Towards a Process Model for Efficient Customer Relationship Management System Selection

Ina Friedrich

Michael H. Breitner

Towards a Process Model for Efficient Customer Relationship Management System Selection

Ina Friedrich

Accenture GmbH, 61476 Kronberg, E-Mail: ina.friedrich@accenture.com

Michael H. Breitner

Leibnitz Universität Hannover, Institut für Wirtschaftsinformatik, 30167 Hannover,
E-Mail: breitner@iwi.uni-hannover.de

Abstract

Changes to the economic and competitive environment require a reorientation of companies' communication activities, which has implications for the customer relationship management (CRM). Assistance provided by information communication technology (ICT) is an important component of reacting to these potential changes. The failure rate of CRM implementation projects is high when it comes to measuring the impact. It is crucial to evaluate system solutions before making an investment decision. Based on a literature review, the authors developed a CRM evaluation approach to select CRM systems that suit the particular needs of a company. This approach resulted in a CRM system selection (CRMSS) model that covers the whole process of evaluating CRM systems, once a CRM strategy has been defined, and before the implementation phase begins.

1   Introduction

It is common for companies to operate under strong competition, resulting in varying degrees of cost pressure. Constant changes to surrounding economic and competitive conditions require a reorientation of management activities. The need for information communication technology (ICT) and their contribution to the value creation of a company during these processes is undisputed. Customer orientation is crucial to survive in this competitive landscape [11] [7]. Hence, customer relationship management (CRM) systems can undoubtedly contribute to increasing customer profitability [5] [20].

A noticeable discrepancy has been reported between the high economic impact of CRMSS and the low success rate of CRM implementation projects [1] [7] [9] [4]. Lowering the failure rate of CRM implementations and supporting their success has become one of the priorities of researchers and IS users [17]. To increase the success rate, it is very important that the most appropriate system solution be selected for the specific context of a specific company involving all stakeholders including key users [15]. Since CRM systems connect all core

domains of a company, e.g. the supply chain, production, and finance, in addition to considering the global competition and high failure rate of CRM implementation projects, it is crucial to evaluate system solutions in detail before making an investment decision.

As prior work has shown, there is a lack of academic literature with regard to CRMSS [1]. In the academic literature, there is no reference or process model for selecting a CRM system based on specific conditions of a company. Based on a literature review, the authors developed an efficient CRMSS approach. To further enrich the proposed process model, the literature-based approach and expert interviews were followed up with two international online surveys [5] to validate and refine the model.

The aim of this paper is to present an efficient CRMSS process model, which is a result of the model refinement based on a combination of the scientific status-quo and the needs of analysts using these approaches in daily life:

- What are the core components of an efficient CRMSS process model?

- What criteria must be taken into consideration in an efficient CRMSS process model?

The paper is structured as follows: The first section explains the approach deriving a CRMSS process model. It includes a short description of three (of five) completed phases on the way to a process model. The following two sections illustrate the result of our research. The CRMSS process model and the evaluation criteria are described there in detail. The implications of the recent empirical study and the core outcomes are discussed in the closing section, followed by a discussion of limitations and a final outlook to further research.

