A Proposed Framework for Designing Sustainable Communities for Knowledge Management Systems

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ABSTRACT

Despite considerable academic and practitioner interest in knowledge management, success of knowledge management systems is elusive. This chapter provides a framework which suggests that KM success can be achieved by designing sustainable communities of practice. Communities of practice have proven to have significant economic and practical implications on organizational practices. A growing body of literature in KM recognizes the importance of communities that foster collaborative learning in organizations and almost all KMS have a ‘network’ component that facilitates connecting people in communities of practice. Evidence has shown that communities have been a key element in KMS of many companies including Xerox PARC, British Petroleum Co., Shell Oil Company, Halliburton, IBM, Proctor and Gamble, and Hewlett Packard.

Keywords: communities of practice; knowledge management; knowledge management success; knowledge management systems

INTRODUCTION

Despite considerable academic and practitioner interest in knowledge management (KM), success of knowledge management systems (KMS) is elusive (Akhavan et al., 2005; Hammer et al., 2004). There is a considerable body of literature that has studied factors for KMS success. Jennex and Olffman (2005) provide a review of KMS success literature and propose a comprehensive framework for evaluation of KMS success. In this chapter, our goal is to contribute to this line of research by identifying how these success factors may be achieved. Specifically, we restrict our scope of inquiry to a certain type of knowledge management systems; those that are designed to support communities of practice (CoP).

Prior literature that has sought to identify important factors in KM success has adopted either the individual level of analysis (e.g., Bock et al., 2005; Kankanhalli et al., 2005), the organizational level of analysis (e.g., Brown &
Duguid, 2000), or the technological level of
analysis (e.g., Markus et al., 2002). We pro-
pose an approach that incorporates research on
individuals, organizations, and the technology
pertaining to knowledge management to suggest
a set of design principles for sustainable com-
munities of practice. Communities of practice
have proven to have significant economic and
practical implications on organizational practice
(Brown & Duguid, 1999, 2000). A growing
body of literature in knowledge management
recognizes the importance of communities that
foster collaborative learning in organizations
and almost all knowledge management systems
have a ‘network’ component that facilitates
connecting people in communities of practice.
Evidence has shown that community has been
a key element in knowledge management
systems of many companies including Xerox
PARC, British Petroleum Co., Shell Oil Com-
pany, Halliburton, IBM, Proctor and Gamble,
and Hewlett Packard (Brown & Gray, 1995;
Cohen, 2006; Cross et al., 2006; McDermott,
1999a,1999b).

Attributes of communities of practice,
which we believe determine the success or
failure of KM initiatives, have been thus far
under-researched. KM can benefit from litera-
ture in virtual communities that looks at what
properties of a community make it sustainable.
These properties can then be viewed as a blue-
print of what a community needs to have to
achieve its function of fostering collaboration
and hence, generating knowledge. In sum, this
research is intended to help practitioners arrive
at how best to design communities in KMS in
order to achieve KM success.

KMS success models provide a strategic
level process approach to achieving success.
KMS success factors provide a means for
evaluation of KMS success. Our goal is to
suggest how these success factors could be
achieved at an operational level. We draw on
Jennex and Olfman’s (2005b, 2006) work to
arrive at a list of eight success factors that are
applicable to our conceptualization of a KMS
that supports CoPs. Table 1 below provides a
list of these factors.

This chapter is structured as follows. In the
next section we present a review of literature
in knowledge management, KM success, and
communities of practice. The literature helps
provide the theoretical basis for our research.
Our research methodology section follows the
literature review. We elaborate on the process
and method for arriving at our design recom-
endations, and discuss each recommendation
in detail. We next provide a discussion,
and conclude with our suggestions for future
research.

**LITERATURE REVIEW**
The primary goal of this research is to contribute
to literature in KM success. We provide a brief

<table>
<thead>
<tr>
<th>Success Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF1</td>
<td>Identification of users, sources, knowledge, and links</td>
</tr>
<tr>
<td>SF2</td>
<td>Clear articulation of knowledge structure</td>
</tr>
<tr>
<td>SF3</td>
<td>Motivation and commitment of users</td>
</tr>
<tr>
<td>SF4</td>
<td>Senior management support</td>
</tr>
<tr>
<td>SF5</td>
<td>Measures for assessment of appropriate use</td>
</tr>
<tr>
<td>SF6</td>
<td>Clear goal and purpose</td>
</tr>
<tr>
<td>SF7</td>
<td>Support for easy knowledge use</td>
</tr>
<tr>
<td>SF8</td>
<td>Designing work processes to incorporate knowledge capture and use</td>
</tr>
</tbody>
</table>

Table 1. KMS success factors adopted from Jennex and Olfman (2005b, 2006)
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