Social Media in DMSS System Development and Management

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ABSTRACT

This paper surveys and extends the use of social media technologies as part of decision making support system (DMSS) development and management. In particular, this paper investigates how social media technologies, such as wikis, blogs, micro-blogs and tagging, have been and can be used to facilitate development and management of DMSS, through communication and collaboration. However, the author suggests going beyond simply communication and collaboration. The particular focus is on using an analysis of digital media content to address a range of issues, including using social media content to facilitate capturing project history, doing an analysis of that content to facilitate documentation development, and monitoring content from social media to provide insights into project development. Domain-based characteristics of the text are investigated to discover meaning in social media content.

Keywords: Artificial Intelligence, Blogs, Documentation, Natural Language, Project Management, Sarbanes-Oxley Section 409, Social Media, System Monitoring, Wikis

INTRODUCTION

Social media, such as blogs, wikis, and other Web 2.0 tools, offer users the opportunity to communicate and collaborate about a wide range of issues, including system project development and management. As a result it probably is not surprising that recently, there have been reports from practice that social media tools have been used in system development and management. For example, blogs have been used to communicate project information, wikis have been used to collaborate and communicate project requirements, and collaborative tags have been used to facilitate search of project resources. In particular, a recent survey (Harrin, 2011) found that social media was being used in a number of ways:

- 85% to stay in touch with colleagues
- 60% to communicate with the project team
- 49% to provide project status updates
- 43% to manage
- 41% to communicate with project stakeholders

Purpose of this Paper

However, rather than just using social media for communicating and collaborating, there are additional emerging needs that can be met by analyzing information generated from social media. In some cases, social media replaces conversations with written exchanges, provid-
ing a “text history” that might be used to capture
the information exchanged between actors. In
particular, using artificial intelligence-based
approaches such as those generated by DeJong
(1979), Allan et al. (1998), and others, we hy-
pothesize that we can use that content to identify
and gather information for system development
and management. In addition, we hypothesize
that content has certain characteristics that will
facilitate our use of that information to discover
meaning in the content, such as capturing system
development “events” from social media text.

This paper addresses three settings to
investigate the types of information available.
First, researchers (e.g., Ramesh & Dhar, 1992)
have been concerned about capturing a project’s
“history of design” that could encompass and be
captured in the various phases of the system’s
life cycle, ranging from design to develop-
ment to maintenance and management. Those
researchers are interested in finding information
that will allow generation of that history of
decision making, ultimately, capturing discus-
sions and deliberations leading up to the system
development and its many artifacts. As noted by
Ramesh and Dhar (1992) these issues typically
are of greatest concern in multi-person teams.
Since social media is used in multi-person
system development projects, information
gathered from social media might be used to
support design history. Second, some software
development methodologies, e.g., prototyping
and scrum, typically generate very limited
documentation as part of their methodology.
As a result, there is a concern for sources of
information that can facilitate development of
such documentation. Potentially social media
could provide information in support of docu-
mentation. Third, Sarbanes – Oxley, section
409 requires “real time disclosures” of material
changes in projects. As a result, large system
development projects need to be monitored to
ensure that any large material changes can be
ascertained. Social media provide information
that could be analyzed and monitored in real
time, with a particular focus on finding expres-
sions, potentially emotional, related to system
project status, whether good or bad. In the
context provided by these applications we will
investigate domain-based characteristics of the
text, relating specifically to these applications.

BACKGROUND

The purpose of this section is to briefly review
some of the key concepts used in this paper,
including social media, decision making sup-
port systems (DMSS), system development
methodologies and intelligent event tracking
and monitoring.

Social Media

In this paper social media refers to those rela-
tively recently developed tools, including wikis,
blogs, micro-blogs, tags (e.g., Delicious.com),
and other Web 2.0-based forms of computing
that are designed to facilitate collaboration with
easy-to-use software. The term “social media”
has been used in a number of settings referring to
particular technologies and what those technolo-
gies can be used to accomplish. Social media
typically refers to internet/intranet-based appli-
cations that allow for the development of user
generated information and social media provide
a forum for users to interact. Social media also
typically refers to technology-based media
that allows development of on-line relationships.
Generally, social media is “cloud-based” and
often referred to as “Web 2.0” (O’Reilly, 2005)
or when used in a business context, “Enterprise
2.0” (McAfee, 2006).

Social media may be seen as supplement-
ing or replacing more traditional technologies
(McAfee, 2006), including mail, email or
telephone. Social media can take information
from a one-to-one or a limited scale environ-
ment and disclose the information to larger
numbers of people. Social media generally
works to remove asymmetries of information,
by making information gathered from different
users, more broadly public.

Decision Making Support
Systems (DMSS)

Decision Making Support Systems (DMSS) are
systems that are designed to support decision
Cross Comparative Analysis on the Models of Transformational Leadership and Pseudo - Transformational Leadership
www.igi-global.com/article/cross-comparative-analysis-on-the-models-of-transformational-leadership-and-pseudo---transformational-leadership/189078?camid=4v1a

Overview of Clinical Decision Support Systems in Healthcare
www.igi-global.com/chapter/overview-of-clinical-decision-support-systems-in-healthcare/138638?camid=4v1a

An Extended Model of Decision Making: A Devil’s Advocate Workshop
www.igi-global.com/chapter/extended-model-decision-making/11273?camid=4v1a