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Inclusive perspectives or in-depth learning? A longitudinal case study of past debates and future directions in knowledge management for development

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Abstract

Purpose – This paper aims to analyze how the debate around knowledge management for development has evolved over a 14-year period.

Design/methodology/approach – The study was conducted in an inductive manner, seeking to identify key themes discussed on an online community on knowledge management for development. Analysis comprised observation of the online debate, as well as semantic (co-word) network analysis of a "big data" set, consisting of 14 years of email exchange. The results were verified with the members of the community in a focus group manner.

Findings – In terms of content, the knowledge management for development debate remains strongly engaged with actual development discourse, and it continues to be rather oriented toward tools and methods. In terms of learning, the community appears highly inclusive, and provides fertile ground for in-depth knowledge sharing, but shows less potential for innovative influences.

Research limitations/implications – The study contributes to literature on knowledge management in the non-profit sector by showing how heterogeneous communities in the development domain generate knowledge and shape discourse. More specifically, the paper contributes to knowledge management for development literature by providing a comprehensive overview of how the domain has evolved since its emergence. It also advances knowledge management by showing how inclusive networks can contribute to but also limit learning.

Practical/implications – The study is of use to knowledge management professionals by showing not only the benefits but also the limitations of inclusive knowledge-sharing networks.

Social/implications – The study provides important societal implications by showing which topics are most important to development practitioners, covering the period encompassed by the Millennium Goals.

Originality/value – The paper is the first to provide a comprehensive historical overview of the key topics on knowledge management for development, as engaged by the primary online community on this topic. It also introduces innovative methods for inductive analysis of big data.

Keywords Development, Learning, Heterogeneous perspectives, KM4Dev, Online community, Semantic network analysis

Paper type Research paper

Introduction

An ongoing challenge among professionals in the sector of development cooperation is how to access expertise among heterogeneous development stakeholders, while, at the same time, integrating their varied perspectives toward more effective organizational responses. This paper presents a case study of an online community in the domain of international development, initiated in an effort to address this challenge.

For over 15 years, the community central to our case study has been facilitating knowledge sharing between professionals aimed at generating better understanding and more effective development responses, by way of knowledge management. Indeed, many

development challenges are too complex and costly to resolve unilaterally, and call for collaboration between a diverse and often dispersed range of partners, such as local and international non-governmental organizations (NGOs), policymakers, donors and knowledge institutes. Knowledge management professionals in the development context, thus, face a daunting task: they need to turn their focus outward, seeking out heterogeneous perspectives to generate in-depth knowledge of local development needs and opportunities (Puri, 2007); at the same time, they need to align these perspectives with internal institutional priorities, seeking to support improved effectiveness of development practices by fostering learning (Ferguson *et al.*, 2010). Learning is a process of collective, context-sensitive knowledge construction, which can naturally emerge if enabling conditions to share knowledge – such as people with expertise and the physical ability to engage with one another – are available (Contu and Willmott, 2003; Huysman, 2000).

Indeed, knowledge is at the heart of development practice and debate; the development sector can, therefore, be characterized as knowledge-intensive, involving heterogeneous and often dispersed stakeholders who rely on one another for in-depth knowledge sharing (Ferguson *et al.*, 2010). Accessing and generating relevant knowledge is a challenge in and of itself in any knowledge-intensive sector (Wasko and Faraj, 2005; Phelps *et al.*, 2012), but in not-for profit sectors such as development cooperation, a further complexity is added to the equation. Namely, development involves strengthening people's self-reliance and autonomy of choice, both in material (economic and environmental) and non-material (socio-political) terms (Sen, 1999; Madon, 2000). Therefore, the democratization of decision-making processes, or ensuring that debate is inclusive of heterogeneous perspectives, is an integral part of development (Contu and Girei, 2014; Ferguson and Soekijad, 2015). Indeed, as advocates of participatory development have been arguing for over two decades, it does not make sense to exclude from development debate the local interest groups at the heart of aid efforts: they are most likely to know which problems are the most pressing and why, as it is after all their quality of life and self-sufficiency that development efforts seek to improve (Escobar, 2011). Thus, while the inclusion of stakeholders is a priority to many non-profit domains, it is both means and ends for development cooperation.

In an effort to bridge the gap between “lofty goals”, such as sustainable development and inclusion, versus “complex, obdurate material social realities they encounter” in practice (Watkins *et al.*, 2012, p. 286), development professionals have turned their focus outward, seeking to generate better understanding of development-specific organizational processes conducive to knowledge sharing and learning (Ferguson *et al.*, 2010). Indeed, since the beginning of the twenty-first century, “knowledge management for development” has been eagerly embraced by both large and small non-profit development organizations. In so doing, they aim to facilitate and organize knowledge sharing in a professional, development-specific context, accounting for the heterogeneous perspectives that shape development knowledge, while simultaneously contributing to more inclusive development (Ferguson and Soekijad, 2015; Puri, 2007).

However, integrating “knowledge management for development” into everyday development practice is more easily said than done, and from the outset of this turn toward “knowledge-based development” (King and McGrath, 2004), development professionals have been engaging with one another to share knowledge on how best to proceed. This has generated, among many other knowledge-oriented activities, a host of inter-organizational knowledge networks, which comprise heterogeneous, distributed actors, interconnected through social relationships that enable knowledge sharing and creation (Phelps *et al.*, 2012). One such development-specific network in particular, aptly named “Knowledge Management for Development” or “KM4Dev”, is oriented toward the challenges of realizing knowledge management for development in practice. What started out as a small group of mostly Western development practitioners, has over the course of

its existence grown into a lively and active network of knowledge management for development professionals, including almost 4,000 members from across the world.

The 15-year life-span of the community closely matches that of the “Millennium Development Goals”, articulated in the year 2000 by the international development community as the most pertinent development priorities to be achieved by 2015[1]. With this year now upon us, it is interesting to study the debates conducted by development practitioners, and to analyze which development priorities these actually reflect. Such an analysis is useful because it helps understand whether development professionals have succeeded in aligning broad development debates and practices, and how development-specific knowledge management has progressed. To this end, this study set out to answer the following research question:

RQ1. What were the main knowledge management for development topics during the 2000-2015 timeframe, and how have these contributed to development learning?

By studying this question, we can provide important insights into the evolution of knowledge management in general, and in particular related to the contextual domain of international development. Moreover, the study helps understand what specific challenges are encountered by non-profit organizations in terms of understanding and implementing knowledge management, and how they go about this, particularly in a dispersed setting where the inclusion of heterogeneous perspectives is at stake.

