Discussion and Validation of a CRM System Selection Approach with Experts

Ina Friedrich  
Accenture, Ina.friedrich@accenture.com

Jon Sprenger  
Leibniz University of Hannover, sprenger@iwi.uni-hannover.de

Michael H. Breitner  
Leibniz Universität Hannover, breitner@iwi.uni-hannover.de

Follow this and additional works at: http://aisel.aisnet.org/amcis2011_submissions

Recommended Citation  
http://aisel.aisnet.org/amcis2011_submissions/282
Discussion and Validation of a CRM System Selection Approach with Experts

Ina Friedrich
Accenture
Ina.friedrich@accenture.com

Jon Sprenger
Leibniz University Hanover
sprenger@iwi.uni-hannover.de

Michael H. Breitner
Leibniz University Hanover
breitner@iwi.uni-hannover.de

ABSTRACT
Due to the high failure rate, costs, and long duration of CRM implementation projects, it is crucial to evaluate software solutions before making an investment decision. A methodological approach is required to make these decisions more effectively and efficiently. In this paper, an approach to evaluating CRM software packages is proposed that is the result of a literature review. In a second step, an initial applicability check of the approach is conducted. The intention is to verify the feasibility of the proposed approach with CRM experts who have practical experience with the selection of different systems. An empirical study that is subdivided into qualitative expert interviews and a quantitative online survey is used for this verification. The core results demonstrate that the approach is a valid method for evaluating CRM software applications.

Keywords
Customer Relationship Management, CRM Evaluation, CRM System Selection, CRM Software Selection, Evaluation technique, AHP.

INTRODUCTION
It is not uncommon for companies to operate under high levels of competition, which results in varying degrees of cost pressure. When a company is faced with these challenges, selecting the most appropriate software solution for its own specific context becomes very important. This paper focuses on evaluating customer relationship management (CRM) systems. The CRM solutions range from simple address and activity management applications to integrated software packages that link front and back-office functions (Chen and Popovich, 2003; Finnegan and Currie, 2009). This means that there is a multitude of different characterizations for CRM. Due to quality problems and the speed at which evaluation results become outdated, new CRM solutions or updated versions of established products are constantly coming to market. The implementation of such a system usually entails high costs, and the success rate of CRM implementation projects is still not satisfactory, as was mentioned in earlier works (Becker, Greve and Albers, 2009; Fielding, 2001). Since CRM systems connect all core domains (such as supply chain, production, and finances) of a company, and taking the current economic climate and high failure rate of CRM implementation projects into consideration, it is crucial to evaluate software solutions before making an investment decision. The term CRM has been discussed in the literature since the nineties, while IT evaluation dates back to the eighties (Farbey, Land and Targett, 1999). CRM system selection describes the methodology of analyzing a variety of CRM software systems and selecting a system that best suits a company’s individual needs. In order to get an overview of the current status of CRM system selection, the authors performed a comprehensive, structured review of the literature with regard to CRM evaluation and identified a deficiency in this area in advance of this paper (Friedrich, Sprenger and Breitner 2010). On the basis of this analysis, a new approach to selecting CRM systems was developed. The approach covers the whole process of selecting packaged CRM systems, once a CRM strategy has been defined, and before the implementation project begins.

To verify its practicality, this approach must be evaluated by experts. Therefore, the aim of this paper is to conduct an applicability check of the proposed approach with an empirical study. The expert verification was done in two steps: In step one, the authors explored the topic more intensively by performing qualitative expert interviews. In a second step, the approach was tested via a quantitative online survey. The following questions provide the framework to our research:

- What do experts think of the proposed CRM system selection approach?
- Which criteria of the proposed approach need to be changed or optimized?
• Is an Analytic Hierarchy Process (AHP) approach the preferred technique for evaluating CRM systems?

