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Ignorance Management: An Alternative Perspective on Knowledge Management in Multinational Organisations

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Abstract: This paper identifies an alternative perspective on Knowledge Management (KM) in multinational organisations by definition of the concept of Ignorance Management. Furthermore, this paper discusses the difficulties employees face in understanding and comprehending what they need to know to do their jobs, and what implications this can have within global technology intensive environments. The focus is given in particular on multinational organisations where innovation and new knowledge is essential to both short-term opportunistic value capture and longer term business sustainability. Hence, this paper discusses why managing ignorance is essential for maintaining a strategic knowledge sharing culture within multinational organisations. Furthermore, it develops a novel theory on the nature of knowledge and ignorance while making the distinction between knowns and unknowns as well as between consciousness and ignorance. The theoretical findings have been applied to technology intensive and innovative environments. A case study is explored within the paper, based on findings from one of the largest military contractors in the world, which employs over 100,000 people across the globe. The paper adopts an interpretivist philosophy, using the primary strategy of qualitative research. In addition, due to the complexity of the topic, a mixed methods approach has been used for the data collection process. Moreover, participatory action research is undertaken to study individuals' actions in a particular context and improve organisational strategies and KM practices. The study shows that managing ignorance and adaptiveness in multinational organisations is becoming increasingly important. Thus, the critical question is not just managing what is known but also trying to find ways to manage the unknown. This viewpoint of acknowledging ignorance, if successfully incorporated within a company's KM strategy, will not only facilitate and enhance knowledge storage and transmission processes but will also undoubtedly play a vital role when referring to a company's efficiency, productivity and overall performance.

Keywords/Key Phrases: Ignorance management, knowledge management, ignorance, multinational organisations, performance improvement.

1. Introduction

"There are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns -- the ones we don't know we don't know"
(United States Department of Defence, Secretary Rumsfeld 2002)

One of the proponents of the KM concept, Nonaka (1991) is concerned with the transfer process between tacit and explicit knowledge. In particular, knowledge creation can be seen as a process of articulating (converting tacit knowledge into explicit) and internalising (using that explicit knowledge to extend one's own tacit knowledge base) knowledge processes. Arguments for the distinction between tacit and explicit knowledge and the difficulty in communicating tacit knowledge to others come from the philosopher Michael Polanyi (1958). He argues that human beings have a kind of tacit knowledge that language cannot capture; or in other words "we can know more than we can tell" (Polanyi 1966: 4). Hence, knowledge management is a matter of sharing knowledge with others and not just keeping it for own use and power (Brown and Duguid 2000; Wenger and Snyder 2000). It is the answer to 'know how' as opposed to 'know why' and 'know what', which are common practices of Information Management (Polanyi 1958, 1966). Moreover, the generation of somebody's own way of thinking could lead to gaining new knowledge and expertise. "Providing evidence to illustrate your arguments" (Cottrel 2005: 9) and having non-biased views are some prerequisites for knowledge management and critical thinking.

But how do we know what we need to know? And more importantly, how can we reduce the risks of making the wrong decision when using '*imperfect information*'?

Modica and Rustichini (1994: 108) provided an introduction to the concept of awareness and unawareness in models of information.

"A subject is certain of something when he knows whether that thing is true or false; he is uncertain about it when he does not know its truth value, but he knows he does not – 'conscious' uncertainty. […] On the other hand, a subject is unaware of something when he does not know its truth value, and he does not know that he does not know – and actually so on ad infinitum: he does not perceive, does not have in mind, the possible object of knowledge".

According to Plato's *Apology* (21d), the Classical Greek philosopher and leading figure in the areas of epistemology and ethics, Socrates once said:
This man, on one hand, believes that he knows something, while not knowing [anything]. On the other hand, I - equally ignorant - do not believe [that I know anything].
(Plato *Apology*, 21d)

The above quotes support the researchers' personal point of view that Knowledge Management could better be seen as '*Ignorance Management*' due to the fact that it is impossible for someone to comprehend and understand everything in a complete way. The only real wisdom is in recognising the limits and extent of your knowledge and therefore, KM is essentially a matter of sharing the extent of our ignorance with other people and thus learning together. This process of accumulating knowledge will develop a tacit understanding and will improve both short-term opportunistic value capture and longer term business sustainability.

