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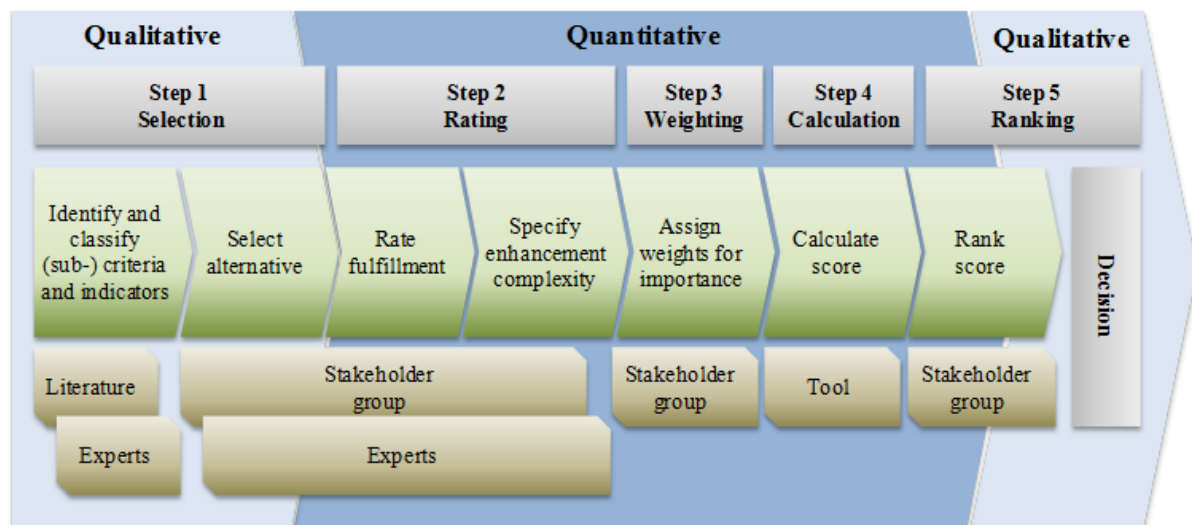


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TOWARDS A MULTI-CRITERIA DECISION SUPPORT FRAMEWORK FOR CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM SELECTION

Halyna Zakhariya², Lubov Kosch³, Ina Friedrich⁴

und Michael H. Breitner⁵



¹ Kopien oder eine PDF-Datei sind auf Anfrage erhältlich: Institut für Wirtschaftsinformatik, Leibniz Universität Hannover, Königsworther Platz 1, 30167 Hannover (www.iwi.uni-hannover.de).

² Doktorandin, Institut für Wirtschaftsinformatik (zakhariya@iwi.uni-hannover.de)

³ Doktorandin, Institut für Wirtschaftsinformatik (kosch@iwi.uni-hannover.de)

⁴ Post-Doktorandin, Institut für Wirtschaftsinformatik (friedrich@iwi.uni-hannover.de)

⁵ Professor für Wirtschaftsinformatik und Betriebswirtschaftslehre und Direktor des Instituts für Wirtschaftsinformatik (breitner@iwi.uni-hannover.de)

TOWARDS A MULTI-CRITERIA DECISION SUPPORT FRAMEWORK FOR CUSTOMER RELATIONSHIP MANAGEMENT (CRM) SYSTEM SELECTION

Abstract

Selecting suitable customer relationship management (CRM) systems is a decision problem with economic, behavioural, technical and functional aspects. It is mandatory to base this type of IT investment decision not only on best practices experience, but primarily on robust data so that the final choice is based on concrete arguments. A CRM system selection framework is presented and discussed that specifically focuses on attributes for CRM evaluation with multi-criteria decision support. This framework is based on findings from a literature review of evaluation techniques for system selection and three subsequent CRM expert evaluations defining the CRM system evaluation criteria. A process is suggested on how to apply this framework to CRM system selection projects.

Keywords: CRM system selection, CRM software selection, CRM system evaluation tool, CRM system selection framework, multi-criteria decision support, weighted scoring method, literature review.

1 Introduction

The market for software packages and diverse IT solutions has significantly increased in recent years, covering both vertical solutions and integration topics. Identifying and selecting the most suitable solution for an individual company has become a complex multi-criteria decision problem. The main decision parameters include adaptability of the business processes, flexibility in terms of market and strategy changes, and IT architecture fit. Selecting the appropriate customer relationship management (CRM) system can be described as a multi-criteria decision making (MCDM) problem. The main difficulty of multi-criteria problems is a mathematical description, as there is no objective solution (Vincke, 1989). MCDM describes the evaluation of a - often restricted - number of alternatives, considering multi-criteria (Yoon and Hwang, 2009). It also supports a decision-making process if those criteria are unmanageable and difficult to rank, helping users choosing the best alternative (Le Blanc and Jelassi, 1989). Evaluation techniques that translate information into comparable numbers provide a mathematical bridge for the underlying qualitative problem.

One evaluation technique that is frequently discussed in literature is the weighted scoring method (WSM), which is the focus for CRM system selection in this paper. CRM solutions range from simple address and activity management applications to integrated software packages that link front office and back office functions (Chen and Popovich, 2003). This means that there is a multitude of different characterizations for CRM, which in turn implies selecting a particular one requires methodological support. Although a number of approaches to WSM have been discussed in different areas of information system research (ISR), a framework for CRM system selection (CRMSS) has not been proposed yet. The aim of this study is to answer the following research question: Is WSM a feasible evaluation technique to support CRMSS?

The paper introduces the topic in section 2 by providing a theoretical background for evaluation techniques, with a focus on WSM. Section 3 shows the current research status, giving an overview of applying WSM in the ISR context and a description of how WSM is applied in each case. In section 4, the results are used as a basis to apply WSM within the context of CRMSS. Each step of the decision making process provided in sub-sections of section 4. Section 5 discusses the results including limitations and recommendations regarding the presented multi-criteria decision support framework. The paper closes with conclusions and an outlook.

2 Theoretical Background

In social science there are two research approaches, quantitative and qualitative, and they differ significantly. The qualitative approach constructs social reality by focusing on interactive processes and events. It focuses on a few cases, and these are constrained by the situation. The quantitative approach measures objective facts that focus on variables, using many cases and statistical analysis (Neuman, 2006). Although the investigated problem is qualitative, the decision-making process includes both qualitative and quantitative steps (see Figure 1) (Naumann and Palvia, 1982).

There are several techniques for supporting a decision-making process. Incorporating preferences is a key aspect of a decision making process framework (Bouyssou et al., 2006; Vincke, 1989). This paper focuses on an evaluation technique that supports the analysis of qualitative data to gain a more clear picture of a preferred solution. With evaluation techniques, researchers use numeric variables to code information into machine-readable form (Neuman, 2006). The most cited techniques besides WSM include the analytic hierarchy process (AHP) (Colombo and Francalanci, 2004), the hybrid knowledge based system (HKBS), the superiority and inferiority ranking method (SIR), SWOT (strengths, weaknesses, opportunities and threads), and fuzzy methods (Jadhav and Sonar, 2009; Bouyssou et al., 2006; Lee et al., 2004). This section describes the technique the authors decided on in further detail.

WSM is defined as follows (Lin and Nagalingam, 2000; Jadhav and Sonar, 2009):

least a year. The results achieved by the framework must be compared to the results and outcome of the former CRMSS in an a posteriori analysis and evaluation.

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