This paper is structured as follows: The next section explains the proposed CRM system selection approach in detail, based on the results of the literature review. The section that follows contains the empirical study with a description of the research design. The core results of the initial expert interviews, followed by the results of the online survey, are presented in subsequent sections. The implications of the empirical study on the approach are discussed in detail, and the closing section presents the core outcome of both surveys, the contributions that can be made using this approach, some limitations, and a final outlook.

EMPIRICAL STUDY

As mentioned above, a literature review was conducted ahead of the empirical study (Friedrich, Sprenger and Breitner, 2010). To verify the literature-based perceptions, achieve improvements, and ensure the practical relevance of the proposed approach, an applicability check (Rosemann and Vessey, 2008) was carried out. Because the results were mainly derived from academic literature, it is important to broaden them to incorporate a view of ‘real-world’ application needs. The intention of the review was to find published evidence in journals and conference proceedings that discuss the topic of CRM evaluation or IT evaluation in general. Three major databases were selected for the baseline search of German and English language papers: ACM Portal, Elsevier Science Direct, and Springer Verlag. The terms IT evaluation, IT system selection, CRM evaluation, CRM system selection and CRM strategy were used as search terms. Once alterations of the terms were used, it became apparent that all relevant papers were covered. In total, 137 papers were identified. Seventy-six hits related to IT evaluation, while 61 contained topics related to CRM evaluation or other associated CRM topics. All papers were reviewed in full for relevance (identifying the research gap or providing a strategy closing the gap) and classified into four categories: methods, criteria, evaluation technique, and tools (Jadhav and Sonar, 2009). Papers that could not be assigned to one or more category were excluded. In the final sample, 60 papers were used.

Based on the findings of the literature review, a CSS model was developed. The model provides a framework that includes tasks, deliverables, and supporting information. The model was designed under the assumption that the CRM system is purchased (and then customized) and not built from scratch. For each area (method, criteria, evaluation method, and tools) findings from the identified papers were used to develop the initial model.

• Method: 24 papers were discussed this area. Nine papers were directly related to CRM process methodologies. A list was generated with all activities mentioned in any of the papers identified that must be performed during the evaluation process (see Figure 1). None of the papers put the activities in a process model for CSS or IT/IS system selection in general.

![Figure 1. Methodical Process Approach to CSS](image)

• Criteria: 34 papers described aspects that concern the assessment of CRM or IT evaluation. Twenty-one papers focused on CRM matters in specific areas such as sales force automation or provided an overview. The remaining 13 papers centered on general evaluation criteria that mostly related to quality or cost aspects. Selection criteria were identified as specified by the literature and grouped into one of three categories, functionality, quality, and cost. The final list is presented in this paper.
Evaluation techniques: 14 papers presented evaluation techniques. Various evaluation techniques have been mentioned in the literature, and only one paper was directly related to CRM evaluation. In general, almost all authors ranked alternatives and selected one by score. The evaluation techniques most frequently mentioned were:

- AHP
- Weighted scoring method
- TCO
- SWOT
- Fuzzy based

The authors chose AHP as the best technique for evaluating a CRM package and resolving the multi-criteria decision making problem of CRM system selection. AHP supports multi-criteria decision making by breaking down a problem and aggregating the solutions of all the sub-problems into a conclusion (Saaty, 1994).

**Research Design – Expert Interviews**

During the early stages of research, qualitative research methods are useful (Becker, Greve and Albers, 2009) for getting a professional perspective based on long-standing experience. For the first step of the qualitative research method (Klein and Myers, 1999; Punch, 2005), focused one-to-one expert interviews (Merton, Fiske and Kendall, 1990; Yin, 2009) with partly standardized interview guidelines (Fielding, 2001) were chosen. In order to capture the full range of impressions on the

