



CRM collaboration in financial services networks: a multi-case analysis

CRM
collaboration

591

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Abstract

Purpose – The aim of this paper is to identify key issues and successful patterns of collaborative customer relationship management (CRM) in financial services networks.

Design/methodology/approach – The study takes the form of a multi-case analysis.

Findings – The paper finds that key issues of CRM in financial services networks are redundant competencies of partnering companies, privacy constraints, CRM process integration, customer information exchange, and CRM systems integration. To address these issues, partnering companies have to agree on clear responsibilities in collaborative processes. Data privacy protection laws require that customer data transfer between partnering companies has the explicit approval of customers. For process integration, companies have to agree on process standards and a joint integration architecture. Web services and internet-based standards can be used for inter-organizational systems integration. Data integration requires the development of a joint data model. Either a unique customer identification number or a matching algorithm must be used to consolidate customer data records of partnering companies.

Research limitations/implications – Because of the limited number of case studies, generalizability is limited. The findings can serve as a starting point for researchers seeking to further explore the topic with quantitative methods.

Practical implications – The findings can be used by financial services networks to improve their collaborative CRM approaches.

Originality/value – The importance of collaborative CRM in business networks is likely to increase due to the continuing deconstruction of value chains not only in the financial services industry, but in other industries as well. Nevertheless, the topic has not received much attention in research.

Keywords Customer relations, Networking, Financial services, Europe

Paper type Research paper

Introduction

The financial services industry is in the middle of a structural change (Lehmann, 2000). Increasing competition and customer demands require that financial services companies focus on core competencies in order to deliver better value to their customers. Consequently, companies that were formerly highly integrated have split into divisions or independent companies focusing on different parts of the value chain (Heinrich and Leist, 2002). On the other hand, many customers demand a complete range of financial products in order to satisfy their financial needs “one-stop”. This

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forces financial services companies to collaborate with providers of complementary products and services. Ultimately, networks of financial services companies emerge (henceforth referred to as “financial services networks”) (Alt and Reitbauer, 2005).

These networks face a variety of challenges regarding a coordinated approach to customer relationship management (CRM). CRM is a management concept that has the potential to positively impact the cost-revenue ratio by aligning the company with its customers and focusing its resources on high-value customers. Romano and Fjermestad (2003) provide an overview of current research directions. In many financial services networks, an integrated approach to CRM remains to be developed. For example, “many CRM systems used by financial conglomerates cannot even tell whether a banking customer also has, say, a mortgage or a stock broking account with its various subsidiaries” (*The Economist*, 2003). In this paper, we identify key CRM issues in financial services networks and, based on case study research, present recommendations on how to address these issues.

CRM in financial services networks

The emergence of financial services networks

Three major trends have led to the emergence of financial services alliances. First, customers increasingly demand that their financial requirements are comprehensively covered. This forces financial services companies to offer customer support for all their financial requirements, ranging from account management to life insurance and the granting of a home loan, thus realizing the “one-stop finance” idea. The integration of different financial services is often realized by specialized companies (relationship managers) which have direct contact with customers as distribution intermediaries (Figure 1) (Lehmann, 2000).

Second, threats from new and aggressive market entrants as well as constantly growing customer requirements force financial services companies to focus on their core competencies to remain competitive (Alt and Reitbauer, 2005). This development has given rise to a deconstruction of the industry, resulting in specialized companies or business divisions (product providers) that focus on the delivery of specific products and services.

Third, financial services companies increasingly outsource transaction processing to external transaction processors in order to focus on their core competencies

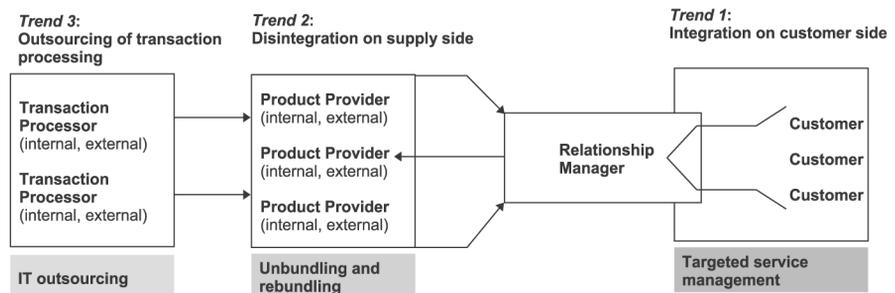


Figure 1. Trends in the development of value chains in the financial services industry

