Implementing Agile Management through Collaborative Social Computing

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Abstract:

With cloud computing infrastructure, collaborative platform and mobile services, creating information and mobilizing knowledge take a new level of dynamism. For instance, as management seeks more intelligence in the unstructured information to support decision making such as in the case of big unstructured data, the onus therefore falls on management to provide more comprehensive platform for users to gather the pertinent knowledge. In this context, it is important for management recalibrate knowledge management to understand the environment of collaborative mobile social computing such as crowd sourcing rather than using the traditional community of practice approach. This presentation provides a snapshot of a collaborative application to provide agile management especially in information-intensive organizations.

Keywords: collaboration, social computing, knowledge management, agile management.

1 INTRODUCTION

With cloud computing infrastructure, collaborative platform and mobile services, creating information and mobilizing knowledge take a new level of dynamism. This is because the fast advancing and sophisticated interconnectivity of digital social media have dramatically created a new collaborative virtual space to provide the paradigm shift to enhance the economic and social ecology of information and knowledge creation and sharing. Indeed, it has been reported that the digital social platform presents an ever-increasing reach to provide users with new capabilities, innovativeness as well as efficiency to conduct a wide ranging facets of our activities, such as, learning and research, communicating as well as entertaining.

In fact, the digital social media platform is also rapidly becoming a basic expectation for internet users to have some sort of social presence, be it on Facebook, Twitter, LinkedIn or Google+. Such profound networks of relationships not only constitute a valuable conduit for the conduct of social affairs but also the social production of intellectual capital. Indeed, the ability for the individuals as well as the communities to express and communicate

information and knowledge has been dynamically facilitated across space and time by the advent of easy interconnectivity tools and digital media applications especially in cloud-based infrastructures. In other words, as social production becomes a critical contributor in the knowledge-based economy, it is important to recognize that the key to today's innovations may be developing the capability and capacity to harness such social production efforts so as to use them in the formulation of strategic actions at the individual, organizational as well as national level.

Libraries like any other organisations should be keen to use the digital social media platform to support their users anywhere, everywhere and at any time. As most networking websites and applications adopt cloud computing services, libraries should therefore be prepared to invest in the relatively new infrastructure of cloud computing to provide on-demand resources and services over a network with the scale, reliability and mobility for its users in order to adopt the ubiquitous social media. Simply put, cloud computing is defined as "a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction" (Mell & Grance, 2011, p2). Its capabilities to provide instantaneous delivery of applications, storage services, and spam filtering have brought a major change to organisations utilizing computing resources that it is widely recognised as a growing technology game changer to increase efficiencies and effectiveness in addition to reducing the organisations' technological investment costs.

Indeed, a key strategic pillar for libraries today is to adopt the web-based social interactive 'Library 3.0' implemented on cloud computing infrastructure and services to service its readers and learners. Perhaps, to spearhead the initiative is to build a simple blog amongst the librarians to create knowledge awareness and develop it into knowledge engagement portal as part of their digital information service or digital advocacy. In fact, with various online tools, the ease in which such a site can be created and that participants can then share the knowledge or ideas with the community of users should be of priority in the collaborative social work space. In other words, to be relevant in today's digital context, librarians should adopt the practice of digital advocacy by creating a library blog-o-sphere that in turn may lead to the adoption of a collaborative knowledge web.

2 SOCIAL NETWORKING PLATFORM

Briefly social network platforms such as Facebook, twitter, blogs provides a medium for users to interact among people in which they create, share and exchange information and ideas in the virtual communities. According to Kaplan and Haenlein (2010), social media is defined as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, to allow the creation and exchange of user-generated content." In fact, social media depends on mobile and web-based technologies to create highly interactive platforms through which individuals and communities share, co-create, discuss, and modify user-generated content. It introduces substantial and pervasive changes to communication between organisations, communities, and individuals. Social media has been rather popular in the recent times as it provides users the convenience and extensive reach and range of services, frequency, usability, immediacy and most significantly the mobility to be reach out to others.

