

ORGANIZATIONAL WIKIPEDIA

Diogo Arantes Fonseca Gonçalves da Cunha
Instituto Superior Técnico - Taguspark
Av. Prof. Dr. Aníbal Cavaco Silva — 2744-016 Porto Salvo, Portugal

Prof. Artur Ferreira da Silva
Instituto Superior Técnico - Taguspark
Av. Prof. Dr. Aníbal Cavaco Silva — 2744-016 Porto Salvo, Portugal

Prof. José Figueiredo
Instituto Superior Técnico - Taguspark
Av. Prof. Dr. Aníbal Cavaco Silva — 2744-016 Porto Salvo, Portugal

ABSTRACT

In this paper we explore a strategy to implement an organizational wiki, using a Wikipedia model. We address models to cope with organizational change and organizational learning within a knowledge management strategy. The results were positive as our wiki model is now integrated in the day-to-day routines of the company.

KEYWORDS

Wiki, Wikipedia, knowledge management, organizational change, organizational learning.

1. Introduction

As the world evolves into a crescent connected space, where the virtual context is integrated with the physical reality, organizations need to develop skills to take advantage of this evolution.

In the organizational reality the issue of knowledge management is becoming more important, as managers try to retain the knowledge of the workers and these workers feel the need to continually improve their skills (Drucker, 1999). On public social reality, knowledge sharing and knowledge creation evolved tremendously in the last years and models have been created that can, and should, be used in other contexts. The Web 2.0 revolution brought new ways of communicating and working collaboratively, and the results of this revolution should be harvested to improve organizations.

One of the most popular examples of a public model of knowledge sharing is Wikipedia. But its success on the public domain doesn't necessarily imply that it would succeed on the much smaller and controlled organizational environment; probably some adaptations would need to be made to the model and to the organization.

Having that in mind, we set out to investigate if an organization with highly literate workers in IT technologies would be capable of assimilating a wiki model. More than that, would an internal Wikipedia available only to the workers, add value to the organization? Although this seems a simple question, the implementation of such a task entails a considerable amount of unpredictability because the overall process is heavily dependent on human behaviour. A wiki is a voluntary system of content creation and, even though Wikipedia quality standards apply to the organizational context, maintaining Wikipedia quality needs effort and investment from the organization that wants to adopt it. Besides, an organization is a complex set of many different "wants" and participative patterns that cannot be assured by regulations.

2. Organizational Learning

According to Morgan (2006), our perception of an organization is a key factor in its functioning processes. He says we use metaphors to help our understanding and to better manage our companies, and that representation is a fundamental topic for an organization to thrive in the market.

Let's consider the metaphor of the living organism applied to the organization entity. A living organism needs to adapt to its environment in order to survive and is composed of subsystems that interact together to sustain survival. True evolution is only possible with a correct alignment of all the subsystems and the environment.

Following this perspective, we present the Learning Organization's integrated architecture of *systems thinking* as explained by Senge (Senge, 1990). This concept doesn't define the company that is just able to learn, it defines the company that has learning processes as the foundation of its development, investing in areas like innovation, communication and collaboration. Nowadays, the organizational context changes very quickly and aggressively, and companies need to invest in these capabilities so they can keep up with market evolution and the competition.

After describing the five disciplines that need to be taken in consideration for an organization to become a Learning Organization (Mental Models, Personal Mastery, Team Learning, Shared Vision and Systems Thinking), Peter Senge also details which kind of learning disabilities may be causing difficulties in the change process. These disabilities should be dealt carefully and attentiously, as they may be the reason why a transformation process takes more time than it should, or doesn't happen at all. Usually these disabilities are associated with cultural characteristics of the organization, the department or group, as they are referenced to human behaviour. But, although identifying some of these disabilities may help, other disabilities that are not listed and explained, and that can also destroy the change process.

Some time later, Peter Senge and other colleagues took a different approach to the same problem in (Senge et al, 1999). They kept standing with the *systems thinking* model but, instead of focusing on the intrinsic disabilities that could stop an organization from changing they focused on the reinforcing processes that need to be addressed in order to sustain the emergence of change. These processes seem obvious after understanding their nature and are bound to the ideological perspective of the change, the depth of structural innovation needed and the methods and theories used to achieve the intended change.

