Collaboration Model for SSMEnetUK¹: A Service Science Perspective

Completed Research Paper

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ABSTRACT

This paper aims to design a collaboration model for a Knowledge Community - SSMEnetUK. The research identifies SSMEnetUK as a socio-technical system and uses the core concepts of Service Science to explore the subject domain. The paper is positioned within the concept of Knowledge Management (KM) and utilising Web 2.0 tools for collaboration. A qualitative case study method was adopted and multiple data sources were used. In achieving that, the degree of co-relation between knowledge management activities and Web 2.0 tools for collaboration in the scenario are pitted against the concept of value propositions offered by both customer/user and service provider. The proposed model provides a better understanding of how Knowledge Management and Web 2.0 tools can enable effective collaboration within SSMEnetUK. This research is relevant to the wider service design and innovation community because it provides a basis for building a service-centric collaboration platform for the benefit of both customer/user and service provider.

Keywords

Knowledge Management, Collaboration Model, Web 2.0, and Service Science.

1. INTRODUCTION

Online communities have been studied by scholars and some term them mechanistically as a software platform which enables society to exchange ideas. This view of the system limits the understanding of the service offered, and several scholars have highlighted the limitations of such an approach (Macaulay et al., 2007). To address these limitations, socio-technical standpoints have been evolved and Service Science is one such emerging field (Bardhan et al., 2010; Maglio et al., 2009). It has been found that little research has examined online research communities, in particular, the KM service system design, from the Service Science perspective. The research thus aims to fill this gap by designing an online collaboration model for SSMEnetUK. It is noted that most of the activities taking place within SSMEnetUK are essentially KM activities and the research lies in finding ways to enable collaboration for the various KM activities. SSMEnetUK can be considered as a service system in terms of Kwan and Min (2008)’s Service System Worldview as shown in Figure 1, in which, the customer is the user/member of the community; the service provider is the knowledge contributor (both academic and practitioner); the service experience is the collaboration, the participation, the quality of interactions and the knowledge gained. The service system and its entities are supported by Web 2.0 technologies.

This paper is structured as follows: Section 2 reviews the concepts and relationships between collaboration, KM and Web 2.0; it then gives the rationale of the Service Science approach. An initial theoretical model for KM collaboration drawing from literature and Service Science concept is presented in Section 3. Section 4 outlines the research method, data collection and analysis, section 5 examines the collaborative KM service design from the customer/user centric and also service provider viewpoints, a proposed collaborative model based on the findings is derived, and section 5 concludes the study and outlines a wider implication in this research.

¹ SSMEnetUK (www.ssmenetuk.org) is a UK Network of Service Science Management and Engineering. It aims to promote service research, education and innovation by bringing together academia, industry and government in the UK who recognize the need for multidisciplinary approaches to services oriented research and education and who develop the wider services agenda and best practices within the UK.
2. COLLABORATION, KNOWLEDGE MANAGEMENT AND WEB 2.0

Collaboration is the act of engaging together in a set of activities by people who have common interest or aim. Butler and Colema (2003) identified several collaboration models based on the level of interaction between resources; their findings showed that the level of interaction among group members in an online community is considered higher when compared to solicitation, library or process support models. This section thus aims at finding the synergy between KM and Web 2.0.

2.1 Knowledge Management and Web 2.0

Knowledge Management, as defined by Jashapara (2004), is “the effective learning process associated with exploration, exploitation and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organisation's intellectual capital and performance”. Ramani and Joy (2011) identify four common features of a KM system, namely, collaborative platform, networks, culture, and repositories.

The term Web 2.0 was coined by O'Reilly (2007). Although there is much controversy concerning what to be called Web 2.0, the truth remains of how the advent of Web 2.0 has really influenced all the other fields in one way or the other. Bebensee et al. (2011) define Web 2.0 as “the reorientation of the web that promotes unbounded interaction, collaboration and participation of people. It is characterised by the emergence of a large amount of content generated by a collective of Internet users. It harnesses networking effects and leverages the long tail”.

Several studies have been conducted on how Web 2.0 related to KM activities. Among which, Baltatzis et al (2008) and Paroutis & Saleh (2009) look into the barriers in implementing Web 2.0 collaboration models within organisations. Both these studies note the importance of trust building when implementing KM strategy. Levy (2009) gives a much more detailed view of how KM is related to Web 2.0; nevertheless, her research touches the principles of KM in a more outer layer than going deep into principles of KM processes. Bebensee et al (2011) shed more light on how Web 2.0 impacts KM. Their findings stress that KM strategy is highly dependent on the organisational factors.