The nature of social webs is that they allow everyone (including the librarians) to create a post, publish, and getting feedback from the community on the idea, product or services that they share. Let's take for example, Wikipedia. It is based on the premise that anyone or everyone can participate as peers in contributing their knowledge, expertise and resources to an overall project. More important, such collaboration can take place asynchronously and instantaneously across time and space. On close reflection, what are particularly surprising about these growing phenomena are the scope, scale and sophistication of collaborative peer production of knowledge within the respective electronic networks of practice (Carr 2008). Interestingly, the platform has developed fast over the last decade, from simple blogs' architecture to the fast development tools for social networking ((e.g., Facebook and Twitter). In fact, social networking tools are shifting into a competitor stage for blogs as primary communications and media tools on the Internet. Libraries are aware that the popularization of blogs is still a free platform such as Blogger and WordPress, which is easy to manage. In other words, with the radical changes in electronic networks that fast-evolving information and communications technologies have engendered, social production may be the new phenomenon that researchers should increasingly pay attention to. Importantly, this recent rise of social production in today's knowledge-based society has profound implications for individuals, organizations and nations.

In essence, social media encapsulates the collaborative endeavour of the communities in the societies, and that such digital collaboration to connect people with information harnessing the power of seemingly invisible groups maybe the norm for organisations and institutions. Digital collaboration enables efficient and valuable connections amongst people and information, both inside and beyond the organisation – and harnessing the power of that collaboration can make a great impact on performance. This is because in the fast moving global knowledge economy, people need the same fast, easy access to information especially for those workers who need information for decision making.

3 MOBILISING THE KNOWLEDGE PLATFORM

In recognising the rising importance of social production, it can be argued that there is a need to move beyond traditional focus on knowledge management towards greater understanding of the dynamics of knowledge mobilization. While traditional knowledge management addresses the supply side of information organization (ie., the institutional mechanisms to encourage knowledge creation and sharing), knowledge mobilisation reflects the demand side that is dominated by knowledge being part of individual identity and hence personal choice of whether, where, why and with whom to share knowledge and expertise (Qureshi & Keen 2005; Keen & Tan 2007). For example, corporate blogs are largely driven by personal initiative and have the potential to become a significant force in mobilising knowledge production and sharing within, across and beyond the organizations (Kietzmann & Hermkens, 2011). This concept seems to hold true as noted by Technoratic CEO David Sifry who commented that "Bloggers are an incredibly influential consumer segment. These people are hugh networkers. They get the word out quickly on products they like – and they don't like" (Kline & Burstein 2005).

It is therefore possible to tag people and content as technologies enable efficient and valuable connection amongst people and information. For instance, digital collaboration unites people with information effectively in the following way - first, by encouraging development of user-driven content and communities. Tools such as wikis, blogs, forums, twitter encourage people to process and use information instinctively and creatively, even fostering the creation of new content. The power of the communities can draw upon cultural and social insights as

well as the transmission of ideas and practice; second, by tagging people, content and physical assets, a full description is attached to these people, content and physical assets individually to enable broad, automated and easy searching. Specific information can be found in many different contexts, depending on how discovery is conducted, using keywords, locations, business processes and so on. This way, users can easily access information that is of key relevance in the right context.

Although knowledge management is 'coming of age' in most big organisations, its development is somewhat erratic and variable from organisation to organisation. In some organisations, it is experiencing growing pains in determining its role and function whilst others have found great success in terms of preserving organisational knowledge. As a result, there is a great deal of experimentation occurring, resulting in both successes and failures. However, for more enterprising organisations, management encourage the explorations within reasons and not try to overly limit or control its developments. Nevertheless, management must provide guidance about priorities and values to make sure knowledge management does not stray too far or too fast from its intended purposes. Similarly, they must carefully assess 'peer pressure' to ensure that they are not being unduly influenced by fads and trends in the industry. In this context, although social networks and media are relatively interesting phenomena in the realm of knowledge management, organisations are adapting the new social media to as a form of 'communities of practice' to share and source for information and knowledge. As knowledge management applies the collective knowledge and abilities of the work force to achieve organisational objectives, the goal is to ensure that people create, share and use the knowledge to achieve the performance of the tasks in a seamlessly manner. Thus, a community of practice is a key component in which there is a collection of people who are engage on domain knowledge to pursue some common endeavour.

The objective of this paper is to discuss how librarians can capitalise agile management in using social media to crowd source for information or reference materials. This is illustrated using a case study at Nanyang Technological University (NTU) Library using blogs as part of their digital advocacy as well as knowledge creation for their academic communities (Aziz & Tan, 2012).

4 SPECIFYING THE COLLABORATIVE PLATFORM

At Nanyang Technological University, a team was formed to look at building the new social media platform for knowledge creation, development, management, engagement and immersive for the librarians particularly for subject librarians. Although the team adopted a knowledge management approach, it was suggested that the best approach to develop learning and sharing is to identify the new media platform to facilitate the activities and interaction collaboratively so that digital engagement can be achieved towards accomplishing the end results (Aharony, 2008). Thus, the idea of creating a blog platform was initiated with the basic objective to serve the internal communication of the librarians' knowledge and then to create the awareness of the new social media (in term of social media literacy or new media literacy).

