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# FURTHERING KNOWLEDGE MANAGEMENT RESEARCH THROUGH ETHICAL CONSIDERATIONS: A RESEARCH AGENDA

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# FURTHERING KNOWLEDGE MANAGEMENT RESEARCH THROUGH ETHICAL CONSIDERATIONS: A RESEARCH AGENDA

*Completed Research Paper*

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## **Abstract**

*Noting the general paucity of ethical considerations in Knowledge Management (KM) research, this research commentary articulates the relevance of ethics to KM. Drawing from the classical ethical theories in philosophy, it revisits certain research focuses raised in Alavi and Leidner's (2001) well-known paper on KM and generates corresponding ethically-informed research questions. The main aim of this paper is to further KM research through such ethically-informed research questions that can be investigated by future studies. Other contributions and implications are also discussed.*

**Keywords:** Ethics/ethical behavior/ethical quandaries, Knowledge Management, Research Agenda

## Introduction

Knowledge Management (KM) has been, and continues to be, an important scope of investigation within the Information Systems (IS) discipline. Knowledge has been viewed as a key organizational resource that needs to be leveraged in order to gain sustained competitive advantage for firms and their business associates (Kankanhalli et al. 2005). Not surprisingly, therefore, there have been a plethora of researchers who have investigated on how KM can be effectively accomplished at an individual level (e.g. Sabherwal and Becerra-Fernandez 2003), team level (e.g. Haas 2006), organizational level (Chen and Edgington 2005), and inter-organizational level (Jarvenpaa and Majchrzak 2008).

As has been articulated in prior research (e.g. Alavi and Leidner 2001; Schultze and Leidner 2002) KM is an inherently socio-technical enterprise- at the confluence of human beings and technology. In prior research, Meso and Smith (2000), based on Carayanis (1998) have articulated how KM can be viewed with a socio-technical lens where human beings, together with the technology, assume great importance. Extant literature has thus focused on multiple social, organizational, and technological factors that are relevant to KM- from trust (Lee and Choi 2003) to culture (Bennet and Gabriel 1999) to organizational structure (Lee and Choi 2003) to IT support (Leonard-Burton 1995).

Noting that KM is a socio-technical phenomenon, and given the observation that considerations of ethics are paramount in any socio-technical system (Chatterjee et al. 2009a; Chatterjee et al. 2009b), this paper forwards the idea that considerations of ethics can be fruitful for furthering KM research. It presents a *research commentary* that *elaborates how a fruitful research agenda (consisting of multiple ethically-informed research questions) in the field of KM can be pursued*. In effect, this paper draws its motivation from the observation that ethics, while implicitly a focus of KM (due to its socio-technical nature), often has not been brought into explicit focus of KM, a problem generally symptomatic of the IS discipline (Bryant et al. 2009). We argue that such a gap robs the KM field of much relevance and richness and showcase as to how considerations of ethics will further KM as a research field.

In this context, we should clarify that our focus in this paper is on IT-enabled KM. KM as a field can exist even without explicit IT considerations (though obviously application of IT to KM increases the overall efficacy of KM). But since KM can include considerations which may not be explicitly related to IT, our objective, as IS researchers, is to focus on KM that is enabled by IT.

The paper proceeds as follows. In the next section, we provide a motivation of why ethics is a relevant lens of inquiry for KM-related phenomena. Next, we discuss the classic perspectives of ethics in order to create our backdrop to inquire KM-related phenomena. Following that, we revisit the research agenda (for KM) raised by Alavi and Leidner's (2001) seminal work. Their prescribed research agenda forms the basis of our arguments and we deduce certain ethically-informed research questions from the focuses of inquiry in their research agenda. We use our three classic perspectives of ethics in order to develop these ethically-informed research questions. Finally we showcase the contribution of this research and call for a greater infusion of ethics not only into KM, but also into IS research and practice in general.

## Motivation

The motivation for this research commentary is based on three distinct arguments. One, we recognize the close link between ethics and knowledge. Two, we highlight the relevance of ethical considerations within each KM activity- knowledge creation, knowledge storage and retrieval, knowledge transfer, and knowledge application. Three, we observe that even though prior KM research recognizes ethical connotations, there has been a lack of systematic infusion of ethics into KM research. We discuss these motivations below.

