Information and Organization xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Information and Organization

journal homepage: www.elsevier.com/locate/infoandorg

The evolutionary implications of social media for organizational knowledge management

Gerald C. Kane

Boston College, 140 Commonwealth Ave, Chestnut Hill, MA 02467, United States

ARTICLE INFO

Article history:
Received 5 May 2016
Received in revised form 16 January 2017
Accepted 17 January 2017
Available online xxxx

ABSTRACT

Social media has become a widely-adopted technology over the past decade, affecting organizations in myriad ways. One of the most important is the effect on organizational knowledge management, in which social media overcomes many of the limitations of previous generations of knowledge management technologies. In this paper, I explore the effects of social media on organizational knowledge management. In doing so, I argue that social media is not a monolithic class of technologies, but a diverse and evolving technological infrastructure that supports and changes the way people communicate and collaborate. Key aspects of social media have gone through a technological evolution over the past decade from cloud computing, to mobile technologies, and into analytics. Each of these shifts has distinct implications for organizational knowledge management, many of which have yet to be fully realized. Furthermore, trends suggest that social media will continue to evolve with emerging technologies, such as artificial intelligence, virtual reality, and augmented reality, which will further influence how organizational knowledge management is practiced. This evolutionary perspective suggests we may be closer to the beginning than the end of how social media will affect organizations and their knowledge management practices. As such, a broad perspective on social media may provide many open areas for research in coming years.

1. Introduction

Social media has been a popular and ubiquitous application of Information Technology (IT) in recent years. Facebook, while not the first social media platform, is certainly among the most dominant as of this writing. Founded in 2004, Facebook currently boasts roughly 1.8 billion users, with nearly 2/3 of those users logging in daily. The company is currently valued at over $350 billion. Of course, Facebook is not the only social media platform available. Twitter, LinkedIn, Snapchat, Tencent, and Wechat each have massive user bases and strong business performance.

It is difficult to define social media in a way that separates it fully from previous information and communication technologies, such as email and discussion boards (Kane, Alavi, Labianca, and Borgatti, 2014b). Many similarities exist between social media platforms and previous generations of information and communication technologies. For instance, much of the research on online communities (e.g. Butler, 2001; Preece, 2000; Wasko & Faraj, 2005) and on IT-enabled anonymity (e.g., Connolly, Jessup, & Valacich, 1990; Dennis, 1996; Sia, Tan, & Wei, 2002), applies just as readily to social media platforms as it did to email networks, chatrooms, discussion boards, and group decision support systems. Some have suggested that the "reply all" button in email is actually the first social feature in information technology, because it was the first feature that naturally enabled instant group communication (Shirky, 2008).

E-mail address: gerald.kane@bc.edu.

http://dx.doi.org/10.1016/j.infoandorg.2017.01.001
1471-7727/

As such, it may be more productive to recognize social media as an evolving set of IT-enabled affordances that allows people to communicate and collaborate using information technology, rather than a distinctive and independent class of technologies. Furthermore, social media platforms are increasingly leveraging a robust infrastructure of other types of technologies – such as cloud computing, mobile devices, analytics, and other emerging technologies – to deepen the communication and collaboration affordances enabled by social media. Much of the value of social media in recent years has come from the addition of new capabilities enabled by this evolving technological infrastructure.

Facebook can serve as a clear example of this evolution, and similar trends can be identified on other major platforms. While Facebook began as a cloud-based platform accessed mainly through traditional desktop and laptop computers, the vast majority of the Facebook use today has shifted from computers to mobile devices, with nearly 80% of use time and 70% of revenues coming from mobile devices (Seetharaman, 2016). More recently, Facebook's revenue models increasingly rely on sophisticated data analytics that connects multiple data sources to provide individual level ROI on advertising (Kane, 2014a). Looking to the future, Facebook is investing heavily in emerging technology, such as virtual reality, suggesting that further evolution in what we think of as "social media" is still to come. In fact, Facebook no longer refers to itself as a social media platform, but a digital one, indicating the integral importance of other types of information technology for the social media experience today.