There are three reinforcing processes to a change model: the process of personal results, that refers to the passion that a person puts into his job when he loves what he's doing and it has positive impact in his life; the process of networking of committed people, which is aligned with the concept of CoPs (Communities of Practice) as it refers to the ability that any individual has to transcend himself when genuinely integrated in a collective; and the process of business results, that is simply the fact that, good business results boost up morale and improve ongoing business processes.

Nonetheless, although these reinforcing processes have the objective of sustaining change, they aren't very simple to sustain themselves. According to the author (Senge et al, 1999), there are many challenges that probably will appear when a change of this nature occurs, and he divides them into three type of challenges: initiating challenges, sustaining challenges and re-designing challenges. For example, the first challenge of initiating change is called "*Not Enough Time*" and it addresses the problem of the lack of time that most of the workers have to create, participate or to develop change initiatives. In this project we found these challenges very present.

2.1. Leadership

Leadership is a concept that in a collective perspective only started being used recently. It is not a single characteristic of a person that makes him able to lead others. Certain characteristics, like confidence, adaptability, and practical intelligence seem to be valuable for this function. But, an more important, leadership is now seen as the fruit of an entanglement between context and the characteristics of a person. A leader that in a particular situation and for a certain group can be the best, in a different situation or group may be not good at all (Mann, 1959).

As such, we need to change our perspective. We put aside the myth of the hero CEO that saves the company and brings peace to the workplace (Senge et al, 1999) and need to embrace a more distributed and emergent approach to the issue, where communities are made of several leaders, each one with its own situational ability in the group.

Leadership drives organizational change processes and, organizational change only occurs when there is leadership supporting and sustaining the initiatives. Thus, leaders are indispensable for a solid transformation within an organization.

There are three types of leader behaviours described by (Lewin, Lippitt, & White, 1939):

- Authoritarian behavior, when all decisions are centered on the leader in charge with little or no regard to group suggestions.
- Democratic behavior, when decisions are made considering the thoughts and suggestions of the group.
- “*Laissez-Faire*” behavior, which relates to the leader that doesn’t impose no control or protocol, leaving group members to individually decide upon their actions.

We cannot say that a type of behavior is better than the other, but we can find a more suited behavior to a specific environment or goal.

A less qualitative and more functional evaluation of types of leaders is described in (Senge et al, 1999) three types of functional leaders can be found on the organizational context:

- Local line leader, refers to the leader that has the power, position or informal leadership to put change in action in its practical sense and, that has the ability to assess its results on the making.
- Network leader, also known as internal networker or community builder, is the leader that through his mobility within informal networks can help create new relationships, alliances or ideas, and help disseminate new mentalities and attitudes.
- Executive leader, is the leader in charge of the administrative and strategic actions within an organization, assuming the bottom-line responsibility for its performance and development that can support and leverage the change process when acting consistently as "champion" of it.

3. Enterprise 2.0

The concept of Enterprise 2.0 relates to a good use of Web 2.0 systems, such as social networks, wikis, blogs or other collaborative tools or platforms, within the organizational environment, focusing on the integration of technical and social facets of the organizational life.

A company that doesn’t invest on Enterprise 2.0 systems risks to become outdated and less competitive (McAfee, 2006). To support this view we need to clarify that Web 2.0 tools in order to work correctly must be considered as sociotechnical systems and not just as "tools". There are many types of systems that may be used and they serve different purposes, so there is a need to evaluate the system according to its functionalities and assess if it is aligned with the company objectives.

The SLATES mnemonic was created by Prof. McAfee to help people acquiring or developing these types of systems. Hinchcliffe (2007) wrote a blog post where he added a few characteristics to SLATES, transforming it to FLATNESSES:

- Free-form – the system must have a dynamic way of organizing content;
- Links – content has to be linkable;
- Authoring – user actions must be traceable;
- Tags – content should be categorized using folksonomy;
- Network-Oriented – the system must be oriented to a network environment;
- Extensions – new information about the user needs should be achievable by crossing data;
- Search – content must be searchable;
- Signals – the system must provide a notification system, such as RSS or ATOM;
- Emergence – the system architecture must make content emerge depending on users needs;

- Social – the system must provide a way to create social relations between users.

Although there are these specifications on Enterprise 2.0 system functionalities, implementing such a system is not simple. These systems have a voluntary nature, so users are not forced to adopt them. This way, implementation should be accompanied by a cultural adaptation to the new ways communicating.

Communication, collaboration and integration are the keywords in Enterprise 2.0 initiatives. Workers have to develop these skills in order to fully align themselves with the philosophy of Enterprise 2.0 and generate organizational value.