First, to demonstrate that ethics is an integral part of KM, we start with the observation by Chatterjee et al. (2009a), who argue, based on Churchman (1971) and Courtney (2001), that there has been a long-standing philosophical argument that *knowledge* is inherently related to *ethics*. Courtney (2001) notes that philosophers throughout the centuries have recognized knowledge and ethics as being synonymous- to be *ethical is to be knowledgeable and to be knowledgeable is to be ethical*. Other authors have also supported this notion. As noted by Morse (1999), Aristotle (1985) in his work on Nicomachean Ethics, drew us to the idea that in order to be ethical, one has to possess both the theoretical and practical knowledge [emphasis added]. Further, as Chatterjee et al. (2009a) note, ethics reflects what human beings consider important in life (Friedman et al. 2006) and hence depend “substantively

on the interests and desires of human beings” (ibid, p.2) who are within a particular situation or context. And so in order to be ethical, one has to gain a complete *knowledge* of the individuals, contexts and situations, because, we cannot be ethical through incorrect or incomplete ontology and epistemology (Chatterjee et al. 2009b). In fact, as highlighted by Spinoza’s celebrated work *Ethics* centuries earlier, ethics essentially draws upon *knowledge* based on reason and understanding (Spinoza 1677/1996).

Second, apart from the argument that ethics is deeply related to knowledge, the relevance of ethics to KM is highlighted if we investigate deeper in to the major activities that fall within the domain of KM. These include *knowledge creation, knowledge storage and retrieval, knowledge transfer, and knowledge application* (Alavi and Leidner 2001). Knowledge creation, especially tacit knowledge creation, is strongly contingent upon socialization processes (Nonaka 1994). Such social processes are “inherently vulnerable to various distortions arising from the use of expert, structural, or other forms of power, peer pressure, and efficiency imperatives, real or imagined” (Hirschheim and Klein, 1989; Hirschheim and Newman, 1991; c.f. Chatterjee et al. 2009a, p.142). Such distortions inhibit knowledge creation and a consideration of ethics can remedy this.

In the case of knowledge storage and retrieval, there are key concerns such as privacy of information, confidentiality of information, access to information, security of information, accountability of information- all of these are important ethical considerations (Friedman and Kahn 2003; Friedman et al. 2006; Chatterjee et al. 2009a). As Nemati et al. (2002) note, designing a KM warehouse architecture requires ethical considerations. So, it is strongly evident that knowledge storage and retrieval has distinct ethical connotations.

Considering knowledge transfer, we again come across key ethical considerations. As found out by Pan and Leidner (2003), in their case study of Buckman Labs, employees often shirked from transferring knowledge to one another because “they do not know what is right and what is wrong” (p. 78). Consequently, the employees had to be subjected to a *code of ethics* in order to facilitate knowledge transfer from one to another (ibid). Again, as noted by Lin (2007) the willingness of employees to engage in knowledge transfer was found to be influenced by perceptions of justice, or in other words to the notion of fairness and ethics (Chatterjee et al. 2009b). As reiterated by Bock et al. (2005), such fairness (ethical) considerations have an important influence on intention of knowledge sharing and transfer.

Finally, let us now consider the issue of knowledge application. Knowledge application refers to the organization’s capability to use the knowledge at its disposal for betterment of its operations and, presumably, to gain a competitive advantage and increase its economic performance (Alavi and Leidner 2001). However, while not readily evident, economic performance has been argued to be closely related to ethics (Jones 1995; Chatterjee et al. 2009a). In fact, noted works along this line of thought (e.g. Donaldson and Preston 1995; Clarkson 1995; Mitchell et al. 1997) have argued that there is a strong positive influence of the ethical orientation of an organization on its economic performance. Cunan and Williams (2009) have aptly summarized it in their perspective that “ethics is good business” (p. 682)<sup>1</sup>. Past researchers, especially within the growing stream of positive organizational scholarship<sup>2</sup>, have argued that ethical orientations enhance creativity, work processes, and organizational adaptation and innovation (Dutton et al. 2010), thus enabling better “profitability, productivity, innovation, quality, customer retention, and employee loyalty” (Caza et al. 2004, p. 174). One of the reasons for this strong link between ethics and economic performances is captured by Godfrey (2005) who argues that ethical orientations generate moral capital amongst organizational stakeholders. This moral capital provides “shareholders with insurance-like protection for a firm’s relationship-based intangible assets” (Godfrey 2005, p. 777), thus contributing to better organizational economic performance (ibid). In fact in an IT-enabled business world, “in which most firms are embedded in alliance networks, unethical action can rapidly destroy a reputation and brand value that has taken years to build” (Surie and Ashley 2008, p. 239) . Thus ethical considerations are closely linked to economic considerations (ibid).