This research follows suit but aims to explore further how various Web 2.0 tools could be used for enhancing online collaboration for various KM activities from a Service Science perspective.

2.2 Why Service Science?

Service Science is an emerging interdisciplinary field that studies the structure and behaviour of Service Systems. It aims to explain and improve interactions in which multiple entities work together to achieve mutual benefits (Maglio et al., 2009). The basic unit of the analysis is the service system where a configuration of people, technologies, and other resources that interact with other service systems to create mutual value, in other words, the focuses is on the concept of value co-creation that in relation to the resources available to the system (Maglio et al., 2009). Traditionally, an Information System is implemented to benefit the business, the customer viewpoint is seldom considered and this leads to discrepancies in customer/user expectation and use of the system. Based on the principles of Service Science, every resource is considered to be part of the system and the activities done by the resources both inside and outside of the system is of importance. Service Science perspective gives importance to the context in which a service is accessed. From a Service Science perspective, service system interaction has contextual value and it is important to consider this, so as to provide appropriate value proposition to the users/consumers.
The next section looks into the aspect of aligning the theoretical findings of KM and Web 2.0, together with the Service Science concept to form a theoretical model for the research.

3. THEORETICAL MODEL FOR KM COLLABORATION

SSMEnetUK under study is essentially a virtual setting and different users interact through the setting to achieve a common goal i.e. to achieve ‘knowledge’ based on their competency. In order to better understand such systems, Nonaka et al. (2000) propose three elements which aid in knowledge creation process within an organisation, namely:

a. “The SECI (Socialisation, Externalisation, Combination, and Internalisation) process - knowledge creation through the conversion of tacit and explicit knowledge.
b. ‘ba’, the shared context for knowledge creation, and
c. Knowledge assets, the inputs, outputs and moderations of the knowledge-creating process.”

SSMEnetUK is a community found for promoting the concept of service science and this organisation/setting uses SSMEnetUK portal as a tool for spreading the knowledge. The main activities of SSMEnetUK will include the various SECI processes, as defined by Nonaka et al. of:

a) Socialisation (tacit-tacit) - occurring in real-world meetings/conferences/workshops.
b) Externalisation (tacit-explicit) – occurring when participating in online community activities, producing research paper etc.
c) Combination (explicit-explicit) – improving knowledge based on inputs from various people.
d) Internalisation (explicit-tacit) – user assimilate this knowledge for betterment of his knowledge and for further contribution.

Figure 2: KM Process Model for SSMEnetUK (Adapted from Nonaka et al., 2000)

The different users who participate in this SECI process are connected through a common goal i.e. increasing their knowledge in Service Science. To achieve this goal, the online community acts a shared setting i.e. “ba” as defined by
Nonaka et al. where people from different contexts interact with each other. The various interactions between users in the shared setting (SSMEnetUK) will lead to the production of various knowledge artefacts. And the quality of this community needs to be properly monitored to ensure that the energy of the shared setting will not diminish as time passes.

On the basis of analysis, it can be clearly seen that context plays an important role in the knowledge creation process. The shared context in “ba” is realised based on the various interactions within the system. As discussed earlier, Service Science can effectively explore the knowledge creation occurring through these contextual interactions. Figure 2 illustrates the relationship of Nonaka et al.’s model to SSMEnetUK along with the Service Science concepts, and will serve as a theoretical basis for this research.

Scope of the collaboration model: Unlike other online communities, SSMEnetUK or similar research community has a few peculiarities, that is, managed by a range of academic researchers/practitioners, KM activities are mainly taking place through offline communication like meetings, conferences etc., and concept/aim of community is new and there is little consensus on what is right or wrong. This research focuses is given more on the KM activities occurring within the online community i.e. where users share information online/virtually than offline process like face-to-face meetings and conferences. A detailed study thus needs to be done on the online system and the various users interacting within the system.

In contrast to Nonaka et al.’s model of considering knowledge creation in a broader sense, this research aims to breakdown various interactions into knowledge related activities for detailing the various interactions within the system using various Web 2.0 tools, namely: knowledge creation (i.e. explicit knowledge creation), knowledge sharing, knowledge gathering, knowledge artefact (i.e. the tangible inputs/outputs of the system which are managed by the “ba” system), and quality management which is grouped under service quality measures as illustrated in Figure 3.

