Research Portals: 
Status Quo and Improvement Perspectives

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ABSTRACT

Research portals are a means to present, discuss, and advance scientific findings. They are web-based knowledge management tools for research communities. Research portals foster collaboration among a community of scientists, research funders, and political decision-makers. However, research communities might not possess the knowledge and experience required to design a research portal. The authors support them by analyzing the status quo of existing portals and providing respective improvement perspectives. The authors ask what typical characteristics of such portals are and how these characteristics can be used to evaluate the advancement of individual portals and they seek to distinguish classes of differently advanced research portals and determine their status quo. The authors’ research is based on a systematic web search, during which the authors identify 813 relevant research portals. Following a multi-method approach, they assign each research portal a previously distinguished class of advancement. The authors conclude that research portals generally only offer basic functionality and discuss functionality that is underrepresented in this pool of analyzed research portals and elaborate on improvement perspectives in 11 feature dimensions.

Keywords: Knowledge Management, Maturity Model, Research Community, Research Dissemination, Research Portal, Status Quo Analysis

1. INTRODUCTION

Knowledge management is of high importance not only in business but also in academic and research settings (Tian et al., 2009; Wang et al., 2006; Schultze & Leidner, 2002). While businesses invest more and more in knowledge management (Babcock, 2004), the adoption of respective systems in academia seems to be stagnating (Jones et al., 2006). However, knowledge management in research communities is of utmost importance (Piccoli et al., 2000). This is due to the fact that contemporary research problems often exhibit an interdisciplinary character emphasizing the need to consider research results of various disciplines to solve a particular research problem (Carayol & Matt, 2004; Fox, 1992). Furthermore, the number of possible outlets as well as the number of
publications in a single discipline is steadily increasing. The Index of Information Systems Journals lists 721 active journals for the IS discipline alone (Lamp, 2009). A listing of all possible IS outlets including conference and workshop proceedings may very well contain several 1,000 entries. This number still increases if one considers outlets and publications of all disciplines providing input to solve a particular research problem.

Against this background of an interdisciplinary approach to current research problems on the one hand and an ever increasing number of sources on the other hand, research portals provide a means for presenting and exchanging ideas, research goals, and results in a structured manner. As science is a cumulative effort, in which new knowledge is often created by analyzing and combining existing knowledge (vom Brocke et al., 2009), research portals provide an effective instrument for managing knowledge in research communities. This is done by providing a means for disseminating knowledge on research results and acting as a marketing measure for researchers. Research portals are Internet-based knowledge management instruments, which present research activities through answering different questions like “who is conducting the research?”, “what is being researched?”, “what results have been achieved?”, and “who is paying for the research?” Thus, research portals foster the creation of virtual communities of practice (Palmisano, 2009; Wenger & Snyder, 2000) in research settings. To this end, they support internal communication in the community (Yu et al., 2010), but also have a strong focus on reaching external stakeholders and fostering the knowledge transfer between practitioners and academics (Rynes et al., 2001). This line of argument demonstrates that research portals serve to reanimate the discussion about knowledge management in academic communities which has been abated in recent years (Jones et al., 2006).

Examples of research portals can on the one hand be organized around a certain research topic. The “Pancreatic Cancer Research Map” (International Cancer Research, n.d.) was established to enable the pancreatic cancer research community to “identify what is happening,” “network with other researchers,” and “find funding opportunities” The target audience includes researchers, patients, and physicians as well as stakeholders from industry and government. The portal’s aim is to strengthen the research community in the domain of pancreatic cancer. On the other hand, research portals can also be initiated and maintained by and for geographically or organizationally delimited communities. For example, the “Research portal Saxony-Anhalt” claims to be “the most important and comprehensive information platform about research, scientific innovations, and technology transfer” (http://www.forschung-sachsen-anhalt.de/index.php3?lang=1) in this German federal state independently of the research discipline. The portal aims to strengthen the research community in this region by fostering internal communication and by disseminating research information to the broad audience. Research funders and political decision-makers can gain an overview of the research being conducted. This way, they can identify emerging, established, and regressing topics and decide on their future funding policy (Krücken & Meier, 2009). Moreover, the public is provided with a documentation of government research funding and its outcomes (Schimank, 2005).

Given the potential of research portals for knowledge management in scientific communities, we conduct an empirical investigation of these portals’ functionality. As research portals—similar to many IT artifacts—can vary significantly regarding their scope and functionality, initiators of research portals have to analyze available features and make concrete decisions on how to design their particular portal. However, research communities or individual researchers seeking to initiate a portal might not necessarily have knowledge and experience in this field. For example, members of the pancreatic cancer research community are focused on conducting cancer research rather than on deciding on the functionality of their research