Source: Lehmann (2000)

(Homann *et al.*, 2004). All of these trends have resulted in the emergence of networks consisting of relationship managers, product providers and transaction processors (Heinrich and Leist, 2002; Hagel and Singer, 1999).

CRM in the financial services industry

CRM emerged as a response to decreasing customer loyalty in different industries. The reasons for decreasing customer loyalty in the financial services industry are manifold and closely interconnected. Three fundamental factors can be identified (Walter, 2000; Körner and Zimmermann, 2000; Krishnan *et al.*, 1999):

593

- (1) *New technological opportunities.* The conceptual nature of financial services makes them ideal for distribution through electronic channels, e.g. the internet, which then makes it easier for competitors to enter a market.
- (2) *Increasing competition from new market entrants.* Supported by new technological opportunities and deregulation, the market for financial services is being transformed into a globally-connected emporium. Especially non- and near-banks, e.g. telecommunication providers and financial consultancies, constitute a growing threat to established banks.
- (3) *Customers' changing behavior.* Financial services customers are increasingly self-confident, better informed about products and services, and increasingly demand services, also as a result of technological possibilities.

These factors have led to the emergence of concepts that focus on the nurturing of customer relationships (Payne and Ryals, 2001; Peppard, 2000). CRM emerged as an amalgamation of different management and information system approaches, particularly relationship marketing (Sheth and Parvatiyar, 2000; Scullin *et al.*, 2004), and technology-oriented approaches such as computer-aided selling (CAS) and sales force automation (SFA) (Gebert *et al.*, 2003). Following Shaw and Reed (1999), we define CRM as an interactive approach that achieves an optimum balance between corporate investments and the satisfaction of customer needs in order to generate maximum profits. It entails:

- acquiring and continuously updating knowledge on customer needs, motivations, and behavior over the lifetime of the relationship;
- applying customer knowledge to continuously improve performance through a process of learning from successes and failures;
- integrating marketing, sales, and service activities to achieve a common goal; and
- the implementation of appropriate CRM systems to support customer knowledge acquisition, sharing, and the measurement of CRM effectiveness.

A widely accepted classification of CRM systems is as follows (Shahnam, 2000):

- Operational CRM systems improve the efficiency of CRM business processes and comprise solutions for sales force automation, marketing automation, and call center/customer interaction center management.

- Analytical CRM systems manage and evaluate knowledge on customers for a better understanding of each customer and his or her behavior. Data warehousing and data mining solutions are typical analytical CRM systems.
- Collaborative CRM systems manage and synchronize customer interaction points and communication channels (e.g. telephone, e-mail, and the web).

To integrate marketing, sales, and service activities, CRM requires the business processes that involve customers to be fully integrated. These customer-oriented CRM processes are mostly semi-structured, and their performance is predominantly influenced by the underlying supply of knowledge on products, markets, and customers (Day, 2000; Schulze *et al.*, 2001; Garcia-Murillo and Annabi, 2002). In many financial services networks, however, customer-oriented processes and systems lack integration.

Methodology

The aim of this research is to offer recommendations on how to address the key issues that financial services networks face when trying to implement a collaborative CRM approach. We consequently conducted our research in two steps (Figure 2):

- (1) We identified key CRM issues in five financial services networks still struggling with implementation.
- (2) We identified successful patterns of CRM collaboration, based on an analysis of CRM implementations in two financial services networks that are considered good practices.

We used the results of the first step as input for the second step, focusing the second step on the analysis of solutions to key issues. The results of the first step are outlined in the next section, with the results of the second step following.

