

Method Support of Information Requirements Analysis for Analytical Information Systems

State of the Art, Practice Requirements, and Research Agenda

The development of analytical information systems differs from the development of transaction-oriented systems. Specific method support is particularly needed for requirements engineering. The paper at hand evaluates the state of the art in information requirements analysis and identifies areas for further research. From a practice perspective, a need for further research on information requirements elicitation, validation, and management can be identified. Furthermore, in order to ensure the ongoing elicitation, documentation, and management of information requirements, more effort has to be invested into the development of a continuous requirements process perspective.

DOI 10.1007/s12599-010-0138-0

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Received: 2009-08-27
Accepted: 2010-07-21
Accepted after three revisions
Prof. Dr. Busmann

Published online: 2011-01-04

This article is also available in German in print and via <http://www.wirtschaftsinformatik.de>. Stroh · F., Winter R., Wortmann F. (2010) Methodenunterstützung der Informationsbedarfsanalyse analytischer Informationssysteme. Stand der Forschung, Anforderungen aus der Praxis und Erweiterungspotenziale. WIRTSCHAFTSINFORMATIK. doi: 10.1007/s11576-010-0254-y.

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1 Introduction

In the domain of information systems, analytical information systems constitute an important group (Arnott and Pervan 2008; Elbasher et al. 2008). Unlike transaction-oriented systems, analytical information systems do not implement the automatable components of operational business transactions, but support decision making. The supported decisions show very different characteristics, ranging from decisions related to operational transactions (such as order acceptance, delivery scheduling) and the less standardized decisions of so-called "knowledge workers" (such as the design of sales promotion campaigns, further development of products/services) to strategic decisions (such as location decisions, decisions regarding the range of services, or the enterprise target system). Analytical information systems therefore represent a group of very heterogeneous information systems.

The goal-oriented design of information systems always requires a careful analysis and documentation of the particular requirements. Requirements engineering is understood as the sum of all activities which determine the requirements of an information system (component), document them, and keep them up to date. "The use of the word 'engineering' implies that systematic and repeatable techniques should be used to ensure that system requirements are complete, consistent, relevant, etc."

(Kotonya and Sommerville 1998, p. 5). Since requirements engineering mostly deals with both business requirements and technical aspects of the system under development (Kotonya and Sommerville 1998, p. 19), these activities have a relatively high complexity.

For analytical information systems, the initially outlined high heterogeneity of decisions and end-user groups to be supported results in the fact that requirements analysis has a very high influence on the effectiveness of the solutions to be developed (Holten 2003; Prakash and Gosain 2008). Unlike transaction-oriented systems, where standardized, often repetitive business processes have to be analyzed in terms of automation potentials, analytical information systems require the elicitation, documentation, and management of information needs of different users or user groups for often less structured decisions (Jarke et al. 2000, pp. 4 ff.; Strauch 2002, p. 84; Winter and Strauch 2003): "...executive information requirements are different from operational requirements [...] IS professionals [have a] lack of adequate methodology to determine executive information needs" (March and Hevner 2007).

For analytical information systems, we distinguish informational and non-informational requirements. Informational requirements particularly focus on content, quality, and visualization of information, while non-informational requirements refer to, e.g., information system security, performance, data protection, and maintainability (Goeken 2005).

Daten sind essentiell für jedes Unternehmen in der heutigen globalen, digitalen. Wirtschaft describe a systematic procedure for achieving an adequate solution (or an 61 German original: Architektur integrierter Informationssysteme. Informationsbedarfsermittlung im Problemlösungsprozess Strategische.sign of sales promotion campaigns, fur- tierter Entwurf von unternehmensweiten . Proceedings of the 36th annual Hawaii in- . Methodenunterstützung der Informationsbedarfsanalyse analytischer Informationssysteme.33 Burmester L, Goeken M () Benutzerorientierter Entwurf von unternehmensweiten In: Fachtagung Modellierung betrieblicher Informationssysteme (MobIS). Wiley, Hoboken Krause H, Schmitz U () Entwicklung einer Methode für eine In: Proceedings of the 36th annual Hawaii international conference on.Neue Seite 2 BID-Links Recherche im Internet (IV I) P: Infobroking II (IV II) Willkommen auf der Homepage von Berthold Meier Hinweise und Links für.

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