The approach was simple in that it has to serve (i) the librarians to perform their daily information scanning (either in work or at leisure); and that once (ii) the librarians discover an interesting topic, (iii) they would then follow up with a write up and post it on the blog. Following the write-up, (iv) other librarians would read the blogs having been notifying via the Really Simple Syndication (RSS or daily visit to the site). They would then make

comments or provide feedback based on their professional knowledge. Hopefully, (v) such postings and comments would develop a blogging culture in the library to improve or enhance on the librarians' professional development (Hendricks, 2010; Stephens, 2008). The process flow is illustrated in Figure 1.
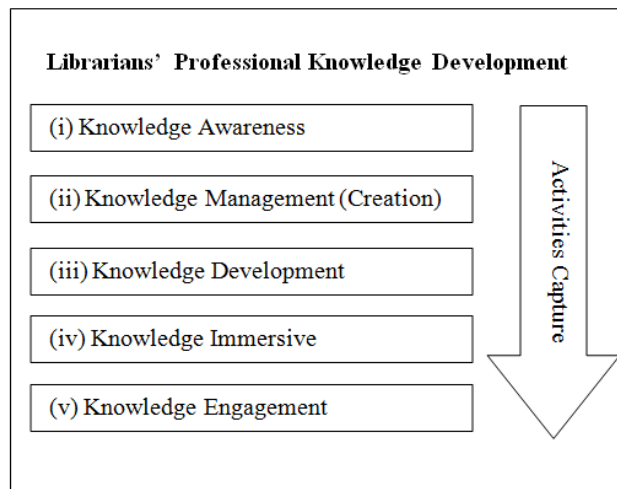

Figure 1 – Daily activities capture in a flow chart

In order to ensure that the platform is suitable for development, the team analysed whether the key components/features identified as 'seeding' requirements' are suitable attributes in a given blogging engine – audience centric, administrative, portability, content creation, site relationship, common management, design and media management. These components serve as the seeds to harvest the digital blogging eco-system. Although some of the requirements specified may only be comprehensive to the technical team, nevertheless the descriptions allow some understanding and appreciation of the common, useful or popular features that are available on the platform.

For instance, the platform needs to provide the fundamental audience centric features so as to allow online readers to participate in various ways, such as via RSS and Atom Feeds, syndication and aggregation, podcasting, tagging, searching, commenting and sharing with other site. In order to foster a robust audience centric feature, Webster & Ksiazek (2012) advocate understanding the fragmentation for more audience-centric studies in web site component as fragmentation can be taken as evidence of social polarization, which may lead to a possibility of digital engagement. Thus, the selected platform must be flexible, modular and scalable to facilitate such requirements.

The administration centric features provide blog administrators (or owners) perform the task effectively such as enabling the ability to have multiple authors, providing user management, facilitating post moderation and workflow, providing email notification and monitoring dashboard system. Lindahl & Blount (2003) share that web technologies, such as weblog management system has to play both the consumer-producer role. According to the model for web publishing, content consumers should need minimal skills and resources, while producers need production expertise and sophisticated tools to control the format and content presentation. Thus, it is essential that the requirements are adequately addressed initially.

Portability is another pertinent requirement to allow scalability of the platform by moving the content from one platform, engine or database to another. Thus, it is important to note the implications in terms of platform's license, standards, proprietary and import/export of content. In blogging platform, the issue of portability needs to be clear for data portability

using semantic web as well as mash up to be compatible with various social networks such as Facebook and Twitter.

Content creation is important as it enables the blog authors to create posts and content, thus, its specifications such as email entries (apart from log into browser and create a post), draft status, time stamping, book marks, media management and uploading and support have to be met. The main goal is to ensure that the features include the ease of content creation, user-friendly interfaces and presentations (Gwynn, 2009; Mitchell & Gilbertson, 2008). It is to be expected that there will be a higher acceptance level if the technology is easy to use.

Finally, the design must enhance the aesthetic creativity must be appealing such as its color, look, feel and layout. For instance, templates and themes, layout, cascading style sheets and plugins must be designed and coded by the blog developer or administrator. The platform can be further explored to another level of blog services and that it to be connected to other blogs, services and sites. This can be done via trackback pings, links (data), micro format and blog rolls to increase the connectivity and visibility of each blog for digital engagement.