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<sup>1</sup> We revisit and further elaborate on this notion later, when we discuss the contributions of this paper.

<sup>2</sup> Positive organizational scholarship refers to the study of what is “positive, flourishing, and lifegiving in organizations” (Cameron and Caza, 2004, p. 731).

So, it is evident that ethical orientations are strategically relevant in enhancing social capital and thus sustained organizational economic performance and excellence (Solomon, 1992; Solomon 2003; Cameron, 2010; Luthans et al. 2008). Since economic performance is strongly influenced by applying knowledge that is created/available to the organization (Sarin and McDermott 2003), and economic performance is also strongly aligned with ethical orientations in an organization, we can naturally argue that there is a strong link between knowledge application and considerations of ethics. More specifically, since knowledge application inherently deals with normative issues such as how, why, and when to apply knowledge, its link to ethics, an inherently normative consideration (Hasnas 1998; Bishop 2000) is evident.

However, a past review of KM research within the IS discipline reveals little *explicit and systematic* understanding of ethical considerations. While there have been some attempts to link ethics to KM (e.g. Courtney 2001; Chae et al. 2005; and Richardson et al. 2006) by and large, the field of KM research has not seen a thorough consideration of how ethics can further the KM field of inquiry. As an aside, it should be noted that this malady is not symptomatic of only KM research, but also the entire IS discipline (Bryant et al. 2009). Motivated by such a gap in the existing literature, this paper systematically puts forward ideas and suggestions on how ethics can significantly further future KM research.

## Review: Ethical Theories in Philosophy

Having argued the relevance of ethics to KM, it is now imperative that we discuss the theories of ethics in order to create the groundwork for developing our research agenda for ethical KM. We undertake it in this section. Chatterjee et al. (2009a) note that classical ethical theories fall into three distinct streams: consequentialist ethics, deontological ethics, and virtue ethics. Based on their articulation, we present a discussion of the three theories below.

The consequentialist and deontological schools form the two major *act-based* schools of ethics. Bentham (1789/1970) and Mill (1861/1979), who were early proponents of the consequentialist school, argued that the rightness (or wrongness) of an action is determined by how much hedonistic<sup>3</sup> consequential benefit (maximizing pleasure and minimizing pain) is produced by the action. Consequentialism argues that actions would be right (i.e., ethical) if they produce a maximum of pleasure (Moore 1912), since pleasure (alternately, happiness) is intrinsically good (Sinnott-Armstrong 2006).

Hedonism has been criticized by later authors who mention that it may lead to over indulgence, irresponsible behavior, and moral decay (Veenhoven 2003). In fact, as Hammond (1982) argues, the hedonistic version of consequentialism of Bentham and Mill is in an “unnecessarily crude form” (p. 1500) and has been subjected to criticisms by many authors. It is perhaps for this reason, that later consequentialists (e.g., Moore 1903/1959) included non-hedonistic outcomes (such as money, safety, and material wealth) in order to further refine the theory of consequentialism, arguing that maximizing such positive consequences can also be considerations to determine the rightness or wrongness of an action. So, for example, an action that maximizes the safety of a community can be termed as ethical. This trend (of focusing on non-hedonistic benefits within consequentialist theory) seems to be evident amongst more recent philosophers, policy makers, and economists. For example, the Nobel Prize winning economist Amartya Sen (1979) argued that “welfarism”- being concerned with human or social welfare- should be a more fundamental aspect of this theory. As Goodin (1995) reiterates, it is “people’s basic welfare interests which should instead be central to policy-makers’ concerns” (p. 14) when implementing any form of consequentialism as a public policy. Thus, it is evident that modern notions of consequentialism have moved away from the purely hedonistic considerations proposed by Bentham or Mill, but the core idea of maximization of benefits or outcomes still remains the critical consideration of consequentialist theory.

This idea of consequentialism allows us to identify positive consequences within certain scopes and contexts, and thus accordingly determine if an act results in those outcomes, and is thus ethical. With respect to information systems and its impact on organizations, for example, certain positive consequences have been argued in prior literature- employee welfare, work achievement, and satisfaction (Friedman et al. 2006).

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<sup>3</sup> Hedonism posits that pleasure is intrinsically good (Sinnott-Armstrong, 2006).