---

**Table 1. Evaluation Criteria for Quality, Cost and Functionality**

<table>
<thead>
<tr>
<th>Quality</th>
<th>Cost</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Integration</td>
<td>Maintenance</td>
<td>Account Management</td>
</tr>
<tr>
<td>Modifiability &amp; Maintainability</td>
<td>Preparation &amp; Installation</td>
<td>Call Center</td>
</tr>
<tr>
<td>Performance &amp; Practicability</td>
<td>Resources</td>
<td>Campaign Management</td>
</tr>
<tr>
<td>Popularity</td>
<td>System Costs</td>
<td>Contact Management</td>
</tr>
<tr>
<td>Portability</td>
<td>Training &amp; Support</td>
<td>Customer Service</td>
</tr>
<tr>
<td>Reliability &amp; Robustness</td>
<td>Upgrade</td>
<td>Field Service</td>
</tr>
<tr>
<td>Resources</td>
<td>Internet</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>Lead / Opp. Management</td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>Relationship Management</td>
<td></td>
</tr>
<tr>
<td>Training &amp; Support</td>
<td>Reporting</td>
<td></td>
</tr>
<tr>
<td>Usability</td>
<td>Sales Management</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2. The Analytic Hierarchy Process (CRM package decision)**

- Tools: None of the papers proposed a tool for a CRM-specific evaluation, but two papers covered tools for IT/IS evaluation in general.
proposed approach by the experts, the interview guidelines were not applied restrictively and the results were analyzed according to guidelines from Klein and Myers (1999).

In the context of the first part of the empirical study (expert interviews), a number of experts was identified and interviewed using partly standardized interview guidelines. Experts had to have specific knowledge about the broader topic (Gläser and Laudel, 2006), meaning they had CRM business experience (e.g. marketing, sales, advertising) or technical experience (e.g. CRM software, CRM IT consulting). To identify CRM experts, we searched business networks such as www.xing.com, www.competence-site.de, and www.crm-expert-site.de. Interview invitations were sent together with the partly standardized interview guidelines to 165 potential participants, eighteen (10.9%) of whom were interviewed. The majority of the CRM experts worked in the consulting industry and had been involved in multiple CRM evaluation and implementation projects. Only two interviewees experienced CRM evaluation from a client’s point of view. Two CRM experts worked for a CRM system manufacturer. The interviews were conducted via phone between March and April 2010, with an interview length between 15 and 45 minutes. Due to the relatively small number of participants and the nature of qualitative data, a qualitative content analysis was conducted.

Research Design – Online Survey

Quantitative research methods provide more data for research questions (Punch, 2005). Therefore a normative online survey was used in step two. This quantitative research provided an overall assessment of the proposed approach in a systematic and comparable way and conceptualized reality (Miles and Huberman, 1994). For the second part of the empirical study (online survey) the search for experts was expanded by identifying a higher number of potential participants. In addition to the expert networks mentioned, the search was conducted via Google (using the search terms CRM expert, CRM software expert, CRM software selection, CRM systems and CRM), via listed authors in CRM-related articles and books and with named authors in case studies on CRM vendor websites. Invitations to participate in an online survey were sent out in three cycles (Table 2) to a total of 1435 potential respondents in various countries (Table 3). To increase the response rate, the potential participants were invited personally in the third request for participation. The survey was available online in German and English. In total, 125 (8.7%) experts took part in the online survey. Overall 87 (6.1%) CRM experts replied to the German and 38 (2.6%) to the English survey. The online survey was carried out using the web-based survey management system EvaSys by Electric Paper GmbH.

<table>
<thead>
<tr>
<th>Survey Cycle</th>
<th>Date</th>
<th>Number of CRM Experts Contacted</th>
<th>Number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2010-06-17</td>
<td>836</td>
<td>53</td>
</tr>
<tr>
<td>2</td>
<td>2010-06-24</td>
<td>210</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>2010-06-30</td>
<td>389</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1435</td>
<td>125</td>
</tr>
</tbody>
</table>

Table 2. Online Survey Cycles

The experts were predominantly asked closed questions (Fielding, 2001) in order to evaluate single aspects of CRM system selection and the proposed approach. In general, the design of the online survey was similar to the design of the structured interview. The questions were more specific and were mostly closed. After answering some general questions, the respondents provided information about their experience in CRM evaluation, such as how many projects they had participated in, what type of involvement they had, and questions about project success and important critical success factors. Next, they were asked about how important CRM evaluation in general is in their opinion, how the proposed approach fits their idea of CRM evaluation, how they rate the practical relevance and what they think could be changed. The next part of the online survey empirically tested the criteria mentioned in the approach, for example, asking which criteria should be deleted and which are most important. The final category focused on the evaluation technique and asked which techniques were currently being used and some questions about AHP.

