities where it can be reused most effectively. Knowledge itself was defined as capacity for effective action (Senge, 1990).

Regardless of the distinction between outside acquisition and inside dissemination of customer knowledge, the results of our survey (see Appendix B) indicate that the topic is not yet being addressed comprehensively. More than 60% of the respondents say they have ''not'' or ''hardly'' implemented any processes for managing customer knowledge. Only 9% claim their organisation has established such mechanisms ''fully'' or ''mostly''.

The domain of KM is thus the least established process category by far. The comments made by the survey participants indicated that firms may refrain from KM initiatives in CRM due to difficulty in visualising the immediate benefits and short-term pay-offs of such projects. Furthermore, participants claimed that KM as a term had a negative connotation within their organisation and therefore investment decisions were rarely carried out consequently. Unclear responsibilities in CKM initiatives were another issue mentioned by the survey participants. Whereas KM efforts are mostly rooted in staff departments, CRM is often performed within a business function, such as marketing, sales or service. Therefore, questions arise regarding who provides the budget and who is responsible for taking care of customer knowledge management initiatives once the rollout is completed.

The discrepancy between the importance attributed to CKM in theory and its low degree of implementation in practice impelled us to identify and describe successful practices where KM helped to improve CRM processes effectively. The ultimate goal was to derive a guiding framework that may help to overcome the practical challenges associated with the topic. Therefore, in the following sections, we describe how Union Investment, Siemens and Credit Suisse successfully managed to make use of knowledge *for*, *from* and *about* their customers.

Knowledge FOR customers – Support for Union Investment's Customer Communication Center

The case of Union Investment - a large mutual fund company in Germany - illustrates the importance of explained knowledge for the CRM sub-process service management. At Union Investment, a customer communication centre (CCC) integrates the communication channels such as phone, fax and e-mail to serve customers via multiple contact points. Within the CCC, 120 employees serve bank employees and retail customers alike by providing knowledge on a wide range of topics associated with complex financial products.

CKM Challenges
Initially, in order to address the needs of their customers, CCC agents utilised information from the different organisational units that were collected and aggregated by an internal information support unit. Having received the required information by the support unit, every CCC employee had to organise his or her content individually. This also meant that new employees did not have access to older information. Subsequently, to address this shortcoming, a knowledge platform was created using basic web technology which offered the same information as could be obtained through e-mail, but with a certain time delay. However, as the amount of content increased, the navigational structure eventually became more and more cluttered. Due to the lack of a search function, the CCC agents returned to primarily using their personal e-mail folders for information retrieval and not the central knowledge base.

The complicated process of converting documents to a web-based format also generated considerable costs in respect of creating, formatting and publishing content. Furthermore, the prevailing solution inhibited timely publication – a critical aspect in supporting the CCC agents effectively.

Knowledge Impact
In order to ameliorate the unsatisfactory situation, Union Investment launched a project aimed at eliminating shortcomings concerning the current design of knowledge presentation and the unwieldy navigational structure that made searching for content impossible. These deficits also applied to the information support unit, since the editors had no

adequate tool to help them structure the knowledge and to obtain an overview of the existing documents.

Union Investment decided to respond to these challenges by introducing a new content management system. It included a conversion tool which was based on newly created templates in office applications and could create HTML-content in compliance with a general layout style automatically. The new solution enabled the editors to publish new content directly from the office application as well as providing an overview of the existing documents. The content management system offered a search function to support the CCC agents' work in addition to a redesigned consistent navigational structure.

Performance Outcome
According to an in-depth analysis of CCC agents and editors' processes, the new structure and shortened timeliness of the information available on the knowledge platform are an important factor in supporting CCC agents. It enables them to provide faster answers and of a higher quality. By saving time in the process, customers are eventually served faster. An individual agent can also serve more customers, thereby increasing service levels and reducing waiting time.

At the information support department, the cost and time needed to maintain the new platform were significantly reduced by eliminating most of the effort associated with the conversion of the existing content. Furthermore, the focus on just one information source made it easier for agents to find what they need and reduced the operational costs of publication for the editors.

Knowledge FROM customers – Using Customer Feedback for Product Innovation at Siemens

The Siemens case study focuses on the use of knowledge from customers in Siemens' mobile communications business unit. Siemens wanted to use its huge base of inbound customer complaints and feedback for product enhancement and innovation.

CKM Challenges
As a globally acting provider of mobile communication solutions, Siemens operates 90 local service organisations providing technical support and service management. Seven call centres worldwide receive a call volume of approximately 6 million per year as well as average of 400,000 e-mails and 70,000 written inquiries per year.

In the past, the local service organisations operated separately and were not connected. Although the complaint management process was partly supported by systems, the customer service contact was only conceived and optimised to answer complaints and service requests efficiently. No analysis was made of the high volume of incoming calls, mails and written inquiries in order to pursue product enhancement and innovation. There was also no central aggregation of complaints in the customer care domain, or a connection to the global product development department.