Because our research is exploratory, we adopted a case-study methodology by Senger and Österle (2002) that was specifically designed for information systems research. According to Benbasat *et al.* (1987), case study research is especially appropriate for information systems research because the research subject cannot be clearly separated from its context. The research data were collected in a study of seven Swiss and German financial services companies (Table I) from April 2003 to February 2005. These sites were chosen for theoretical rather than statistical reasons, and selection was based on two criteria: purposeful sampling (different roles in the value chain, see Figure 1) and a willingness to cooperate. Table I provides a brief overview of the case sites.

In all seven cases, data were collected through semi-structured interviews with key informants and a document analysis of annual reports, organizational charts, and

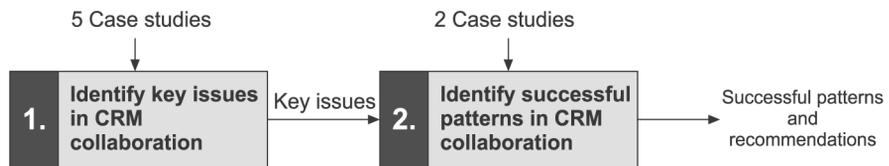


Figure 2.
Research process

Purpose	(1) Key issues identification				(2) Good practices analysis	
	UBS Global Asset Management	“UniversalBank”	“HomeLoanBank”	“InvestmentBank”	Lucerne Cantonal Bank	FIDUCIA IT AG
Value chain role	Product provider and relationship manager	Product provider and relationship manager	Product provider	Product provider	Relationship manager (and product provider)	Transaction processor
Business segments	Asset management	Corporate, retail, and private banking, insurance	Home loan funding	Investment funds, asset management	Corporate, retail, and private banking	IT services for financial services companies
Total assets under management (€)	340 billion	640 billion	30 billion	100 billion	11 billion	446 million (assets)
Employees	3,000	75,000	3,000	2,000	1,000	3,100
Customers	1,000 corporate clients	3 million consumers and corporate clients	6 million consumers	4 million consumers and corporate clients	590,000 consumers and corporate clients	940 banks (with 30 million customers)

Note: Some of the company names had to be changed due to non-disclosure agreements. These names appear in double quotes

Table I.
Overview of case sites

system charts. The structure of the central semi-structured interviews and the final case descriptions was provided by the case study method (Senger and Österle, 2002). To clarify and elaborate on the case descriptions, they were reconciled with the interview partners, and sometimes required further interviews and review cycles.

We used a two-stage strategy for data analysis (Yin, 2002). During the first stage, the within-case analysis of each case study site's data was undertaken to build an explanation of the case. The data validity was ensured through multiple sources of evidence (multiple interviewees and document analyses) and by the interviewees reviewing the case interpretations. The second stage involved the cross-case analysis of the data, thus locating and examining similarities and differences across the cases. The cross-case analysis was conducted within the first five cases (step 1) and within the second two cases (step 2).

Key CRM issues in financial services networks

Table II summarizes the key issues that we identified in the first research step. These issues highlight areas in which the examined companies exhibited the most shortcomings (Geib *et al.*, 2004).

Redundant competencies

As a minor issue, almost all the companies exhibited redundant competencies in respect of some of their partner companies in the network. For example, both UBS Global Asset Management and its affiliated company, UBS Wealth Management and Business Banking, provide asset management services. Because some customers may be clients of both companies, this may result in ambiguity regarding the responsibility for the provision of these services. Generally, redundant competencies in a network are contrary to the idea of core competencies, since competitive advantage is achieved through the concentration of resources and economies of scale (Snyder and Ebeling,

Issue	Company					Overall importance (rounded average)
	UBS Global Asset Management	"Universal Bank"	"HomeLoan Bank"	"Investment Bank"	Lucerne Cantonal Bank	
Redundant competencies	ϕ	ϕ	ϕ	ϕ	α	ϕ
Privacy constraints	ϕ	π	π	π	κ	κ
CRM process integration	π	π	π	π	ϕ	π
Customer information exchange	ν	π	π	π	κ	π
CRM systems integration	κ	α	ν	ν	κ	κ

Table II. Summary of key issues

Notes: α no; ϕ minor; κ major; π big; ν critical (according to the researchers' assessment of the case studies)

1992). On the other hand, redundancy is – at least to some degree – desirable to reduce the risk of competency loss. This is especially important in loosely coupled financial services networks in which partnering companies can change rapidly.

