Service Oriented Innovation Management: An Open Innovation Approach for Collaboration in Innovation Networks

Michael Thieme, Institute for Applied Informatics (InfAI), Germany

ABSTRACT

In this paper, the author introduces the idea of service oriented innovation management into the scientific discussion and gives an outlook on possible application. In this paper, the SOA-principles are adopted and applied in the field of innovation management with several stakeholders involved in the innovation process. Furthermore, a use case is presented in form of a management concept for an innovation center in the creative industries.

Keywords: Collaboration, Innovation Lab, Innovation Management, Innovation Networks, Open Innovation, Service Orientation, Service Oriented Architecture (SOA), SOA-Principles

1. INTRODUCTION

There is hardly a contribution in the field of innovation science not highlighting the importance of research and development (R&D) strategies as the basis of competitive economies and companies, sustained economic long-term growth and the generation of prosperity and employment (Atkinson & Wial, 2008; Porter & Ketels, 2003). The ability to innovate is a key factor and highly influences future success, development and survival. Utterback’s (1994) study indicates, that entire industries can disappear as a result of radical innovation.

In the past, we could observe closed, internal innovation structures being a successful strategy. By building their own R&D infrastructure and capabilities, large enterprises have been able to secure the internally generated knowledge and ideas as well as control their diffusion. Often cited examples are the Palo Alto Research Center (Xerox) and the Bell Labs (formerly Western Electric and AT&T, now Alcatel-Lucent). Nevertheless this strategy has several drawbacks, that intensify with the higher pace and competitiveness of the modern global economy (Chesbrough, 2011).

Today’s economic environment is characterized by a shortened life-cycle of products and services as well as an increase in development cost and pressure to reduce the time-to-market of innovation projects (Ball, Wendell, Frantz, Geringer, & Minor, 2004). Furthermore, due to increased complexity innovative solutions and

DOI: 10.4018/jssmet.20111000102
products are increasingly not developed by one single company, but are more and more created cooperatively through an entire value chain with several companies involved (Cases, Bodner, & Mutnury, 2010). It is more and more essential to collaborate with other businesses, customers, institutions and even with competitors in order to include expertise not covered by the company itself into the innovation process.

Lately, we can observe a shift in innovation strategies. As a result the innovation process becomes more and more porous allowing the innovation projects to cross company boundaries. The open innovation paradigm provides an the opportunity for idea exchange between different stakeholders and even competitors. This allows to pursue innovations that do not fit into the current company strategy (Inside-Out) or to commercialize ideas generated outside the company (Outside-In) (Chesbrough, Vanhaverbeke, & West, 2006; Gassman & Ellen, 2006; Picot & Doeblin, 2009). Using open innovation in order to share internal and integrate external knowledge within the process of idea generation, research, development and commercialization stages helps to reduce costs and risks of innovation schemes (Chesbrough, 2011).

For small and medium-sized enterprises (SME) it is vitally important to create innovation networks, as they are frequently neither able to provide all skills needed in the R&D process due to limited human resources, nor do they possess the financial capability to run a research laboratory. Therefore, SME need solutions to overcome their handicap and successfully introduce innovations and help reduce costs and risks of innovation schemes. These developments and the resource disadvantage related to company size pose a major challenge especially for small and medium sized enterprises (SME) (von Ahsen, 2010).

Recently, one can observe the emergence of innovation labs which address these goals. The existing innovation labs are focused on certain topics, such as the ServLab at the Fraunhofer IAO in Stuttgart being specialized in simulation and development of services, and on technical and methodical expertise neglecting the high share of innovation potential of SME. Furthermore, the applied concepts are linked to high investments in infrastructure and running costs. This implies a financially strong institution as carrier, e.g. the “Kitchen Budapest” is sponsored by Magyar Telecom. Easier access to such facilities and further development into innovation centers enables to include more stakeholders into the regional innovation ecosystem.

Literature on innovation management focuses mainly on large enterprises. Dedicated research on management approaches for SME has been neglected (von Ahsen, 2010). The presented work addresses this research gap and provides an approach for the collaboration in innovation networks. Thieme and Meyer (2011) describe how SME can profit from knowledge and resources existing research institutions and how this knowledge can be transferred. The innovation model is based on the idea of bottom-up innovations and focuses on the aspects of cooperation and knowledge transfer. This contribution focuses on the management aspects of different stakeholders involved in joint innovation projects. Developing innovation networks and successfully implementing innovations calls for new collaboration and management approaches with new organizational settings.

The remainder of this paper is structured as follows: Chapter 2 presents the general idea of service oriented innovation management. Chapter 3 describes a use case based on this management approach. Chapter 4 discusses major obstacles and challenges and gives an outlook on future work.

2. SERVICE ORIENTED INNOVATION MANAGEMENT

2.1. Service Orientation and the SOA-Principles

Service orientation is not a completely new concept. It is widely spread out and applied in
Visual Analytics Adoption in Business Enterprises: An Integrated Model of Technology Acceptance and Task-Technology Fit
www.igi-global.com/article/visual-analytics-adoption-in-business-enterprises/216491?camid=4v1a

A Review of Factors Influencing Customer Acceptance of Internet of Things Services
www.igi-global.com/article/a-review-of-factors-influencing-customer-acceptance-of-internet-of-things-services/216490?camid=4v1a