

Where knowledge management and information management meet: research directions

Abstract

In this opinion paper, I consider research at the overlap between information management and knowledge management. Although there is much research that could fit into this area, the boundary of the overlap is poorly defined, and prior work specifically addressing the two topics is more likely to look at their differences than their similarities. Treating this lack of precision as an opportunity, I identify six aspects of the intersection of knowledge management and information management: people, processes, technology, culture, structure and performance/measuring outcomes. These inspire six proposed directions for future research: the extent to which apparently tacit knowledge can be made explicit; the usefulness of semi-formal or informal processes; how to discourage fake content; the implications of working from home; knowledge management and information management in project-based organizations; and how to measure the impact of knowledge management and information management. Suggestions about appropriate theories and approaches for each direction are offered.

Keywords

information management; knowledge management, mixed methods, research directions, theory

1. Introduction

The logical place to begin this article is by identifying the intersection of information management (IM) and knowledge management (KM). This immediately presents either a challenge or an opportunity, depending on one's perspective, in that there is no generally agreed definition of KM. However, it is clear that the fields of KM and IM overlap. For example, KM has long been regarded as a standard research topic in information systems: see for example Palvia et al. (2004). Mazaheri, Lagzian, and Hemmat (2020) found KM to be the ninth most frequent of 49 topics in a review of information systems research articles from 2007-2018.

Let's look at the *International Journal of Information Management's* Aims and Scope for some help about where the overlap is. They include: "...managing activities that make changes in patterns of behaviour of customers, people, and organizations, and information that leads to changes in the way people use information to engage in knowledge focussed activities." Kebede (2010, p.418) also describes knowledge as "the ultimate concern of Information Systems". On that basis, information and knowledge are inextricably linked, and change is a key feature – both coping with it and using information and knowledge to drive it.

So, rather than spend many pages discussing definitional issues, I will treat the lack of precision in definitions as an opportunity, and take the pragmatic approach of treating the KM/IM intersection as consisting of any activities that significant groups of people think are concerned with managing information and knowledge, and their use – especially in changing circumstances.

Section 2 of the paper very briefly outlines previous work at the overlap, while section 3 presents six directions for future research. Section 4 summarises the paper.

2. Previous work

Although there is broad agreement that KM and IM overlap, there is surprisingly little research specifically targeted at the intersection. What research there is (for example, Krcal & Kubis, 2016) generally concentrates on the differences between KM and IM, not the overlap between them. Another strand looks at how one of the two fields, typically KM, has influenced the other. For example, Al-Emran, Mezhuyev, Kamaludin, and Shaalan (2018) looked at the impact of KM on information systems.

In my opinion, it is one of the theoretical foundations underpinning KM that provides the best clue about the overlap: the notion of tacit and explicit knowledge (Polanyi, 1966). All knowledge has both tacit and explicit elements: the interplay between the two elements is easy to define in broad terms (“How do what’s in my head and what’s in this file link to each other?”), but very difficult indeed to define precisely, and will vary from person to person in each specific case. The intersection of KM and IM is similar.

3. Future research directions

The selection here is a personal one, based on a combination of timeliness, difficulty and importance. To describe the directions, I will use a set of aspects taken from Edwards, Handzic, Carlsson, and Nissen (2003). Although originally proposed for KM, they are equally applicable to IM, and so highly suitable for the KM/IM intersection. The six aspects are people, processes, technology, culture, structure and performance/measuring outcomes. I will highlight one direction for each aspect, although most of the directions in fact span more than one aspect.

3.1. People

A fundamental purpose of KM/IM is facilitating better knowledge and information sharing. This highlights the people aspect and to a lesser extent culture. There is a great deal of prior work: knowledge sharing is the most researched topic in KM. Nevertheless, there are outstanding issues, especially the nuanced and controversial issue of the extent to which apparently tacit knowledge can be made explicit (at which point many would call it information). For example, Wei, Atalag, and Day (2019) describe a system in the healthcare domain based on making tacit knowledge explicit, yet acknowledge that “[Tacit] Knowledge sharing is complex and ambiguous” (p.224). People often do not value information and knowledge that comes from others. We are all familiar with the “not invented here” syndrome, and the ever-increasing amount of information available makes matters worse.

A further level of difficulty is that nowadays, the sharing may well be inter-organizational: see Blake, Stevenson, Wotherspoon, Ivory, and Trotter (2019) on how central such sharing is to recovering from a natural disaster.

This direction calls for mainly qualitative studies, informed by the extensive work on sticky knowledge pioneered by Szulanski (1996). They need to look at both the “giver” and “receiver” of information/knowledge, and bear in mind that the same person will play both roles in different circumstances.

3.2. Processes

One of the major contributions of first IM and later KM was a strong drive towards greater formalization of processes, rather than the ad hoc approaches that have been in use for thousands of years. The builders of the pyramids, for example, must surely have managed many issues relating to information and knowledge!

However, the importance of semi-formal or informal processes is now being rediscovered (for example Grimsdottir, Edvardsson, & Durst, 2019). These might, for instance, be informally organised, but very carefully documented afterwards. This has been enabled in part by the much greater availability and portability of Information and Communications Technologies (ICT), although the technology is not an aspect that matters much for this direction: inevitably the main aspect is processes, supported by people and culture aspects.