Privacy constraints

Privacy constraints are a major issue in almost all the companies examined. The privacy protection laws in Europe are much stricter than in the USA, making it more difficult for network partners to exchange customer data. In particular, the European Data Protection Directive, implemented in 1998, is a major barrier to the exchange of personal data, even between affiliated companies (Fromholz, 2000; Perkins and Markel, 2004). Because customers own their personal data, customer data are thus essentially bound to the company that collects it, and can only be used for the stated purposes. Companies therefore either have to include a very broad declaration of data sharing in their “general terms and conditions” when signing their first contract with the customer, or have to obtain explicit permission to use these data for each new purpose (including providing it to another company in a network). However, special privacy laws prevent banks from sharing any customer data without a court order – even with their customers’ permission. Consequently, partners may share data with banks, but banks cannot share data with partners. For example, “HomeLoanBank” and “InvestmentBank” are product providers that cooperate with several small and medium banks that act as relationship managers. They acquired their customers’ consent to share personal data with the banks through their general terms and conditions, with only a few customers refusing to provide this consent. But these banks are not allowed to provide their product providers with personal customer data. Therefore “HomeLoanBank” and “InvestmentBank” have only rudimentary information on customers buying their products through the banks that act as relationship managers. This makes it difficult for them to analyze customer preferences in order to improve, for example, product innovation.

CRM process integration

Because customer-oriented process activities are distributed across different enterprises, these processes have to be integrated among the partnering companies. In many of the networks examined, process integration was rudimentary. For example, the sales process of “HomeLoanBank” and the banks acting as relationship managers was characterized by format translations and long processing times. Some networks also have different contact persons for a single customer. This is a typical characteristic when process integration is lacking, leading to inefficiencies and poor service quality (Peppard, 2000).

Customer information exchange

Customer information exchange is a big issue in all the companies and is closely connected to the privacy issue. Privacy constraints can lead to insufficient information exchange between partnering companies. However, even when the necessary customer consent for data exchange purposes has been obtained, it is often difficult for these companies to exchange customer information. This issue becomes especially important when dealing with corporate clients, since much important knowledge is only stored in the heads of customer consultants and very little in information systems. For example,

in the sales initiation phase, UBS Global Asset Management has to acquire information on potential customers from its affiliated companies, which may already be dealing with these customers. The initiation phase requires a significant time slice of the sales process as a whole, because knowledge has to be gathered and consolidated from various sources. Sometimes, because of missing information regarding “who knows what”, important business opportunities are missed or deals may not be closed.

CRM systems integration

Rudimentary CRM systems integration is a major issue that is often responsible for insufficient customer information exchange between partnering companies. For example, in “HomeLoanBank”’s financial services network, the customer consultants of those banks acting as relationship managers had to deal with its product providers’ more than 30 different operational CRM systems. To find out what amount a customer had already invested in the network’s products, a customer consultant had to consolidate data from these 30 systems manually. This made comprehensive customer counseling and a systematic evaluation of business opportunities impossible. However, not only operational CRM systems lacked integration, but also most of the companies examined exhibited deficiencies in the following areas:

- *Integration of operational CRM systems.* The companies did not provide an integrated workplace that could provide the customer consultants with all the functions and data they needed under a single user interface. Instead, customer consultants had to work with multiple systems.
- *Integration of customer databases.* The companies did not integrate customer data from different customer databases. Customer consultants had to integrate this data manually. In addition, different customer identification numbers made the consolidation of customer data extremely complex.
- *Integration of transaction systems and CRM systems.* The companies did not integrate their transaction systems with operational CRM systems. Transactions systems store a variety of transaction-related customer data like deposits, withdrawals, and redemptions. In order to make this data usable for customer profiling, it has to be integrated for use in analytical and operational CRM systems. Transaction systems also have to be integrated with a consulting workplace in order to enable customer consultants to trigger, for example, the opening of a savings account from the consulting workplace.

