

# **From Knowledge Management to Ignorance Management**

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## **Abstract**

The central argument of the paper is that knowledge management practices fail to adequately address the complexities of organizational ignorance. The paper begins with a brief overview of knowledge management and an account of how this management technique can lead to the neglect of the unknown as well as the creation of ignorance. The nature of ignorance and its relation to knowledge is then considered. A review of existing efforts to understand organizational ignorance is then provided before a broader appreciation of ignorance management in business organizations is elaborated. The implications arising from the examination of organizational ignorance are briefly outlined.

Key Words: Ignorance; Organizational Ignorance; Ignorance Management;  
Knowledge Management

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# FROM KNOWLEDGE MANAGEMENT TO IGNORANCE MANAGEMENT

## 1. INTRODUCTION

Since the 1990s the application of knowledge management techniques has become widespread among firms. However, this focus on knowledge may result in the neglect of other equally important factors influencing the performance of businesses including the unknown or ignorance. Although many businesses do actively manage ignorance, unlike knowledge, ignorance is not generally subject to a systematic process of management. Where organizational actors do actively manage ignorance, it is often identified with a strategy of exploiting the ignorance of others, whether employees or shareholders, sometimes with devastating consequences as corporate failures like Enron demonstrate. Nevertheless, the management of ignorance may prove productive with positive outcomes for all organizational stakeholders (Harvey, Novicevic, Buckley and Ferris, 2001; Roberts and Armitage, 2008). Through an examination of ignorance in organizational practices, this paper develops the argument that knowledge management practices fail to adequately address the complexities of organizational ignorance. Moreover, a case is made for the development of our understanding of organizational ignorance and its management.

The role of ignorance in the organization's internal and external operations is multifaceted. Yet, the emphasis on knowledge in contemporary management practice draws attention away from the need to deploy resources to manage ignorance in the organization and the wider business environment. Knowledge management, with its emphasis on the known, and its focus on overcoming ignorance through the production and application of knowledge, fails to recognize the full significance of ignorance. Moreover, knowledge management not only overlooks important unknowns but may unintentionally create and perpetuate certain forms of ignorance. Ignorance management need not concentrate merely on the control and minimization of the unknown but also on its productive employment in, for instance, the process of innovation. The current economic downturn underlines the importance of ignorance, as politicians and business practitioners talk of uncertain times ahead yet flounder in their efforts to manage present challenges. Ignorance cannot be adequately managed through extant knowledge management solutions, it requires bespoke management. For as Taleb (2007) argues, we need to be aware of our lack of knowledge as much as of our knowledge if we are to improve our ability to cope with the unexpected, or what he refers to as 'Black Swans'.

The paper begins with a brief overview of knowledge management and an account of how this management technique can lead to the neglect of the unknown as well as the creation of ignorance. The nature of ignorance and its relation to knowledge is then considered. A review of existing efforts to understand organizational ignorance is then provided before a broader appreciation of ignorance in organizations is elaborated. The implications arising from the examination of organizational ignorance are briefly outlined in the concluding section.

## 2. KNOWLEDGE MANAGEMENT: DIMINISHING, NEGLECTING OR CREATING IGNORANCE?

The realization that knowledge is the most important source of competitiveness has led organizations to look closely at their knowledge assets and intellectual capital, not only in terms of how to exploit them or account for them, but also in terms of how to develop knowledge within the firm through innovation (Davenport and Prusak, 1998; Leonard-Barton, 1995; Nonaka and Takeuchi, 1995; Stewart, 1997; *inter alia*). The 1990s witnessed the rise to prominence of the discipline of knowledge management, both within the business environment and academic circles. Knowledge management provided a fresh approach to the problems of competitiveness and innovation confronting organizations. It may be defined as 'any process or practice of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and performance in organizations' (Scarbrough, *et al.*, 1999, p. 1). Through its positive impact on the innovation process, knowledge management practices can help to extend the boundaries of knowledge and therefore diminish ignorance in certain fields of activity. Moreover, by extending access to existing knowledge, knowledge management techniques can ensure the more equal distribution of knowledge, and therefore reduce ignorance, across the organization. The application of knowledge management strategies has now become widespread among firms.

Originally the emphasis of knowledge management practices focused on identifying and codifying an organization's knowledge assets to ensure that they could be both fully exploited and fully protected as sources of competitive advantage. Such practices involved, for instance, the disembodiment of knowledge from the workforce and its embodiment in databases. In this way knowledge could be easily disseminated across the organization. Yet at the same time the organization was protecting itself from the loss of key knowledge through staff turnover. Initially, knowledge management practices were very much engaged with the management of codified knowledge, or information, through the use of Information and Communications Technologies (ICTs) (Davenport *et al.*, 1998; Scarbrough *et al.*, 1999; Zack 1999a). Such codification practices, by their very nature, lead to ignorance since they involve the reduction of often complex rich knowledge to those components that are central for the task at hand. Any process of abstraction has this impact. To understand and manage complex situations abstraction is required for we are not able to process all the information required to appreciate such situations in their entirety. Nevertheless, through the process of abstraction much knowledge is neglected and there is the danger that it may be lost or forgotten leading to ignorance. In this way the codification of knowledge leads to a process of path-dependence (Roberts, 2001).