This paper explores the power of understanding the unknown while arguing that there is no perfect knowledge to enhance and facilitate knowledge management processes. Hence, after re-visiting examples of current KM strategies within multinational corporations, this paper defines the concept of Ignorance Management highlighting the necessity to re-examine managerial strategies and improve innovative capacity in multinational organisations.

2. Theoretical foundations

The concept of managing ignorance in multinational organisations was highly influenced by Nonaka's work regarding the creation of a 'knowledge sharing' company as well as that of other critical thinkers who discussed knowledge and organisational learning, from Socrates, Plato and Aristotle in Ancient Greece to Polanyi, Takeuchi, Senge and others in the modern age. However, in order to apply this concept to large and multinational environments, it is important to understand how individuals acquire new knowledge in organisations. As Bhatt (2001: 75) noted "knowledge management is a comprehensive process of knowledge creation, knowledge validation, knowledge presentation, knowledge distribution, and knowledge application". Therefore, it can be deduced that managing knowledge within an organisation is a reflective and complex practice and is characterised by collective thinking and the creation of a shared frame of reference (Sarker *et al.* 2011).

Multinational organisations, even in today's uncertain economic climate, have made notable changes to their KM strategies shifting to a human-centred and more social-like perspective. This movement has occurred because companies are starting to admit the importance of human factors within their organisations. They can see that by taking into account the knowledge of their employees, the overall value of their businesses rises, becoming at the same time more profitable and successful. Hence, knowledge management strategies are tailored to meet specific business needs while aiming to produce more effective knowledge exchange mechanisms and foster innovation. Notably, Porac *et al.* (1989) had seen an increase in interest in the interpretive side of organisations in the early 1980s (Barley 1983, 1986; Bartunek 1984; Kiesler and Sproull 1982), which was later incorporated into questions of strategic management (Dutton and Jackson 1987).

However, despite the observation of Porac *et al.* (1989), it is evident that "in most companies the ultimate test for measuring the value of new knowledge is economic" (Nonaka 1991: 103). People often follow rules, prefer stability and maintain the status quo. Also, it is a psychological concept that individuals are often afraid to make extreme and radical changes, and embrace new ideas and thoughts (Aldag and Stearns 1991; Griffin 1993). Hence, despite individuals being significant sources,

conduits and generators of knowledge, the body of organisational knowledge should be seen as the aggregate of each individual employee's ignorance. Also, knowledge creation within an organisation should centre on the crucial presumption that human knowledge is created and enlarged by means of understanding the unknowns. This statement is also supported by Pynchon (1984: 15-16) who sees ignorance as a potential component for future success and achievement.

"Ignorance is not just a blank space on a person's mental map. It has contours and coherence, and for all I know rules of operation as well. So as a corollary to [the advice of] writing about what we know, maybe we should add getting familiar with our ignorance, and the possibilities therein for writing a good story".

Based on the above analysis, one can explain why managing ignorance is important and essential for maintaining a strategic knowledge sharing culture within multinational organisations; however this concept remains still widely unexplored in today's organisational milieu.

3. The Ignorance Management Theory

In order to further develop the concept of Ignorance Management we have developed a framework which highlights different assumptions about the nature of knowledge and ignorance. Principally, we have made the distinction between knowns and unknowns as well as between awareness and unawareness, i.e. ignorance. In the context of strategic knowledge management analysis this key theory will be referred to as '*Ignorance Management*', a term adopted by the authors in their attempt to marry the words 'Ignorance' and 'Knowledge Management', especially in regards to the way multinational organisations should acknowledge the power of the unknown (Figure 1).

More specifically, the outcome of our work has proposed two axes that set up the four different paradigms (approaches) which can be identified in this theory: I know that I know (high level of knowledge and low level of ignorance), I don't know that I know (high level of knowledge and ignorance), I know that I don't know (low level of knowledge and ignorance) and I don't know that I don't know (low level of knowledge and high level of ignorance).