Survey Results – Expert Interviews

Participating CRM Experts

The expert interviews focused on respondents who worked in CRM consulting (14 experts). Two further interviewees work for CRM software vendors and the two remaining interviewees were involved as customers in CRM system selection projects. The majority of experts (11) were involved in CRM system selection more than 20 times. Three interviewees participated only once and the remaining interviewees 2-5 times (4 experts).
Overall Rating and Feasibility of the Approach

About two thirds (67%) of the CRM experts rated the overall CRM system selection approach as excellent. They highlighted that the sequence was logically structured and should be applicable in practice. Almost half of the respondents (44%) thought that application would be feasible in practice. Only three interviewees declared that they do not think that the proposed approach is realistic because too many aspects were missing in each process phase. The core critical point was the narrow focus on the main functional processes in the evaluation. According to their experience, a full requirement specification should be conducted earlier in the analysis phase of the evaluation, instead of later during the implementation of the software. Using that approach, the experts thought it might be possible to define a quantity structure that could be taken as input for a cost calculation. Another important suggestion for improvement was limiting the number of vendor presentations to a maximum of two to four candidates. It was also noted that the approach might generally not be applicable without an external consulting company.

Criteria Evaluation

Most of the CRM experts (89%) agreed with the overall criteria catalog, and some limited their approval with specific remarks. The participants were asked to delete or to add sub-criteria to the quality, cost, or functionality catalogue of the criteria groups. Eight interviewees recommended eliminating popularity. Five CRM experts thought that all sub-criteria of the catalog were necessary. Three participants suggested eliminating portability. The most frequently named sub-criterion to be added was ROI calculation (four interviewees). In addition, other financial ratios such as CAPEX and OPEX were mentioned. Some specific functions, such as checking for duplicates, a help desk, and web integration were also proposed. Six interviewees could not select the most important criterion per se as they thought it depended on the individual situation of a specific customer. Usability (for example, improving customer satisfaction, ease of use) and user acceptance (for example system usage in various areas of daily work) were considered most important for an evaluation (four and three CRM experts, respectively).

Evaluation Technology

None of the interviewees had used AHP as an evaluation technique when conducting a CRM evaluation, although two had heard of it. Five CRM experts commented on using a similar technique after learning about AHP. Four experts did not use any kind of technique to verify their CRM system selections because they relied on ‘gut instinct’. However, 80% named a technique they had used, with the weighted scoring method (five CRM experts) being the one most commonly used. Overall, most CRM experts agreed that CRM system decisions need to be made based on both experience and evaluation results.

Survey Results – Online Survey

Participating CRM Experts

Fifty percent of the participating CRM experts worked in small and medium-sized enterprises (SME) with less than 50 employees. Only 12.8% were employed in companies with more than 10,000 employees. Almost 90% had experience with CRM selection. One third of these had participated in more than 20 CRM system selection projects. Only 8.2% had performed only one CRM selection. The highest response rate was achieved by CRM experts from the consulting sector. Interviewees involved as customers in CSS projects had a smaller response rate compared to vendor and consultant feedback. Overall 73% rated the significance of CRM selection projects as being very important. Twenty three percent believe it to be important, and none stated it was not necessarily required or even not required at all. All experts stated that their CRM projects were successful.
Industry Sector | Number of CRM Experts
---|---
IT Consulting | 53
Software Solutions | 35
CRM and Marketing Consulting | 18
Marketing & Communication | 6
Education & Science | 5
Energy & Resources | 3
Telecommunication & High Tech | 3
Finance & Insurance | 1
Public Sector | 1