3.1. Wikis

The wiki is a Web 2.0 system that suites the needs of collective authoring of content in a simple, straight forward process of edition and creation of html pages. The most common functions associated with wikis are: editing and creating html pages; internal linking between content; future linking to pages that haven't been created; markup language to easily format html pages; version control system; and permission system. Although these functionalities may be common to most of the wiki platforms, there are other functionalities are also often used, like the discussion page or file galleries, extending the services the system provides.

Consequently, the flexibility that the wiki provides is also a critical point in its use because it is like a Swiss army knife with many different tools that can be applied to many different situations. So every wiki needs a metaphor in order to focus its users to defined ways within which to use the system. The most popular example is the Wikipedia model that is based on the encyclopedia metaphor to instill quality to created content.

According to Mader (2008), the Wikipedia model is not the most used model within organizations, and it is also not the best. This view seems to be a consequence of the work that needs to be done in order to cultivate a community that cares for the content that is created and actively participates in its evaluation and maintenance, like the one supporting Wikipedia. The Wikipedian community is the only reason Wikipedia developed the way it did and keeps on evolving.

Mader initiated a community where anyone may contribute with what he calls Wiki Patterns that may sooth the usage curve of a *wiki* and Wiki Anti-Patterns that may contradict that goal. Although the author doesn't give much credit to "organizational wikipedias", we concluded that some of the patterns and antipatterns he presented are applicable to organizational *wikis* using a Wikipedia model.

4. Safirapedia

In September 2009 project Safirapedia was initiated in a company called Safira, which supplies information technology consulting services. The main purpose of this project is to have a concept repository with all the relevant information regarding processes, practices, services, etc.

The project is a part of a plan called Safira 2.0 to turn Safira into a more Enterprise 2.0 organization, through a series of projects that face different objectives. The projects that were thought and proposed by Safira's CEO are: Safirapedia, an enterprise Wikipedia; Google Safira, a google search engine for Safira internal information; iSafira, a homepage for Safira workers similar to iGoogle; Safira News, a corporate social news platform; Safirabook, a social network like Facebook for Safira workers; and Knowledge and Collaboration Platform, which is just what the name suggests.

Using an Action Research methodology, we intended to discover if the use of an "organizational Wikipedia" is valuable to a company based on this *wiki* instance. Through different actions we tried to achieve practical results for Safira while validating our academic findings, thus, as it usually happens in Action Research, the researcher is also an actor in the process.

4.1. Contextual Analysis

During the entire life cycle of the project, there were several different analysis to understand what would be the bigger issues that would arise from the change that was going to happen.

Using Senge's *Limits to Change* perspective we define the change frontiers: ideologically Safirapedia is a project that intends to help Safira becoming more close to an Enterprise 2.0; changes were made to protocols and processes to increase Safirapedians participation; and the methods or tools used are the ones that will be presented up front in conjunction with the actions taken.

Safiras' culture was analyzed through Edgar Schein framework (Schein, 2004) in three levels: (1) *assumptions*, the inner desires and needs of the company workers, which were inferred from questionnaires driven by the researcher; (2) *espoused values*, the company explicit values; (3) *artifacts*, the objects that make up Safira, like chairs, computers or information systems. After this analysis we found that Safira was indeed prepared for the transformation that had to be done, so we needed to focus on the changes that would have most impact.

Kurt Lewin's Force Field analysis (Lewin K. , 1943) focuses on the forces that support or oppose a change process. We built a table to help discover what where the main forces influencing participation on Safirapedia, and it showed that the forces opposing were more powerful than the forces supporting. The main forces opposing were the lack of time and personal lack of confidence; as for the supporting forces they were the centralization of knowledge and professional recognition. So we knew that time and confidence were two main issues to be worked out and centralization of knowledge and professional recognition were two forces that needed to be motivated and increased.

4.2. Cultivating Change

Using a narrative approach to validate our findings (Figueiredo, 2010) the detail of the description of these actions is proportional to the level of impact they had on the process. The researcher initiated these actions while he was searching for results. As the researcher became an integral part of Safira working at the headquarters, it was based on direct observation and reflection that certain actions were taken.