Early debates about knowledge management, drawing on contributions to the philosophy of knowledge from scholars such as Polanyi (1967) and Ryle (1949), pointed to the neglect of the tacit dimensions of knowledge as well as the importance of knowledge in action. Recognition of the complexity of knowledge and its socially embedded nature has resulted in the development of a wide range of knowledge management practices, which, while still exploiting ICTs, are engaged with the development of knowledge and learning in practice. A popular embodiment of this trend can be found in the adoption of communities of practice as a means to manage organizational knowledge (see for example: Wenger *et al.* 2002; Saint-Onge and Wallace, 2003). Such developments have resulted in a more comprehensive and people centred approach to knowledge management.

The driving force of knowledge management practices is to capture knowledge whether through the construction of elaborate databases or through the establishment and nurturing of communities of practice. Yet the formulaic implementation of ICT or people centred systems to capture and manage knowledge inevitably results in the neglect of knowledge that is not viewed as of central concern to the organization's aims and objectives at any given time. The intense management of knowledge results in an equally intense neglect of certain aspects of knowledge and therefore the creation and perpetuation of certain types of ignorance.

Although knowledge management has evolved over the past 20 years, broadening out from the initial focus on clearly identifiable knowledge in the form of information to more uncertain and difficult to quantify tacit and practice-based knowledge, it remains subject to critique based, for instance, on its failure to account for power relations (Styre, 2003; Hislop, 2004). Indeed, power relations may determine what aspects of knowledge remain outside current knowledge management practices and therefore they have a direct impact on organizational ignorance.

While knowledge management concentrates on the management of the known it neglects the management of ignorance. Many organizations do not know, or seek to know, their own ignorance. Most organizations do not manage their ignorance, or knowledge about their ignorance, in a systematic fashion. Of course, managing ignorance is problematic. How can one manage something about which one has no knowledge? However, managing ignorance is more than the management of the unknown. Ignorance is an aspect of relationships throughout the organization as well as of relationships that reach beyond the boundaries of the organization. Managing ignorance is then multifaceted. Although it is intimately related to the management of knowledge, a full appreciation of the management of ignorance requires its examination as a distinct organizational practice. Before examining ignorance management it is important to briefly consider the nature of ignorance and its relation to knowledge.

### **3. DEFINING IGNORANCE AND ITS RELATION TO KNOWLEDGE**

Ignorance refers to a lack of knowledge or information (OED, p. 862); it is then defined in relation to knowledge. The nature of knowledge is a complex philosophical issue. However, for the purposes of this paper, knowledge is defined, according to Western Philosophical tradition, as 'justified true belief'. Within discussions of knowledge management, the nature of knowledge is usually considered in terms of its constituent elements of data and information, as well as in terms of codified and tacit forms and its location in organizational contexts and embodiment in practice. Yet organizational knowledge entails much more than justified true belief. However, to develop an understanding of ignorance, it is necessary to have an appreciation of knowledge in this broad sense.

Two distinct types of ignorance must be recognized (Table 1). Firstly, ignorance as known unknowns refers to knowledge of what is known about the limits of knowledge. There are certain things that we know that we do not know. We know the question but we don't know the answer – we are aware of our ignorance. Secondly, ignorance as unknown unknowns refers to a total lack of knowledge such that we are not aware of our ignorance. Unknown unknowns are completely beyond anticipation.

Gross (2007) refers to these two types of ignorance as ignorance and nescience respectively, and in so doing he underlines the important distinction. Congleton (2001, pp. 39-40) makes a similar distinction between ‘natural ignorance’ and ‘rational ignorance’. He argues that we all enter the world in a naturally ignorant state, but over time our natural ignorance shrinks as knowledge is accumulated or developed. Even though natural ignorance remains dominant, rational ignorance gradually grows as awareness of one’s own ignorance increases. Although the existence of a particular kind of information or knowledge is acknowledged, under rational ignorance no investment is made to obtain or analyze it (Congleton, 2001). As individuals we cannot know everything, choices have to be made, rational ignorance is a means of dealing with our limitations. As Simon (1955) elaborates, individuals are subject to bounded rationality due to the limits of their ability to process information. Rational ignorance can be viewed as an outcome of our bounded rationality; it refers to known unknowns while natural ignorance refers to unknown unknowns.

