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USE OF TECHNOLOGY IN NON-PROFIT ORGANIZATIONS (NPOS) FOR KNOWLEDGE MANAGEMENT (Paper)

Abstract

This paper explores results of a survey that documented tools and technologies used to manage knowledge in Canadian non-profit organizations (NPOs). Findings demonstrate that NPOs, across various types of organizations, use both non-computer (e.g., print documents) and computer-based solutions to manage knowledge. Examples of tools/technologies used include donor management software, email-based systems for communication and marketing, and some specific tools relevant to their areas of operations.

Résumé:

1. Introduction

Non Profit Organizations (NPOs) make significant contributions to national economies. Canadian NPOs, for example, contributed more than 2.5 percent to the country's economy in GDP terms in 2007 (Jackson and Clemens, 2014). NPOs add both economic and social value to their communities (Lettieri et al., 2004). However, most research in knowledge management (KM) focuses on tools and/or technologies for managing knowledge in For-Profit Organizations (FPOs). This paper fills a needed gap by documenting the tool/technology-related experiences within the NPO sector.

NPOs experience many challenges unique to their organizational contexts, including budgetary constraints and volunteers' low technological literacy. These constraints have implications for the deployment of KM-related technologies for effective and efficient management of knowledge within NPOs, particularly in small organizations. Previous research shows these organizations have specific knowledge needs about communities, management and organizational practices, resources, sectoral and situated (Rathi et al., 2016). Thus, they require a set of tools/technologies to capture, organize and share knowledge among users. However, there

are few studies focussing on KM tools and technology from the NPOs' perspective. This paper presents key findings on the use of different tools/technologies by NPOs to manage knowledge; it contributes to the growing body of literature addressing the KM-NPO domain, particularly on tool and technology use. The findings are based on a cross-Canada survey.

2. Literature Overview

Information tools and technologies are considered as KM enablers (López et al., 2009) with technology implementation leading to better KM practices (Serban and Luan, 2002). Technology plays a crucial role in reducing spatial barriers (Armistead, 1999; Bhatt, 2001) and enhancing knowledge capturing and sharing capabilities within organizations (Mack, et al., 2001; Sher and Lee, 2004; Lee and Hong, 2002).

Organizations use more than one set of tools/technologies to manage organizational knowledge (Meso and Smith, 2000). Gallupe (2001) identified Intranets, information retrieval tools, database and document management systems, groupware, intelligent agents and experts systems as examples of technologies used in KM systems. The authors argued that the majority of tools/technologies were designed for information management; however, with the rise of KM, such tools have been tailored to meet KM-related needs. Marwick (2001) used Nonaka's famous SECI (Socialization, Externalization, Combination and Internationalization) framework to identify various tools/technologies (e.g., e-meeting, chat, annotation, and visualization) relevant for managing organizational knowledge. Similarly, Liao (2003) conducted a literature review from 1995-2002 to summarize available KM tools and technologies. Lee and Hong (2002) identified different sets of tools for different stages of the KM life cycle. For example, data warehousing for knowledge capture, data mining and OLAP for knowledge development, and Intranets for knowledge sharing. This research focuses, almost exclusively, on FPOs.

Recently, social media tools have become a key focus in the KM literature. Huck et al. (2011) identified tools such as wikis, blogs and YouTube as technological solutions to meet different types knowledge needs (i.e., operational, technical and personal needs) of NPO users. Matschke et al. (2012) argued "Web 2.0 technologies have various features in common with [NPOs] that have a strong potential of turning them into a successful instrument of knowledge management" (p.161). Other research, such as Forcier et al. (2013a), Forcier et al. (2013b) and Given et al., (2013), note the use of social media for knowledge sharing by NPOs including public libraries.

3. Research Design

A survey of Canadian NPOs was conducted to understand the KM-Technology domain from NPOs' perspective. The survey with a number of questions was administered using Survey Monkey and was sent to different size NPOs (e.g., very small, small, medium and large) listed on the publicly accessible online registry provided by the Canada Revenue Agency (http://www.craarc.gc.ca). These NPOs are operating in different sectors such as animal welfare, community, health and education. Over 1600 NPOs responded to the specific question that explored relevant tool/technologies, which had two parts: a) pre-defined list of options related to the use of tools for KM practices; and, b) an open-ended "other" question, providing opportunities for respondents to provide specific examples of tools (or to provide new, contextual details) not covered in the pre-defined list. The response rate for this specific question was approximately 10%. In addition, there were over 200 entries (i.e., qualitative data) provided

in the open-ended response field. The collected quantitative data from the list of tools were analyzed using simple descriptive statistics and the participant-contributed qualitative data were analyzed using a thematic analysis approach (Braun and Clarke, 2006).