A comprehensive time-series analysis made it possible to study this question, through semantic network analysis of a “big data” set comprising all messages exchanged through an online listserv, between members of a worldwide community on knowledge management for development. The outcomes were interpreted and verified among members of the community during a face-to-face meeting in a focus group approach. Comparing the outcomes of the different time series, the learning potential of the community was then analyzed by assessing the emergence of new topics versus the continuation of ongoing themes. In the next section, the conceptual underpinnings of “knowledge management for development” are first introduced, followed by the case study and its interpretation in terms of knowledge management in general, and development in particular.

Theoretical framework

Knowledge management for development represents a broad debate originally initiated by development practitioners, on how knowledge is shared and used in shaping aid interventions and influencing development decision-making. It builds on the premise that knowledge-based processes lie at the heart of development, and responds to a need for improving knowledge sharing between and learning amongst development stakeholders, despite their widely diverging perspectives (Ferguson and Taminiau, 2014; King and McGrath, 2004).

This paper conceptualizes knowledge from a “practice-based” approach (Brown and Duguid, 2001; Orlikowski, 2002), which suggests that people’s knowledge is highly embedded in their perspectives on reality, rather than an objectively knowable “truth”. Knowledge – or rather, the act of knowing – is thus highly subjective, open to interpretation and inseparable from human activity (Gherardi, 2000). Indeed, professional engagement is perceived as a contested social process, whereby practices are constituted and reconstituted as recurrent patterns of action, recognizable in inter-subjectively created meaning (Gherardi, 2009). In other words, everyday practices are dynamically shaped through the sharing and generation of knowledge between peers (Feldman and Orlikowski, 2011).

In line with this view, development practice is shaped through an interplay of perspectives, bringing together stakeholders through often subtle knowledge-based negotiations to determine what “development” actually comprises, and how it should or could be shaped (Ferguson and Taminiau, 2014; Puri, 2007). For development professionals, an important – and as yet unresolved – dimension involves the question of how to transform development

practice in a way that is more inclusive of the perspectives of heterogeneous interest groups (Avgerou, 2008; Puri, 2007). This question is at the heart of the “participation” debate that emerged in the early nineties (Chambers, 1994) but which, given the dilemmas entrenched in the debate as to who sets the boundaries to participation (Bebbington, 2004; Cornwall, 2004), is nowhere near resolution. Thus, it becomes interesting to analyze how development knowledge is actually shaped through the interplay of these heterogeneous perspectives in practice, and how different stakeholders impact on this process.

In fact, at the root of participatory development lies awareness among development organizations that they need to strengthen their understanding of local perspectives and realities, if they are to respond more effectively to the needs of the intended beneficiaries of aid. This awareness led to the recognition of development as a knowledge-intensive sector, bringing to the fore considerations of how aid organizations could better facilitate knowledge sharing both internally, and with and among its external stakeholders (King and McGrath, 2004; World Bank, 1998). However, studies analyzing participatory development as a knowledge-intensive practice are still fairly scarce, and theory development is still in a nascent phase (Ferguson *et al.*, 2010; Ferguson and Soekijad, 2015).

Indeed, studies in the domain of “knowledge management for development” often focus on tools for sharing, transferring or integrating knowledge (Ho, 2013; Ramalingam, 2005), or debate the very nature of development knowledge (Britton, 2005; Powell, 2006), while emphasizing the complexities (Ramalingam, 2013) inherent to knowledge management for development. Others explain why a knowledge-based lens on development is important, outlining the political dimensions (Mawdsley *et al.*, 2002; McFarlane, 2006; Rossi, 2004) or policy implications (Hovland, 2003). However, explicit analyses of the actual implications of knowledge management on development debate, and more specifically how heterogeneous communities of development practitioners are shaping this debate, remain largely untouched. Because of this, it is not evident whether, or how, the development sector is coping with its knowledge needs, which development priorities resonate loudest, and whether development is succeeding in integrating – and learning from – heterogeneous perspectives of its dispersed stakeholders. A more thorough examination of the state-of-the-art in knowledge management for development is therefore of significance, as a way to foster more effective responses to important societal challenges.

Knowledge management for development draws on a vast and diverse body of literature that emphasizes the significance of knowledge to organizational and economic life, and which has contributed to a dedicated discipline on “knowledge management” (Alavi and Leidner, 2001; Wiig, 1997). This discipline has been categorized in terms of three “waves”, representing different subsequent emphases and approaches. In the “first wave”, knowledge management was mostly oriented toward realizing knowledge capture and knowledge transfer (Alavi and Leidner, 2001), with a strong technology-orientation, in terms of building “knowledge clearinghouses”, databases, yellow-pages and so forth. (Ferguson and Cummings, 2008; Pan and Leidner, 2003). The “second wave” of knowledge management (Huysman and De Wit, 2004) was characterized by more emphatic recognition of the contextual embedding of knowledge, and whereby knowledge sharing and learning processes became important knowledge management foci (Ferguson and Cummings, 2008; Laszlo and Laszlo, 2002). This period also represented a peak in terms of interest in knowledge management (Phelps *et al.*, 2012). The “third wave” of knowledge management has people and processes at its core (Ferguson and Cummings, 2008) but also a more integrated approach to ICT-enabled knowledge sharing, manifested, for instance, by the widespread adoption of social media. Social media become meaningful based on the content shared by their users (Kaplan and Haenlein, 2010), as well as their influence on user behavior (Majchrzak *et al.*, 2013).

Although the term “knowledge management” in itself is now on the decline, the main gist remains highly topical, covering a broad spectrum of organizational practices that are, all in some way, related to explicit attempts to facilitate learning and structure knowledge

sharing in a professional context (Alavi and Leidner, 2001). Most of the knowledge management literature is oriented toward private-sector objectives as maximizing profits and gaining competitive advantage (Argote and Ingram, 2000; Grant, 1996), revolving around knowledge transfer (Hansen, 1999), and often organized in a rather managerialist, top-down manner. While such studies provide useful insights into different opportunities and challenges of knowledge sharing, they tend to gloss over the highly contested nature of knowledge, which is nonetheless formative for development decision-making (McFarlane, 2006; Thompson, 2004). At the same time, a body of development-specific knowledge management literature is emerging, as evidenced by dedicated journals (such as the *Knowledge Management for Development Journal*, *International Journal of Knowledge-based Development*) or by special issues on knowledge management and information systems in development in leading journals (including *International Journal of Technology Management* in 2007, *Management Information Systems Quarterly* in 2007, *Information Systems Journal* in 2013, *Journal of Knowledge Management* and *Journal of Information Technology* in 2015). Extending this emerging body of literature, this paper contributes a development-specific form of knowledge management by addressing the heterogeneous perspectives that contribute to influencing and shaping development knowledge, taking into account the contestable, negotiated context in which development knowledge is shaped (Ferguson and Taminiau, 2014; Thompson, 2004). In so doing, the paper explores the opportunities for fostering development learning in a way that is inclusive of heterogeneous perspectives.