The visualisation produced allows us to better understand the scope of this paper as well as its limitations in the context of multinational organisations while investigating the two sides of the graph. It also allows us to look at and predict the trajectories of an organisation within that diagram.
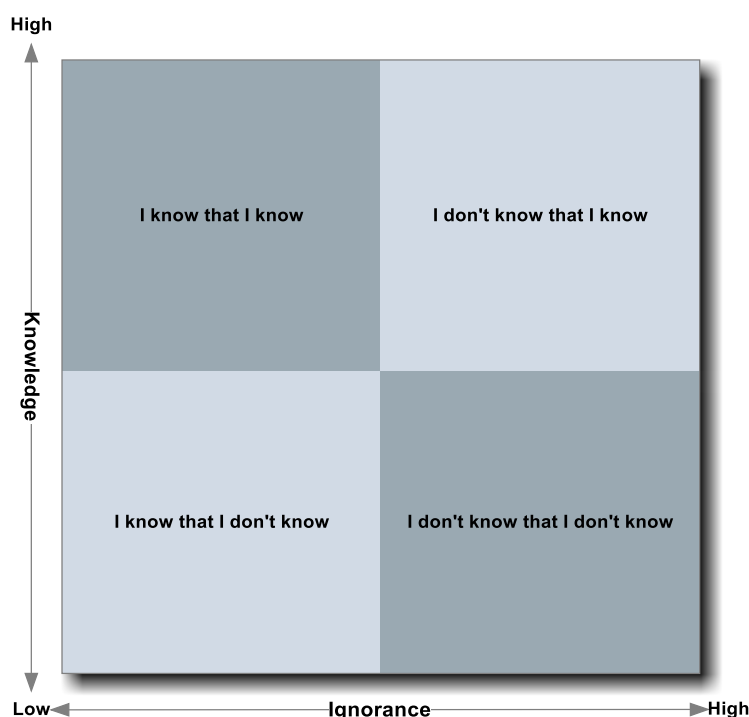

Figure 1: Overview of the Ignorance Management theory from the viewpoint of four paradigms

Regarding the knowledge dimension, it can be deduced that reality exists externally to humans; knowledge can be discovered using scientific approaches and people's reactions can be predicted. In contrast, this paper examines the importance of the ignorance dimension highlighting that being on the awareness side, people have 'free will' and can act capriciously; reality is perceived by individuals and created from perception and interpretation. Therefore, it is inferred that employees classified within the domain of high level ignorance are more likely to innovate and produce new knowledge. Also, in particular within collaborative groups, communities could create the social fabric of learning; foster interactions and relationships based on mutual respect and trust and encourage a willingness to share ideas, expose one's ignorance, ask difficult questions and listen carefully (Wenger *et al.* 2002: 28). Hence, the emphasis of multinational KM organisational strategies should be given in providing the incentives to explore such new avenues while investigating any unknowns through new knowledge capture mechanisms. This will allow them to foster and innovate as well as gain competitive advantage through more effective knowledge management strategies.

The main ideas which have inevitably evolved from this theory, namely knowing what is needed to be known and also acknowledging the existence of unknowns that could transform knowledge strategies if successfully explored, have consequently led to the creation of new terms including that of Ignorance Management. Hence, as no previous definition has been given to support this key term, we have provided our own based on our research and professional practice.

Ignorance Management is a process of discovering, exploring, realising, recognising and managing ignorance outside and inside the organisation through an appropriate management process to meet current and future demands, design better policy and modify actions in order to achieve organisational objectives and sustain competitive advantage.

Hence, this study argues that managing ignorance and adaptiveness in multinational organisations is not just a theoretical foundation, but also a pragmatic undertaking which has become increasingly important in multinational environments. Thus, the critical question is not just managing what is known but also trying to find ways to manage the unknown. Furthermore, according to the above definition, this viewpoint of acknowledging ignorance should be clearly defined in business documents with a strong connection to corporate strategy. We believe that if successfully incorporated within a company's KM policy, this form of knowledge will have a more permanent dimension and the organisation may build on it a sustainable competitive advantage.

4. Research methodology

Participatory action research was undertaken to explore this theory within the scope of a multinational organisation. Kurt Lewin, often recognised as the founder of social psychology and one of the first to study group dynamics and organisation development, "is credited with coining the term 'action research' to describe work that did not separate investigation from the action needed to solve the problem" (McFarland and Stansell 1993: 14). In his paper *Action Research and Minority Problems* (Lewin 1946: 35-38), "action research" is described as "a comparative research on the conditions and effects of various forms of social action and research leading to social action [that uses] a spiral of steps, each of which is composed of a circle of planning, action, and fact-finding about the result of the action". An illustration of the first, second and third steps are shown in Figure 2.