2   Methodology

There are differing definitions of process models in the literature, all of which refer to the representation of a class of domains [11] [20] as a starting point for the development of new applications [2] [4]. Within this paper the development of the efficient CRMSS process model is based on the methodology suggested by Ahlemann and Gastl [1]. Phase 1 includes the challenges of identification and planning. The model construction of phase 2 is based on a comprehensive literature review and on expert interviews. This paper presents the results and conclusions of phase 3, a second empirical study with the intention of validating results of the former phases and refining the CRMSS approach. Phases 4 and 5 include a reality test and documentation.
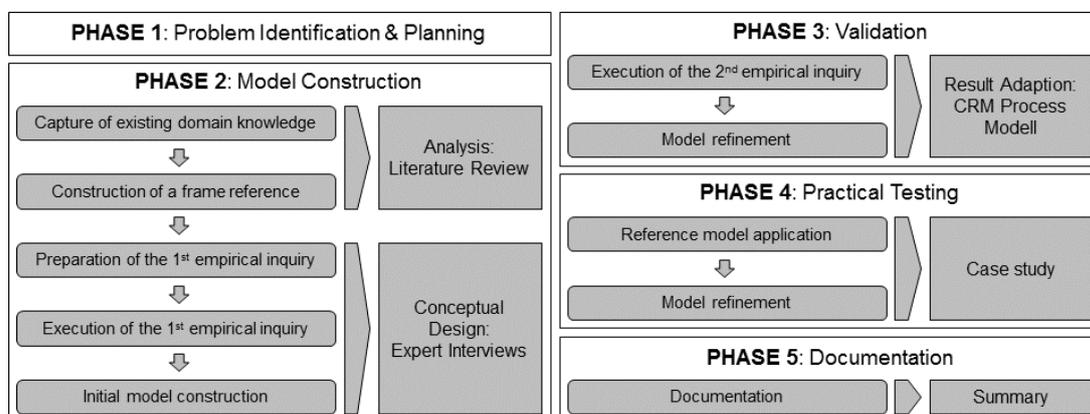

Figure 1:   Approach to Process Model Development (Adapted from Ahlemann and Gastl [1])

2.1 Phase 1 & 2: Literature Review & Model Construction

In order to get an overview of the current knowledge regarding CRMSS, a comprehensive, structured review of the literature was performed. The intention of the review was to identify published evidence in journals and conference proceedings that discuss CRM or IT evaluation in general. Four major databases were selected (ACM Portal, AISNET, Elsevier Science Direct and Springerlink) for the baseline search of English language papers, the terms "IT evaluation", "IT system selection", "CRM evaluation", "CRM system selection", and "CRM strategy" were used as the search criteria. In total, 137 papers were identified with 76 hits related to IT evaluation, and 61 contained topics related to CRM evaluation or other associated CRM topics. All papers were reviewed in full for their relevance (identifying the research gap or providing a strategy closing the gap) and were classified into four categories: methods, criteria, evaluation technique and tools [15]. Papers that could not be assigned to one or more category were excluded. In the final sample, 60 papers were used to construct the initial version of the process model. For each area (method (24), criteria (34), evaluation method (14), and tools (2)) findings were used to develop the initial model.

2.2 Phase 2 & 3: 1st and 2nd Expert Interview Round & Model Refinement

The expert interviews in phase two and three were conducted in three stages: first direct interviews, second and third online interviews. In the first stage of the empirical study (direct interviews), a number of experts were searched in business networks such as xing.com, identified and interviewed using partly standardized interview guidelines. Persons were identified as experts if they had specific knowledge in the broader topic meaning they were affiliated in CRM business topics. The authors limited the personal interviews to 18 experts to develop the initial questionnaire. The majority of the CRM experts was working in the consulting industry and had been involved in multiple CRM evaluation and implementation projects. The interviews were conducted via phone between March and April 2010 with an interview length between 15 and 45 minutes. As stage two a normative online survey was conducted. Invitations to participate in an online survey were sent out in three cycles from June 17, 2010 to June 30, 2010. A total of 1,435 potential respondents in various countries were contacted with a focus on Germany and the US. In total, 125 (8.7%) experts took part. The results are presented in more detail in [12], [13]. The authors reengineered the CRMSS model and conducted a second expert interview round expanding the target audience as stage three with a stronger focus on international experts. Invitations to participate in an online survey were sent out in eight cycles from January 15, 2011 to March 14, 2011. A total of 1,699 potential respondents in various countries were contacted with a focus on the US, Great Britain and Canada. In total, 159 (12%) experts took part in the online survey. Figure 2 illustrates the adapted CRMSS model after the 1st and 2nd round of expert interview and online survey, including the activities that were assigned by the interviewed CRM experts for each suggested phase. The model was fully revised and approved by an international CRM expert group. The CRMSS process model is presented in this paper.