Contrastingly, the deontological school of ethics argues that the rightness of action is determined by certain rules in place. Immanuel Kant, a primary proponent of the deontological school, grounded these rules in the form of the categorical imperatives (1804/1994). Such rules represent duties (in terms of respecting another individual's rights) to be followed, and an act is deemed ethical if it conforms to these rules. Kant's (1804/1994) formulation of the deontological view of ethics rested on his three famous categorical imperatives:

- "Act only according to that maxim whereby you can at the same time will that it should become a universal law" (p. 30).
- "Act in such a way that you treat humanity, whether in your own person or in the person of another, always at the same time as an end and never simply as a means" (p. 36)
- "Every rational being must so act as if he were through his maxim always a legislating member in the universal kingdom of ends" (p. 43).

There have been many philosophers who have forwarded the deontological school of thought of Immanuel Kant. Perhaps one of the most notable was John Rawls, who in his influential theory of justice (1971), forwards a deontological view of justice based on his following fundamental principles (c.f. Robin and Reidenbach 1987, p. 46):

- "Each person is to have an equal right to the most extensive basic liberty compatible with similar liberty for others" (Rawls 1971, p. 60).
- "Social and economic inequalities are to be arranged so that they are both
  - (a) reasonably expected to be to everyone's advantage, and
  - (b) attached to positions and offices open to all" (Rawls 1971, p. 60).

This first principle is called the principle of liberty. It basically translates to issues like freedom of speech (expression), freedom of political liberty, and the like. The first part of the second principle is also called the difference principle, and implies that social and economic inequalities should be rearranged to benefit everyone, and especially according to Rawls, the least advantaged members of the society. The second part of the principle is called the principle of fair equality of opportunity, which basically implies that everyone should receive equal opportunities in society. Often the two parts of the second principle are referred to as separate principles.<sup>4</sup>

Following such deontological works (especially of Kant and Rawls), prior research has outlined essential (deontological) values that should guide our action in order for it to be termed as ethical. Such values are ethical because actions following them uphold our duties to promote basic human dignity in a social system, a key consideration in deontological ethics (Chatterjee et al. 2009a). Notable deontological values which have been discussed in prior works, especially related to the IS field, have been consistency, respect for individual's autonomy, accountability, equality, freedom of expression (Chatterjee et al. 2009a) and, privacy, and security (Friedman et al. 2006)<sup>5</sup>. Such deontological values can be interpreted in terms of rule-based duties to guide an action to be termed ethical- e.g. we have a duty to uphold an individual's autonomy.

Apart from these theories, which are essentially act-centered (because they focus on how one should act ethically), there is a third line of thought that focuses more on the doer of the act, rather than the act itself. This third line of ethical thought draws from the works of Aristotle and thus predates these more modern ethical thoughts. Called *virtue ethics* (O'Neill, 1996; Hursthouse, 1999), it judges not the ethicality of actions but rather the ethicality of agents. Virtue ethics draws originally from the works of the Greek philosopher Aristotle, who described certain characteristics or "virtues" agents of action should have: courage, honesty, compassion, and the like. MacIntyre (1985) defines a virtue as "*an acquired human quality the possession and exercise of which tends to enable us to achieve those goods which are internal to practices and the lack of which effectively prevents us from achieving such goods*"(p. 191). Thus, while the focus of act-based ethical theories (i.e., consequentialism and deontology) is on actions themselves, the focus of virtue ethics is on how one can be a good agent within a context or a community of practice (MacIntyre 1985). It thus leads us to understand that ethical value can be judged not only from an

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<sup>4</sup> We are thankful to an anonymous reviewer for pointing this out.

<sup>5</sup> A formal discussion of these deontological values is not included in this paper due to space limitations. For a further elaboration on these values, the reader is referred to Chatterjee et al. (2009a) and Friedman et al. (2006).

understanding of the act but also from understanding the agent (situated within a context) who commits the act. For example, fearlessness may be a virtue for a soldier, but not for a car driver!

We should note here that in virtue ethics, there is a conceptual shift to “being” from “doing” (Louden, 1986)- *it emphasizes the idea that we should be concentrate on “being” good persons instead of concentrating on “doing” good acts* (Chatterjee et al. 2009a). In the act-based schools of ethics, ethicality of an individual is derived from the action- a person is good if s/he acts in a certain way (Trianosky, 1990). In contrast, virtue ethics proposes that it is a good agent that performs an ethical act (ibid). In other words, a good agent (possessing the virtuous characteristics) will always act in a proper (ethical) manner in a given situation. For example, an agent having the virtue of courage will not bow to unjustified peer pressure (Hartman 1998). Thus it is important to “be” a good agent (i.e., have virtuous characteristics), because a good agent will act out of those virtues and thus commit good acts. Virtue Ethics takes the stance “that morality or perhaps the ordinary conception of morality is best analyzed by beginning with a conception of virtue and character and then explaining other aspects of morality in terms of that” (Taylor, 1991; Hursthouse, 1996, c.f. Harman 1999, p. 318). In virtue ethics, “we determine what a person ought morally to do in a particular situation by considering what a person of good character would do in that situation” (ibid, p. 318) and “an act is morally right to the extent that it is the result of the agent’s good [i.e., virtuous] character” (ibid, p. 318).