A useful way to analyze what these different perspectives, in fact, comprise, is through discourse analysis, which views language as a form of social practice and focuses on the ways social interaction is reproduced by text (Fairclough, 2013). In the following section, a novel approach to such analyses is introduced, aimed at uncovering not only explicit but also latent discourses, which contributed to shaping knowledge management for development discourse, as well as the KM4Dev community, throughout its 15 years of existence.

Case study

Setting

Shortly after the publication of the now seminal World Bank (1998) development report "Knowledge for Development", a group of development practitioners established an online community, aimed at sharing experiences and practices to strengthen development-oriented knowledge. This "KM4Dev" community quickly grew, attracting more and more people across the world (initially mostly located in Europe and North America) who were directly or indirectly involved with "knowledge management" in a development context, as practitioners, policymakers, as part of donor agencies or as consultants (Smith, 2014). From the fairly intimate online network, the community quickly blossomed, and, at the time of this study, included almost 4,000 participants, with an active listserv, a core team, annual meetings, an online wiki, a peer-reviewed journal and many other spin-offs. The community was initially supported by various bilateral funding agencies, which contributed to platform support and facilitation. However, these budgets have now been cut, and facilitation is now done on a voluntary basis, with different agencies incidentally supporting or hosting community activities (such as workshops, travel expenses or network events).

The KM4Dev community is an ideal case for this study, as it brings together a variety of development stakeholders for whom knowledge management is a priority, and, through its online archive, makes it possible to study longitudinally what topics have been discussed. In so doing, it becomes possible to understand how knowledge management debate has evolved during the past 15-year period, in the specific non-profit domain of development cooperation.

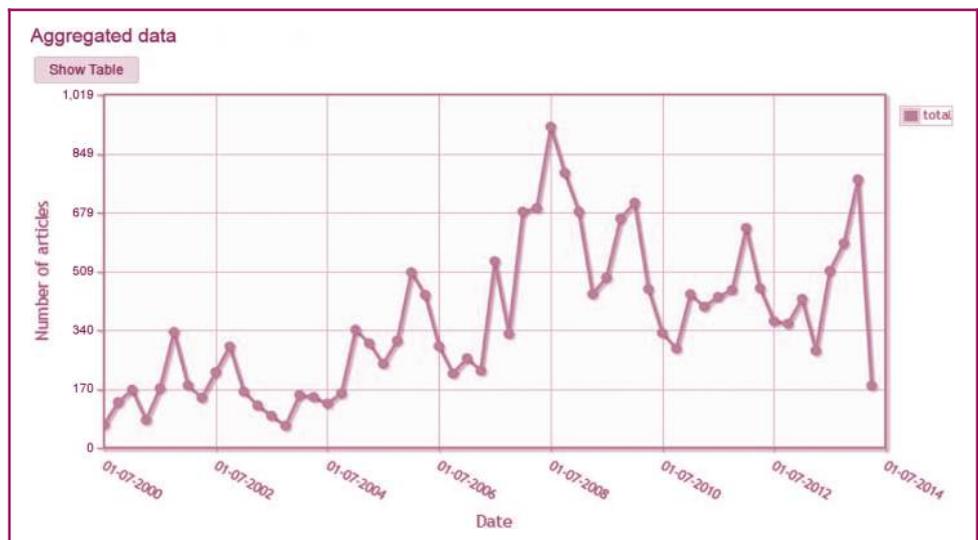
Methods

Given the nascent state of “knowledge management for development” theorizing, the research question underlying this study calls for an inductive analysis. This enables identifying and interpreting the main knowledge management for development debates since the general inception of the topic around the new millennium. As a (now non-active) community member from the very early days of its inception, the author was able to observe the community exchanges. However, contrary to conventional inductive analyses, a novel analytical approach was applied for the purpose of this study, aimed at uncovering latent discourses in online exchanges, and particularly suited to overcome possible interpretive bias deriving from close acquaintance with the study object. This approach comprised a semantic network analysis, drawing on the total body of messages exchanged through the online KM4Dev platform, and is very appropriate for analyzing big data sets such as the one underlying this study.

Semantic network analysis (or: network text analysis) is a semi-automated form of discourse analysis, drawing on the principles of social network analysis in that it seeks to uncover patterns of relations rather than individual attributes, but between words rather than actors (Leydesdorff, 1995; Van Atteveldt, 2008). By applying clustering algorithms, the method allows for identifying frequently co-occurring words and visualizing them in semantic clusters, which constitute the building blocks of discourses. Semantic network analysis thereby provides a relatively quick way to gain insight into not only prevalent but also more subtle discourses (Diesner and Carley, 2004), which interpretive content analyses may overlook but which can nonetheless reflect important topics of debate within a community. Moreover, semantic analysis makes it possible to extract and visualize multiple, simultaneous discourses, which is particularly important in the context of this study, where in particular more subtle or unconventional discussions might indicate whether non-dominant interests are, in fact, expressed. A wide selection of different tools is available to conduct semantic network analyses [for instance AmCat (Van Atteveldt, 2008), ConText (Diesner, 2014, or fulltext.exe (Leydesdorff and Welbers, 2011)]; in this study, a combination of tools was opted for based on fulltext.exe, to provide optimal control of and insight into each step in the analytical process.

First, the entire body of messages exchanged among the KM4Dev community (visualized in Figure 1 below) was downloaded, preprocessed (removing all metadata, standard stopwords and all characters other than alphabetic text) and parsed. Important to note is

Figure 1 Total body of messages exchanged by the KM4Dev online community



that the (full) name of the community (“knowledge management for development”) was excluded during this process, to ensure that manifestation of these terms in the analysis derived from their actual usage in the context of discussions, rather than from the community name.