**Table 1. Defining Knowledge and Ignorance**

Knowledge	Ignorance	
	<i>Known Unknowns (ignorance, rational ignorance)</i>	<i>Unknown Unknowns (nescience, natural ignorance)</i>
Justified true belief	Knowledge about the limits of knowledge	Lack of any knowledge: beyond anticipation.

In his categorization of knowledge about unknowns, Gross (2007, p. 751) usefully includes the notions of *non-knowledge* as knowledge about what is not known but taken into account, *negative knowledge* as knowledge about what is unknown but considered unimportant or even dangerous, and *extended knowledge* which relates to planning and or research with non-knowledge. Capturing the dynamic nature of ignorance and knowledge, Gross argues that these various types of knowledge about the unknown interact over time in a recursive manner. This results in the transformation of various unknowns and the development of newly gained knowledge and with it new limits of knowledge.

From this brief attempt to define ignorance it is clear that identifying and exploring ignorance in organizations is methodologically challenging. While ignorance in the form of known unknowns can be explored, unknown unknowns, or nescience, are by their very nature impossible to identify. One cannot refer to one’s own nescience because it is not part on one’s knowledge. However, one can refer to someone else’s or to one’s own earlier nescience. Furthermore, an important point is the extent to which ignorance is absolute or relative. At the level of the organization, it is the relative ignorance between organizational members and between the organization and its competitors, suppliers and customers that will be of particular significance. However, in relation to the innovative practices of organizations, absolute ignorance will have relevance.

While understanding knowledge is the subject of the philosophical field of epistemology and has more recently become an important element of management

theory, ignorance has attracted less attention from philosophers<sup>2</sup> and little interest from management scholars. This is surprising given that ignorance is an intrinsic element in social organizations (Moore and Tumin, 1949). Nevertheless, the subject of ignorance has attracted attention across a range of other disciplines from anthropology and archaeology (Hobart, 2003; Wylie, 2008) to economics, politics and social studies. For instance, in the field of economics studies concerning the theory and practice of decision-making focus has been on the relationship between knowledge, complexity, uncertainty, ignorance and asymmetric information (Loasby 1976; O'Driscoll and Rizzo, 1996; Jensen and Meckling, 1976, Brocas and Carrillo, 2007; *inter alia*). In political studies issues of public ignorance and censorship have received significant attention (Keating 1975; Congleton, 2001; Somin, 2006; Galison, 2008). Social studies, particularly those concerned with science, have much to say about ignorance, though often in terms of non-knowledge, negative knowledge or secrecy (Smithson, 1989; Simmel, 1906; Beck, 1999; Knorr Cetina, 1999; Proctor and Schiebinger, 2008). Moreover, the legitimacy of knowledge itself has been questioned from a postmodern philosophical perspective (Lyotard, 1984). There is then much extant work that can be used to reflect on the management of ignorance.

#### **4. IGNORANCE MANAGEMENT: EXISTING APPROACHES**

In the field of management and organization there is some consideration of ignorance drawing on the work of economists, for example, in the area of decision-making and information (Jensen and Meckling, 1976; Loasby 1976) and building on knowledge management (Zack, 1999b; Harvey *et al.* 2001). Pluralistic ignorance, derived from the field of social psychology, and concerned with situations in which an individual holds an opinion, but mistakenly believes that most of her peers hold the opposite opinion, has been examined in organizational contexts (Halbesleben, Wheeler and Buckley, 2007; Westphal and Bednar, 2005). The ignorance of small businesses and entrepreneurs has also been considered (Lambe, 2002; Jones and Hecker, 2003).

Efforts to incorporate ignorance into understandings of organizations tend to focus on how to eliminate ignorance through better knowledge management practices. For instance, Zack (1999, p. 1) notes that ignorance management 'recognizes that it is never possible to know everything, or even a lot of things, well'. He goes on to define organizational ignorance in terms of four knowledge-processing problems: uncertainty - not having enough information; complexity - having to process more information than you can manage or understand; ambiguity - not having a conceptual framework for interpreting information; and, equivocality - having several competing or contradictory conceptual frameworks (Zack, 1999, p. 2). Arguing that each of these knowledge-processing problems can be alleviated through the development of the right knowledge management infrastructure, Zack explores ignorance from the perspective of knowledge in organizations. He seeks to develop a coherent framework for describing and managing organizational ignorance through the use of information technology and general knowledge management strategies.

Adopting a broader perspective, Harvey *et al.* (2001), in their efforts to provide a historical perspective on organizational ignorance, draw on research from social psychology, public opinion studies, legal studies, behavioural economics and clinical

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<sup>2</sup> Of course, the philosophical field of scepticism is concerned with doubting knowledge and recognising ignorance (Unger, 1975).

psychology. Taking the view that organizational ignorance emerges from political processes, they identify and examine four types of organizational ignorance (p. 452-457):

- Pluralistic ignorance - concerned with situations in which an individual holds false opinions about others.
- Populistic ignorance - related to socially shared ignorance arising from false knowledge received from the wider environment.
- Probabilistic ignorance - arises from an 'individual's inability to learn from the overall experience that consists of a series of discrete events embedded in different and changing contexts' (p. 455). Individuals tend to think in a linear, rather than nonlinear, fashion resulting in probabilistic ignorance.
- Pragmatic ignorance - arises in perpetually changing environments when knowledge cannot be acquired in time to make a quality decision.