*Table 3. Industry Allocation of Responding CRM Experts*

**Criteria Evaluation**

When asked for the most important critical success factor in their CRM evaluation projects (Table 4), the most common answer was *requirement fit*. Requirement fit refers to matching customers’ needs with the main business processes by focusing on the business need and not the IT solution. The selected software certainly needs to fit those business requirements, which in turn should be supported by identified must-have criteria.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Critical Success Factors of CRM Projects</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Requirement Fit</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>Usability</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>Functionality</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Costs</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>Business Process Design</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>User Acceptance</td>
<td>11</td>
</tr>
<tr>
<td>7</td>
<td>Integration in Application Landscape</td>
<td>11</td>
</tr>
<tr>
<td>8</td>
<td>Configurability</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>Stakeholder Involvement</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>Management Support</td>
<td>8</td>
</tr>
</tbody>
</table>

*Table 4. Critical Success Factors*

The next most often named critical success factors were usability and functionality. Usability focuses on the experience of using the software in day-to-day business. The solution must be easy to use, which means users are able to become familiar with it quickly due to its straightforward functionality, user-friendly, and efficiency in handling. Nevertheless the functional scope always depends on the specific demands of the individual company. Costs were exclusively mentioned by CRM experts from Germany. The majority rated costs via the price performance ratio. Other dimensions were cost efficient implementation and TCO calculation.

**Selected CRM System**

The most popular CRM out-of-the-box software solutions (Table 5) were Microsoft Dynamics CRM and Siebel, which is part of the Oracle product portfolio. CRM experts who were customers mainly preferred standard solutions.
In several cases, CRM experts referred to individual software solutions or named solutions that had not been referenced by other experts. These are included under other.

**Overall Rating of the Proposed Approach**

Seventy-six percent of the CRM experts rated the proposed CRM evaluation approach as very good or good (Figure 3). Only 0.8% thought it is not applicable in practice and 4.8% rated it poor. Most experts deduce from their experience that consulting is required depending on the company situation and its employees. Only 8.9% thought that no consulting was required when evaluating CRM systems.

![Figure 3. Rating CRM Evaluation Approach](image)

Overall 73% rated the significance of CRM selection projects as being very important and 22.9% believe it to be important. None stated that it is not necessarily required or even not required at all. All experts stated that their CRM projects were successful.

**CRM Criteria Evaluation**

Overall, 75.7% agreed with the classification presented in the approach. When asked for the most irrelevant criteria the three highest ranked criteria were popularity (quality), which was selected most often (n=47), portability (quality, n=10) and field service (functionality, n=7). In most cases criteria from the category “quality” were rated as irrelevant, but in each case by six or fewer CRM experts. When participants were asked for the most important criteria, topics from all three categories were mentioned. An overview of the ranking for each category can be found in Table 6.
Along with suggesting sub-criteria for existing categories, the CRM experts were asked for new criteria (Table 7). The most often referred to new main criteria were technical architecture, which includes using technical standards, design principles (e.g. SOA), data handling, interface definition (e.g. to mobile technology and other applications), development environments and stages, software (such as operating system, legacy applications, and security) and hardware (e.g. server and network) environment and groupware. In many cases the additional criteria were already part of the criteria catalog but were called something else. No new cost criteria were suggested.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Quality</th>
<th>Costs</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Usability</td>
<td>Maintenance</td>
<td>Contact Management</td>
</tr>
<tr>
<td>2</td>
<td>Data Integration</td>
<td>System Costs</td>
<td>Relationship Management</td>
</tr>
<tr>
<td>3</td>
<td>Performance &amp; Practicability</td>
<td>Preparation &amp; Installation</td>
<td>Lead/Opp. Management</td>
</tr>
</tbody>
</table>