Next, the data were divided into three distinct sets, each covering approximately five years. These time periods correspond to what has been described as first, second and third waves of knowledge management (Huysman and De Wit, 2002; Pan and Leidner, 2003; Ferguson and Cummings, 2008), which was useful for comparing how community priorities corresponded with broader knowledge management trends, as we discuss in more detail below. These three time-delineated sets were then analyzed using *fulltext.exe* to identify the most frequently used co-words and their manifestation in clusters (as described by Leydesdorff, 1995; Leydesdorff and Welbers, 2011). Results were visualized using Pajek (Batagelj and Mrvar, 2004) and VOSviewer (Van Eck and Waltman, 2009), open access tools for network visualization. In addition to the co-word analysis, an inventory was made of unique senders (using e-mail address as identifier), to detect whether the growth in content matched the growth in membership, as visualized in Figures 2 and 3.

The complete data set underlying the study is summarized in Table I.

Figure 2 Messages exchanged on KM4Dev listserv, 2000-2014

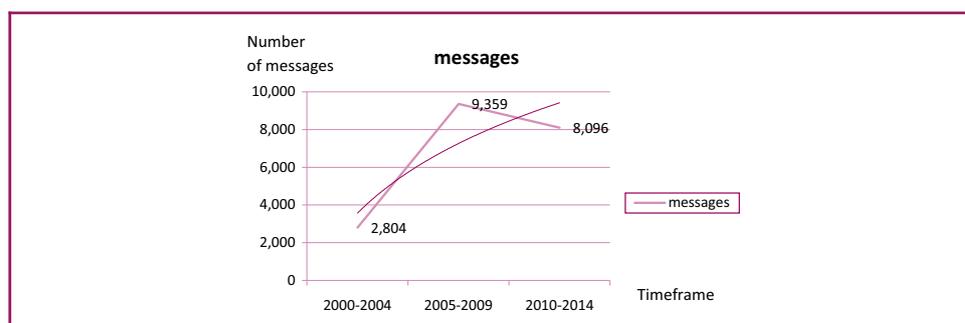


Figure 3 Unique senders of message exchanged on KM4Dev listserv

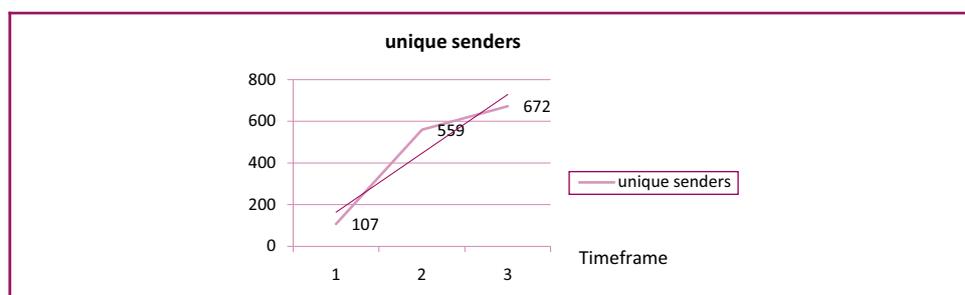


Table I Data set underlying semantic analysis of KM4Dev listserv

KM4Dev listserv*	2000-2004	2005-2009	2010-2014	Total
Messages sent	2.804	9.359	8.096	20.259
Unique senders	107	559	672	1.338
Pages of text	1.023	2.546	574	4.143
Words	681.308	1.493.800	367.128	2.542.236
Text lines	59.307	147.625	33.256	240.188

Note: *Stopwords, numbers and other “meaningless” data removed

The curve reflecting growth in content exchanged approximates the curve reflecting the number of unique senders, and neither of these are very exceptional in the patterns they manifest. In contrast, however, the semantic analysis itself did yield unconventional results, presenting quite an interpretive puzzle, as explained below. To resolve this puzzle, the 2014 KM4Dev annual workshop proved very useful, as it provided an opportunity to engage with approximately fifty KM4Dev community members present at the meeting, some of whom had been members during the entire period covered by the analysis. These members were questioned during an interactive plenary session in a focus group manner, to identify which themes they recollected as predominant over the three periods indicated, and to jointly interpret the patterns yielded by the semantic analysis, which are now presented.

Findings

Network analyses tend to yield different, yet often recognizable patterns, for instance, “core-periphery” networks (with a dense cluster in the center, and a more sparse distribution of nodes at the periphery; see for instance [Sgourev, 2013](#)); “small-world” networks (with several dense cliques, interconnected by bridging ties; see for instance [Watts and Strogatz, 1998](#)) or “random networks” (with arbitrary pattern distributions; see, for instance, [Newman et al., 2002](#)). These patterns are useful because they help explain how people’s behavior is affected by their contextual embedding ([Kilduff and Brass, 2010](#)). However, in the analysis of the KM4Dev network, the conventional patterns which one might expect could in fact not be discerned. Instead, the analyses yielded very densely connected networks, with barely any clustering at all. This proved the case for all three time-series analyses, which are now introduced consecutively.

Phase 1: 2000-2004. In terms of the preliminary phases of the KM4Dev community, members participating in the focus group discussion recollected a predominant orientation on ICT tools and instruments, with popular topics including communities of practice, KM tools and methods, as well as discussions on the nature of knowledge. The data set covering this first phase comprised 2,804 messages sent, 107 unique senders[2], translating into on average 26.2 messages per sender.

[Table II](#) indicates the outcome of the semantic analysis, listing the most frequently used terms represented in the KM4Dev community during the period 2000-20004, manifested in two clusters and ordered in terms of frequency.

This topical distribution is visualized in [Figure 4](#).

Table II Key terms 2000-2004			
<i>Green cluster</i>		<i>Red cluster</i>	
Knowledge	Support	KM	Participant
People	Communication	Development	Access
Management	NGO	Information	Lucie
Time	Business	Workshop	Partner
Paul	Action	Learning	Conference
Organization	Stories	Community	Social
Project	Learn	Sharing	Peer
Question	South	Discussion	Service
Network	Global	Practice	Article
Steve	Mobile	Experience	Book
Process	Role	Resource	Strategy
IM	Value	Share	ICT
Technology	Sector	CoP	
Tearfund	Culture	Research	
Change	Mark	Program	
Tool	Lesson		
Manager			