Harvey *et al.*, (2001) go on to explore these types of ignorance in the context of dialogues about innovations concerning evaluation, interpretation, inquiry and negotiation (p.457-8). They suggest that evaluation may engender pluralistic ignorance in the context of policy making within teams, while interpretation may engender populistic ignorance in a symbolic context when customers and/or investors interpret shared meaning of the innovation pursued. Inquiry may engender probabilistic ignorance in Research and Development (R&D) contexts, for instance, when experts and their managers try to verify the probability of success for an intended innovation – experts may fail to recognize the probabilistic nature of the innovation task and use their deterministic heuristics to inform their judgements. Negotiation may engender pragmatic ignorance in practical contexts of decision-making in dynamic environments. In such situations managers with resource allocating responsibilities need to act based on their presumption.

In the penultimate section of their article, Harvey *et al.*, (2001) elaborate on the following means to alleviate the problem of organizational ignorance: through the identification and classification of information; the classification of knowledge; unlearning knowledge; recognising discontinuous situations and data; and, developing a pluralistic management philosophy/perspective. These suggestions focused on improving organizational learning and knowledge management.

As evident in the work of Zack (1999b) and Harvey *et al.*, (2001), there is a tendency in management literature to see ignorance in organizations as something to be alleviated through better knowledge management and organizational learning. Ignorance is then seen as the absence of knowledge, and something to be resolved through the discovery or acquisition of new knowledge or the application of new improved knowledge management techniques, practices and systems. In this sense, ignorance management becomes synonymous with knowledge management. However, in the organizational context, ignorance is more than the absence of knowledge, for ignorance may be of strategic importance to the operation and success of an organization. Other aspects of organizational ignorance need to be considered. Managing ignorance productively does not always depend on its obliteration through the application of appropriate knowledge. Despite the existing contributions considered in this section, there is as yet no systematic approach to the understanding ignorance management.

## 5. IGNORANCE MANAGEMENT: BEYOND KNOWLEDGE MANAGEMENT

To go beyond current understandings of ignorance management, it is necessary to consider the complex role that ignorance may play in the business organization. Moore and Tumin's (1949) account of the social functions of ignorance is a useful starting point. Indeed, some of the examples they use to elaborate on the social function of ignorance draw directly from the business context. In the following paragraphs Moore and Tumin's (1949) social functions of ignorance are considered in the business context in order to illustrate various functions of ignorance in business organizations. The business functions of ignorance identified are summarized alongside Moore and Tumin's (1949) social functions of ignorance in Table 2.

Firstly, Moore and Tumin (1949) suggest that ignorance is a *preservative of privileged position*. This function would seem to be of particular relevance to business organizations whose very existence and competitiveness relies on the dependence of customers and the organization's privileged access to resources and knowledge. Businesses provide products or services to customers that they are unable to provide for themselves due to a lack of knowledge or time. In relation to competitors, business organizations are active in establishing and preserving their Intellectual Property Rights (IPR) in order to maintain the ignorance of, or at least to control the knowledge available to, existing and potential competitors. Within large organizations role differentials may be of particular importance in terms of the management of the workforce. By maintaining the ignorance of assembly line workers, managers are able to preserve power differentials within organizations. In so doing, they also maintain reward differentials. Preserving ignorance of reward differentials not only avoids demands for higher remuneration by those receiving less money for a particular job, but also avoids the disruptive force that can be unleashed by jealousy in the workplace. Ignorance, in the form of secrecy, is employed in organizations not only in relation to trade secrets and measures that seek to protect intellectual property but also in relation to the organization's strategy and new product development. Additionally, for some organizations, secrecy may be relevant in terms of the security of the workforce. For instance, in the face of animal rights activists companies conducting animal testing have to use secrecy to protect workers and the organization from physical and emotional harm. Some organizations may be engaged with the production of toxic or dangerous products requiring secrecy and security of operation for reasons of national security (e.g. nuclear fuel production and waste processing, defence equipment suppliers) (Keating, 1975).

The second social function of ignorance identified by Moore and Tumin (1949) is as a *reinforcement of traditional values*. Is ignorance sustained, through, for example, isolation, in order to preserve existing practices in business organizations? Certainly, ignorance of alternatives can help to preserve stability in business organizations. For example, ignorance of better remuneration and conditions in other organizations may prevent demands for better working conditions and rewards as well as aiding the retention of staff.