Participatory action research is a reflective process of solving problems and creating solutions while working with others in teams to improve strategies, knowledge and processes of the environments within which they practice. According to Reason and Bradbury (2006: 2), "the primary purpose of action research is to produce practical knowledge that is useful to people in the everyday conduct of their lives". Hence, all of the members are involved in the research process (Hopkins 2002). Riel (2010) highlighted the importance of action research in developing a deep understanding of the ways in which a variety of social and environmental forces interact to create complex patterns. Specifically, it is noted that "action research is a way of learning from and through one's practice by working through a series of reflective stages that facilitate the development of a form of 'adaptive' expertise" (Riel 2010). Ferrance (2000: 15) noted that "within all the definitions of action research, there are four basic themes: empowerment of participants, collaboration through participation, acquisition of knowledge, and social change". Thus, action research was used as it is most appropriate in situations which involve the development of knowledge and ignorance as well as innovation.
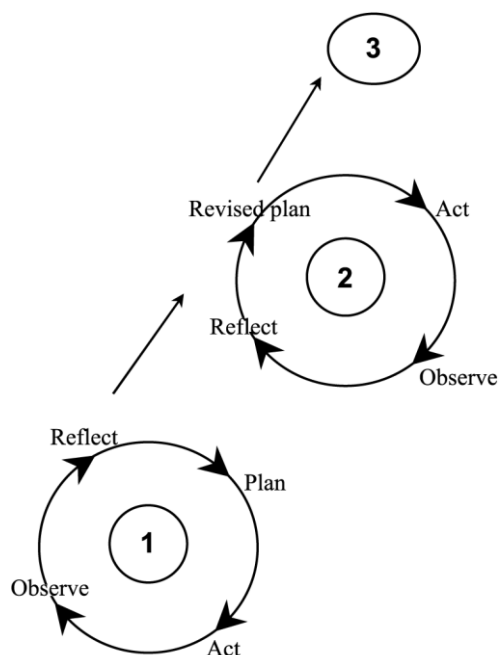
Figure 2: The spiral of action research cycle as illustrated by Altrichter (2002: 130)

In addition, the focus of this research is given in particular to multinational organisations where innovation and new knowledge is essential to both short-term opportunistic value capture and longer term business sustainability. Therefore, the theoretical findings have been applied to technology intensive and innovative environments. In particular, this research is focussed on one of the largest military contractors in the world which employs over 100,000 people across the globe. The company is ranked within the top 10 of the entire major global aerospace and defence indexes including the Defence News, Forbes2000 and Stockholm International Peace Research Institute (SIPRI) top 100. The company's employees are highly skilled within their respective field and the organisation has attempted to create an environment specifically suited to knowledge exchange, transfer and sharing.

Although case study research is mainly based on survey or micro data, Benoliel (1996) made a plea for observational data to be reincorporated as a standard data collection strategy. Moreover, Jorgensen (1989: 22) commented that "participant observers commonly gather data through casual conversations, in-depth, informal, and unstructured interviews, as well as formally structured interviews and questionnaires". Hence, this research adopts a primarily interpretivist philosophy, using the style of qualitative research and is mainly based on the observations and questionnaire conducted. Specifically, the participants observed were actively engaged in several different knowledge sharing activities including sharing good practice, connecting people to people, supporting growth, stimulating innovation, auditing current systems and enhancing services. The questionnaire was designed to identify the knowledge management environment in the organisation and how it could be enhanced. It was kept as concise as possible in order to maximise the number of responses; however it included four open ended questions which were used to solicit personal comments regarding the participants' view on managing ignorance and the unknown. The questionnaire was circulated to 364 respondents (316 males and 48 females) in twenty seven different departments of the organisation and across nine different locations around the world, including the United States, Sweden, Australia, Saudi Arabia, India and the United Kingdom.

There are critics of this interpretive approach, objecting to the researcher's subjectivity in the observations and their analysis of the observed processes. But the justification for this approach is in the feedback and understanding that originates via the participants (Walsham 1995). However, as with any empirical study, caution was exercised so that field observations do not mislead the development of theory; therefore, care was taken to ensure that observations are common enough to be generalised and not aberrant exceptions resulting from inefficient industry practice.