3 CRM System Selection Process Model

The process model is a formal methodology that needs to be adapted according to the individual situation of a specific company including its objectives and strategy. The model provides a framework that includes tasks, deliverables as well as supporting information. The

model was designed under the assumption that the CRM system is purchased (and then customized) and not built from scratch. Although CRM strategy and CRM implementation are crucial steps before and after an efficient CRMSS they are not part of the model and not described in this paper. The suggested minimum budget by CRM experts is 10,000 US$ but varies according to company size and scope of the CRM implementation. The evaluations have shown that SMEs range from 100-300 concurrent users whereas large companies vary around 1,000. The average CRMSS timeframe according to our studies is between one to six months. In larger companies longer timeframes starting from four months are expected. Implementation timeframes range from seven to twelve months. Mostly selected CRM systems are from Microsoft, Oracle, SAP and Salesforce. A CRMSS tool must cover at least those four systems. The CRMSS is applicable for companies starting from 50 employees but that might vary depending on the industry and field of business.
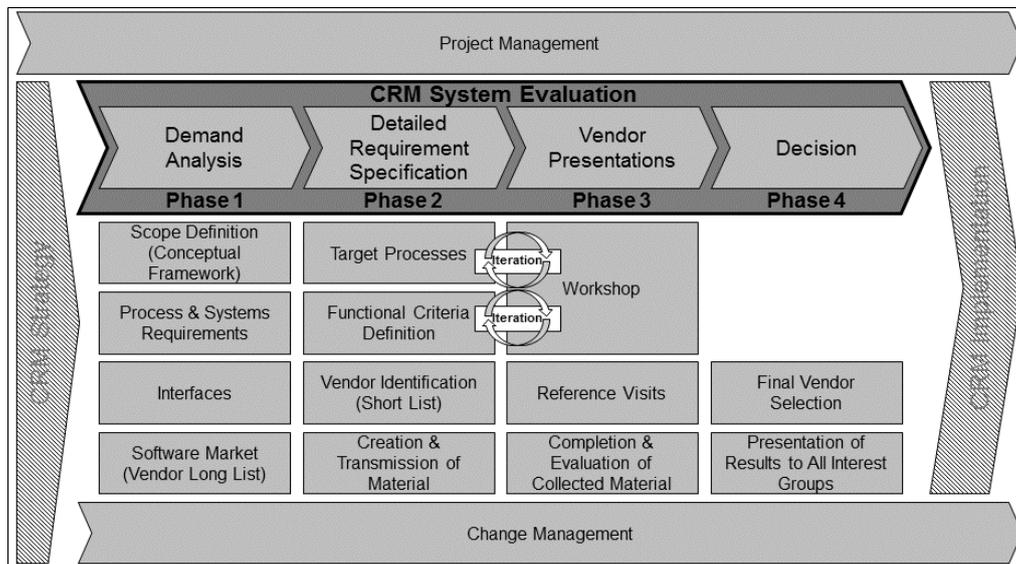

Figure 2:   Final CRM System Selection (CRMSS) Process Model (end of Phase 3)

3.1   CRMSS Phase 1: Demand Analysis

During the demand analysis, the conceptual framework is established by determining the main functional processes, system requirements, and underlying IT landscape. This includes interfaces that depend on the as-is-situation, as well as the future strategic orientation. The analysis of the as-is-situation to identify possible wins must be conducted without taking specific CRM system into consideration. All relevant interest groups must be involved throughout this phase. Top management especially needs to communicate its sponsorship to ensure quick and efficient involvement and commitment of all stakeholders. The defined scope specifies high-level requirements in order to deduct future requirements and to prepare vendor selection. Due to constant changes in the market, a detailed search for currently available solutions is required. Mandatory deliverables are the "scope & constraints" and "as-is-analysis (GAP)" whereas "user requirement analysis", "non-functional requirements", "system portfolio & IT architecture (blue print)", "requirement checklist for vendor" and "underlying project data" are optional.