Table 6. Most Important Criteria

Along with suggesting sub-criteria for existing categories, the CRM experts were asked for new criteria (Table 7). The most often referred to new main criteria were technical architecture, which includes using technical standards, design principles (e.g. SOA), data handling, interface definition (e.g. to mobile technology and other applications), development environments and stages, software (such as operating system, legacy applications, and security) and hardware (e.g. server and network) environment and groupware. In many cases the additional criteria were already part of the criteria catalog but were called something else. No new cost criteria were suggested.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Quality</th>
<th>Costs</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Management</td>
<td>Technical Architecture</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sustainability</td>
<td>Marketing Management</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Scalability</td>
<td>Industry Specifics (Vertical)</td>
<td></td>
</tr>
</tbody>
</table>

Table 7. Additional Sub Criteria

CRM Evaluation Technique

Most CRM experts (82.1%) were unfamiliar with AHP. However, the experts who were familiar with it thought it was applicable. An overview of the applied evaluation techniques used by the interviewed CRM experts is provided in Figure 4. Other techniques mentioned were self-developed evaluation methods and requirement analysis, balanced scorecard and workshops.

![Evaluation Technique](image)

Figure 4. Evaluation Technique

Changes to the Proposed Approach

The majority of changes were seen in the area of “Methodology” (Table 8). The suggested enhancements included a change from a linear to an iterative approach for the requirement analysis and vendor presentations including workshops. Some of the CRM experts mentioned that the approach had to be adapted to individual needs (e.g. size of the company or industry). Some thought that change management and expectation management should be integrated along the phases. The creation of a “long” and a “short” list should be part of the iterative process in the form of market screening, vendor pre-selection that is based on requirements and a final decision being made after presentations, taking human factors into account. The
involvement of all affected departments (sales, marketing and service), including the user and IT, was referred to as stakeholder involvement in the form of decisions, requirement definitions, and other areas of the selection process.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Area to Change</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Methodology</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Long and Short List</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Stakeholder Involvement</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 8. Change in CRM Selection Approach

Other suggested changes were in the area of additional phases, limited scope, goal focus, strategy, risk management, key performance indicators, consulting support, and success evaluation.

**DERIVED ADAPTATION FOR APPROACH**

**Overall Approach**

Several CRM experts proposed that the linear approach needs to be changed into an iterative process. Instead of simply reducing the long list to a short list, consolidated findings can be included by adjusting scope definition, business, technical, and/or functional requirements to evaluate the shortened vendor list. As an understanding of all stakeholder options and requirements develops during the process, the change to an iterative process could certainly enhance the approach. Responses from the CRM experts illustrated that a more detailed description of the tasks in each phase and a graphical presentation was required. Many suggestions proposed were already part of the approach but were not explained explicitly enough. This became apparent, for example, through several statements indicating that all interest groups are involved. A number of ideas extend and improve the given approach. As new phases are added, further tasks arose, and these also needed to be evaluated and integrated into the current approach.

**Criteria**

Although popularity in the quality category and field service in the functionality category were rated the most irrelevant main criteria, there were numerous suggestions to add sub-criteria that could be assigned to those categories. This leads to the assumption that a more explicit description of each main criterion was required to clarify the approach. Quality criteria were selected far more often than criteria from the other two categories, even though this category was also ranked most irrelevant. This leads to the hypothesis that quality aspects are an important factor in the decision process and a major component in the
determination process. It also verifies the fact that the approach should involve all three categories. In the cost category, CRM experts mostly focused on project, system, and maintenance costs. Training and resources were less in their focus. These dimensions should not be underestimated with training in many cases turning out to be more costly than most companies expect. Many companies then underestimate the amount of effort and budget required. But without proper training, end users might not be able to use and accept the new system, which leads to an overall failure risk, even though the IT component of the project was successfully implemented. Resources, on the other hand, can be a restricting factor in projects. This means that the internal resource workload might already be at the capacity limit. This usually leads to the need for additional external consulting, which could ultimately entail costs far higher than what was budgeted for internal staffing.

