FRAMEWORK OF CREATING AN INTERACTIVE KNOWLEDGE BASED SOCIAL MEDIA HUB TO ENHANCE STAKEHOLDER'S ENGAGEMENT IN HEALTHCARE INDUSTRY

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Abstract- The purpose of this paper is to propose a model that can be used to assist healthcare industry to enhance their operations through stakeholders' engagement. The current research has focused on use of social media in knowledge management, but little is known about how social media tools be used to support knowledge management in healthcare industry. This study, therefore, seeks to make a number of contributions: 1) exploring importance of stakeholders in healthcare industry; 2) developing a framework that integrating social media tools into a web-based knowledge management platform.

Index Terms—Stakeholders, Healthcare Industry, Knowledge Management, Social Media

I. INTRODUCTION

There is a growing challenges of enhancing healthcare service worldwide. Healthcare service involves parties crossing organizational boundaries, not only health care professional directly deliver care to the patients, but third parties such as medical suppliers, insurance companies, etc, who indirectly contribute to process of serving patients. Healthcare service need to identify its stakeholders, more important to understand their perceived interests and influence as their engagements and contribution have great influenced on the quality of services that patients received. How to effectively utilize knowledge from diverse domains is one of the challenges face to healthcare industry.
The management of knowledge and the development of knowledge strategies have become important to healthcare industry as they realize that much of their value depends on their ability to create and manage knowledge.

The popularity of social networking services have significantly contributed to the change in the business models. There has been explosive growth in the number of use of social media tools among the various industries. With the rise of using social media tools, the number of ways to instantly facilitate collective brainpower has dramatically strengthened organisations' competitive advantages [1, 2, 3, 4, 5]. Cost reduction through social media has also encouraged more companies to invest efforts in the way how to set up appropriate strategies to use those tools. The evidences have clearly showed social media provides better opportunities for people work together across organizational boundaries. Compared with other industries, there is no much written how social media tools to assist knowledge management in healthcare industry.

This paper begins with a literature review to develop a clearer understanding of importance of stakeholders' engagement in healthcare industry first; it then to explore how social media tools have been utilized for knowledge management purposes. Finally it propose a model that should therefore be of interest to healthcare industry, and academic currently investigating in the area of using social media to support knowledge management across organizational boundaries.

II. STAKEHOLDER APPROACH TO KNOWLEDGE MANAGEMENTIN HEALTHCARE INDUSTRY

Knowledge is contextual, relevant, and actionable information, to which is based on expert opinion and experience [6]. Knowledge management is about facilitating knowledge through the various interaction processes among the individual, group, and organizational, therefore, knowledge has both an individual attribute and a collective attribute [7].

In healthcare industry, knowledge translation is used to describe knowledge management procedure. The idea of knowledge translation was initially introduced by the Canadian Institutes for Health Research in 2000; in 2005, the World Health Organisation further elaborated knowledge translation as *'the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people's health'* this indicates on the one hand, knowledge need to be managed in healthcare industry, one the other hand, there arechallenges of managing knowledge across boundaries as multiple stakeholders involved in the process.

In general, there are five categories of stakeholders in healthcare industry, they are organizations/institutions, government, industry representatives, healthcare providers, and other individuals. There are various types of stakeholder groups include in each of those categories. Table 1 shows the stakeholder categories and their groups.

Stakeholder categories	Stakeholder groups
Institutions	First aid charities, health charities, national professional associations, state professional organizations, hospitals, home care providers, granting agencies, etc.
Government	Public health departments, local authority health and social care services, departments of regulation and licensing, governor's office, etc.
Industry representatives	Insurance companies, pharmaceutical companies, etc.
Health care providers	Physicians, nurses, ambulance service, pharmacists, social workers, physical therapists
Other individuals	Patients, health care administrators, media, facilities staff, etc.

Table1: Examples of stakeholder in healthcare industry

It is usually true that different stakeholders with rather different views for the same situation, effectively managing knowledge generated from stakeholders can accelerate the steps of providing appropriate and accurate solutions to patient in a timely manner.

III. EXPLORING KNOWLEDGE MANAGEMENT BY USING SOCIAL MEDIA TOOLS

Kaplan and Haenlein (2010) defines social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" [8].

Social media adoption is a phenomenon that connects people access the functional boundaries, the characteristics such as interaction, information sharing, participation, collaboration, and transparency, have encouraged organisationsutilising various social media tools to generate and disseminate collective strengths, more important, to increase organisations' innovativeness. The availability of social media tools challenged the traditional approaches to knowledge management , and these tools have the potential to revolutionize the way how knowledge can be identified, captured, stored, maintained, and disseminated.

To address the communication and collaboration purposes, reflecting the multidimensional nature of the online platform, social media tools have been classified into different categories, including social networking, blogging, microblogging, collaborative authoring, social tagging and bookmarking, scheduling and meeting tools, conferencing, and image or video sharing[9]. As a social networking platform, LinkedIn is a business-oriented social networking service that is designed to link professionals in a business context; the other most popular networking sizes, such as Facebook and Twitter have also been used for the enterprise communication and management purposes. The other social media tools, for instance, Wikis and Blogs have been extensively utilised for the purposes of collaboration, identifying new ideas, and disseminating knowledge. According to Wagner [10], Wikis is a useful tool for knowledge creation as its format for collaboration provides a way to disseminate decentralised knowledge sources. Blog on the other hands can be used to transform the collection of information into useful knowledge, corporate Blogs, expert Blogs, educational blogs and topic blogs have been very popular these days. The advantages of using social media tools are obvious, including easy interact with prospects and customers, ability to target advertising in most cost effective way, able to manage conversations about the organisation, etc.