3.1.1　　Scope Definition (Conceptual Framework)

Before beginning to outline the details of the project scope, the objectives and expectations are determined, as they represent the foundation. This is taken from the CRM and company strategy. The cornerstones of the final system are assessed based on this strategy. Not only does this include the first CRM implementation scope, it also contains the vision of the target CRM system, including the long term strategy. The cornerstones include: Functional scope, non-functional requirements, system portfolio and IT architecture, quantity structure (e.g. data volumes, user number, instances, countries, and markets), available budget and economic demands, benefits and expected profit, risk management and exit strategies. The guideline for the scope definition must be limited to the essential cornerstones in order to achieve realistic requirements for evaluating an adequate CRM system package. When key performance indicators are defined as part of this phase, they help analyze and keeps track on the selection project during and after execution. These indicators also enable management to measure the success of the CRMSS. Essentially, they provide the basic tool box for measuring the success of the CRM implementation.

3.1.2　　Process and System Requirements

Many companies prefer external and independent consultants for the task of defining industry good-practice requirements because of the experience they have with CRMSS, available solutions and the implementation. Regardless of whether process-, IT- and/or methodology experts are involved, the future CRM system, including functions and business processes, must be sketched and defined at the very beginning. IT restrictions must be documented, at least on a high level, and are later detailed in the CRM implementation. Non-functional requirements comprise: development and test (incl. design rules, testability, configuration, and maintainability), support (incl. support handling, handover, defect or error handling, and transparency), business operations (incl. availability, SLAs, reliability, deployment, performance, disaster recovery, efficiency, networks, and resources), roll-out (incl. life-cycle management, training, help, and documentation), security (incl. data, user and system security, compliance, market restrictions, and licensing).

3.1.3　　Interfaces

The introduction of a CRM must also take affected systems that might already exist into consideration. Generally, CRM data that might be primarily stored in the own database must be provided to an existing ERP system or reporting systems. Further data is required from legacy systems. An analysis of all affected systems is crucial, as not all business processes need to be adjusted, but technical requirements and restrictions must also be taken into account to prevent further budget needs caused by workarounds and costly changes. When reviewing business processes, all brands, markets and other business dimensions must be involved in order to provide a framework that includes all influencing factors. Not only interfaces but the current IT architecture is evaluated to cover all IT aspects. On this basis, technical scenarios are derived that are aligned to the technical CRM specification. IT architectural decisions include, among others, SaaS vs. in-house, web vs. local installations, central vs. distributed data, single sign on and migration.

3.1.4   Software Market (Vendor Long List)

The software market is evaluated, taking into account the industry, size and expectations of a specific company. Most consulting companies already provide those overviews. When creating the initial vendor list, a mix of standard and industry solutions offering broad market coverage must be included. This is an iterative process that evolves during the project, based on the specifications developed and on details collected from identified vendors. Further CRM providers can be found via Internet search. There are certain platforms that facilitate a specific search. The list of CRM vendors must be reduced to approximately 10 vendors, and these must be more closely analyzed. The number varies depending on the capacity and timeline of the project. The selection must include the following aspects: Focus on strong CRM expertise or integration into an existing ERP environment, available industry solutions, small provider or standard solution, references, sustainability, and experience. According to CRM experts in smaller CRMSS projects this is already the vendor short list with up to six vendors independent of company size or industry.

3.2   CRMSS Phase 2: Detailed Requirement Specification

To derive mandatory functional criteria, target processes are specified. The outcome helps to narrow the list of potential vendors down to four to six candidates (referred to as a 'short list'). In addition, the proposed evaluation techniques are filled with the estimation metrics. A project summary, company-specific application cases for demonstration purposes, and the required costing factors are then transmitted to the selected vendors. A criteria catalogue and feedback forms are developed for internal use during pre-project sessions with potential vendors. Mandatory deliverables are "target process design", "vendor assessment criteria" and "functional criteria catalog", and "transmission material (e.g. demo scripts)".