Moore and Tumin (1949, p. 791) refer to the value of ignorance of normative violations:

'There is the possibility that various activities are contrary to particular normative prescriptions, yet perform a function in the maintenance of the approved structure as a whole. Ignorance of violations would thus serve to



prevent outraged suppression of these functionally significant practices, of which perhaps the most common examples are prostitution and gambling’.

Ignorance of violations of prescribed norms has relevance in business organizations. For instance, organizations may suppress knowledge about incidences of rule breaking. The failure of valuable members of staff to work within the publicized norms of the organization may be tolerated but not acknowledged. A blind eye may be turned towards occasional deviations from normal practices. For instance, it may be necessary to ‘cut-corners’ to meet a deadline, though such practices may not be formally approved nor will they become widely known.

Ignorance is employed to reinforce group mandates and norms in business organizations. For instance, the development of a corporate culture requires the socialization of new members of the organizations into the traditions, values and practices of the organization. This introduction of knowledge about the organization excludes knowledge that conflicts with the aims of the organization. Hence, the induction of new organizational members involves the promotion of some elements of knowledge to the exclusion of others. As Moore and Tumin (1949, pp.792) argue ‘All social groups thus require some quotient of ignorance to preserve “esprit de corps”’.

The third social function of ignorance as a *preservative of fair competition* is certainly of relevance to business organizations. As Moore and Tumin (1949, p. 792) suggest, for a competitive market to be sustained competitors must be ignorant of some of the policies and decisions of other competitors. Complete knowledge would undermine the bases of competition, through, for example, the creation of monopoly power. Clearly, ignorance can preserve competition between business organizations. But does the same principle apply within organizations? Can ignorance between individuals or departments help to maintain fair competition? This depends on the extent to which individuals, teams or departments compete. Where they do, ignorance as a preservative of fair competition would seem to be equally relevant.

Does Moore and Tumin’s (1949) fourth social function of ignorance, as a *preservative of stereotypes*, have relevance to business organizations? Knowledge about individuals influences the degree of respect and confidence that they can command. Thus the ignorance inherent in stereotypes may be usefully employed in the management of organizations to support the position of those in authority. As Moore and Tumin (1949, p. 792-3) note ‘The nature of the established relations among individuals in such [bureaucratic] organizations is such as to foster ignorance of “irrelevant” personal characteristics and indeed to require such ignorance whenever knowledge would impair impersonal fulfilment of the duties.’ Stereotypes also provide a means of reducing the amount of information to be processed by decision-makers. In large organizations individuals in the workforce are reduced to stereotypical members of groups such as the ‘techies’, sales-people, marketing, finance and so on. Stereotypes provide a shorthand, though problematic, means of classifying people whether by their role in the organization or ethnic group, gender, and so on. In the absence of knowledge, managers and other organizational actors revert to making decisions on based on knowledge of stereotypes rather than knowledge of the individuals concerned.

**Table 2. The Structural Functions of Ignorance in Society and in Business Organizations**

<b>Structural functions of ignorance in society identified by Moore and Tumin (1949, pp.788-794)</b>	<b>Examples of the structural function of ignorance in Business Organizations</b>
<p><b>As Preservative of Privileged Position:</b></p> <ul style="list-style-type: none"> <li>○ The Specialist and the Customer</li> <li>○ The Specialist and the Potential Competitor</li> <li>○ Role Differentiation and the Maintenance of Power</li> <li>○ Avoidance of Jealousy Over Unequal Rewards</li> <li>○ Secrecy and Security</li> </ul>	<ul style="list-style-type: none"> <li>○ Developing and sustaining customer dependence on the organization for the provision of certain goods or services</li> <li>○ Securing privilege through IPRs and commercial secrecy</li> <li>○ Securing the authority of managers through the maintenance of ignorance in the workforce</li> <li>○ Secrecy over remuneration packages</li> <li>○ Secrecy over new product development or for the security of the workforce</li> </ul>
<p><b>As Reinforcement of Traditional Values:</b></p> <ul style="list-style-type: none"> <li>○ Isolation and Traditionalism</li> <li>○ Ignorance of Normative Violations</li> <li>○ Reinforcement of Group Mandates</li> </ul>	<ul style="list-style-type: none"> <li>○ Control over dissemination of knowledge about alternative working practices that may lead to pressure to change existing practices</li> <li>○ The prevention of the dissemination about practices and behaviour outside normal and contractual expectations, such as cutting–corners or inappropriate workplace behaviour, to avoid the widespread adoption of such practices.</li> <li>○ The development of corporate culture</li> </ul>
<p><b>As Preservative of Fair Competition</b></p>	<ul style="list-style-type: none"> <li>○ Where departments or individuals compete within organizations ignorance ensures fair competition.</li> </ul>
<p><b>As Preservative of Stereotypes:</b></p> <ul style="list-style-type: none"> <li>○ Bureaucratic Organization</li> <li>○ Ethic and Class Stereotypes</li> </ul>	<ul style="list-style-type: none"> <li>○ To reinforce specific roles within the organization, for example, through the censoring of information that may undermine the authority of those in positions of leadership.</li> <li>○ Stereotypes reduce the information processing capacity required for decision-making.</li> </ul>
<p><b>As Incentive Appropriate to the System:</b></p> <ul style="list-style-type: none"> <li>○ Anxiety at Work</li> <li>○ The Aleatory Principle</li> </ul>	<ul style="list-style-type: none"> <li>○ The creation of anxiety through ignorance, for example of the likelihood of promotion or redundancy, can encourage employees to work harder. However, too much anxiety can reduce their effectiveness.</li> <li>○ Opportunities to engage in the unknown can be an incentive for workers especially when their work is generally repetitive and boring.</li> </ul>