**Evaluation Technique**

Although most CRM experts were not familiar with AHP, but the majority found it suitable for CRM system selection after introduction. The remaining informed experts who were familiar with the technique found it too complex. This leads to the hypothesis that the choice of evaluation technique depends on the company’s IT maturity and the projected budget. Therefore a mix of TCO, a weighted scoring method, and a SWOT analysis might make sense because those are mostly used by CRM experts in CRM evaluation projects. None of the experts specified their own self-developed evaluation method. Due to the fact that the internet questionnaire was anonymous, it was not possible to ask further questions. Further analysis was not conducted as the proposed evaluation techniques were included by a large share of the responders.

**CONCLUSION AND OUTLOOK**

The purpose of this paper was to verify the proposed CRM system selection approach by conducting interviews and an online survey with CRM experts. The presented research contains several contributions to the area of CRM evaluation and therefore to the field of CRM system selection. It answers the research questions listed in section one.

- **What do experts think of the proposed CRM system selection approach?**
  All experts emphasized that CRM system selection is a necessary step for successful CRM implementation. The results have shown that the proposed approach is a valid method for evaluating CRM systems. CRM selection covers the whole process of selecting packaged CRM systems, but nevertheless an a priori CRM strategy is crucial to defining the basic parameters for the software. Implementation is not a part of the CRM system selection but is a decision factor. The proposed approach is generic and needs to be adapted to the company, industry, and project budget. To apply it in practice, enhancements proposed by the CRM experts in terms of methodology, criteria, and evaluation technique should be included. External consulting can be crucial to conducting strategy development, selection, and implementation, but needs to be adapted to the individual case.

- **Which criteria of the proposed CRM system selection approach need to be changed or optimized?**
  Generally all three categories (quality, functionality, and costs) need to be considered when evaluating the suitability of CRM systems in focus. The proposed criteria were accepted to a great extent with additional suggestions, mainly in the functionality and quality areas (as discussed in more detail in section “Derived Adaption for Approach”). Feedback in the area of functional requirements is especially valuable for improving the CRM-specific dimension of the approach.

- **Is an Analytic Hierarchy Process (AHP) approach the preferred technique for evaluating CRM systems?**
  The empirical study showed that AHP is still not an established technique. CRM experts who are familiar with AHP are convinced that this technique is quite appropriate for evaluating CRM systems. AHP considers every aspect of influence factors, but depending on the project size and budget, it might be more suitable to choose or combine techniques that are easier to implement, such as the weighted scoring method. How suitable this technique is in terms of CRM system selection still needs to be verified in case studies.

However, some limitations remain:

Due to the nature of empirical studies and the identification of experts, it might be possible that the identified group of CRM experts is not a representative group. In addition, while conducting the online survey, a software problem arose. The online survey tool that was used, EvaSys, displayed a warning message when entering the survey that simply needed to be accepted by the users but unfortunately had no English translation. Therefore only a few English speaking CRM experts actually answered the survey completely. Moreover the authors’ interpretation, especially of the qualitative results, was subjective, although the subjectivity was minimized by the differing conclusions of each author. So far the proposed approach has not been applied. Overall, the approach might not only be applicable for CRM evaluation, but can be a base for other IT evaluation projects, as the quality and cost criteria are generally applicable.
The next steps might involve more detailed exploration of the proposed approach to achieve a general methodology for CRM system selection, as well as a validation of the evaluation techniques referred to here. In another interview cycle with the identified experts – using the Delphi method – interaction between the interviewees should also be incorporated. In doing so, it would be possible to share interview results between the experts. Furthermore, in order to verify the adapted approach, English-speaking experts who have not yet participated should also be interviewed directly. The proposed approach could also be undertaken in the form of a case study. Finally, a CRM evaluation software based framework that incorporates the findings could also be developed to support the methodology.

REFERENCES