Figure 4 Network visualization of key terms 2000-2004

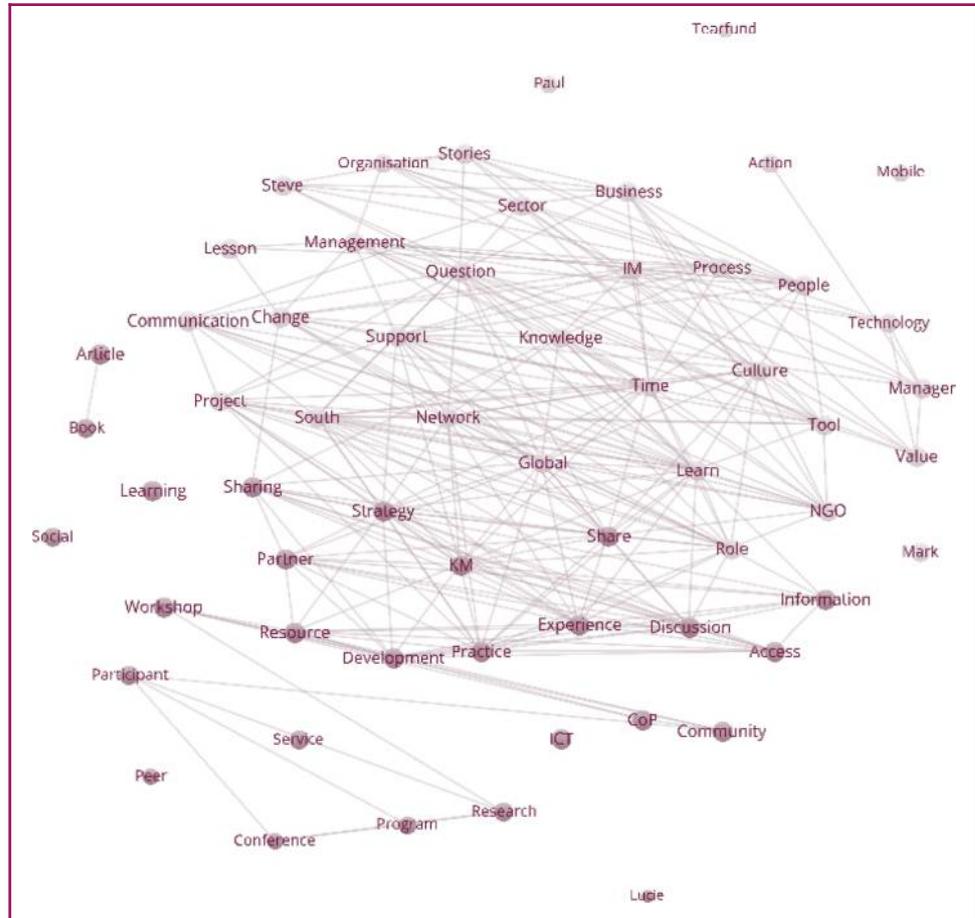


Figure 4 shows that the network has an extremely high density, i.e. many of the possible connections between terms are in fact realized. This means that many of the debates covered these topics, and there was little discursive segmentation into distinct clusters. Interpretation of the two clusters, verified with the members of the focus group, indicates a tendency within the green cluster toward an *organizational* focus (process, support, management, communication, etc.), including the *structural conditions* for knowledge management (tools, technology and mobile). Of significance is the overall centrality of key topics including “global”, “knowledge”, “NGO” and “south”, indicating that the knowledge management focus was indeed closely aligned to development priorities. The non-profit organization Tearfund was one of the first to recognize the significance of knowledge to development (and their knowledge manager a key driver thereof)[3], so their prominence in the debate during this initial period is unsurprising.

The red cluster can be interpreted as inclining toward knowledge-sharing *practices* (“CoP” (community of practice), “experience”, “share”, “learning”, “workshop”, etc.). Also noticeable are the centrality of key drivers as “development”, “partners” and “participants”, touching on community debate on how to “practice” development in a way that is inclusive of or beneficial to partner interests.

Overall, this network visualization indicates that “everyone is talking to everyone”, and that the debates are strongly interrelated with one another. In sum, the semantic analysis partially corresponds with focus group members’ recollection of prominent debates but also indicates that the question of actually organizing knowledge management was important for many development professionals. This is of course fairly unsurprising, as it

was a relatively new discipline at that time, so many people were still trying to make sense of the concept, and to understand how to best integrate it in their development practice.

Phase II: 2005-2009. The second phase that we analyzed showed strong increase in community participants and active discussion on the listserv. The focus on tools remained strong, but these were often oriented toward facilitating networking and knowledge exchange through communities, rather than seeking to “capture” and transfer knowledge. Community members participating in the focus group echoed this active “networking” orientation, as part of the “social dimensions” of ICT, also mentioning a more “local” focus on knowledge sharing, as well as facilitation methods as important topics of discussion. The data set covering this first phase comprised 9,359 messages sent, 559 unique senders, translating into on average 16.7 messages per sender, which represents significant growth and fairly high member involvement.

Table III indicates the outcome of the semantic analysis, listing the most frequently used (meaningful) terms represented in the KM4Dev community during the period 2000-2004, ordered in terms of frequency and manifested across three factors.

This topical distribution is visualized in Figure 5.

Similar to Phase I, Figure 5 shows a very high density network, with little visible distinction in terms of topic significance. Slight discursive segmentation is manifested, but still fairly subtle compared to what usually emerges from such analyses. Interpretation of the clusters was again verified with the community participants in the focus group. The red cluster (as in Phase I) appears orientated toward doing *knowledge sharing* (“exchange”, “sharing”). “Tools” remain important, but these appear to be more oriented toward networking (“network”, “CoP”), and early forms of social media (“blog”) that enable interaction. Also noticeable in this knowledge-sharing cluster is the orientation toward accounting for knowledge management activities (“impact”, “change”, “project”, “approach”), which was indeed verified by participants as an organizational priority that emerged once the novelty of KM had worn off.