Insufficient systems integration is often a result of a missing framework for inter-company systems integration, which we call “systems integration architecture”. Tackling some (or even a few!) of these issues is definitely tough and often requires sufficient resources and patience. The following section will show how successful companies addressed the issues.

Collaboration patterns in successful CRM implementations

In a second research step, we analyzed two successful CRM implementations in financial services networks.

MLP, the first company, is an independent German financial services provider that focuses on its relationship manager role. In contrast to big universal banks that focus on selling their own products, MLP focuses on selling third-party

providers' products. MLP only complements these products with its own products when no suitable product is available in the market. Since its founding in 1971, it has targeted its advisory services at university graduates and consumers with sophisticated requirements in three areas: pension provision, asset management, and risk management. With its approximately 2,700 financial consultants and an extensive service offering, MLP is able to guide its 560,000 customers in six European countries through every aspect of personal financial management. The MLP Group is comprised of a holding company and five subsidiary companies. The group offers tailor-made solutions by complementing external providers' products with its own offerings.

The second company, FIDUCIA IT AG (henceforth Fiducia) is the seventh biggest IT service provider in Germany (transaction processor role). Fiducia provides services to more than 900 co-operative and private banks (relationship managers) with more than 30 million customers, as well as to more than ten product providers. These banks serve as a primary distribution channel for the product providers' products and offer a full range of financial products, including life and non-life insurance. These independent companies' strategic network has total assets of €1 trillion and more than 175,000 employees. Fiducia has a central role in this network because it serves as an information hub between the product providers and the relationship managers, storing customer data and providing CRM applications based on these data.

Table III provides an overview of the collaboration characteristics we found at each of these financial services networks.

Distribution of competencies

Both networks exhibit a clear division of competencies between partnering companies. MLP is the most extreme example: One of its five subsidiaries assumes the relationship manager role and is therefore responsible for customer consulting; three subsidiaries provide product modules (banking products, life insurance, non-life insurance); and one subsidiary provides IT services for the entire group (transaction processor role). Moreover, MLP shows a high degree of outsourcing. Many commodity services, for

Company	MLP AG	FIDUCIA IT AG
Distribution of competencies	Partnering companies have discrete competencies High degree of outsourcing	Partnering companies have partially overlapping competencies Low degree of outsourcing
Approach to privacy	Customer consent in general terms and conditions Only the personal customer consultant has access to all customer information	Customer consent in general terms and conditions Only banks have access to all customer information
CRM process integration	Automated and seamless processes	Automated and seamless processes
Consulting workplace	Several modular applications	One application ("portal")
Customer data integration	Joint data model Unique customer ID Federated customer data storage	Joint data model Master data-matching algorithm Federated customer data storage
Systems integration architecture	Web services standards and EAI	Web services standards and EAI

Table III.
Overview of collaboration patterns

example, account management, are outsourced to external providers. The MLP subsidiaries can therefore focus on their specific core competencies: the comprehensive financial consulting of high-value customers and the development of product modules to complement the financial market's products. On the other hand, within Fiducia's network, competencies partially overlap. Some product providers offer similar products, which leads to competition within the network. The degree of outsourcing is relatively low. This stems largely from the fact that most of the partnering companies are large enough to operate competitively on the market. For example, Fiducia even in-sources transaction processing for some financial services companies which are not part of its strategic network.

Approach to privacy

Both networks encounter privacy constraints regarding the design of the relationship managers' general terms and conditions. For example, when a customer first approaches an MLP customer consultant, he/she has to consent to his/her data being stored centrally by signing the general terms and conditions. MLP guarantees that it:

[...] stores data, which has been collected, processed and used for the sole purpose of fulfilling the services offered. [...] This includes the data being transferred to and shared with third party product providers, i.e. insurance companies, credit institutions and other service providers, to the extent necessary for preparation of offers, proposals for financing, or other services requested.