Knowledge Impact
The high competitive pressure in the mobile communications market, shorter product life cycles and the rising customer expectations regarding product functions and quality were the main business drivers for Siemens Mobile to connect its global customer care activities with the product development domain via knowledge management instruments.

All customer requests, also those reaching the customer care center via phone or mail are now collected and stored in a central knowledge database at Siemens' headquarters, where the product development department is also located. From its central knowledge base, Siemens Mobile uses the incoming customer requests and suggestions in a threefold way. First, via the FAQ section on the customer care websites, direct contact with the end user is constantly optimised in order to enhance the degree and quality of self-service. Second, customer feedback is used to permanently update the quality of the customer care intranet portal's information that is used by the call centre employees and at the stores where service personnel need supportive information for direct customer contact. The third domain is the joint elaboration of customer feedback together with the product development department.

The resulting changes in product configuration affect the current mobile phones through, e.g., software updates that a large number of customers demand, but the user's desires regarding radical changes in product design are also evaluated for incorporation in the next product generation. The customer care department therefore also contacts single customers to ascertain their specific ideas and to involve them in further product development phases.

Performance Outcome
With the introduction of the central customer complaint and feedback base, Siemens' mobile phone division optimised the systematic collection of knowledge from customers about technological trends and therefore generated future-oriented know-how about customer needs for service and product innovation. This resulted in an optimised support of complaint management both for customer self-service on the website and for Siemens' employees at the call centres and local stores.

The main outcome, however, was the conversion of in-depth customer feedback into new product features, both during the ongoing product cycle and when changing to another product generation. Examples include a flexible memory usage for customers and the access to the complete menu during a call. As an important side effect, Siemens observed that end users who complained and were then approached personally and seriously in order to evaluate their ideas for product innovation, turned into satisfied and loyal long-term customers.

Knowledge ABOUT Customers – Gaining Customer Insights for Profitable Campaigns at Credit Suisse

The Credit Suisse case describes how the financial services division of a large financial institution generated knowledge about their customers in order to optimise its customer profiling and segmentation, and campaign management processes.

CKM Challenges
By the end of the 1990s, Credit Suisse used to launch their financial products' marketing campaigns broadly, without focusing on certain customer segments or target groups. On the completion of a specific campaign, evaluations of the campaign success were possible on an aggregate product level, but not in respect of customer groups.

To improve the effort required for their marketing campaigns success, the specific challenge was to identify those customers with a high profitability, i.e. a high ''customer value''. Then the goal was to target each product marketing campaign according to the specific needs of those ''high-value'' customer segments in order to improve the ratio of product sales associated with the campaign. Credit Suisse realised that they needed to acquire knowledge of their customer base's contact history as well as of the products they used in order to identify high profitability customer relationships.

Knowledge Impact
In 1999, Credit Suisse decided to introduce a data warehouse to organise the knowledge that the bank had gained about the product use of their customers over time. Credit Suisse thus mainly uses its customer knowledge for cross- and up-selling campaigns in high-value customer segments. If a product campaign is going to be launched, a target group in a ''top segment'' is selected and the likelihood of that segment buying certain core products (e.g. funds, life pensions etc.) is determined via data mining methods. With this information, customer groups are built according to product preferences and a product and communications strategy is defined for each group. Thereafter, a list of target customers is generated and handed over to the branch relationship managers who then contact their customers. Finally, feedback on the sales' success is provided to the marketing department in order to further enhance the segmentation model for future campaigns.

Besides being used to optimise marketing campaigns, Credit Suisse uses the knowledge gained about its customers' product use and contact history for churn management. If, during the lifetime of a client relationship, certain events occur, e.g. high savings outflows that indicate a high likelihood of attrition, the marketing department releases individual campaigns and contacts these clients directly in order to avoid the termination of the customer relationship.

Performance Outcome
The analysis of the knowledge about their customers has enabled Credit Suisse to launch marketing campaigns depending on their likelihood of success at targeting a certain customer group. The performance of single initiatives can be measured precisely, and, consequently, Credit Suisse only executes campaigns with an anticipated positive net present value (NPV).

Furthermore, Credit Suisse also achieved considerable financial benefits on the cost side. According to the bank, the percentage of customers interested in purchasing a service, but who were rejected due to a bad credit rating, was reduced by almost half when compared to previous campaigns. The total project costs were therefore redeemed within two years.

In conclusion, we observe that in each of the three cases, the support of CRM processes via the effective application of customer knowledge leads to significant performance improvements (see also Table 2).