3.2.1   Target Processes

The documentation of all target processes does not include a documentation of the full scope, as a detailed analysis will be one part of the CRM implementation. It is essential to cover high level processes for which use cases must be prepared. These are provided as preparation material for the vendor presentations and are limited to the most critical scenarios. If the number of target processes and use cases is still too high to be presented and discussed in a one-day workshop, the selection must primarily represent the crucial business requirements for purposes of comparison.

3.2.2   Functional Criteria Definition

In section 4.3 a basis for a functional criteria catalogue will be provided. Depending on the results of the last project phase, additional criteria that might include industry specifics is derived. By prioritizing each criterion, the catalogue is adapted to the needs of the company. There are also optional and nice-to-have criteria. For a detailed evaluation, each criterion is weighted by importance. The second assessment is limited to mandatory and optional criteria, as the catalogue must focus on the major requirements and is limited.

3.2.3   Vendor Identification (Short List)

The long list is reduced to a short list (two to four vendors). The number varies according to the implementation project timeline and the CRMSS budget. Vendors are rated using knockout criteria, and where appropriate, a questionnaire. Vendors from the short list are invited to the vendor presentation in the next project phase.

3.2.4   Vendor Identification Creation & Transmission of Material

The transmission material includes the deliverables from the prior phases: cover letter (incl. workshop agenda), company and CRM project overview (incl. goals and expectations), use cases (comparability of each CRM system to prevent sales presentations that might not cover crucial demands), requirement specifications, total cost calculation, and questionnaire (nonfunctional requirements and other open matters). Further material is created for internal use during vendor workshops and decision making: functional fit list (criteria catalogue that facilitates comparability and rates the functional fit), questionnaire for stakeholders (evaluates vendor presentations, and assessment sheet (evaluates the overall results).

3.3   CRMSS Phase 3: Vendor Presentation

To facilitate vendor presentations, workshops that focus on obtaining a deeper insight on the degree of scope coverage are scheduled. The vendors are asked to present their solutions for the pre-defined use cases. Functional and system requirements that are mandatory for vendor-specific solutions are discussed and modified. Each party fills out a feedback form that provides evaluators with a sense of the individual "look and feel" of the proposed system solution. Subsequently, all materials are analyzed to evaluate and prioritize different vendors. "Workshop protocol" and "evaluation results presentation" in this phase are optional.

3.3.1   Workshop

Results from the vendor presentation have an influence on the requirement specification. It is important to ensure a balance between the expected list of functionality and availability. In the workshops, stakeholders are provided with a questionnaire that assesses each vendor, including a subjective opinion. Based on the findings, iterations might be required that involve shaping functional criteria and target processes. This results in further vendor workshops.

3.3.2   Reference Visits

Reference visits provide stakeholders with an impression of how the CRM system operates in practice. It is not crucial to visit companies working in the same industry especially as they are timely and costly. Another less costly option are conference calls with reference clients. Both provide a platform to discuss worries and risks with experienced users. Depending on budget, prototyping is also an option.

3.3.3   Completion and Evaluation of Collected Material

After conducting all workshops and site visits, the information collected is evaluated. This is usually done using evaluation techniques and tools. The selection of a CRM package entails addressing a wide range of decision variables, which makes it a multi-criteria decision-making problem [4]. Criteria selection is of vital importance, as the results of scoring and ranking models depend on the assignment of criteria weights [18]. A framework of criteria will

be defined in section 4, with each criterion representing a different level of the problem. If the results are insufficient, an additional iteration is required to amplify detailed requirement specifications and conduct further workshops with the remaining vendors. The choice of an evaluation technique depends on the IT maturity level of a company and the project budget.

3.4   CRMSS Phase 4: Decision

Finally, in the decision phase, the results are summarized and documented before they are presented to the interest groups. Using this approach, the decision is justified and demonstrated before the negotiation process with vendors begins. Before the first presentation, it is necessary that contract negotiations are initiated to eliminate unqualified vendors in the results presentation. All deliverables, "vendor contract", "implementation & roll-out plan" and "decision presentation", in this phase are mandatory.