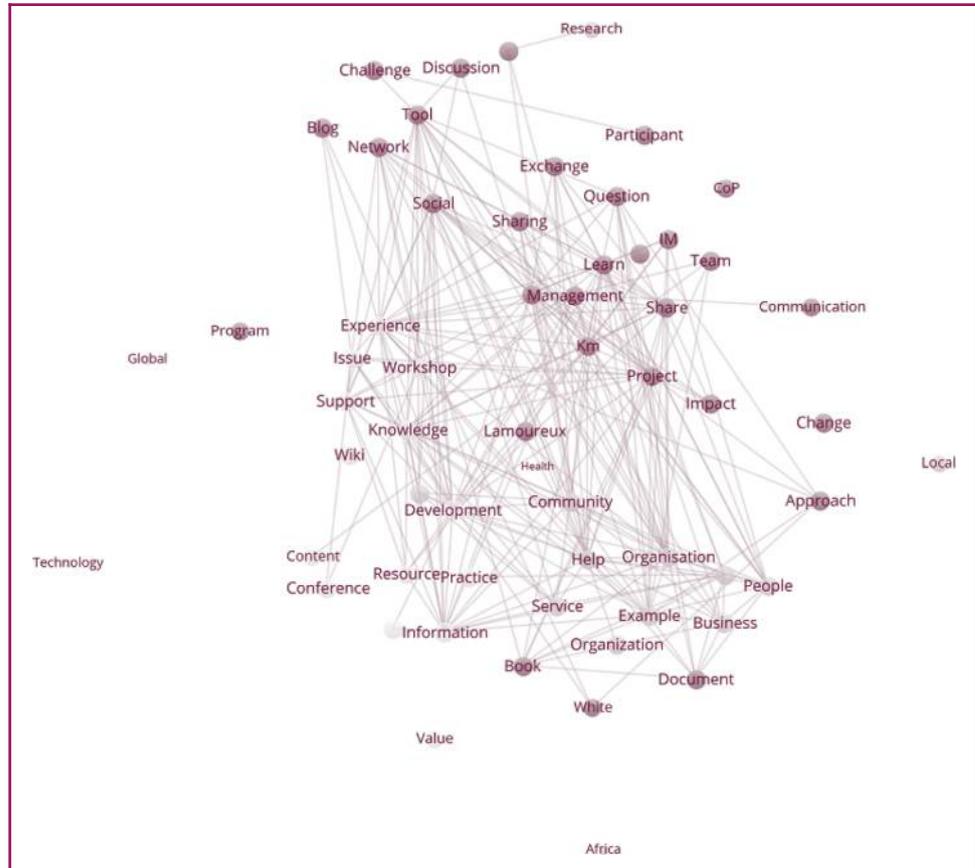
The yellow cluster reflects an orientation toward *institutional integration* of knowledge sharing, for instance, by sharing “experience”, “issues”, “resources” and providing “support” through “training”, “workshops”, “conferences”, “wiki”, etc. Finally, the green cluster, although more difficult to interpret, suggests *organizational enablers*, providing “help”, “service” and “examples”, to foster “learning”.

The development content of the community remains prominent, reflecting continued interest in “development” but also “health” has become a priority (yellow nodes).

Table III Key terms 2005-2009

<i>Yellow cluster</i>	<i>Green cluster</i>	<i>Red cluster</i>	
Knowledge	People	KM	CoP
Development	Learning	Management	Blog
Information	Community	KMdev	Team
Experience	Organization	Tool	Participant
Issue	Help	Project	Impact
Practice	Research	Sharing	Learn
Resource	Organization	Question	Document
Workshop	Example	Network	Program
Wiki	Service	Idea	White
Support	Access	Discussion	Global
Conference	Africa	Change	Book
Training	Business	Share	Approach
Content	Local	Social	Exchange
Technology		Communication	Challenge
Health		IM	
Value		Event	

Figure 5 Network visualization of key terms 2005-2009



Knowledge sharing at a “local” level, with “people” in “Africa”, continues to be a concern (green nodes).

Overall, this network visualization indicates that there is still a dense core with strongly interrelated debates, and with some slight peripheral, yet cross-cutting debate on global versus local, and whereby “technology” in and of itself seems to be occupying a slightly more marginal position. In sum, the semantic analysis again corresponds with focus group members’ recollection of prominent debates, indicating the challenge of integrating knowledge sharing as a key institutional practice but also reflects that accounting for the “value” of knowledge management became more important, and less self-evident than perhaps was previously the case.

Phase III: 2010-2014. In relation to the third phase of our data set, community members participating in the focus group immediately mentioned social media as a key topic of debate on the list, as well as a continued orientation toward products, processes and instruments, and “futures” (of KM and development). The data set covering this third phase comprised 8,096 messages sent, 672 unique senders, translating into, on average, 12.04 messages per sender, which represents a slight decline in messages, reduced growth, and lower member involvement.

Table IV indicates the outcome of the semantic analysis, listing the most frequently used (meaningful) terms represented in the KM4Dev community during the period 2010-2014, ordered in terms of frequency and visualized in two clusters.

This topical distribution is visualized in Figure 6.

Table IV Key terms 2010-2014

Yellow cluster		Green cluster	
Knowledge	Share	People	Training
Development	Event	Information	IM
Management	Wiki	KM	Useful
Experience	Team	Learning	Access
Sharing	Jaap	Project	Local
Tool	Content	Community	Evaluation
Online	University	Organization	Book
Network	Participant	Idea	Business
Question	Nancy	Practice	Context
Communication	Blog	Help	Technology
Discussion	Journal	Mobile	Learn
Research	Paper	Process	Application
Workshop	Impact	Africa	Value
Lucie	Manager	Service	
Change	Topic	Resource	
Social	Challenge		

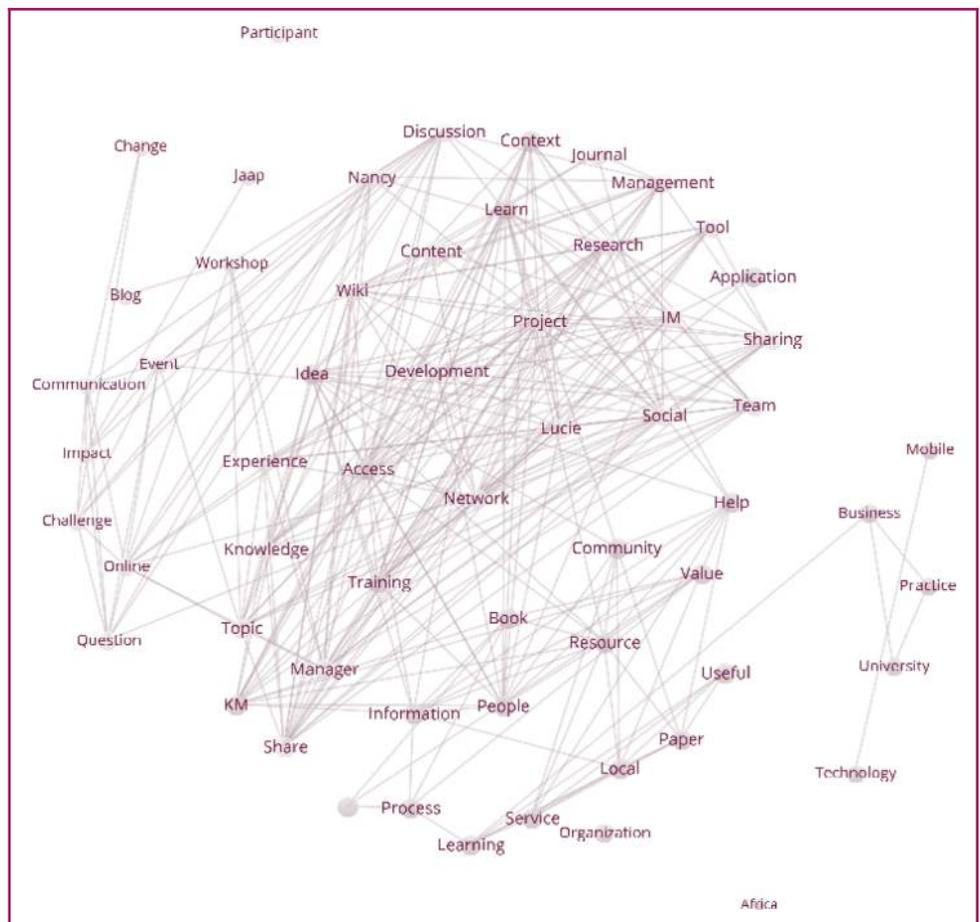
Figure 6 Network visualization of key terms 2010-2014