In short, this means that only a customer's personal consultant has access to all customer data entrusted to MLP. The MLP group's product providers and other third-party providers only have access to data needed to provide a specific service. This is ensured by an authentication system that protects personal customer data and encrypted data transfer. Fiducia's network uses the same methods that require a customer to sign similar general terms and conditions on approaching one of its banks (relationship manager). When approaching one of the network's product providers directly, a customer has to sign an agreement for his/her data to be transmitted to Fiducia so that the data may be accessed by the bank responsible for him/her specifically. This means that only the bank and its customer consultants responsible for a customer have access to all personal customer data.

CRM process integration

Both networks employ largely automated and seamless sales, service, and marketing processes between product providers and relationship managers. Figure 3 shows the collaborative sales process within the MLP group. All data stored by product providers (contracts and products data) are transferred to the customer consultant to enable him/her to advise the customer as based on the best possible information. On the other hand, the closing of a contract leads to the direct creation of an account within the respective product provider, cutting down processing times to seconds.

Originally, MLP and Fiducia had two fundamental requirements in respect of process integration: first, relationship managers and product providers had to agree on a set of standard collaborative processes, which could then be supported by information systems – and therefore be partly automated. These processes included sales (customer consulting and contract conclusion), as well as service and marketing processes. Second, the partners had to agree on a systems integration architecture that

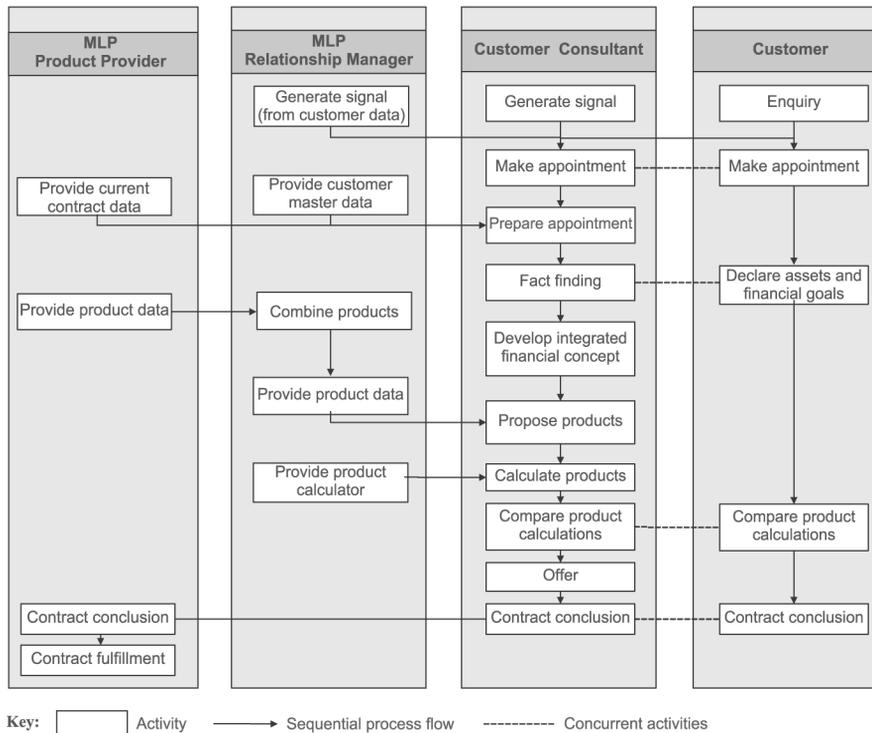


Figure 3.
MLP's collaborative sales
process

enabled them to connect their systems and automate defined processes without huge development costs. This architecture will be described later.

Consulting workplace

With regard to the consulting workplace, MLP and Fiducia have different approaches. MLP employs several modular applications that are based on internet technology and can be accessed by consultants via a browser. There are different applications for customer master data management, fact-finding, product-oriented consulting, and contracting. Each of them has a slightly different user interface. In contrast, Fiducia realized a single application ("portal", also based on internet technology) that provides customer consultants with access to all the relevant functions. Both approaches have these systems that are directly connected to an integrated customer data storage in common; they can write/read to/from this data storage. Once specific information has been gathered, it can be used in all applications and does not have to be gathered again, or transferred from one application to another manually. This saves time and effort in the consulting process, reduces errors and ultimately increases service quality.