3.4.1   Final Vendor Selection

The final vendor selection is made by the management in collaboration with the involved key stakeholders. The decision is based on the evaluated material, but should not be viewed as an irrevocable result, but rather as a supplement to final discussions.

3.4.2   Presentation of Results to All Interest Groups

The results are presented by management to demonstrate the importance and emphasize a strong commitment to the final vendor selection. By working together to determine a procedure, all stakeholders, including end users, feel involved in the decision and are more likely to accept changed processes and systems.

3.5   Change Management

A CRM system implementation cannot be successful without initiating transformation and communication. CRMSS and implementation must be a technical success, but it also needs to be accepted and followed by employees using it. This part of the model includes communication to all stakeholder, transformation and organization enablement.

3.6   Project Management

As any IT project the CRMSS project must be budgeted, planned and controlled to secure the strategic goals are adhered to. Ideally the project is conducted by the same project manager that is assigned to the CRM implementation later.

4   Criteria for CRM System Selection

As mentioned by Farbey et al. [8], "the criteria by which a system should be judged must reflect the nature and the purposes of that system." Evaluation criteria cannot exclusively focus on functional requirements, although these are a critical element. Cost and quality criteria are two other areas that are included from general IT selection models. A fourth area, Technical Characteristics was suggested by the CRM expert community. All areas are split up into further topics with sub-categories. The criteria selection in this section is completed as only few suggestions were made in the last evaluation cycle and all were incorporated.

4.1 Quality Criteria

Quality criteria are an important component to system selection, as they cover the non-functional requirements for evaluating the vendor and its product. The contents of a full quality concept are covered by ISO/IEC 9126-1, which are used as a framework. Table 1 summarizes the most important quality criteria assessed by the initial literature review, as well as the criteria from the CRM expert surveys. Most emphasized criteria by the CRM experts are modifiability (now technical criteria), usability and user acceptance.

Criteria	Description
Popularity	Reputation, credentials, market share, product age, risk overspending budget (lifecycle)
Portability	Compatible platforms, integration into existing landscape (e.g. ERP), available interfaces
Project Management	Document management, status tracking and methodology toward achieving set objectives.
Resources	Experience and availability of external consultants and internal personnel
Security	Security levels (data and/or functional), resisting unauthorized access
Timeliness	Implementation time and duration
Training & Support	Training material, documentation (user and technical), support and services, available tools
Usability	Usefulness, user friendliness (ease of use)
User Acceptance	Acceptance of system by user

Table 1: Overview Quality Criteria

4.2 Cost Criteria

An assessment of cost must cover all related expenses. The costs of the system itself, which include hardware and software components, preparation, installation, upgrade and maintenance costs are crucial, as these vary depending on the vendor and the software product. Personal costs include not only external consulting fees, but also an approximation of internal resources. Training and support costs account for both charges from the vendor and internal efforts. In most cases, the training materials provided are adjusted according to company-specific changes. The following list specifies cost-relevant criteria mentioned by experts in the empirical study: Maintenance, migration, preparation and installation, resources (consulting, internal), system (hardware/software), training and support, upgrade.

4.3 CRM Functionality Criteria

The functional categories vary depending on the industry and culture of the company and are divided into three groups: In some cases, functional areas are assigned to operative and communicative CRM. Table 2 shows the most important functional criteria.