Figure 6 again shows a very high density network, with a particularly dense core, and low clustering. Interpretation of the meaning of the two clusters was again verified with the community members participating in the focus group. While both clusters manifest a practice orientation (in line with the broader concurrent knowledge management trends, and as indicated by the community members), the yellow cluster manifests a tendency

toward (perhaps more interactive) forms of *knowledge sharing*, as indicated by “share”, “social”, “experience”, “wiki” and “blog” and also indicates debates on “learning” from the “content” shared, through the community “journal”, “wiki” and “research”.

The green cluster represents the ongoing *institutional* challenges encountered by development-oriented knowledge workers, manifested in debates on “value”, “useful”(-ness) and “evaluation”. Knowledge products underlying such institutional tendencies are reflected in “book”, “resources”, “papers”, and some attention is also given to “processes”, “people” and “services”.

Consistently across all three phases, “knowledge” and “development” are among the top three topics addressed in the community, with high mutual interrelatedness. The strong development orientation of the community, therefore, remained prominent, similar to the debate on “access” (to tools, relevant knowledge and stakeholders), and on “knowledge” (including recurring debates as to epistemological origins). Moreover, across the three phases, the community showed extraordinarily high network density. In the next section, we discuss what this high density might imply, in terms of development learning within the community and for knowledge management more generally.

Discussion

The main objective of the study underlying this paper was to identify the main knowledge management for development topics addressed during the 2000-2015 timeframe, and to understand how discussion of these topics contributed to the construction of collective, context-sensitive knowledge, thereby shaping development learning. A longitudinal study of a key online community of globally dispersed development professionals disclosed that the discussions can be matched to what prior studies have identified as three “waves of knowledge management” (Ferguson and Cummings, 2008; Laszlo and Laszlo, 2002; Pan and Leidner, 2003), whereby the focus incrementally shifted from tools, contextual dimensions of knowledge, to knowledge embedded in processes and people. Nonetheless, the analysis also disclosed three crosscutting dimensions. First, topics included the *organizational conditions* that enable knowledge sharing (including tools, technology dimensions and organizational processes). Second, topics revolved around knowledge sharing *practices*, with an increasingly interactive, social, and process orientation. Third, topics addressed *institutionalization* of knowledge management, including the organizational barriers and challenges to knowledge management, and issues related to accountability and value.

Besides these topics related to knowledge management in general, the dimensions of development and knowledge remained central across the entire timeframe studied. While this is unsurprising in view of the online community’s main focus on “knowledge management for development”, it could well be argued that the general topics related to knowledge sharing practices in an organizational and/or institutional context might overshadow the actual development orientation of the community. In fact, throughout its lifespan so far, the community has partially succeeded in its efforts to extend its global reach: on the one hand, community membership appears to comprise predominantly senior professionals in European and North American-based NGOs, but involvement of African, Asian and South American members is on the rise, as evidenced by a recent evaluation report of the community (Smith, 2014). On the other hand, Francophone and Spanish KM4Dev sub-communities were initiated, but efforts for the former were mostly driven by one person, while the latter was deleted due to lack of engagement (Smith, 2014). Thus, it could be argued that the community’s Western dominance leads to less attention to the needs and opportunities for development among actual beneficiaries of aid. Nonetheless, the centrality of development-oriented keywords suggest that the community was consistently oriented toward its objectives of strengthening development effectiveness through knowledge sharing. However, to evaluate the actual inclusion of stakeholder voices in KM4Dev debate calls for further research, for instance juxtaposing social network

analysis with the present content analytical focus, and thereby linking content to the organizational embedding of community members.

Reflecting on the community's learning capacity, the findings are ambiguous. Overall, the analysis disclosed very dense semantic networks, with strong interrelations between many of the words, and very little clustering. On the one hand, it can be concluded that the community is, therefore, a fruitful forum for knowledge sharing. High-density networks, such as the ones identified in this analysis, generally indicate strong internal cohesion (Friedkin, 1981; Reagans and McEvily, 2003), which, in turn, is an indicator of trust, and is conducive to sharing (complex) knowledge in a relatively unproblematic way (Hansen, 1999; Levin and Cross, 2004). Moreover, the community appears to be a highly inclusive environment, whereby topics – and in extension the people that initiate them – are easily interrelated: there are no outliers, no subgroups, but instead very strong mutual linkages. This indicates that everybody seems to be talking to everybody. Further, similar topics are addressed across the entire period studied, which means that the community has generated a substantial, rich and in-depth body of knowledge. Finally, the topics addressed in the community reflect a development focus, which makes it possible to presuppose that the community does contribute to professionals' development practices as intended. In sum, the community appears to yield positive benefits to its participants, which is also clear from the growing number of members, even 15 years after its establishment and when "knowledge management" can no longer simply draw on the appeal of a fashionable term to reap interest.

On the other hand, however, the strong co-word interrelations and lack of clustering reflect a downside, in terms of the community's learning potential. Namely, high density also indicates that there may be a lack of novelty within the community – engendering the question whether new perspectives are actually being introduced. Given a different type of analysis this might become more evident, but in any case, this study clearly revealed that such new perspectives were neither permeating nor affecting the core of the community, and its most dominant topics. In fact, while long-term engagement with similar topics is conducive to generating rich knowledge – and this sentiment was echoed by participants of the focus group discussion – it can also indicate a lack of learning, leading instead to repetition of established, but not necessarily useful ideas and practices. Indeed, prior studies have established that access to innovation opportunities and novel insights depends on bridging ties across heterogeneous clusters, whereby these bridging ties more often than not represent more distant rather than close, strongly embedded ties (Granovetter, 1983; Hansen, 1999; Uzzi, 1997).