4.2.1. Selecting the wiki

In total alignment with the CEO we made a list of the functionalities the wiki needed to accommodate. This was the first thing to be done in the project and it gave us the parameters that defined our search for the right platform. They had to be cross-browser compatible, to have robust enough a permissions system, to be easy to use and to insert contents, to have a space to discuss the articles, to have a friendly interface, to support several languages, and finally to have integration with Safiras Active Directory. This permanent alignment with the CEO resulted in a critical analysis of the choices, improving the validation process.

Therefore a comparison was made between several platforms, for instance MediaWiki, Drupal, Confluence, DokuWiki, that were found using Google search, a web site called Wikimatrix and a Gartner report (Drakos, Rozwell, Bradley, & Mann, 2009). The choice was made after experimenting the platforms and comparing, not only the functionalities and interface, but also the price, technical support and longevity.

The platform chosen was Tiki-Wiki because it fits all the requirements listed above, has more built-in functionalities than all the others, is open-source, and consequently, free of charge, has an active supporting community and, finally, it has a very friendly configuration panel.

4.2.2. Integrating the wiki

When integrating a system like this one needs to consider two perspectives: the technical and the social.

On the technical side we integrated it with other systems that already existed, in order to extend functionalities and avoid turning Safirapedia into an "island". The first integration was with Safiras Active Directory, so we could maintain a concept of unique user, so workers wouldn't need to know a different username and password to access Safirapedia. That means one less barrier. This integration also

implies a more tight security, consequently all logins from outside Safira's internal network were provided through HTTPS protocol. The second technical integration was with Google Safira, which allows the contents produced on Safirapedia to be searchable through a Google internal search engine.

On the other hand, the social integration meant that Safirapedia needed to be a part of the workers day-to-day routine. This was a difficult process because had no idea how this could be done. There was an initial injection of content that was considered relevant by the CEO so that Safirapedia wouldn't go online like a blank sheet of paper. This way, the pressure of being the first content creator and the distance between thinking about writing and actually writing was diminished.

With a little creativity and some luck with timing, an opportunity appeared in a form of another process that already existed at Safira – the Global Communications Plan (GCP). The GCP was a way to motivate Safiras different levels of workers to, individually, share their knowledge in different forms. Through written reports and slideshows, managers, software engineers and software developers could choose what the subject they would focus on, and every month artifacts had to be created by each function (for instance, managers and software developers don't create the same reports on a content level).

The partnership created with the GCP was only for software developers. The objective was to make articles called *Programming Tips&Tricks*, with a specific focus on a technical issue, and this partnership made it possible, and even motivated the writing of these GCP articles in Safirapedia. Consequently there was a boost on content creation, with 1 article created per week.

Also on the social side of the integration, we created the “Safirapedia Experience” to motivate content creation in group. This initiative was a sort of framework that a group of workers with a common interest and some shared knowledge could follow. The Safirapedia Experiences had the following conditions:

1. Create a group of 7 people with knowledge about a certain relevant subject;
2. An expert on the subject must be a part of the group participating in the creation of content or as an analyst for the content created;
3. Each member must give 1 hour of his week to participate in the Experience and can manage his time the way that best suits him;
4. Every participant must have a way to connect to the others.

Each Safirapedia Experience should follow the following steps:

- 1) Define the subject to talk about and a time span to write it;
- 2) Get voluntaries to join the group;
- 3) Organize a list with topics and subtopics. The expert should give his praise to the list;
- 4) Create teams to write contents. Each participant should choose at least 3 different topics or subtopics, so teams can emerge from common interests;
- 5) Create pages.

This framework originated two Experiences: one dedicated to a beginners guide for a Safira technology named Quartz; and the other dedicated to Project Management at Safira. Unfortunately none of these accomplished 100% of their initial intent. The beginners guide group created about 40% and the Project Management group created 0%. Anyhow, there was a good acceptance for the initiative and we believe that, with practice, people will start adopting the framework.

4.1.1. Promoting the wiki

Since the beginning of the project Safirapedia that a blog was kept by the researcher under the name of Safirapedia Blog, with notifications and news about the on going process of implementation of Safirapedia and with information that would help the readers reflect on their habits regarding knowledge sharing, team working and collective production. This way we would increase the visibility of the updates that were being done, contents that were created and motivate people to be a part of the process in their own ways.

Each of the posts done in the blog would then be automatically put on Safiras News that had a voting system. This way every post could result in a feedback from the users, in terms of liking or disliking what was written, and pushing others to have a look at the post or referred wiki content. Consequently, there was a better awareness of the existence of Safirapedia, eventually resulting in more visits.