Criteria	Description
Account Mgmt	Sales support, contract management
Call Center	Complaint management, query & feedback management, call logging, communication support e.g. automated phone systems, help desk
Campaign Management	Design, implement and monitor campaigns for marketing information, catalogues, magazines or newsletter through diverse channels, group or segment data, programs for loyalty, retention or promotions
Contact & Customer Mgmt	Customer data incl. basic data and transaction data (sales data), information for the customer, services and campaigns, customer feedback including complaints, inquiries, suggestions
Customer Service	After-sales-service, maintenance and repair management, SLAs
Field Service	Mobility technology and options (data synchronization) incl. laptop, handheld, mobile phones, route planning, synchronization capabilities, offline functionality, work without a corporate network connection
Industry Specifics	Industry specific requirements not found in general CRM systems
Internet	Customer self-service (including e-cash), intranet with front-office company functions, web-based decision systems (DSS), Internet presentation of products and services, e-commerce
Lead & Opportunity Mgmt	Workflow to track and trace leads, acquisition management
Relationship Mgmt	Customer retention or exit management, partner (network) management, loyalty programs, scheduling
Reporting	Supporting strategic decision making, processing queries, forecasting and statistics, tools and engines for information retrieval, optimizing or profiling data, strategic and daily business analysis, monitoring, data mining, business intelligence or ad-hoc reporting
Sales Mgmt	Quotation management (including tracking and tracing), product configuration, pricing and financing options, cross- or up-selling

Table 2:   Overview Functionality Criteria

4.4   Technical Criteria

The technical categories cover all areas related to hard- and software attributes. Table 3 shows technical criteria which needs evaluation.

Criteria	Description
Data Integration	Data structure (models), information quality, data access, conversion and movement, actuality, central data base, tools (e.g. data mining)
Deployment	Technical transformation from old hard- and software environment to the new setting including # of releases, update tools
Integration & Infrastructure	data handling, interface definition, development environments and stages, system (e.g. operating system, legacy applications, security) and hardware (e.g. server, network) environment and groupware
Mobility	Available tools and hardware integrations to use the CRM system outside the company's main infrastructure
Modifiability (Scalability) & Maintainability	Degree of configuration, individual changes and adjustments, availability of source code, personalization (design, reports)
Performance & Practicability	Execution time, responsiveness, efficiency, design principles (e.g. SOA)
Reliability & Robustness	Ability to keep operating, troubleshooting, reproduction of its functions over a period of time
Scalability	Management of growing data and functionality requirements
Software & Hardware Requirements	technical standards, compatibility

Table 3:   Overview Technical Criteria

5   Conclusions and Outlook

Our research focuses on the development and evaluation of an efficient CRMSS process model. A process model was developed and evaluated in two cycles by an international group of CRM experts. The two research questions above are answered as follows.

- What are the core components of an efficient CRMSS process model?

The outlined CRMSS process model covers the whole process of evaluating packaged CRM systems, after a CRM strategy has been defined and before the implementation project begins. The process model is generic and needs to be adapted according to an individual company, industry, and the project budget. As an a priori critical success factor, the CRM strategy and the basic functionality for the software must be defined in advance. To apply it in practice, the criteria template and an evaluation technique must be included also. External consulting often is crucial, but needs to be adapted to the individual case. According to CRM experts mandatory activities are scope definition, analysis of processes and the vendor selection. Optional but recommended activities are analysis of interfaces, reference visits and a vendor short list.

- What criteria must be taken into consideration in an efficient CRMSS process model?

Three criteria dimensions must be taken into consideration: quality, functionality and cost. Based on an initial literature review, a list of criteria is presented in section 4. The main part of the criteria category focuses on CRM-specific aspects. Cost and quality categories are generally relevant for IT evaluation and are the core difference to General IT system selection. In addition, the relative values and weighting for CRM do vary.

The main contribution of this paper is the outlined CRMSS process model. It enables a structured selection of a CRM system. The process model enables implications for both theory and practice. As an implication for theory, the proposed model summarizes the state of the art in CRM evaluation and generates a solid foundation to foster knowledge in this field. It becomes clear that even though some consulting companies use some good/best practice process models, these process models are only accessible internally through hiring those consultancies and in academic literature there is a lack of CRM evaluation. As an implication for practice, the process model enables to evaluate packaged CRM software that takes the specific circumstances of a company into account and guides the evaluation process. As a result, the usually high rate of implementation failures can be reduced.