4. Key Findings and Discussion

Key findings are summarized here in brief, with additional, relevant data to be presented at the conference. The analysis of the data suggests that NPOs used a wide-ranging set of tools/technologies, including computer and non-computer based solutions, to manage knowledge in their organizations. These findings point to the unique contexts in which NPOs work, which require specific, targeted tools/technologies to meet their knowledge management needs.

4.1 Generic Tool/Technology Application

- Overwhelmingly (for over 95% of respondents), one of the most popular tools used by NPOs was non-computer based in nature – i.e., physical, print documents. For example, one respondent described using a "binder of all past newsletter in print and of all news media clippings."
- More than 75% and 85% of respondents described using public websites and commercial productivity software packages (e.g., Microsoft Excel) respectively to manage knowledge in the organization. However, internal websites (e.g. Intranet) was relatively less popular among NPOs as approximately one-third of the respondents used them. In addition, nearly 50% of respondents used low-cost or no cost cloud-based computing services (e.g., Dropbox; Google Docs/Apps). A very small percentage of respondents used commercial cloud computing services, such as Xerox cloud.
- NPOs also used communication tools like email-based systems for KM activities for internal communications and sharing of information and knowledge with people part of an organization.
- A number of respondents noted the use of social media tools such as blogging software (e.g., BlogSpot.com), social networking sites (e.g., Facebook, YouTube, Vimeo, and Twitter), and wikis (e.g., wikispaces, my.pbworks.com).

4.2 KM-Specific Tool/Technology Applications

- The NPOs used a large of number of specific tools/technologies designed to support KM practices, specifically. These include:
    - A number of respondents noted using fundraising and donor management systems, such as Sumac and Donor Manager and Raiser's Edge. In addition, NPOs, like FPOs, use customer relationship management systems (CRM) equivalents (e.g., Maximizer Database) to maintain a database for relationship management. Respondents also noted implementation other types of database applications (e.g., MS Access, or their own "internal database" to manage customer details.
    - Another interesting finding from the analysis of the qualitative data was the use of online email marketing tools, such as vertical response and MailChimp. For example, MailChimp is an automated system that helps in reaching target audiences via email. Organizations can target potential customers (or community members, in the case of NPOs) based on their behaviour and preferences (http://mailchimp.com/features/).

- Findings also revealed the use of software tools such as content management systems (e.g., Zikula CMS, an application for managing websites (http://zikula.org/).
- Also, a number of respondents used specific software such as Quickbooks, an accounting software for small organizations (http://quickbooks.intuit.ca/), as well as domain-specific software products such as Past Perfect Museum Software, an application used for collection and contact management primarily used by museums (http://www.museumsoftware.com/).

These examples of the types of tools/technologies used by NPOs maps well onto the knowledge needs of NPOs that have been identified previously in the literature. For example, Rathi et al. (2016) identified a number of knowledge needs of NPOs such as knowledge about community, particularly knowledge about donors and funding sources (e.g., useful tools will be Sumac and Donor Manager); Lettieri et al. (2004) identified NPOs' needs such as "accounting/administrative knowledge" (e.g. accounting software as suggested by respondents), and "[f]und raising/public relation management (PRM)/marketing knowledge" (e.g., MailChimp as suggested by respondents) (p.24-25), and Forcier et al. (2013b) noted that use of tools for "fulfilling the organisation's internal communication needs" (e.g., email) (p.4). This is the first study to document these various technologies nationally, which provides a clear picture of the ways that NPOs are using available tools to support their activities.

5. Conclusion

NPOs, including the many volunteers working in NPOs, play a crucial role in delivering many services to community members (Skinner and Joseph, 2007; Lyons and Passey, 2006). Efficient and effective NPOs are important to overall community well-being and KM is one of the approaches that make such organizations more efficient and effective. However, much of the success of NPOs' KM successes relies on appropriate and effective use of tools and technologies – many of which are generic in nature and not designed, specifically, to support KM activities.

This paper connects directly to the overall theme of the conference – i.e., information science for community – as it explores the intersection of KM principles with NPOs' focus on community-based activities. The paper addresses one sub-theme, in particular, that of "[o]rganizing information for and with communities." For information science researchers and practitioners to support the community, systems and services for NPOs must be enhanced. NPOs must manage various types of knowledge, about community needs, volunteers, current events, etc., but may not have the best tools at hand – or be able to use such tools effectively – to manage knowledge effectively. This paper presents initial findings from over 1600 NPOs in Canada, to begin the process of better understanding how to support tool and technology use within this sector.

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