5 BUIDLING THE PLATFORM FOR ENGAGEMENT

As the main objective of the project is to build a platform for knowledge creation and engagement, the team had to take note of the community building capacity as well as to cater for changes. Based on Vanclay et al. (2004)'s framework, the platform has to provide the effectiveness of each outreach activity in meeting academic and students' objectives, including community participants towards the learning experience; the potential to increase participation in the activity associated with learning cultural heritage or resources; and the progress towards "the higher purpose", that is, the potential for such activities to affect learning or research resource management outcomes in the long term.

Indeed, in the last decade, Morris & Bosque (2010) share that the characteristics of subject guides/librarians have not changed drastically, despite the dynamism of technological change with the web. It will be efficient and effective if the blog and social network platforms are adopted as part of libraries online services. Librarians will then not have the big learning curve to pick up new knowledge and skills, but just to focus on the content creation. However, with the set of requirements, the team has only to focus on the ease of technical requirements in building for outreach and engagement. For example, via video embedded to the site, it provides a way to outreach, engage as well as to supplement the learning experience in a visual motion graphics.

In terms of using experimental knowledge towards engagement, the team created subject guides (or rooms) as the base at - http://ntu.edu.sg/library/collections/Pages/virtual.aspx. Contents were created based on the knowledge and resources that the library has to offer to the users in various formats (video, audio, info-graphics, etc.) whilst some of them were pulled from various site aggregation, such as YouTube (http://youtube.com) or Slide Share (http://slideshare.net). Contents were created based on the knowledge and resources that the library has as shown in Figure 2.

The team has also integrated it with Open Graph Protocol, to make the content of the platform match with the social graph and index to Facebook APIs. Through the project, the activities are socially captured and shared with the Facebook's domain. In addition, the user can share the content via their favourite websites too, such as LinkedIn, Twitter and many more. In short, knowledge is now being shared and mobilised from one platform to another

making the site viral. Indeed, this is just apart from normal commenting process in a traditional out of the box blog packages that WordPress provides.
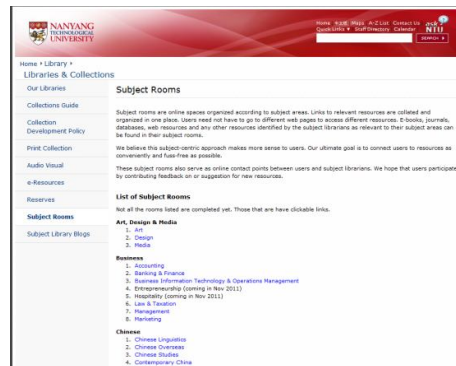

Figure 2 – Subject Room Directory

In terms of the immersion digital engagement, the platform is just like any other ordinary blog site. Each site (or subject rooms), is opened to the search engine optimization where the search engines index and harvest the contents of the platform. Through this, user can search easily using any commonly search engine such as Google, Yahoo and Bing to locate the resources that is created and shared by the subject librarians. And, via this, users can also place their comments, share their feedback and engage with the subject librarians on the elaborated resources. When they landed on to these subject guides, they will be referred back to the library actual core resources. Thus, the process creates an information concierge model. Although the librarians have to keep up with the update of the content and continue to play their useful role, they have now break out from the traditional mould by re-inventing themselves and find ways to be part of the user's lives in the way they live them, instead of trying to getting the users to come to its physical spaces. This is the first process of immersion that the team likes to achieve as this is apart from the normal blogging system.

6 CONCLUSION

In conclusion, the project is still an on-going process and can be located at http://blogs.ntu.edu.sg. Indeed, this is one of the potential ways for librarians to communicate their resources to the community. These activities can then be a role model for academics and the university community to enter the blogosphere and ride on the elements of digital engagement or crowding sourcing on social media. Meanwhile, the team is refining and citing examples to build a social platform similar to other social website, like Facebook, but to cater to the university's academic and community needs.

Although collaborative platforms have their potentials, however, rather than think about collaboration from a more-is-better perspective, one needs to take a clear strategic view. They need to determine exactly what they want to accomplish through informal networks and understand what pattern and level of connectivity would best help them achieve their goals. Initiatives that create network connections indiscriminately – whether through technical applications or organisational efforts such as communities of practice – can take a toll on employees. Unproductive relational demands can sap people's time and energy and can bog down the entire organisations. This is because decision makers can become so consumed by managing contacts and context as well as content, and that is why it is crucial for management to learn how to promote connectivity only where it benefits the organisation or individual – as well as learn how to decrease connectivity that isn't needed. Yet, importantly

the recent rise of social production in today's knowledge-based society has profound implications for individuals, organizations and nations.

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