Mixed methods might be the most appropriate research approach here, with quantitative techniques addressing the “what” of the semi-formal processes, and qualitative techniques explaining “how” and “why”.

3.3. Technology

I see the main issue here as fake content – news, images, videos, even identity. For those surprised by my putting this direction under the technology aspect, for me it is first and foremost about management of technology, much as this is supported by people and culture aspects. I fear that some people will always try to cheat or subvert any system. Far more research is therefore needed into ways of making it much harder to do it, whether deliberately or accidentally. To explain what I mean by the latter point, the use of unofficial ICT devices for work purposes has grown considerably during the pandemic. Is the information stored on such a device reliable? Existing research, often labelled “Bring Your Own Device” (BYOD) (e.g. Barlette, Jaouen, & Baillette, 2021) tends to concentrate on security: inaccurate, biased or simply out-of-date information is not considered. Note that I would regard *detection* of fakes as an ICT problem, and so outside the KM/IM intersection.

Experimental approaches would be ideal for this direction, to examine what information and knowledge people will choose to use or believe, but it is very difficult to set up experiments which capture the real-world context. *Post hoc* studies, again using mixed methods, may be the best that can be achieved: more cooperation from social media providers would help in pursuing some aspects of this research direction. Comparisons between what people say they believe is true/valid and what their behaviour suggests they actually believe is true/valid could be instructive.

3.4. Culture

The COVID-19 pandemic has vastly accelerated a trend towards working from home (WFH) that was already present. When the pandemic ends, WFH will reduce, but surely not to the pre-pandemic levels. The longer-term implications of WFH require continuing research: in this case, both into what KM/IM can do to facilitate successful WFH, and also the effects of WFH on IM/KM. The last couple of years have seen a great deal of *ad hoc* research into the former, but very little into the latter. Some features of the trend, such as the decision by certain organisations to subject remote workers to increased management control by algorithm (disguised under the apparently neutral term “people analytics”) have worrying implications for individual freedom (Tursunbayeva, Pagliari, Di Lauro, & Antonelli, 2021,

early access). This does nevertheless demonstrate that the key aspect for this direction is culture, although people, processes and technology are all relevant.

One apparently under researched area is the possibility that team composition needs to change for remote working teams. Such virtual teams have long been recognized as operating differently (e.g. Griffith, Sawyer, & Neale, 2003). Role changes specifically to improve KM have already been identified as needing more research by Venkitachalam and Busch (2012).

There are broader social issues involved in WFH, not least gender. Bank of England economist Catherine Mann recently observed (BBC, 2021) that WFH may disadvantage women “There is the potential for two tracks. There’s the people who are on the virtual track and people who are on a physical track. And I do worry that we will see those two tracks develop, and we will pretty much know who's going to be on which track, unfortunately.” This facet of the direction may be more of a general problem than one for KM/IM research, but KM/IM may be able to help ameliorate it.

Mixed methods are again the ideal approach here, but collecting the quantitative data risks running into some of the issues mentioned under 3.3.

3.5. Structure

Another recent trend, though in this case not significantly influenced by the pandemic, is the growth of the project-based organization, which obviously has consequences for IM/KM support. Structure is evidently the key aspect here, although people, processes and culture are also all relevant. As in 3.4, team composition is an important facet. Awazu, Mariano, and Newell (2019) explain how people affect technology use by carrying out different roles. This has clear IM/KM implications. The fundamental issue of carrying over learning from one project to another is still a significant challenge (Paton & Andrew, 2019).

Case studies with a longitudinal element are essential to investigate this direction, but the difficulties of securing access across multiple projects should not be under-estimated.

3.6. Performance/measuring outcomes

Last, but by no means least, here the research direction covers the entire aspect. How do we measure the impact of KM and/or IM? This has been a live research issue in both KM and IM ever since their inception. Measuring the outcomes is relatively easy, assuming that they must be related to some aspects of the overall performance of the organization – a form of Balanced Scorecard (Kaplan & Norton, 1996) being probably the best method. Measuring the KM/IM inputs is still the hard part, despite such contributions as those of Holsapple and Singh (2001), Mithas, Ramasubbu, and Sambamurthy (2011) and Kettinger and Marchand (2011). This existing work is generally framed in terms of KM/IM activities or capabilities rather than actual KM/IM performance, and that is where the focus of this direction needs to go.

Mixed methods approaches again seem most appropriate here, to capture both tangible and intangible facets of performance.

4. Summary

I have presented six research directions at the intersection of IM and KM that I believe are important: the extent to which apparently tacit knowledge can be made explicit; the usefulness of semi-formal or informal processes; how to discourage fake content; the

implications of working from home; KM/IM in project-based organizations; and how to measure the impact of KM/IM. Some of these have been around for decades, but still require more work; others are relatively new. Some are about the effect *of* KM/IM; others about the effect *on* KM/IM. Conspicuously absent from the six is any mention of sustainability. This is not because I do not think sustainability is important: rather, it is because I think sustainability is so important that it should be taken into consideration in all research at the intersection of KM and IM.

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