Mashup Enabled Dynamic Capabilities in the Fuzzy Front-End of Innovation

Luís C.S. Barradas¹ and J.J. Pinto Ferreira²

¹ ESGTS-IPSantarem, Complexo Andaluz, Apartado 295, 2001-904, Santarém, Portugal
claudio.barradas@esg.ipsantarem.pt

² FEUP –DEIG / INESC Porto-UITT, Rua Dr. Roberto Frias s/n, 4200-465 Porto, Portugal
jjpf@fe.up.pt

Abstract. Innovation is today a widely used buzzword in the enterprises environments, because it is seen today as the support for long-term surviving and a lever for the creation of new and differentiated products or services. The Fuzzy Front-End of Innovation (FFE) is often experimental, involving strong interaction with the end-users. This enables the knowledge transfer from users, communities or Collaborative Innovation Networks to organizations. Enterprises may master a set of Dynamic Capabilities in order to manage, learn and integrate that shared knowledge. Today, using Web 2.0 applications, users are able to easily join together, share ideas, catalog information, spread and share their knowledge in a variety of ways. This paper presents a model to enable those Dynamic Capabilities using a Web 2.0 Mashup in the FFE of innovation.

Keywords: Innovation, Knowledge Management, Dynamic Capabilities, Web 2.0, Mashups.

1 Introduction

Today, innovation is a key point and a hot issue in business environments. The innovation processes have become increasingly important within companies, since innovation is seen today as a support base for their long-term survival in an increasingly volatile and demanding market, and a lever to the development of new and differentiated products and services.

The innovation processes include methods and techniques that differ on their approach and required competences [1]. They can be classified as «hard» - quantitative, empiric or numeric; or «soft» - qualitative, based on experience or reflecting tacit knowledge. Another classification consists on the assessment of such methods and techniques that tend to be normative – starting the process with a clear perception of the future needs; or exploratory – starting the process through the extrapolation of the present technological capacity. Given that innovation depends on information and knowledge, it is necessary to consider that an organization may not be autonomous in the innovation process, because the sources of ideas, information and knowledge can be internal or external [2]. Thus, this process is interactive and results from the
contributions of many economic and social agents (users, customers, business partners, etc), owners of different type of information and knowledge. The combination and management of several sources of ideas, information and knowledge is an important challenge for companies in order to innovate and build capacity to cope with changes, since most of the problems (especially technological problems) involve the use of knowledge at various levels.

2 User Involvement in the Innovation Process

According the Product Development and Management Association (PDMA), the innovation process is divided in three areas [3]: the Fuzzy Front End of innovation (FFE), the New Product Development (NPD) and the Commercialization phase. The FFE also known as “Phase 0” or “Stage 0” [3], [4], designates the initial period of the New Product Development. The FFE includes all the initial phases from the formulation and selection of the initial ideas to the final concept definition, and must be considered as an essential part on the NPD. Although doesn’t usually have high costs associated with it, it may consume 50% of the development time [3]. The FFE is often a non structured process, chaotic, from experimental nature, and involving a huge interaction between the NPD team and the user/customer. The PDMA has introduced the concept of New Concept Development in order to structure the activities developed at the FFE, which includes, among others, five key elements: (1) Idea Generation and Enrichment; (2) Idea Selection; (3) Opportunity Identification; (4) Opportunity Analysis; and (5) Concept Definition. The Concept Definition element is the unique gate to the NPD stage.

2.1 Listen the Voice of Customer

Innovation aims to create new and differentiated products and services that will help to create added value for end-users. Especially in industries where the innovation is driven by technology push (e.g. Information and Communication Technology), there

![Fig. 1. Different human-centered design methods and practices [5]](image)