Finally, can ignorance act as an *incentive appropriate to the system* in an organizational context? Ignorance that gives rise to uncertainty and insecurity can act to motivate workers. However, there are limits to this as prolonged anxiety can lead to personal disorganization disrupting the overall performance of the organization. Ignorance can also be an incentive in terms of offering workers new experiences, that is, experiences of which they are ignorant. Moore and Tumin (1949) refer to the Aleatory Principle, which relates to chance and randomness, which of course arise from ignorance. Games of chance are attractive because the outcome is unknown and the same principle can be used to incentivize workers. The opportunity to work abroad may be highly attractive to an employee with no previous experience overseas partly because the outcome is unknown, while employees with such experience may be less attracted by the offer of something familiar.

For Moore and Tumin (1949, p. 795) ‘ignorance must be viewed not simply as a passive or dysfunctional condition, but as an active and often positive element in operating structures and relations’. Hence, managing ignorance is not solely about eliminating it through the acquisition or production of knowledge. When exploring the function of ignorance within business organizations or society more broadly it is necessary to recognize the relative nature of ignorance. Additionally, the more complex an organization is the more ignorance grows. Yet managers employ ignorance, as they employ knowledge. The most obvious examples arise from the relations between management and workers. Moore and Tumin’s account of the social functions of ignorance focuses very much on employing and perpetuating ignorance through the control of knowledge. In this form, ignorance management provides a means of sustaining stability through the exploitation of workers’, customers’ and competitors’ lack of knowledge. Just as knowledge is equated with power, the ability to manipulate ignorance is also a source of power. It is, then, clear from the examination of the functions of ignorance, that it is not always something that needs to be eliminated, rather its perpetuation may be beneficial to organizational performance.

However, ignorance may be productively employed beyond its use as means of control. In an attempt to enrich our understanding of ignorance Proctor (2008, p. 3) introduces the term ‘Agnotology’ to refer to the study of ignorance.<sup>3</sup> He identifies three types of ignorance: ignorance as a *native state* (or resource); ignorance as a *lost realm* (or selective choice); and ignorance as a deliberately engineered and *strategic ploy* (or active construction). Exploring these types of ignorance in organizations takes the discussion of ignorance management beyond ignorance as the absence, or the controlled distribution, of knowledge.

Ignorance as a native state or resource can be seen as a challenge to stimulate the exploration for new knowledge. In this sense, knowledge discovery is driven by ignorance and ignorance is never depleted because as new knowledge emerges it is accompanied by new ignorance. This type of ignorance can then be seen as important in driving innovation in all parts of the organization from R&D and design to customer relations, marketing and human resource management. Moreover, ignorance as a native state may not only stimulate the search for new knowledge, but can also be an important element in facilitating the creative process. Such ignorance can be seen in the naivety

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<sup>3</sup> At the request of Robert Proctor, linguist Iain Boal crafted the term ‘agnotology’ from the Greek using *gno* as the root (meaning ‘to know’), *a* as the negating prefix, a *t* added as the marker of the participial (yielding *gnot*), and *-ology* as the denominative suffix (Proctor, 2008, p. 27).

and innocence of the young or those inexperienced in a particular field of expertise. The development of new ideas and products often requires the creators to ‘think outside the box’ or indeed to bring about a paradigm shift. Ignorance of the box or the dominant paradigm can facilitate creativity that would otherwise be stifled by existing knowledge (Roberts and Armitage, 2008).

An apt illustration of this is the innovative developments in the field of cinema achieved by Orson Welles in his first film *Citizen Kane* (1941). With its innovative cinematic and narrative techniques, *Citizen Kane* is widely recognized as the world’s most famous and highly-rated film (Wood, 2002). Yet Welles produced *Citizen Kane* at the age of 25 with no previous experience. In an interview in 1960 with Huw Wheldon, Welles explains where he got the confidence to make the film (Wheldon, 1960/2002, p. 80-81):

Welles: Ignorance, ignorance, sheer ignorance – you know there’s no confidence to equal it. It’s only when you know something about a profession, I think, that you’re timid or careful.