Implications for Practice

Based on our findings, we present four implications of the successful improvement of CRM processes by KM. According to the business engineering concept, these implications can be arranged in a managerial framework for knowledge-based CRM strategy, processes, systems and change management (see Figure 2). The business engineering concept enables the transformation of enterprises from the industrial age into the information age by means of procedure models, methods, and tools (Österle, 1995).

This framework may serve as a guideline for practitioners and thereby help to alleviate the gap between the benefits known from theory and case studies and a still very low level of broad CRM process implementation that we identified in this study's survey.

Table 2 Case Overview of Knowledge-enabled CRM

| Characteristic	Union Investment	Siemens	Credit Suisse
CRM focus of knowledge use	❖ Service management, call center management	❖ Complaint management, service management, product innovation	❖ Campaign management, customer profiling & segmentation, performance management
CKM challenges	❖ Disintegrated knowledge support for call center personnel	❖ Disconnected service centers ❖ Isolation of customer care department within the organization	❖ Change from product-centered to customer-centered marketing campaigns ❖ No evaluation of customer value possible
Knowledge impact	❖ Solving of manual conversion of content ❖ Search function and consistent navigational structure provided by content management system	❖ Central storage of customer feedback to support service personnel and customer self-service ❖ Joint elaboration of customer feedback and ideas with product development department	❖ Introduction of a data warehouse and use of data mining method to determine customer value and product buying probability
Performance outcome	❖ Decrease in duration of service calls, higher quality of the provided service, higher customer satisfaction	❖ Optimized service quality and self-service ratio in customer care ❖ Introduction of customer-induced product enhancements and innovations	❖ Marketing campaigns with increased success rate and higher net present value
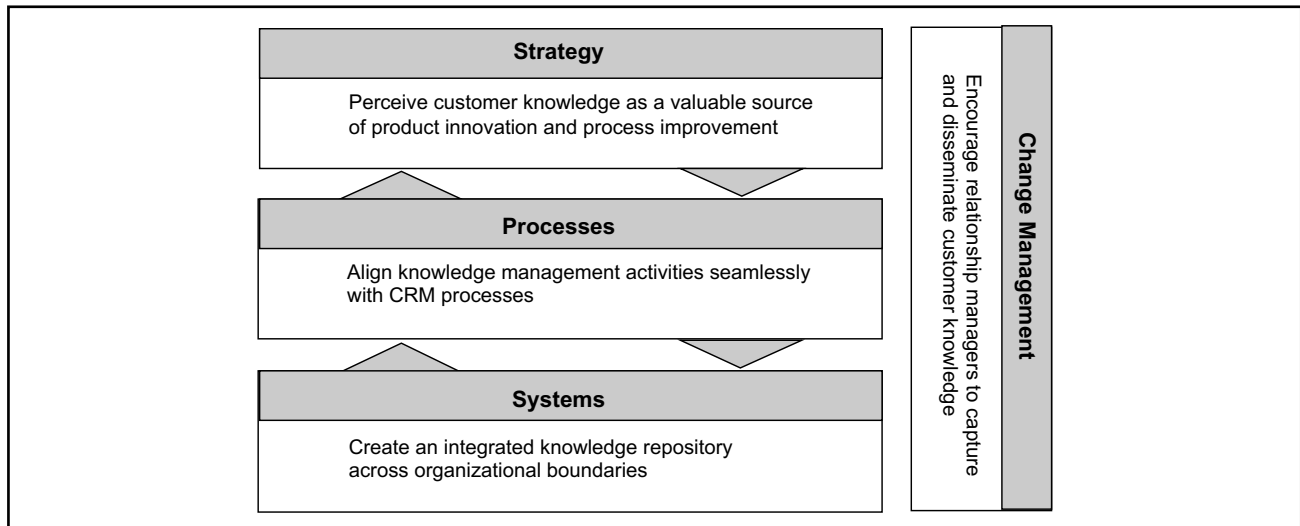
Figure 2   A Managerial Framework for Knowledge-based CRM

The elements of the proposed framework can be outlined as follows.

Strategy – Perceive Customer Knowledge as a Valuable Source of Product Innovation and Process Improvement

In order to harness the potential of CKM processes and their support by adequate systems use, top management has to recognise their customers as a valuable source of knowledge rather than a burden. At Siemens Mobile, this perception formed the basis of an organisational connection between customer care and product development in order to access incoming customer ideas and suggestions for product innovation and service improvement.

Processes – Align KM Activities Seamlessly with CRM Processes

As the Union Investment case showed, CRM processes are best enabled by customer knowledge if the supportive KM processes are lean and tightly integrated into a relationship manager's actual work. At Union Investment, the effort to support the customer contact center with relevant knowledge could be reduced significantly. The issue of KM as a separate task thus loses prominence. Various authors, like Davenport and Glaser, support this view by arguing that the best way of managing knowledge effectively is to integrate it ''invisibly'' into the actual core processes (Davenport and Glaser, 2002).