The initial collaboration model is based on the concepts of KM and Service Science. The analysis of this model will be based on the KM concepts outlined in Nonaka et al. (2000). The aspects of quality management of SSMEnetUK community from the facilitator approach will be discussed in detail based on the interactions occurring inside knowledge related activities.

**Figure 3. Theoretical (base) model for KM collaboration**
4. RESEARCH METHOD AND DATA COLLECTION

A qualitative case study approach (Yin, 2003) was adopted. The type of data collected were guided by the base model as illustrated in Figure 3, these include users/members interacting with the community, activities conducted by resources related to service science KM, and Web 2.0 tools used by users/members for several different service science KM activities (both inside and outside the SSMEnetUK). The data sources include the primary SSMEnetUK website, archive documents, profiles of members via Google search, Service Science forums and articles related to the participating profiles identified.

Data Collection Process

Figure 4 shows the three stages of the data collection process. The data/information collected included:

S1: characteristic of user i.e. affiliated organisation, academic qualification and interested areas in service science.

S2: the kind of KM activities users conducted so as to identify a pattern of KM activities based on user characteristics.

S3: Web 2.0 tools used in the KM activities this includes data collected from various service science communities.

Figure 4. Data Collection Process

Data Analysis: The analysis shows that there are different group of users within SSMnetUK based on how they contribute to the community. It is found that 41 universities have joined the network from 2007 till September 2012. Around 113 members within the UK have taking part in the activities promoted by the SSMEnetUK. The activities include hosting conferences/workshops, participating in those networking events either passive or active way. Also, around 36 companies (national and internationally) have joined/participated, SSMEnetUK also has a wider network from the participation of around 88 members from around the globe. However, due to the language constraints, only members from UK companies and universities were considered for detailed analysis.

S1: Based on the 113 profiles identified, the main users categories identified are: Practitioners (15 professionals who are working in the industry), Academics (63 professors and lectures within the UK universities who contribute to service science
related topics), PhD Researchers (19 researchers who are doing their PhD in service science topics), and Masters Students (16 students who are doing Master degrees or MBA equivalent courses).

S2: It was found that there were a set of power users and those who follow these users and the other groups are lurkers who benefit from the KM activities performed by the former categories of users. The activities identified can be categorised as:

- **Knowledge Creation** e.g. create research agenda, case studies, journals/articles, a core team of 6 practitioners and 9 academics were actively involved in the creation of new knowledge.

- **Knowledge Sharing** e.g conducting workshops/conferences, sharing knowledge artefacts, a total of 27 academics have actively participated in the activities, and

- **Knowledge Gathering/Discovery** e.g. accessing artefact/content.

Based on findings from S2, the users in S1 are grouped into Leaders, Followers, and Lurkers.

S3: Based on S1 and S2, it was found that the different group of users use several web 2.0 tools for KM activities. A summary of Web 2.0 tools usage is shown in Table 1 below.

<table>
<thead>
<tr>
<th>User Group</th>
<th>Main KM activity</th>
<th>Main Web 2.0 tools identified</th>
<th>Penetration Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders</td>
<td>Knowledge Creation</td>
<td>Blogs, Podcast, Webinar, Audio Conferencing, Twitter, LinkedIn groups and Wiki</td>
<td>Blogs - 61%, Wiki - 38%, Twitter - 30%, LinkedIn groups -15%. Use of any tools identified – 82%</td>
</tr>
<tr>
<td>Followers</td>
<td>Knowledge sharing</td>
<td>LinkedIn groups, Twitter, Blog</td>
<td>Blogs - 37%, LinkedIn groups -23%, Twitter - &lt;1%</td>
</tr>
<tr>
<td>Lurkers</td>
<td>Information gathering</td>
<td>Low online presence a part from LinkedIn profile</td>
<td>Very low online presence in groups and blogs. All have LinkedIn profile.</td>
</tr>
</tbody>
</table>

Table 1. Summary of web 2.0 tools usage for existing SSMEnetUK members

In the next sections, an extended analysis of the activities will be conducted so as to derive a model which can be used for online collaboration between various user groups within the community.

5. **COLLABORATION MODEL FOR SSMEnetUK**

This section first analyse the existing services provided by SSMEnetUK. The customer/user centric approach and service provider perspectives on SSMEnetUK will be presented in sections 5.1 and 5.2, respectively. Based on the analysis, a revised collaboration model for SSMEnetUK is drawn.

