

Enterprise Microblogging tool to increase employee participation in organizational knowledge management

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Abstract

In this paper, we introduce and study the microblogging tool as one of the tools of Web 2.0 for increase participation of users in knowledge sharing and transmission of experiences. Case study data from 10 months activity of system and the results of the survey from employees who use the system show that the use of these systems in order to increase awareness, increase employee participation in organizational criticism and suggestions are very efficient.

Keywords: *Microblogging, Enterprise Microblogging, Web 2.0, Knowledge Management, Knowledge Sharing.*

1. Introduction

For decades, researchers in fields like knowledge management were trying to produce a tool for allocating or explicating knowledge. One of the key features of this tool allows users to participate with each other. Participation as a key feature of the concept is considered as the Web 2.0. By equipping users to social technologies which are easy to use, Web 2.0 makes them to main producers of content in web. For instance we can point some context as Facebook, Twitter, MySpace, YouTube, Wikipedia and Flickr. Such contexts caused decreasing barriers to sharing knowledge in the internet.

One of web 2.0 context is microblogging system. The system provides a new and simple type of communication in which users can share a little bit information about activities, interests, ideas or anything else with others.

According to novelty of this phenomenon, a few academic researches has done yet. Reference [6] by analyzing Twitters posts realized that the subject of most of users posts is with their own focus and a few numbers of them publish information. Reference [7] by analyzing geographic and placement information discovered various

types of user's intentions for using the system. Recently microblogging has been lionized as a system for scientific and education contexts.

As regards internet users publish their knowledge via web 2.0 tools such as wikis, weblogs and social networks only with real intentions, some efforts has been accomplished for using these tools in commercial and organizational contexts. Making web 2.0 approach compatible in commercial contexts provides this inestimable opportunity that implicit knowledge and best practices propagate all along the organization. For intra organization usage, these tools are configured according to organizational environment and naturally experiments of extra organization tools also are used for more richness.

References [3, 4, 5] have shown that programs and technologies of web 2.0 consisting of Wikis, weblogs and social networks services, sooner or later, will find their way to organizations and we also predict that this happened for microblogging too. Reference [8] showed that using microblogging in an organization cause many advantages for organization and its staff. According to technology acceptance model [10], simplicity bosomed in microblogging has a positive effect on the acceptance of the system by users. Also, the length of messages limitation in this system limitation inhibits from unnecessary information redundancy and this will lead to more user share than other web 2.0 tools. According to paper [9] one of major challenges in knowledge management researches and one of vital factors in knowledge management processes is simplification of knowledge sharing.

With regards to the high potential of feasibility of transfer, share and obtaining knowledge and personal experiences of people, the Information Technology department of the Computer Research Center of Islamic Sciences (CRCIS) decided to implement microblogging service.

In this research we will first introduce microblogging tool and in the next part we will introduce Computer Research Center of Islamic Sciences and the tool that has used in this organization. Then we will offer usage statistics of this system and the result of survey that has accomplished from users of this system. Finally in chapter 4 the paper will end up with conclusion and offering a summary of findings.

2. Microblogging

The microblogging can be defined as the smaller version of blogs which are rich with features of social networks and have placed greater emphasis on mobility. Each user has his own public microblogging so that he can send his short posts in it.

There is the ability to "follow" other users and add them to your private network. Like blogs, message subjects are displayed in chronological order on the main page of the person. Compared with traditional blogs, microblogging tool has a completely different function. In this system, each person can create public or private messages, and it is addressed to one or more other users, and also insert tag in his message subject to identifies the posts subject.

Microblogging services usually support a broad range of communication tools. For example there is the facility of sending message via SMS, desktop programs or third-party programs to twitter.

One of key features of microblogging tool is raising awareness. Reference [1] define awareness as "an understanding of the activities of others, which provides a context for your own activity."

Reference [2] divides awareness information to four different types:

- Informal awareness: awareness of others' activities and interests.
- Social awareness: information about status of other peoples feeling, which is usually obtained in an interactive social environment
- Knowledge of group structures: information about the group members, their roles and responsibilities.
- Workplace awareness: information about others interaction with shared workplace

The abovementioned items show that how microblogging can help to increase consciousness in a firm. This consciousness helps to have a better communication, cooperation and coordination.

Microblogging is a brand new phenomenon and so a few academic researches have done in it. Most of researches focus on describing and explaining Twitter or they have introduced microblogging tool as a tool for learning. Few researches have done for offering steps to design tool or introducing this tool as a program based on mobile.

3. A Case Study

Computer research center of Islamic sciences is working with the aim of providing necessary infrastructure to easy access to resources and Islamic contents and religious culture using information and communication technology. According to the organization's IT department' knowledge and awareness of its employee of the benefits of social networking, microblogging systems in the organization launched.

The primary goal of launching this system was raising the level of information from different internal departments' activities and sharing experience of staff in an informal environment and without organizational procedures.

To launch this system in the organization an open source software named Sharetronix has used. Sharetronix platform is a powerful web based social network that users can send a post with maximum 160 characters along with picture, video, link and file and also share their ideas and point of views with others by following other users.