Besides general limitations based on the chosen research design with restricted search criteria in the literature review, there are more specific limitations. The proposed CRM process model has not yet been applied in real-world scenarios. The authors are currently preparing a case study with a German OEM to apply the CRMSS process model. The case study is conducted in the second half of 2011. There is currently no tool in literature to support the selection process. A tool can reduce the required time and effort for CRMSS and assures compliance with the process steps. In a parallel study the authors refine the criteria catalog to develop a CRMSS tool based on the weighted scoring method which will be evaluated by CRM experts at the end of 2011.

6 Literature

[1] Ahlemann, F; Gastl, H (2007): Process Model for an Empirically Grounded Reference Model Construction. In: Fettke, P. and Loos, P. (Eds.), Reference Modeling for Business Systems Analysis. Idea Group Hershey: 77-97.

[2] Banker, R; Wattal, S; Plehn-Dujowich, JM (2010): Real Options in Information Systems – a Revised Framework, ICIS 2010 Proceedings, Paper 251.

[3] Becker, JU; Greve, G; Albers, S (2009): The impact of technological and organizational implementation of CRM on customer acquisition, maintenance, and retention. International Journal of Research in Marketing 26(3):207-215.

[4] Braunwarth, KS; Friedl, B (2010): Towards s Financially Optimal Design of IT Services, ICIS 2010 Proceedings, Paper 149.

[5] Cao, J; Lin, M; Crews, J; Deokar, A; Burgoon, J (2004): The Interaction of Research Methods for System Evaluation and Theory Testing, ICIS 2004 Proceedings, Paper 23.

[6] Colombo, E; Francalanci, C (2004): Selecting CRM packages based on architectural, functional, and cost requirements. Requirements Engineering 9(3):186-203.

[7] Elmuti, D; Jia, H; Gray, D (2009): Customer relationship management strategic application and organizational effectiveness. Journal of Strategic Marketing 17(1):75-96.

[8] Farbey, B; Land, F; Targett, D (1992): Evaluating Investments in IT. Journal of Information Technology 7:109-122.

[9] Fettke, P; Loos, P (2007): Perspectives on Reference Modeling. In: Fettke, P; Loos, P (Eds.), Reference Modeling for Business Systems Analysis. Idea Group Hershey, 1-20.

[10] Finnegan, DJ; Currie, WL (2009): A multi-layered approach to CRM implementation: An integration perspective. European Management Journal 28(2):153-167.

[11] Frank, U (1999): Conceptual modeling as the core of the information systems discipline: Perspectives and epistemological challenges. In: AMCIS 1999 Proceedings, Milwaukee.

[12] Friedrich, I.; Sprenger, J.; Breitner M. H. (2010): CRM Evaluation - An Approach for Selecting Suitable Software Packages, MKWI 2010 Proceedings, p. 611-622.

[13] Friedrich, I.; Sprenger, J.; Breitner M. H. (2011): Discussion and Validation of a CRM System Selection Approach with Experts, AMCIS 2011 Proceedings, Paper 282.

[14] Gneiser, MS (2010): Value-Based CRM. Business & Information Systems Engineering 52(2):95-104.

[15] Howcroft, D; Light, B (2002): A Study of User Involvement in Packaged Software Selection, ICIS 2002 Proceedings, Paper 7.

[16] Jadhav, AS; Sonar, RM (2009): Evaluating and selecting software packages: A review. Information and Software Technology 51(3):555-563.

[17] Kim, HW; Pan, SL (2006): Towards a Process Model of Information Systems Implementation: The Case of Customer Relationship Management (CRM). The DATA BASE for Advances in Information Systems 37(1):59-76.

[18] Marchewka, JT; Keil, M (1995): Portfolio Theory Approach for Selecting and Managing IT Projects. Information Resources Management Journal 8(4):5-14.

[19] Rigby, D; Reicheld, F; Schefter, P (2002): Avoid the four perils of CRM. Harvard Business Review 80(29):101-109.

[20] Rohloff, M (2008): A Reference Process Model for IT Service Management, AMCIS 2008 Proceedings, Paper 2.