Existing SSMEnetUK community: the SSMEnetUK currently has approx. 250 members interact with the community in several different ways. The basic interaction features offered currently for its members include:

- a) accessing information about the network and community such as objectives, the SSMEnetUK agenda;
- b) accessing information about service science concepts e.g. glossary, link to articles/journals/books/conferences/blogs/wikis, and institutions related to the service science;
- c) accessing information about the network activities such as upcoming and past conferences/workshops;
- d) downloading artefacts related to conferences/workshops;
- e) joining the network to receive information regarding upcoming activities/news via email, and
- f) sending artefact (via emails) to upload.

5.1 **User/Customer Centric Approach on SSMEnetUK**

This section examines the user/customer centric approach on SSMEnetUK in terms of the various KM activities as presented in the base model.
5.1.1 Knowledge Creation

Knowledge creation is an important activity within SSMEnetUK. There are different motivations for participating in an online community; factors which encourage one’s participation including anticipated reciprocity, increased reputation, sense of efficacy (Kollock, 1999) and in expectation of tangible returns, intangible returns emerging from the community effort (Wasko and Faraj, 2005).

**Characteristics of user groups which aid in knowledge creation:** It is found that the main contributors to this activity are the *leaders*, and other users support the leaders in various capacities to enable the activity. The peculiarity of leaders is that, they are very well educated and possess extensive knowledge and expertise in the field. The kind of ability could be attained to hours of hard work toiling around the subject and combining one’s perspective into the generation of new service science research direction. The amount of experience in the field will help them to attain a reputable position in the industry and the work they do will be followed by many users. More than often, many research funding are acquired through their expertise and their research funding enables them to explore more in the research field. Other user groups like *followers* and *lurkers* contribute to knowledge creation to a lesser extend as a leader does but they produce journals/conferences articles and aid in knowledge creation, so it is essential to identify the needs and service proposition which will enable them for value co-creation, in this instance, knowledge creation.

**Designing value proposition based on user characteristics:** The Web 2.0 tools identified for creating content include: *Blogs, Podcast, Webinar, Audio Conferencing, Twitter, LinkedIn groups and wikis.* These are primarily used by *Leaders* (though *followers* tend to advocate or support their ideas), this research treat them as primary actors in knowledge creation and thus the system should build the tools which are appropriate to them so as to ensure continued participation.

*Blogs:* Blogs are convenient tools for recording thoughts and experience over a time period (Anderson, 2006). The collaboration level is limited such that, there is usually one person creating the artefact and others following the blog. In certain cases, a blog will be updated by multiple authors who have expertise in the theme, this helps in higher content quality. Guadagno et al. (2008) highlight that blogging can be a suitable medium for creative users who are interested in explore the unknown facets. However, it should be noted that blog can be non-research oriented; it can often tend to be a platform for expressing one’s viewpoints with little research effort. Based on these, the free flow of thought on ideas can be expressed by the leading users. Other users who are interacting with the blog can comment/critique and express their views. In doing so, it helps the blogger to reflect and refine on his/her ideas and incorporate the enhanced learning. In the SSMEnetUK context, leaders can use this tool to express their research directions and their motivations in following the research path. Followers who closely observe the research directions can express their opinions and interact with other users.

*Wiki:* can be an effective tool where a group of users’ input is needed. The activities by collaborators are versioned and hence it is easy to manage the artefact. In the SSMEnetUK context, wiki can be used for creating research agenda for events, and enhancing the theoretical concepts. This is important aspect as service science being a relatively new concept, the basic theories surrounding service science are scattered over and there is no consensus for a unified theory (Maglio et al, 2010). So SSMEnetUK should try to bring in a consensus among its member regarding the theories in service science so that other users groups can make use of it.

*Podcasts, webinar and audio conferencing:* Can be one to one, one to many or many to many. It could be challenging to transform/extract information from a video/audio output; it also requires more space for knowledge store, and network capabilities. Proper techniques thus need to be implemented to utilise the power of audio/video streaming. Maag (2006) identified a number of technical challenges associated to podcasts. This finding showed that < 1% of members use podcasts, so podcast will be ruled out. Webinars and audio conferencing tools allow users to have a synchronous session, however, the difficulties of conducting podcasts holds true for webinars, whereas in audio conferencing, users only need a phone line to access the meeting.

*Twitter, LinkedIn groups:* Although LinkedIn is a possible way for knowledge creation like setting research agenda, the current usage within SSMEnetUK members are limited to only information sharing, hence these two are ruled out as tools which can be used for effective knowledge creation.

5.1.2 Knowledge Sharing

The second set of activities identified is knowledge sharing.