Groups, employees, colleagues and forums are able to communicate with each other via creating a private network and they can pursue newest posts by RSS technology. The most important features of this system are as follows:

- The facility of sending public and private messages
- Allocating a personal page to each user
- The facility of attaching files, links and pictures (like Facebook)
- The facility of viewing site via mobile (mobile version)
- The facility of pursuing users' posts via RSS
- The Facility of entering contents via RSS feed
- The facility of making public and private groups
- The facility of simple membership and membership with activation email
- The facility of advanced search and supporting TAGs
- Search in posts, views and groups and saving them
- The facility of following users and pursuing posts
- API programming Interface (like Twitter)
- The facility of LDAP and PubSubHubBub merge
- The facility of republishing posts by users

Staff can login to the system by using the username and password which is defined in the central network and contribute in producing content.

At first there was a fear of inappropriate and negative posts and main abuse of the system. But as regards all users' posts are shown with their full name, so the possibility of abuse of the system was resolved.

There is no limitation in the subject of posts for users and users can send working and non-working posts. With this approach it prohibit the confine and as a result ill treatment

of users and the combination of working and non-working posts, the succulence and dynamic state of the system is preserved.

3.1. Statistical data from using the system

Data stored in the system from different aspects and different targets can be analysis. A summary of the statistical data from the activity of system in past 10 months are presented in Table 1. This information shows the dynamics of the system.

Table 1: Statistical summary of using the system

<i>Count</i>	<i>Topic</i>
254	Total number of registered users
174	Number of users who have post
41988	Number of Posts
3865	Total number of tags
1674	The number of non-repetitive tags
8218	Number of response to posts

In order to encourage the users to leave organizational posts, the tags #suggestion, #criticism, #current-status and #experience were placed beneath the post-sharing section; so that the users could paste the tags on their posts by a click and thus become motivated to share posts on such subjects.

The survey results from the tags used in this period indicate that among 1674 non-repetitive tags only 128 tags were repeated more than 4 times in different posts. The tags #suggestion, #current-status, #criticism and #experience having occurred respectively 142, 101, 59 and 50 times take first to fifth places according to their frequency. These data show the potential of the system for get organizational criticism and suggestions and also improve organizational information.

3.2. Survey results on the use of the system

After 10 months of operating system, the survey was conducted electronically from users to provide their opinion on various aspects of the system. 49 people participated in the survey, and the questions and results are presented in below.

The first question was introduced to identify users' intrinsic motivation as "More willing to post with which background material?"

Results of user opinion are presented in the Table 2 in the order of priority:

Table 2: More willing to post with which background material?

<i>Priority</i>	<i>Subject</i>
1	Offer new idea and suggestion
2	Technical information
3	Organizational criticism
4	Scientific news
5	Work experience
6	Technical information
7	Interesting content and related to event

Statistical information derived from the common tags that are explained in the previous section is confirmed by the results of question one, so that potential for organizational activities can be detected in the system.

In order to identify users' interesting topics a question as "What content in the system are more attractive for you?" was introduced. Results of user opinion are presented in the Table 3 in the order of priority:

Table 3: What content in the system are more attractive for you?

<i>Priority</i>	<i>Subject</i>
1	Organizational criticism
2	suggestion
3	Scientific news
4	Organizational information
5	Introduction to Personality and Thoughts
6	Work experience
7	Irony
8	Miscellaneous

The results of Table 3 with Statistical information obtained from common tags are consistent and reflect the strength of this system in to achieve organizational goals.

In order to continue planning for the next, two questions were raised.

The first question, as "How much do you agree to continue operating the system?" more than 70% of users agreed to continue operating the system. In response to the question "If you agree to limit this system to certain subjects, such as science content, work experience or organizational ideas?" about 82% of users expressed their opposition to this limitation.

One of the ongoing challenges and concerns with regard to the management of such systems, the length of time that users spend using the system they are telling. For this

reason, the question as "On average, how many minutes a week do you use the system?". The result of this query in Figure 1 is shown.

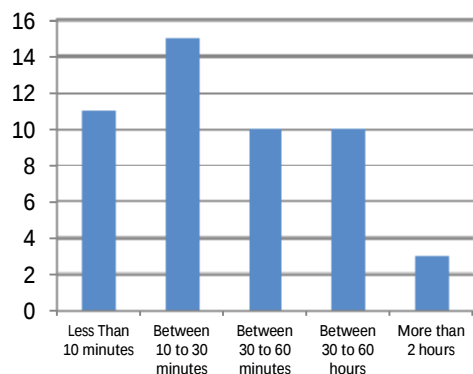


Figure 1: On average, how many minutes a week do you use the system?

As Figure 1 shows the time spend to operating with system during the week due to the remarkable achievements it is not so.

4. Conclusions

Increase employee participation in problem solving and improvement of processes is one of the perennial concerns of managers. For this purpose, Employees shall be given the necessary tools and conditions to away from the pressure and with internal motivation participate in the dissemination of experiences and improve processes. This paper introduces a microblogging tool as one of the Web 2.0 tools. These tools can be used to increase employee participation in the production and sharing of knowledge and experience and the level of information. Statistical analysis of the survey shows that members with intrinsic motivation used this system and this will increase employee satisfaction and organizational growth. Enterprise Microblogging is a fascinating field of research and we anticipate Future work in this area will be published soon.

The research was presented at the preliminary stage and after use of the system, the next question will be. Future studies can be in microblogging performance (knowledge regarding the time and effort) and compare it with other exist systems so the results could be generalized and achieved to better performance.

Providing conditions of publishing user content both in terms of speed and convenience for this tool has a high level of success. Continued use of microblogging in an organization provides the possibility of rapid spread of knowledge.

Furthermore, the use of Web 2.0 applications, provide the ability to prevent employees from visiting social networking sites on the Internet. Therefore we can use Web 2.0 tools to support better utilization of business processes.

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