In sum, it is questionable whether the community is succeeding in generating new knowledge, is simply regurgitating established insights or is repeating discussions as newer members join. Indeed, this can lead to long-term, high-value members abandoning the community, or in any case taking a backseat (reverting from active core members to "lurkers" or passive members), which indeed has been the case among several key "knowledge management" figureheads within the specific community central to this study. However, as a self-organized, voluntary community, this is not altogether unexpected. The community continues to engage passionate members, reinforced by a core-group aimed at "supporting the needs of KM4Dev members and building the community" (KM4Dev wiki). The evidence, therefore, appears to suggest that the community does sustain development learning – if perhaps less so at a collective level, at an individual level it continues to fulfill an important and valuable function.

Thus, it appears that knowledge management communities that are successful in terms of their longevity and inclusiveness can be a double-edged sword in terms of their learning potential. Namely, such communities can yield benefits in terms of fostering cohesion and generating richness of content, but these same dimensions can, in fact, turn against them in terms of constructing novel knowledge. Indeed, the KM4Dev community analyzed in this study is deemed an expert network of knowledge management professionals, but one

might question the extent to which the expertise within the network is in fact being integrated in participants' organizational context, or remains an isolated entity in and of itself. This latter dimension might explain why knowledge and information management professionals in a more general sense continue to struggle with the institutionalization of knowledge sharing as a key priority, despite recognition of the need for knowledge-intensive organizing in so many different domains, both profit and non-profit. In this sense, the findings presented in this study can also prove useful for scholars and practitioners embedded in a broader organizational context, and interested in understanding how online communities share and shape domain-specific knowledge.

Summary

Zooming in on the exchanges communicated with an online community over a period of almost 15 years, this study reveals ambiguous yet interesting outcomes: that is, the very characteristics of successful knowledge sharing communities can at the same time inhibit their further development. Indeed, analysis of the KM4Dev community showed that over the period study, some (key) topics continued to attract much debate, and thereby yielded in-depth community knowledge. However, this also led to repetition, and possibly deterred the inclusion of innovative or novel perspectives. While this single case study design limits the generalizability of outcomes, it also provided fine-grained insights into community dynamics; subsequently, by interpreting the outcomes from multiple perspectives of learning and network theory, and development studies, the study provides important implications for research and practice.

Implications for research and practice

First, the study extends knowledge management literature, in general, by showing how knowledge management debate evolved over the past 15 years, in a specific non-profit context. Indeed, the study disclosed that dense interrelations allow online communities to flourish in terms of knowledge sharing, but can simultaneously present inherent limitations to the generation of new knowledge, or learning. More specifically, the paper contributes to knowledge management by highlighting some specificities of knowledge management in the non-profit domain, and indicating how this context differs from conventional approaches, thereby building on prior studies by, for instance, [Ragsdell et al. \(2014\)](#). In particular, the study highlights the significance and challenges of fostering the inclusion of heterogeneous perspectives on non-profit organizing, as previously articulated in the long-standing participation debate. In this study, participation was studied by assessing the inclusion of different perspectives, manifested through expressions of knowledge, and by analyzing these expressions semantically. In fact, despite its significance to many non-profit organizations, participation remains an underexposed dimension of multi-stakeholder, knowledge-intensive organizing; moreover, where participatory considerations are manifested in a non-profit context, they are rarely addressed from a knowledge perspective ([Ferguson and Soekijad, 2015](#)). Connecting participation to knowledge management literature is important because, on the one hand, it creates scope for generating more innovative, multi-stakeholder approaches to pervasive societal problems. On the other, it helps to unravel emergent barriers toward realizing non-profit indicators of stakeholder inclusion, presenting the possibility to generate more effective knowledge management in practice.

Extending these possibilities to the case study presented above, a possible way forward for the community in question is for participants to ensure their key asset, namely, their rich, shared expertise, is maintained. However, there is scope for more effectively drawing on the body of knowledge present within the community's archives (i.e. practicing more effective knowledge management themselves), for instance, by taking advantage of novel information and data mining methods such as adopted, for example, in the present study. This might help identify relevant existing sources, and extending these further, rather than replicating debates and losing the interest of long-term participants.

Another recommendation for practice is for knowledge management professionals to strengthen their brokerage roles within their different institutional contexts, rather than focusing on the actual tools and content of knowledge. Namely, the advances in current-day technologies make it increasingly simple for knowledge workers in all kinds of organizations to generate their own knowledge networks, drawing on the multitude of social media available to them. It, therefore, appears that the role of knowledge management professionals is changing, for instance, toward providing innovative gateways to context-specific, previously untapped sources of expertise, and thereby also strengthening the representation of heterogeneous stakeholder perspectives.

Finally, this paper contributes to the important non-profit sector of development cooperation, thereby providing significant societal relevance, by showing how the sector has evolved – and possibly stagnated – in terms of its knowledge management orientation. In view of the vast ambitions that the Millennium Development Goals sought to achieve by 2015, it is all the more important to draw on global knowledge to continue addressing pertinent and severe social issues and clearly, collaborative, knowledge-intensive approaches are indispensable. Therefore, continued efforts toward establishing knowledge management for development as a serious and significant domain of study, is a priority.

Limitations and future research

Besides the contributions this paper offers, it also has its limitations. One of these is the scope of the content analyzed in this paper, which is, of a course, a mere tip of the iceberg. Further in-depth analysis of the content exchanged – drawing on both qualitative and quantitative methods – would clearly be of value in terms of strengthening the interpretation. However, this study does indicate the key topics addressed in knowledge management for development, so provides useful sensitizing concepts for further study. Further statistical analyses of the results, or social network analysis of the community, could also be a useful complement to the results reported on in this paper in terms of showing the patterns of interaction and influence among the key actors and debates within the network, and thereby offers a useful direction for future research.

Clearly, there is ample scope for further study of knowledge management in non-profit domains in general, and development in particular. This paper represents a modest contribution toward expanding this exciting and important field of research.

Notes

1. See www.undp.org/mdg
2. A caveat underlying these figures is that not all names of the senders of messages could be distinguished in Phase I because of the very early period in terms of email usage and lack of corresponding metadata in this early period. The actual number of senders is, therefore, likely to be slightly higher, yielding a lower average, but this cannot be retraced based on the archival data.
3. See, for instance, www.norrag.org/en/publications/norrag-news/online-version/knowledge-research-international-co-operation/detail/tearfund-and-knowldege-management-where-we-are-in-july-2001.html

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