**Characteristics of user groups which aid in knowledge sharing:** Besides the *leaders*, the main user group for sharing/spreading the knowledge are the *followers* who develop ideas set forth by leaders e.g. lecturing,
organising/conducting workshops/conferences, guiding research students to explore the concepts in depth, sharing knowledge artefacts. Of these activities, sharing artefacts is the primary activity which can make use of web 2.0.

**Designing value proposition based on user characteristics:** Across the user groups, *LinkedIn groups* and *blogs* had the highest penetration of sharing knowledge across the network. *Twitter handles share* is another tool could be used for sharing information.

*LinkedIn groups:* Papacharissi (2009) identifies the characteristic of communication in LinkedIn as trust based professional communication. When compared to *Twitter share*, LinkedIn has the quality of being professional in nature. The findings reveal that a large percentage of users in SSMEnetUK had a LinkedIn presence; this research thus suggests the use of LinkedIn groups to announce future activities within the network.

*Twitter:* The findings reveal that the penetration level of twitter is very low and apart from some active users in the leader group, the rest of the group has little affinity to twitter, so implementation of Twitter channel could be ruled out at this point.

*Crowd sourced newsfeed:* At present, the knowledge created outside SSMEnetUK is shared across in the form of link shares maintained by the administrators via a content management system (CMS). This system has the limitation so this needs to be crowd sourced to utilise the power of user groups involved in the community. According to Parameswaran and Whinston (2007), crowdsourcing has significant transformational power in collective action and creation of content. *Crowd sourced newsfeeds* can thus be implemented into SSMEnetUK where users can post relevant links which they seem important to the community. Nevertheless, in order for a better service provisioning, the quality of the system and the resources needs to be managed.

### 5.1.3 Knowledge Gathering

Knowledge gathering is the process in which knowledge created and shared in the domain is collected by the users for enhancing their knowledge. These include, for example, accessing content/artefacts generated from the knowledge creation, and presenting ideas and receive feedback from core team/leader and followers.

**Characteristics of user groups which aid in knowledge gathering:** The main information gatherers here are *lurkers* who have the desire to acquire more knowledge on subject for current/future research, the need for clearing epistemological and ontological queries, though their contribution to knowledge creation and knowledge sharing could be low. In addition, followers could also seek information within the same group as well as the leader group.

**Web 2.0 tools used for knowledge gathering:** The possible Web 2.0 tools which help in knowledge discovery and acquiring knowledge is *search engines* and *Q&A forums*.

**Search Engine:** A search engine helps users to locate the artefacts resides in SSMEnetUK. Currently, SSMEnetUK has the Google search features embedded to the site. Search engine is an important aspect of asset management in KM and needs to be explored in detail from the service provider perspective.

**Q&A forums:** In Q&A forums, users can ask for clarifications based on a topic. Other users who know the answer can contribute to the query by answering the question. In this way, by making use of crowd intelligence, a problem could be solved effectively e.g community site Stackoverflow makes use of the large user base to build the healthy Q&A. The biggest beneficiaries of the system will be end-user groups who actively seek clarifications from people regarding service science concepts. All the users who are participating should be rewarded properly to take psychological advantage of community participation. These aspects will be discussed when considering the quality and integration aspect of KM from the service provider perspective in the next section.

### 5.2 Service Provider Perspective on SSMEnetUK

This study has so far identified the user characteristics and shortlisted the different tools for collaboration based on the user/customer viewpoint. However, it is essential for the service provider to provide services that assuring the quality based on measures of customer satisfaction so as to maintain the quality/health of a knowledge community.

#### 5.2.1 Knowledge Artefact Management

The quality of an artefact is relative and depends on the person using the artefact. How the person perceives an artefact reflects the quality of the KM artefact. Techniques such as *tagging, rating/commenting, moderating* can be used for content quality. According to Alfaro et al. (2011), reputation of content through all these ways acts as an indicator of the quality of content and it will also promote constructive behaviour in online collaboration systems.
Rating: It is the technique which imparts a score in one form or the other based on user activity. Rating system should be implemented in a way best suited for the user groups. Reputation rating can be either user driven or content driven, both has its advantages and disadvantages (Alfaro et al., 2011). User driven rating is highly contextual and the level of understanding of a particular subject/topic varies from leaders to lurkers. However, rating can give other users a general view of the content across the network. It would help the community in several ways like increases the author’s confidence in posting more content, encourages other community members to follow popular content, and serves as a guide to post quality content for other users. In the SSMEnetUK context, this will encourage leaders to push their ideas into the community. Content rating analyses user activity related to an artefact and scores the artefact. By this method, automatic scoring based on parameters like, user views on the artefacts, commenting or moderating can enable scores to be computed on the artefact.

