Chapter 13
Intranet Exploitation of Social Network Knowledge Intelligence

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ABSTRACT

Intranets are almost as old as the concept of a web site. More than twenty-five years ago the text Business Data Communications closed with a discussion of intranets (Stallings, 1990). Underlying technology improvements in intranets have been incremental; intranets were never seen as killer developments. Yet the popularity of Online Social Networks (OSNs) has led to increased interest in the part OSNs play – or could play – in using intranets to foster knowledge management. This chapter reviews research into how social graphs for an enterprise, team or other collaboration group interacts with the ways intranets have been used to display, collect, curate and disseminate information over the knowledge life cycle. Future roles that OSN-aware intranets could play in emerging technologies, such as process mining, elicitation methods, domain-specific intelligent agents, big data, and just-in-time learning are examined.

INTRODUCTION

Today's intranets occupy a space within web technology. While some early implementations encompassed file sharing and other intra-organizational network resources, its principal connotation by 1996 was intimately connected to web technologies. Barbera (1996), writing that year, depicted "the intranet concept" as "derived from the present Internet as a natural step in its own evolution. The same TCP/IP communication protocols and applications are used, in particular the web server/client model." While some collaboration software had emerged that was initially less web browser-friendly (Falkner, 1997), Microsoft (Wynkoop, 1996) and Netscape (Budnick, 1996) had book-length proponents of their web technologies hoping to spur adoption.

In today's intranet concept, beyond access to broadband and computing devices, the boundaries of that space are defined as much by the ability of organizations to recognize the value of intranets as by technology. Similarly, types of intranets are best categorized by purpose and audience than by specific

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technical features. For this reason, understanding their history and typical settings is essential to identifying the role intranets play in Online Social Networks (OSNs) and vice versa.

Intranets Defined

Early definitions of "intranet" defined it as "internal [organizational] versions of the internet" The general meaning of intranet is a web site that is intended to serve a specific group – typically an organization. Membership is centrally controlled, and access is mainly via a controlled subnet. Access to selected elements of an intranet is also possible through the public internet or a virtual private network (VPN). When intranet access is extended to suppliers, partners, customers and other groups, the term *extranet* is applied. For example, the New York City Housing Authority maintains an extranet for a regulated landlord group.

In the knowledge management community, intranets are seen as a structured knowledge repository of some sort, but organizations may use intranets for unstructured or even casual purposes, such as organizing events. It is also common to classify some intranets by their host content management software (CMS). Intranets can be deployed using commercial or open source software such as Confluence, Jostle, Plone, eXo Platform, IBM WebSphere Portal, Microsoft SharePoint, Dropbox Stream or Tibco tibbr. Other intranets may be hosted on homegrown platforms constructed from a variety of tools (e.g., WordPress, Django, Google Sites). While there are potentially steep challenges for smaller enterprises (Chan & Chao, 2008), organizations as small as a sole proprietorship can see benefits from intranets (Underwood, 2014).

An intranet implies a closed community, but there are useful exceptions, such as certain wikis which may serve a more specialized social role when used in connection with OSNs. Wikis have been studied by Majchrzak et al. (Majchrzak, Wagner, & Yates, 2012, Majchrzak, Wagner, & Yates, 2013) and others (Danis & Singer, 2008). Contributors to wikis can be studied both with respect to the type of knowledge interacted with, the knowledge life cycle stage, and also how they perceive wiki knowledge being used by others. This latter aspect is influenced by contributor perceptions of and position within in an organization's social graph.

A primary function for intranets dating from its earliest versions is enterprise search. Recently, tools such as those offered by SearchBlox (Anthony, 2014) and others allow for searching not only of documents and email – the early focus of most intranets – but also Big Data repositories, typically those stored using the Hadoop Distributed File System (HDFS). Searching HDFS and other unstructured repositories alongside structured information, such as document metadata, has created a new level of capability for search, discovery and retrieval. Significantly, analytics from OSN data itself, such as data mined from Facebook, LinkedIn, and public web traffic, can now comprise an important search target for intranet users, as Skeels & Grudin (2009) and Hansen, Shneiderman, & Smith (2010) showed.

Despite new opportunities such as these for intranet architects operating in greenfield scenarios, the scope of many intranets remains mostly within the bounds what was seen as its original mission decades ago. Writing about a study of Microsoft SharePoint, a widely used commercial "corporate" intranet application, investigators recently found that "the most popular functionalities among the customers are [still] document management, version control, co-writing, project rooms (team sites), and social networking facilities such as 'Mysite,' Yammer and blogging" (Hustad & Vikstøl, 2014).

Incremental real-world adoption aside, some researchers nonetheless see intranets as part of a family of collaboration products once simply called groupware (Szuprowicz, 1996), but now embracing