5. Findings

From the research conducted, it was found that the most commonly used KM approaches were based on enhancing the Information Technology (IT) infrastructure either by creating collaborative decision-support tools (i.e. portals, just-in-time KM systems, content management) or by developing knowledge-exchange applications that enable knowledge sharing and provide access to explicit organisational knowledge (i.e. newly developed intranet and extranet, people finder systems, central KM managers). Specifically, in the case study examined, it was noted that efforts have been made to adopt a new knowledge management strategy within the organisation while investing in collaborative and knowledge sharing technologies. According to participants, examples include workspaces, wikis, the intranet as well as collaborative team spaces. All these technologies have been generally accepted by a large number of employees and could be seen as knowledge facilitators in the digital era.

However, there was little emphasis on cultivating communities of practice or other social structures such as collaborative networks. Specifically, almost forty two per cent of the participants in the study noted that they are not given sufficient opportunity to meet and identify colleagues that have the knowledge they seek and forty seven per cent highlighted that there are not enough formal opportunities (e.g. within meetings) to share, generate and reflect on new knowledge. The majority of the sample however acknowledged the importance of sharing knowledge via a structured network (such as a community of practice) recognising that networking and other personal mentorship programmes could not only facilitate their day to day work but also help them learn something unknown.

Also it was noted that organisational changes occurring due to the recession have had direct implications for collaboration and knowledge sharing in multinational environments. More specifically, more than half of the sample noted that there are not enough informal places (e.g. coffee rooms) to exchange new knowledge. In addition, important knowledge exchange and networking events such as training and mentoring schemes, welcome gifts and other de-briefing sessions that were taking place in the past were found to have ceased or been eliminated due to the financial crisis in 2008 and emphasis was given to pure project targets and goal deliveries.

Another important issue revealed through this study was a lack of acknowledging and understanding the unknowns as well as what we need to know. This was illustrated by the comments of several employees who remarked that without the correct degree of focus, it can be very time consuming with little return on investment.

"You don't know what you should know or what you're missing from the knowledge transfer".

"Is the knowledge correct or are you getting bad data? Hard to find the right data at the right time (too much or not enough)".

"If the context is wrong it could leave people with knowledge which does not add value but that position is defended because it is perceived as being a lesson learned and thus one to act on".

"There is a danger of getting or transmitting half the story and thinking you know more than you do".

Based on the above results, the study suggests two additional key concepts which are presented in detail in the following section. First of all, it examines the importance of managing the unknown and secondly it suggests how managers can make the transition to the complete state of high level of knowledge and low level of ignorance more gradual and successful.

6. Discussion

As shown above, employees within multinational environments were found to be within the different classifications of our theory. Specifically, several highly skilled employees were recorded into the categories of low level of knowledge. This gave us a better understanding of Ignorance Management and allowed us to explore how organisations should not just manage what is known but also trying to find ways to manage the unknown.

Hence, employees within the state of low level of knowledge and high level of ignorance (i.e. I don't know that I don't know) should first realise their state of ignorance to fall into the intermediate state of low level of knowledge and ignorance (i.e. I know that I don't know). Becoming more aware of the organisation's operations and KM mechanisms and given the right incentives by management, employees should then be able to produce new knowledge and foster innovation (i.e. I know that I know). Additionally, employees within the state of high level knowledge and ignorance (i.e. I don't know that I know) who already have the necessary power to produce new knowledge should be aware this strength and make the most of every opportunity for the benefits of the business (Figure 3).

The transformation from the unknown to the known is not an easy process and requires time, resources and financial support. Hence, the question is whether managers are willing to re-examine their managerial strategies by acknowledging and understanding the existence of unknowns which could transform the current inefficient knowledge practices in multinational organisations. These interpretations are also supported by Dunning and Kruger who demonstrated that humans find it intrinsically difficult to get a sense of what we don't know and argued that incompetence deprives people of the ability to recognise their own incompetence (Wolchover 2012).

The Ignorance Management theory could help explore and manage the unknown. However, the important aspect is for managers (in particular middle managers) to accept people's ignorance. In most cases, they do not see the different levels of awareness within their organisational structures or even if they do they happen to ignore them. Without taking the appropriate actions to manage ignorance, improvements to operations and processes with the company may ultimately fail, which can be costly and time consuming. Due to the novel nature of this theory, the literature was found not to have any relative connections to these concepts. Thus, further research is essential to explore the final effect of acknowledging ignorance as well as the changes it will bring to existing organisational KM processes.