Wheldon: How did this ignorance show itself?

Welles: I thought you could do anything with a camera, you know, that the eye could do and the imagination could do and if you come up from the bottom in the film business you’re taught all the things that the cameraman doesn’t want to attempt for fear he will be criticized for having failed. And in this case I had a cameraman who didn’t care if he was criticized if he failed, and I didn’t know there were things you couldn’t do, so anything I could think up in my dreams I attempted to photograph.

Wheldon: You got away with enormous technical advance, didn’t you?

Welles: Simply by not knowing that they were impossible, or theoretically impossible.

This example illustrates how Welles’ ignorance of film-making allowed him to challenge the boundaries of existing knowledge in the field and to develop innovative techniques that continue to influence film-making today. Understanding the value of ignorance as a native state or resource can then be particularly important for organizations that engage in innovative and creative activity. While ignorance is not normally considered to be a virtue (Driver, 1989) it is possible to see its value in the creative process.

This idea of ignorance acting as a source of creativity resonates with March’s (1976, p. 81) argument that the technology of reason evident in contemporary theories of decision-making ‘has reinforced some biases in the underlying models of choice in individuals and groups. In particular, it has reinforced the uncritical acceptance of the static interpretation of human goals’. March suggests the need for a technology of foolishness to overcome the problems with our current theories of intelligence. The introduction of playfulness can offer techniques for the introduction of change within current concepts of choice. Abandoning extant knowledge and practices on a temporary basis, that is, giving way to the irrational and unknown, can stimulate the creation of new ways of thinking and with it new knowledge.

Ignorance as a lost realm or selective choice may be relevant to business organizations in two ways. Firstly, as Lundvall and Johnson (1994) note in their consideration of the learning economy, learning to forget is important for the development of new knowledge. Therefore in the pursuit of innovation and creativity it is sometimes necessary that knowledge is forgotten or lost. In a sense, this allows individuals and organizations to regain ignorance as a native state and as a resource for the development of knowledge through the rediscovery of old knowledge and the production of new knowledge. Moreover, for commercial organizations, the rediscovery of lost knowledge can be highly productive in terms of the development of 'new' products. The music industry is an example where old songs, of which customers are ignorant, are recorded with new artists and arrangements. Those who have wilfully or ignorantly abandoned knowledge in certain areas present a customer base for organizations willing to supply solutions to everyday problems arising from such ignorance. Whether it be the supply of 'How to ...' guides or the delivery of products and services that allow individuals to live happily with their ignorance, including for instance, ready made meals for those ignorant of basic food preparation techniques.

Secondly, ignorance as selective choice has broad relevance to the activities of business organizations. The resources available to an organization are limited and therefore how these resources are organized determine the boundaries of organizational knowledge. In relation to internal decisions and organizational structures, choices have to be made about what lines of investigation to pursue in terms of the development of products and markets. Such choices will lead to the neglect of other possible avenues leading to ignorance of the possible opportunities such avenues might offer. Like individuals, organizations are subject to rational ignorance. Organizational choices about what ignorance merits exploration and incorporation into organizational plans will be largely dependent and determined by past choices – there is then an element of path-dependence both in terms of what knowledge is developed and what areas of ignorance are maintained. Choices will also be determined by profitability. For instance, maintaining ignorance of a safe and cheap treatment for malaria is, in part, determined by the lack of a profitable market to justify, on business grounds, investment in the development of knowledge in this area.

At the level of the organization the reduction of organizational ignorance may be achieved through the division of labour, which extends the knowledge of the organization while restricting the knowledge of individuals to particular tasks. The division of labour, though deepening the individual's knowledge of a specific task and thereby increasing productivity, expands the scope of an individual's ignorance and therefore their dependence on the organization. As Adam Smith recognized the 'man whose whole life is spent in performing a few simple operations ... generally becomes as stupid and ignorant as it is possible for a human creature to become.' (Smith, 1998 [1776], p. 429). Nevertheless, while the process of specialization has the impact of increasing the ignorance of the individual it also provides scope for the extension of knowledge in the organization and society as a whole (Roberts and Armitage, 2008). The division of labour can then be viewed as an exercise in selective choice within organizations as areas of knowledge and ignorance are allocated with a view to maximising the organization's competitive position. In society as a whole, the growing complexity of industrial production, based as it is on an extensive division of labour, ensures the demand for products and services that allow individuals to overcome their lack of knowledge beyond their own, often very narrow, field of competency.