Customer data integration

With regard to data integration, both networks agreed on a joint data model and use a federated data storage. A joint data model is a set of business entities (products, customers, consultants, etc.) and the relationships between them that have been agreed

on by all the partnering companies. The joint data model evolved naturally for MLP, because all its subsidiaries operated under a holding company and the network grew organically. The process of agreeing on a joint data model was more time consuming and painful for Fiducia's network. Some of the partnering companies had not collaborated before and therefore had completely different views on these relationships. For some, agreeing on a joint data model meant adapting some of their systems, which inflicted additional costs. Nevertheless, this was accepted, because data integration was regarded as key to successful CRM.

A federated data storage means that data are stored partly (but not fully) centralized, and preferably without redundancy. The advantages of central data storage are increased consistency, up-to-dateness, the economic usage of databases, and ease of consolidation. However, due to the systems' performance and for legal reasons, a certain degree of data redundancy must always be accepted. The full centralization of customer data therefore proved to be uneconomic in these networks. MLP and Fiducia realized data storage by distributing customer data between relationship managers and product providers. The relationship managers store customer master data (name, address, contact details) and all information related to the specific person, e.g. income, financial goals, and risk affinity, in a central database. The product providers store product- and transaction-related data in their systems, e.g. contracts, durations, deposits, withdrawals, and investments. However, they too have to store customer master data for legal reasons – which leads to some redundancy. If a customer consultant advises a customer, he has to consolidate the information from these different data sources to arrive at an overall picture of the customer's financial situation. Technically, there are two different methods for data consolidation: MLP uses a unique customer identification number (ID), which makes data consolidation easy and accurate. Fiducia uses a matching algorithm for customer master data. Based on a weighted comparison of the customer's name, address, and date of birth, the algorithm determines whether two data records belong to the same person. The customer consultants can also assign the records manually. The disadvantage of this matching algorithm is its poor hit ratio of 70 percent.

Systems integration architecture

Both networks employ an integration architecture that is based on web services standards and current enterprise application integration (EAI) technology. MLP uses IBM WebSphere and the Apache J2EE/Struts web application framework for the integration and deployment of distributed applications. Fiducia uses IBM MQ Series and Apache Axis, an implementation of the web services protocol SOAP. This architecture provides both the networks with the necessary flexibility. Existing application connections can be changed and new applications and modules can be connected easily. The implementation of such an infrastructure required the consent of the partnering companies. In addition, before the connections could be implemented, collaborative processes had to be defined.

Discussion and recommendations

Integrating the different financial services companies' CRM approaches is a difficult and tedious task. Mostly, bottom-line short-term improvements ("quick-wins") cannot be achieved. Therefore most of these projects have a long-term strategic character.

However, in the long run only networks that tackle the problem are likely to remain competitive. A coordinated CRM approach can greatly enhance consulting and service quality, which leads to increased sales revenues and more loyal customers. Because of the integration complexity, a step-by-step approach towards a future vision is most likely to succeed. Based on the analysis results, our aim is to support the creation of such a vision and to offer practical recommendations for its realization (see Figure 4).

Collaboration strategy

The distribution of competencies and the degree of outsourcing in a network of companies depend on a network’s overall business strategy. Generally, for example, the vertical range of integration in European banks is about 75 percent of the entire value chain. A current goal is to decrease vertical integration to about 30 percent (Schierenbeck, 2003), especially by outsourcing of information systems (Claver *et al.*, 2002). However, outsourcing increases the need for cooperation among companies. If overlapping competencies occur among network partners, responsibilities need to be sorted out to avoid duplicate work with conflicting results and to ensure a coherent appearance. This is an issue both in affiliated companies (e.g. in a holding group) and in a strategic network of independent companies.

