Wiki as a tool for improving the innovation process

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ABSTRACT

In this paper we describe our experience with a WIKI as an auxiliary tool in the innovation process. The objective is to use a WIKI to improve the innovation process in our organization, for communication between team members, access to information and knowledge management. In our short experience using a WIKI we observed that the communication between innovation staff was improved in the activities related to technology tracking and development of previability studies.

Categories and Subject Descriptors

I.7.1 [**Document and Text Editing**]: Document Management; J.7 [**Computers in Other Systems**]: Process control; H.4.1 [**Office Automation**]: Groupware

General Terms

Documentation, Management

Keywords

WIKI, Innovation Process, Knowledge Management

1. INTRODUCTION

A convenient definition of innovation from an organizational perspective is given by [2], who wrote: *"Innovation is generally understood as the successful introduction of a new thing or method ··· Innovation is the embodiment, combination, or synthesis of knowledge in original, relevant, valued new products, processes, or services"*. For innovation to occur, something more than the generation of a creative idea or insight is required: the insight must be put into action to make a genuine difference, resulting for example in new or altered business processes within the organization, or changes in the products and services provided [3].

All innovation process has a potential risk to be unsuccessful, and this aspect must be managed appropriately. The impact of failure goes beyond the simple loss of investment and can also lead to loss of morale among employees, increasing pessimism concern of innovation and even higher resistance to change in the future [3].

The causes of failure have been widely researched and can vary considerably. Some causes will be external to the organization and outside its influence of control. Others will be internal and ultimately within the control of the organization. Internal causes of failure can be divided into causes associated with the cultural infrastructure and causes associated with the innovation process itself. Failure in the cultural infrastructure varies between organizations but the following are common across all organizations at some stage in their life cycle [7]: *(i)* poor leadership; *(ii)* poor organization; *(iii)* poor communication; *(iv)* poor empowerment, and; *(v)* poor knowledge management. Common causes of failure within the innovation process in most organizations can be distilled into five types: *(i)* poor goal definition; *(ii)* poor alignment of actions to goals; *(iii)* poor participation in teams; *(iv)* poor monitoring of results, and; *(v)* poor communication and access to information [6].

Over the years, researchers have offered many proposals to facilitate knowledge management and communication, particularly at the enterprise level. However, the promise of various tools and applications to make tacit knowledge explicit remains largely unfulfilled - much tacit knowledge remains inaccessible [4, 1]. WIKIS have the potential to gather such knowledge from far-reaching sources. WIKIS satisfy four key knowledge management needs by: *(i)* capturing knowledge from those who have it; *(ii)* converting knowledge into an explicitly available format; *(iii)* connecting those who want knowledge with those who have it, and; *(iv)* linking knowledge to knowledge [5].

We understand that using a WIKI we can improve the innovation process in organization reducing: *(i)* poor communication and access to information; *(ii)* poor knowledge management, and; *(iii)* poor participation in teams.

In this paper we describe our experience with a WIKI as an auxiliary tool in the innovation process. In section 2

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we describe the innovation process at our organization, in section 3 we explain how we have been using a WIKI as a tool in the innovation process, and in section 4 we describe some conclusions.

2. INNOVATION PROCESS AT ATECH

Atech Critical Technologies is a 100% Brazilian organization that innovates and offers technological solutions for the development and integration of systems focused on decision-making and cost reduction in the private and public sectors.

In the market since 1997, when it integrated SIVAM, the largest intelligent air, land and environmental monitoring system in the world, in Amazon - Atech provides the market with its experience, knowledge and articulation of multidisciplinary teams to conceive, develop and integrate solutions and information systems that meet its clients specific needs. The Atech's main acting sectors are defense, air space and public services.

The innovation process at Atech, also known as Innovation Cycle, has four main processes:

1. *Technology and Investment Tracking*: consist of technology mapping in the Atech's interest areas by monitoring sources of information (specialized websites, academic institutions, innovative companies, events, patents). External investment funds that might be of interest to develop technological innovations are also identified.

2. *Research & Development (R&D) promotion*: relationship with national and international R&D promotion agencies, forming partnership with public and private institutes of education and research. A business incubator program is also included to help innovative entrepreneurs develop projects with high perspectives in creating new business.

3. *Innovation Programs*: with the result of technology mapping (see item 1), some themes are selected to be explored in a pre-viability study that investigate the possibilities to develop a demo product. The R&D projects and the pre-viability studies are judged by a committee of investment. Those selected starts its development in the Innovation Laboratory.

4. *Innovation Laboratory*: perform the demo product development and searches for partners to use it in a real application (Business Case).

3. WIKI AS TOOL FOR THE INNOVATION PROCESS

A WIKI[1] is used in the innovation cycle at Atech as an auxiliary tool in the Technology and Investment Tracking (1) and Innovation Programs (3) processes since March, 2008. Each collaborator in the innovation staff do a monitoring of external sources of information using a RSS feed reader, the Google Reader[2]. In this tool the user can select witch article he wants to share. One page of our WIKI is dedicated to aggregate all articles shared by the staff, allowing an easy exchange of indications.

The discussion of selected articles and researched technologies is made in a blog inside our WIKI. Another blog is used to receive ideas and suggestions from all Atech's collaborators. In the picture 1 we can see a wiki page with blog (the text is in portuguese). Once the interest of the theme is proven, it is added in the technology map.

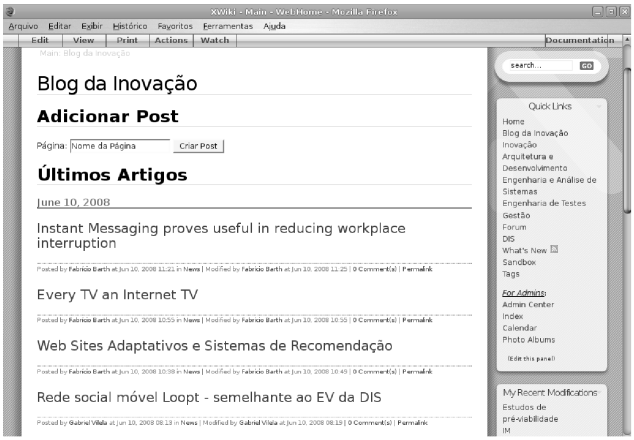

Figure 1: A wiki page with blog

Finally, our WIKI helps in the collaborative development of pre-viability studies allowing the work be always available and being easily changeable by the people involved. Only when finalized the study is registered in a formal document.

4. CONCLUSIONS

In this paper we described our experience with a WIKI being used as a tool in the innovation cycle at Atech. We believe that this choose can improve the innovation process in our organization by satisfying knowledge management needs related to this process.

In out short experience with a WIKI, only four months, we observed that the communication between innovation staff was improved in the activities related to technology tracking and development of pre-viability studies.

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[1] http://www.xwiki.com

[2] http://www.google.com/reader