Thus, I argue that social media is not a technology, but it is a set of affordances supported by a diverse and evolving technological infrastructure that enables people to communicate and collaborate in novel ways. These affordances continue to evolve as social media platforms continue to employ diverse technologies to change how knowledge is shared, stored, and presented on these platforms. New affordances enabled by social media create opportunities for organizations to work differently. The purpose of this paper is to explore the effects of these evolving social media affordances on organizations and point out some likely future avenues for robust research. I focus on how social media has evolved through key technological phases – cloud, mobile, analytics, and emerging technologies (e.g. artificial intelligence, virtual reality, and augmented reality) – and how the different affordances enabled by social media platforms as a result of these evolutionary shifts affect organizations. Organizations typically change more slowly than technology, however, so many companies are still wrestling with how to address many affordances that users take for granted.

2. Social media and knowledge management

Social media has impacted organizations in a myriad of different ways, from marketing (Hoffman & Fodor, 2010), to recruiting (Chang, 2012), and operations (Kane, Palmer, Phillips, Kiron, Buckley, 2014a). As such, it would be virtually impossible to document and discuss all of the organizational implications of social media comprehensively in a single paper. For the purposes of this paper, I focus on a single organizational impact of social media - knowledge management. IS scholars have long been focused on the idea getting the right information to the right people and the right time could be an important source of competitive advantage for firms (Alavi & Leidner, 2001; Argote, McEvily, & Reagans, 2003; Gold, Malhotra, & Segars, 2001). A focus on knowledge management also has practical significance, as it may be the most significant impact that social media has on organizations. McKinsey estimates that social media could have a $1.3 trillion impact on business, most of which comes from productivity improvements among knowledge workers (Chui et al., 2012).

Unfortunately, many of the KM initiatives in previous decades that attempted to use IT to support these objectives did not meet their goals and were often regarded as failures. Some of these failures were a result of limitations of the technology itself. For example, some claimed that information technology fundamentally misrepresented the nature of knowledge when they treated it as a substance to be stored, retrieved, and transferred, rather than embedded in practice (Orlikowski, 2002). Previous generations of knowledge management tools were also fairly rigid, often leading companies to get locked into and over-dependent on outdated or obsolete knowledge (Kane & Alavi, 2007). Early tools also often forced a choice between fundamentally different types of KM – storage-based approaches vs. communication-based approaches – as a result of the technology the organization adopted, not based on how the organization actually worked (Hansen, Nohria, & Tierney, 1999).

Some of the failure was also attributed to organizational or sociological factors. For example, contributing to KM systems typically required additional work and diminished the value of the employees to the organization, making employees reluctant to contribute knowledge to the system (Griffith, Sawyer, & Neale, 2003). Even if people did contribute knowledge to these systems, the amount of content available often made it difficult to know which was most relevant and valuable (Hansen & Haas, 2001; Iyer and Katona, 2016). Indeed, some have argued that the scarcity in most organizations today is knowing which information to pay attention to, not a lack of accessible information (Simon, 1971).

The affordances provided by today's social media platforms, however, allow organizations to overcome many of the challenges experienced in the previous generation of KM tools. For example, the social media affordance of *transparency* overcomes the limitation of earlier KM treating knowledge as a substance by making ones' contributions available to others (Treem & Leonardi, 2012). By automatically recording how work is actually done over digital platforms, it helps capture knowledge as it is embedded in practice, rather than preserved as an abstraction (Orlikowski, 2002). This transparency also allows employees to learn about who knows what in the organization without necessarily even realizing they are acquiring this knowledge – a phenomenon called *ambient awareness* (Leonardi, 2015).

Social media can also help overcome organizational issues associated with earlier KM tools (Griffith et al., 2003). Social media platforms can overcome the lack of incentives to contribute by automatically preserving the interaction between team members for later use by others, an affordance known as *digital trace* (Kane et al., 2014b). For example, one enterprise platform monitors the digital interactions that an employee engages in as a result of their normal work interactions through email, calendar data,

Please cite this article as: Kane, G.C., The evolutionary implications of social media for organizational knowledge management, *Information and Organization* (2017), http://dx.doi.org/10.1016/j.infoandorg.2017.01.001