Privacy

Customers’ consent for their personal data to be exchanged with partnering companies should generally be anchored in those companies’ general terms and conditions. Because of privacy protection laws in Europe, only relationship managers are allowed to have access to all the personal customer information available in the network as they need it for comprehensive customer consulting (Fromholz, 2000). These data are, of course, interesting for product providers as well, for example, for analytical CRM, or to improve product innovation based on knowledge about customers. A solution to the privacy problem may be for relationship managers to make customer data anonymous before giving it to product providers. The latter can then analyze the anonymous data and build models to improve the product innovation and customer scoring of their products.

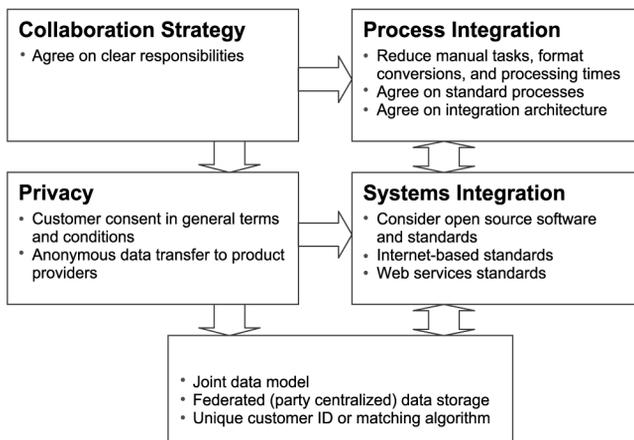


Figure 4.
Summary of activity areas
and recommendations

Data integration

Data integration is key to CRM collaboration. Consolidated customer data from different network partners form the foundation of high-quality customer consulting. To simplify data integration, networks should employ a:

- joint data model for customer-related data;
- federated data storage (between relationship managers and product providers); and
- mechanism for data consolidation from different databases, which is either a unique customer ID, or a matching algorithm.

Loser *et al.* (2004) call the solution of a unique customer ID, a central master data system, and the solution of a matching algorithm, a leading system. The latter may be the only feasible alternative if companies have widely different systems architectures, e.g. after a merger or acquisition. However, this should only be regarded as temporary solution, because it can have a poor hit ratio. In the long run, a central master data system using a unique customer ID should be implemented.

Process integration

Integrating collaborative processes in marketing, sales, and service means reducing manual tasks, format conversions, and shortening processing times. This goal relies on the requirements for inter-organizational business process management (BPM): Standard collaborative processes and collaborative integration architecture (Österle, 2001). Agreeing on these requirements can be difficult and dependent on the distribution of power within the network. Often the most powerful company defines the standards that the others have to adopt.

Systems integration

Integration infrastructure comprises components for data integration, functional integration and presentation integration (Ruh *et al.*, 2001). Functional integration components are, for example, EAI components or web services, e.g. based on Microsoft's .Net framework (Currie *et al.*, 2004). These components are technical enablers of process integration (Themistocleous, 2004). Because of their flexibility and loose coupling, web services standards are becoming more and more popular for inter-company systems integration (Khosla and Pal, 2002). EAI technologies are more suitable for complex inter-company systems integration. These integration patterns can also be observed in MLP and Fiducia. Moreover, both companies employ open source software and standards to increase integration flexibility.

Conclusion

The emergence of business networks in the financial services industry has led to a number of issues regarding an inter-organizational approach towards CRM. Although CRM is already an established management concept within single companies, not many financial services companies' networks have as yet addressed these issues. They include integration issues on the strategy, process, and information system levels. MLP and Fiducia have already solved the issues and can serve as role models for other networks.

CRM in networked enterprises is likely to increase in importance because of the continuing deconstruction of value chains – not only in the financial services industry. Studies furthermore suggest that CRM has not yet reached its zenith, but will grow in importance (Redshaw *et al.*, 2005). We believe that the cases analyzed provide insights into some CRM cause and effect relationships in financial services networks. Our recommendations can serve as a starting point for companies engaged in this topic and also for researchers seeking to further explore the topic by means of quantitative methods.

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