To sum up, the critical question is not just managing what is known but also trying to find ways to manage the unknown. This viewpoint of acknowledging ignorance, if successfully incorporated within a company's KM strategy, will not only facilitate and enhance knowledge management processes but will also foster innovation and increase the levels of new knowledge in multinational organisations.
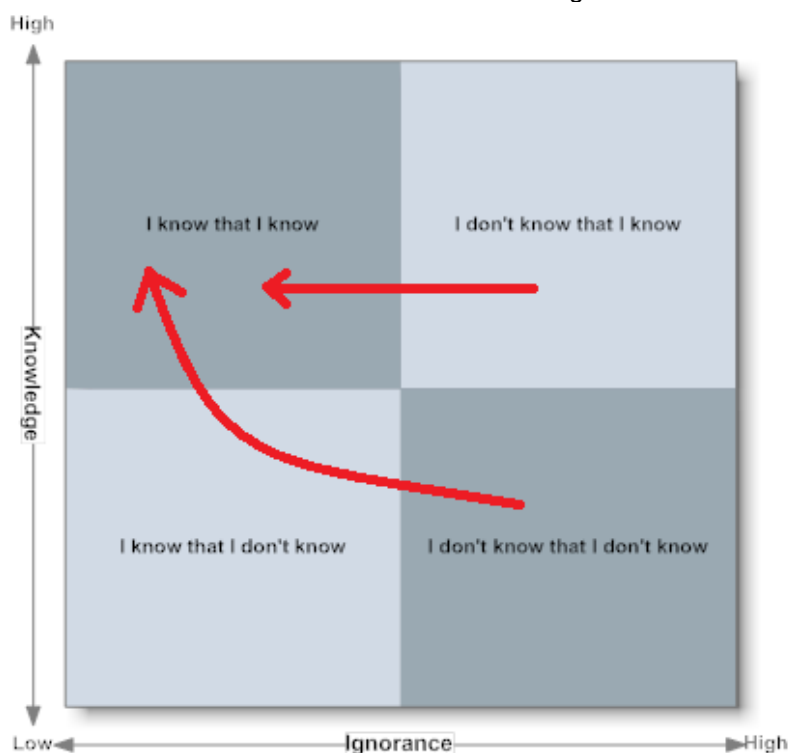

Figure 3: Exploring the transformation from the unknown to the known

7. Conclusion

This paper identifies an alternative perspective on Knowledge Management by definition of the concept of Ignorance Management in multinational organisations. It discusses the difficulties employees face in understanding and comprehending what they need to know to do their jobs, and what implications this can have within global technology intensive environments. Also, after highlighting why managing ignorance is important for maintaining a strategic knowledge sharing culture within multinational organisations, this paper develops a novel theory on the nature of knowledge and ignorance while making the distinction between knowns and unknowns as well as between awareness and unawareness, i.e. ignorance. Very little of this discussion is captured by the current KM literature and no definition has been given to support this theory. Hence, in an attempt to address the existing gap, this paper argues that managing ignorance and adaptiveness in multinational organisations is not just a theoretical foundation but also a pragmatic exercise which has become increasingly important in multinational environments.

Specifically, the key conclusion drawn from the study is to re-examine managerial strategies in multinational organisations by acknowledging and understanding the existence of unknowns which could transform the current inefficient knowledge practices. Hence, the critical question is not just managing what is known but also trying to find ways to manage the unknown. This viewpoint of acknowledging ignorance, if successfully incorporated within a company's KM strategy, will not only facilitate and enhance knowledge storage and transmission processes but will also undoubtedly play a vital role when referring to a company's efficiency, productivity and overall performance. Furthermore, another point noted is to explore and predict the trajectories of an organisation based on the Ignorance Management theory. For example, it was apparent from the research that employees classified within the domain of high level ignorance could produce new knowledge and foster innovation within the business. Finally, this paper suggests new ways to alleviate knowledge-related problems and makes a significant contribution to the current KM literature by introducing an alternative perspective on Knowledge Management and defining the novel theoretical concept of Ignorance Management in multinational organisations.

The study reflects the experience of large multinational organisations and much remains to be done in analysing small and agile corporate environments. Also, as with any new theory, caution is recommended when testing and applying it within technology intensive environments. In addition, further work on analysing the characteristics that make an organisation innovative and how that is correlated with an employee's ignorance would be beneficial and is highly recommended. Finally, the complimentary nature of this theory merits further study to make Ignorance Management usable in more general contexts.

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