Compared with traditional information technologies, the distinctive characteristics such as interaction, freedom, participation, and collaboration have made social media become a popular platform for knowledge management activities. Researchers have investigated how social media tools can be used to support knowledge management models, i.e. Boateng et al. [11] mapped how the tools can be contributed to Nonaka's SECI model; Ray (2013) classified the tools into different knowledge management stages[9]. A survey carried out by the management consultants, McKinsey found that *'successful companies build a corporate environment that fosters a desire for knowledge among their employees and that ensures its continual application, distribution and creation'*[12]. The evidence shows that the new information and communication technologies provide new channels for organisations to easily access to knowledge inside and outside organisations. For example, a management consultants, Accenture found that sharing current practices through a knowledge network, such as Twitter, Facebook, can support process innovation and product development [13]. Clearly as the most emerging technology social media are creating more opportunities in the way how people collaborate and manage knowledge.

IV. PROPOSED MODEL

Knowledge management is about a structured approach to utilise knowledge, the key steps have been identified by professional knowledge management institutions and researchers, including identify knowledge, create knowledge, store knowledge, share knowledge, and disseminate knowledge[14].

Knowledge is complicated as it has multiple forms. Knowledge can be either tacit or explicit: tacit knowledge refers to experience on know-how which cannot be easily communicated, whereas explicit knowledge can be codified or documented [15]. Based on the concepts of tacit knowledge and explicit knowledge, Nonaka and Takeuchi introduced SECI cycle that helps to understand the nature of knowledge and the conversion processes. SECI put emphasis on the interplay between tacit and explicit knowledge which indicates that knowledge is the combination of tacit and explicit elements rather than being one or the other.

In this interactive knowledge based social media hub (IKSOMH), instead of sharing knowledge in a single knowledge domain, stakeholders participate in collections of industries without being limited by organizational boundaries. IKSOMH can be managed as having one or a few key stakeholder that dominate the sub-IKSOMH and create the platforms used by other stakeholders. One type of stakeholder can use the capabilities of another stakeholder. For instance, medical device companies provideknowledge that other stakeholders in different industries use to enhance their own capabilities.

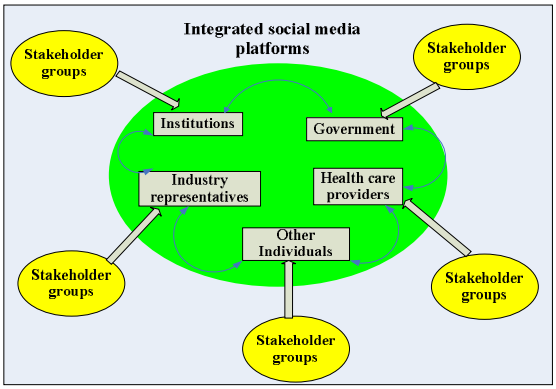


Figure 1: Interaction between stakeholder groups under the integrated social media platforms

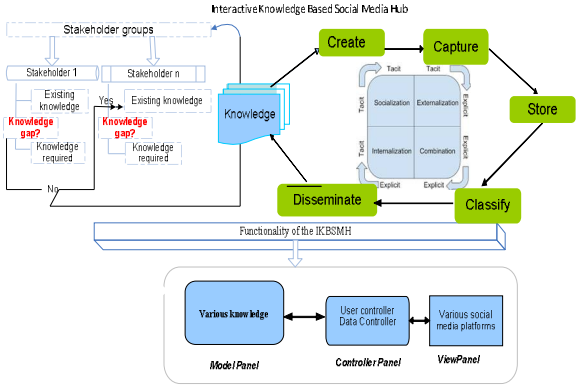


Figure 2 shows the architecture and functionalities of IKSOMH

This knowledge based social media hub organize knowledge exchange activities. The first step is to identify knowledge gapsby comparing existing knowledge with knowledge required under the same stakeholder group. If the appropriate knowledge cannot be found under the same stakeholdergroup, the knowledge will be searched through different stakeholder groups. There will be two potential outcomes, the knowledge exist under other groups, and alternatively, it takes the requests into the second step, namely, knowledge management cycle. In knowledge management cycle, new knowledge will be identified, captured, classified first, and then will be disseminated back to the appropriate stakeholder groups. It is clear that Knowledge is generated through the various interaction processes among the individual, stakeholder groups, and stakeholder categories, andit is more likely that there is interplay between tacit and explicit knowledge.

The model panel represents how variousknowledge interactive activities, and it is decoupled from the view and controller panels. The view and controller panels interprets the resources and logic provided by the model panel.Clearly, this means that there must be ways for the various knowledge to communicate across its boundaries with the outside world. That is, there must be established relationships between the knowledge and stakeholder groups, and there must be control systems that ensure that knowledge can be managed properly.

This proposed model aims to have a distributed knowledge management environment. With the development of web oriented technology, such as big data, cloud computing, web services, etc, it is possible that multiple stakeholders can effectively access this dynamic environment. However, the biggest challenges for managing knowledge with this integrated social media hub is how to manage each individual stakeholder group's knowledge into this web environment with the features of flexibility, scalability, heterogeneity, modifiability and reusability, so that the barriers of social media platform dependent, restrictions on operating systems can be overcome. Solving those problems will enhance the efficiency of this knowledge based social media hub.

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