Ignorance as a deliberately engineered and *strategic ploy* (or active construction) is highly relevant to business organizations. As the earlier discussion of Moore and Tumin's (1949) analysis of the social functions of ignorance illustrates, it is often in the interests of business organizations to maintain ignorance. Keeping knowledge from competitors, customers or employees is a common practice. An illustrative example is the secrecy surrounding the recipe for *Coca-Cola*. Trade secrets and other IPRs, including copyrights, trademarks and patents, are means through which organizations seek to protect their proprietary knowledge through maintaining the ignorance of customers and competitors. The past 20 years has witnessed a significant growth in efforts to establish IPRs as evident in the increasing in number of US patent applications (Roberts and Armitage, 2008) as well as the successful efforts of commercial interests to extend the length of copyright term (Boldrin and Levine, 2008). As the importance of knowledge to the competitiveness of business organizations grows, so too does the need to protect knowledge to maintain the ignorance of competitors and customers. The protection of IPRs also impacts on employees in the form of security measures restricting employee's access to knowledge within the organization. The ignorance of employees, customers and competitors is then carefully managed by some business organizations.

Furthermore, ignorance may be constructed to create or sustain demand for the organizations products or services. Michaels (2008) details a number of cases of organizations 'manufacturing uncertainty', among these the tobacco firms provide an exemplar. Following the emergence of evidence linking smoking to cancer in the 1950s tobacco companies put resources into creating doubt in consumers' minds about the connection. Indeed, an internal memo from the Brown and Williamson Tobacco Company stated in 1969 - "Doubt is our product" (Michael, 2008, p. 91). By creating doubt tobacco companies actively promoted ignorance among consumers. Such activity is not confined to the tobacco industry or to business organizations. Governments are also active in managing the ignorance of citizens – sometimes for good reasons such as national security (Keating, 1975).

Ignorance as a strategic ploy is certainly a tactic that business organizations employ in the management of their resources and markets. When the process of managing knowledge assets involves maintaining and even extending the ignorance of members of the organization, its customers, competitors and even regulators it is fair to say that ignorance is being used in a strategic manner. Sometimes, ignorance is propagated and sustained for fraudulent purposes as exemplified by the recent financial frauds, such as Bernard Madoff's Ponzi investment scheme that paid investors from money paid in by other investors rather than profits from real investments (Plummer, 2008). But ignorance as a strategic ploy is certainly not synonymous with fraudulent activity.

By reflecting on the social functions of ignorance within an organizational context, this section demonstrates that the challenges and opportunities of managing organizational ignorance go beyond those associated with knowledge management.

## CONCLUSION

Through an examination of organizational ignorance this paper has demonstrated that managing ignorance is more than merely the flip side of knowledge management. Though knowledge management and ignorance management are closely related there are elements of ignorance in organizations that need to be considered as distinct from

knowledge and its management. Indeed, an appreciation of ignorance has the potential to improve the ability of an organization to compete in fast changing markets. The current emphasis on knowledge management, though seemingly sensible, has a downside. In particular, it draws attention away from the need to deploy resources to manage ignorance in the organization and wider business environment.

This paper has shown that the role of ignorance in a business organization's internal and external operations is multifaceted. There are limits to the information and knowledge that can be held and processed by individuals (Simon, 1955). The development of sophisticated organizational systems, which overcome the individual's ability to hold and process knowledge, actually contributes to the ignorance of organizational members. Organizational hierarchy facilitates the development of complex systems of production through the construction of a detailed division of labour accompanied by a particular distribution of ignorance and knowledge between organizational actors. Within business organizations ignorance may be used to preserve stability, norms of behaviour and working practices, to support organizational culture and authority, to incentivize workers and to stimulate innovation. In terms of the external environment, business organizations seek to manage the ignorance of their competitors through the establishment and protection of IPRs and trade secrets. Moreover, organizations exploit the ignorance of customers through the supply of products and services designed to allow individuals to either overcome their ignorance or to live happily with it. Indeed, ignorance can be used as a strategic ploy to develop new markets and to retain existing markets.

A number of implications arise from the exploration of organizational ignorance. Firstly, the current emphasis on knowledge management, while it seeks to diminish ignorance through the dissemination and creation of knowledge, may result in the neglect and even creation of ignorance. Secondly, just as there is a need to recognize the role and significance of power in the management of knowledge, we must recognize that the exertion of power is also one of the functions of ignorance in social organization. In the business organization this power arises from differentials in ignorance or knowledge between managers and workers, organizations and competitors, suppliers, customers and regulators. Thirdly, the active management of ignorance can contribute to the organization's ability to compete because as illustrated above ignorance can be employed in a strategic fashion. Finally, ignorance can have an important role in the creative process. For ignorance stimulates curiosity and the search for knowledge, as well as promotes new ways of thinking that challenge existing paradigms and thereby help to push back the boundaries of knowledge. These implications suggest that we must develop our understanding of organizational ignorance so that the opportunities and challenges that it offers can be exploited and managed effectively.

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