Systems – Create an Integrated Knowledge Repository across Organisational Boundaries

An integrated view of the relevant customer data as well as an integration of the relevant systems has been a critical success factor in all the three cases we described. As the Siemens case showed, a centralised knowledge repository helped to overcome both regional boundaries and separations between business units. The data warehouse was also an imperative prerequisite for Credit Suisse to establish criteria for the evaluation of customer value and marketing campaigns across several product groups.

Change Management – Encourage Relationship Managers to Capture and Disseminate Customer Knowledge

Besides perceiving the customer as a valuable source of knowledge, top management is also challenged to encourage an organisational culture in which employees are willing and motivated to share their own knowledge *for*, *from* and *about* customers with others and to make use of knowledge provided by others. Credit Suisse realised that in order to foster the willingness of their relationship managers to provide the bank with customer knowledge, they had to receive knowledge from the organisation as a first step. Thereby, support such as providing hints on how to effectively approach a targeted customer group helped to build confidence in the initiative as a whole.
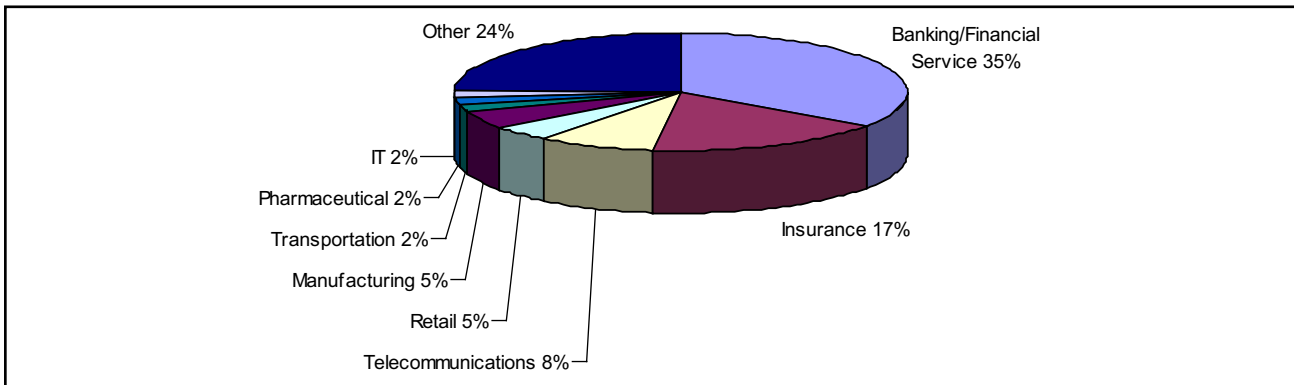
Conclusion and Outlook

As a result of our research effort, we established a managerial framework for knowledge-based CRM. The proposed framework enables practitioners to successfully utilise knowledge *for, from* and *about* customers in order to achieve superior performance of CKM initiatives. Currently, the authors are engaged in follow-up research to ensure the generalisability of the framework. By doing so, we will

pursue the opportunity to undertake longitudinal studies with the same organisations in order to discover if the findings hold true over time. This should also lead to a refinement of the proposed framework, leading us from a macro to a micro level.

Another research issue that has been identified by the authors lies in further conceptualising and evaluating the concept of a 'closed knowledge loop' within CRM processes. We presented three case studies to illustrate 'good practices' in each of the three knowledge flows (i.e. knowledge *for, from* and *about* customers). In order to unleash the full potential of customer knowledge we argue that firms must excel at managing all three knowledge flows simultaneously. Future research in this direction should establish further evidence on how the joint orchestration of all three described knowledge flows creates superior customer-relating capability.

Appendix A
Sample Characteristics

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Appendix B
Survey Findings on CRM Processes

Process category	Process	Degree of implementation				
		Fully (%)	Mostly (%)	Partly (%)	Hardly (%)	Not (%)
Service processes	Campaign management	17.4	20.9	29.1	18.6	14.0
	Sales management	9.3	41.9	20.9	17.4	10.5
	Service management	6.0	33.2	27.4	17.9	15.5
	Complaint management	19.8	23.3	26.7	15.1	15.1
Support processes	Market research	14.9	26.4	18.4	18.5	21.8
	Loyalty management	6.9	23.0	36.8	19.5	13.8
Analysis processes	Customer profiling & segmentation	17.2	31.0	24.1	16.2	11.5
	Customer scoring & lead management	12.9	20.0	25.9	22.4	18.8
	Knowledge management	1.1	8.0	27.6	40.2	23.1
Management processes	Multi-channel management	5.9	22.3	21.2	25.9	24.7
	Performance management	4.8	19.3	27.7	24.1	24.1

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