Promoting the wiki and its usage is a continuum process taking advantage of every opportunity that appears. In February 2010 there was one more edition of Safira's kickoff meeting to start Safira's new financial year. This is a social event with some presentations about what was done that year, what would be done next year and integrates the Safira awards for workers and projects in different areas. There was an initial intention to do a presentation about Safirapedia and its use, but it didn't happen because there was no time; nonetheless a reference made in a presentation about "Accessibility at Safira" made a huge reference to Safirapedia, motivating its use. This happened for two reasons: the first, because a wiki is indeed a good tool to enhance accessibility; the second, because the person that made the presentation was a person with whom the researcher played football and talked for the most various reasons. This reflects the importance of promotion in every chance we get, even the slight reference to the tool on a football game, on a water cooler conversation or at lunch can make a difference.

Another important way of promoting the wiki is doing "publicity" to the content creators. This increases the authors' morale and, if they appreciate that publicity, this motivates them to write more content. The most asked question was if the page visits were counted and if these values were publicly available, thus showing the interest in statistical results that authors have, probably to evaluate the impact and visibility of the content they created.

4.1.2. Supporting the wiki

The supporting actions that were taken to help Safirapedia were constant along the life cycle of the project and they evolved with the tool development and with the community building process.

The researcher provided technical support to the users. When help was needed regarding any functionality an explanation was given, but if the question indicated something was going to be a problem, it triggered a concern to fix it and to improve its effectiveness. These requests for help were dealt through e-mail or in direct conversations, and usually they were more focused on behavior attitudes, like how to correctly format a page or where to link it. The FAQ section on the wiki was also an important part of the support given to the community, as not only did it list the answer to the most common questions asked, but it also had a functionality that permitted users to suggest new entries to the FAQ.

Guidelines helping the users to interact with each other were also posted. In this page the process and a template to create a page on the wiki were detailed, giving the wiki more stability as the creation of new pages was standardized. This kind of support was much more focused on the communitarian aspects of Safirapedia because it was intended to solidify the community behaviors and attitudes without imposing rules. As referred, templates of pages were created so that users didn't need to start from scratch every time they wanted to write an article. This also prevented the users from worrying about formatting and gave them a blink about the type of content that was expected.

Regarding another kind of support, in one meeting the CEO confronted the researcher with his low morale about the project and the results the project was presenting. The results were appearing slowly and in an unpredictable rhythm justifying the feeling of the CEO, but any disbelief from the top could weaken the overall project's success. The researcher had to vehemently reaffirm to the CEO, the "father" of the project, his own confidence on the success of the project, but that this success would only be visible in due time, as it is an emergent process that was being cultivated where rigid time frames be imposed, as they can kill the process.

5. Conclusion

We found in this investigation that a wiki can be useful to an organization. However it has to be accompanied by a great deal of cultural adaptations and driven by a strong leadership.

Strategic leadership was important for the success of the project. The acts of planning and directing were done by the CEO when he made Safira 2.0 plan and when he chose someone to take care of it. The project had strategic leadership and formal support from the administration. The weekly meetings that took place through the life cycle of the project were a clear sign of interest shown to the project. The CEO was always present giving advice and revealing information that would, otherwise, never be used.

On another level, the local line leadership integrating the researcher's work also made a difference in the process. First, the fact that the researcher was integrated on the daily Safira life with the workers had a significant impact on the observation and quality of analysis of the environment. Second, the promotion and support given to the community has to be a part of any process of implementation of this sort, because people need to be warned about the existence of new tools that may help their job and on the best way in which they can use those tools. Although there's a myth about the possible survival of these systems on a pure communitarian good will, this wasn't verified on this project; if there wasn't a true investment on the project by the leaders, it wouldn't have enough strength to survive the first months.

The small number of workers of the organization was also a barrier to the process of content creation. Although the results showed that workers were using Safirapedia the amount of created pages and page views is always a percentage of the number of users. Safira population is approximately 150 people which means the number of content creators and content viewers would be limited to a percentage of that. In the course of this project we only found two people that repeatedly added new content to the wiki, one started willingly to write about the Information Systems Department processes and the other one wrote because he was a part of a Safirapedia Experience. All the other content that was created by the users was produced either by the Programming Tips&Tricks initiative or, in a small scale, independent voluntary articles. Quantity is just as important as quality in this model, because the amount of content creation is directly related to the size and degree of activity of the community that supports it.

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