Tagging: Tagging is an effective mechanism for artefact management where users are allowed to tag his/her post based on the content. However, certain quality measures needs to be taken into consideration before allowing tagging inside content. Anila (2008) highlights a good tag cloud reflects the quality of content and helps easier artefact identification for other users. However, uncontrolled tagging can pollute the eco-system and several steps need to be taken to reduce the pollution level. To prevent misuse of tags, a base system of tags should be created and users are permitted to use only available tags for their articles, this ensures that repetitions are weeded out and only relevant tags are in place. Another strict quality measure is to analyse the user content and suggest tags before allowing users to modify the tag. This will enable users to understand and use tags based on the quality this community sets for each artefact. Both rating and tagging can be applied to blogs, crowd sourced newsfeed, Q&A forums, and artefact resides in the repository.

5.2.2 User Management

User management is an important factor which needs to be considered, and for every community to be successful, it should recognise the human features which make a site valuable to the user. For a user to participate in an online community sense of efficacy is crucial, that is user feels that he/she is an important part of the community (Wasko and Faraj, 2005)

Integration of users into the system. It is found that LinkedIn social network site had the highest number of participants. SSMEnetUK can utilise this for creating a registration and connection page based on the user LinkedIn profile via Web API (Maleshkova et al., 2010) so as to make use of the resources in one system for the benefit of other system. By this way, there is no need for creating registration and recording mechanism for information which are already available in the network.

User point system. In order to value user contributions on a system, a point system which indicates the position of the user can be implemented. In the point system, each contribution to an artefact is valued and this will add to the reputation of the user. This categorisation will in turn help SSMEnetUK to take advantage of the psychological factors discussed in creating web 2.0 tools based on user characteristics. The user point system can be implemented in Blogs and Wikis, Newsfeed, and Q&A forum.

Community and integration. All the content generated within the community needs to be properly managed and for that proper integration between all the identified Web 2.0 tools should be recognised. According to Malaxa and Douglas (2005), a community system can be recognised by considering the user and data qualities via a CMS. SSMEnetUK is currently using a CMS system and this CMS can be enhanced to incorporate the additional functionalities identified. This includes integration of personal blog articles via newsfeed in the system, and LinkedIn group via LinkedIn authorisation API.

5.3 Collaboration Model for SSMEnetUK

In sections 5.1 and 5.2, the viewpoint of user/customer centric and service provider perspectives on SSMEnetUK are analysed by applying the concept of value co-creation/co-production and a set of suitable tools for the various KM activities were identified. The core theme concerning value proposition based interactions and how the various resources/roles communicate to provide value is examined. Various measures introduced into the system to realise value proposition to the fullest are considered for maintaining the quality of community. Based on the findings, the KM collaboration model for SSMEnetUK is derived as shown in Figure 5.
6 CONCLUSION AND FURTHER RESEARCH

This study aimed to investigate a collaboration model for SSMEnetUK. The focus was in integrating the concepts of KM, Web 2.0 and service science to the modeling of the service system. In socio-technological systems like the SSMEnetUK, the analysis will always be challenging, considering the different aspects of collaborating elements. This research adds to the existing body of knowledge by examining the KM service system design from the service science perspective. As with all system theory based research, service science concept also derives from the basic premises of system (consisting of input, output and feedback), boundary and mechanism of control. Service science relies on the concept of open systems which are capable of reconfiguring the resources to realise the appropriate values.

This research focuses on the context and characteristics of various user groups interacting in the community to identify the value propositions each system offers for achieving the aim of the community. Based on all these considerations, a collaboration model which focuses on the context and characteristics of user groups in online participation was derived. When compared to the traditional system design procedure of collecting user requirements and building the system based on the business and user requirements, this method provides a better alignment of consumer/user and provider viewpoints.

This study is important to IS research as it reinforces the concepts of service science and system thinking in analysing online communities; it also brings KM into the service system components. On a wider perspective, the framework proposed could form as a basis of identifying the Web 2.0 collaboration model for other similar research communities.

This research has its limitations as the data collection is mainly based on transactional and not on semantic analysis, further work on semantics analysis could provide a more in-depth investigation of the qualities of collaboration and knowledge sharing.

REFERENCES