Virtues exist both at the individual level (e.g. Solomon 2003; 2004; McKenna et al. 2009; Brown et al. 2005) and at the organizational level (Collier 1998; Whetstone 2001; Moore and Beadle 2006; Chun 2005). While the latter may seem odd at first sight, literature has in fact proposed that organizations do have character and identity, and thus, virtues (Pruzan, 2001). In fact, as Pruzan (2001) argues, such organizational virtues strongly contribute toward the identity of the organization. Furthermore, this is completely consistent with MacIntyre’s (1985) view of the virtues being situated in a community of practice, here the community of practice being an organization. A community of practice socializes individuals so as to understand what virtues need to be practiced and what vices need to be avoided (Limbs and Fort, 2000). A review of the prior literature reveals the following often mentioned virtues at an individual level and/or organizational level: integrity, creativity or zeal (Chun 2005), conscientiousness (Brown et al. 2005), empathy (Murphy 1999), self-control (Dyck and Kleyson 2001), and courage (Harris 2001).<sup>6</sup>

Philosophers hold that the above classical perspectives of ethics are quite radically different from each other (Chatterjee et al. 2009a). This is why, in this paper, we use each of these ethical theories in order to develop our research agenda for KM. It should be noted that the focus of the paper is not to justify one particular ethical perspective (it is a philosophical debate that has raged through centuries), but rather to showcase why ethics should be an important consideration to KM, and thus to draw attention of the IS academic community to this issue.

## Furthering KM research through ethics

Having articulated the classical perspectives of ethics, it is our endeavor to showcase, in this paper, as to how these perspectives can further the line of KM research. Before the explication of our research agenda, we should discuss our starting point. This research agenda is informed by Alavi and Leidner’s (2001) well-known article that articulates a research agenda for furthering KM inquiry. Drawing from their work, we first summarize key focuses of KM research that we believe have ethical connotations. These key focuses are presented in Table 1 (first column).

We take those focuses of inquiry as our starting point, and interpret each research focus with an ethical lens, from the point of view of one or more of the three ethical theoretical perspectives. Table 1 summarizes the KM research focuses and corresponding ethical research questions. It should be noted here that not *all the research focuses presented here (drawing upon Alavi and Leidner 2001) are amenable to all three of the ethical perspectives*. Some of the research focuses are more amenable to one or two of these views, while there are others that are relevant to all the three views. For easily understanding the relevant ethical perspective (column 3) to each research focus (column 1), we present, in column 2, the possible ethical issues related to the research focus. This then leads to the relevant ethical perspective (i.e., the deontological, consequentialist, or virtue perspective) for each research focus (column 3) and the summary research questions (column 5). It should be noted that the research questions presented in column 5 are summarized from the discussion and justifications (showcasing the need for these research questions) that follow below in this section. We do not present the summarized research questions in the text itself, but rather in

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<sup>6</sup> Due to space limitations again, a formal discussion of each of these virtues is not presented here. The reader is referred to the cited works for an elaboration of these virtues.

Table 1, for an easy and quick read. Also, note that the headers in the following sub-sections do not reflect the exact research question, but rather the overall broad scope of ethical inquiry (e.g. “Relevance of IT-enabled Deontological Values to Knowledge Creation”) that the research questions fall under. However, these headers are accompanied with the corresponding research question (RQ) number so as to facilitate quick “mapping” between the research questions in the table and the associated text.

Drawing upon the research focus, and the relevant ethical perspective(s), we now articulate each ethical research question in the following part of this section. We should hasten to add here that there could certainly be other ethically-informed research questions (beyond the ones presented in this paper) that could further the KM line of inquiry. Ethics is a matter of continuous and endless relevance and debate. So, our focus in this paper is not to come up with a *comprehensive list of ethically-informed research questions, but, rather, showcase on how ethics is a matter of prime importance to KM*. In fact, we hope that this paper will influence our academic colleagues to develop additional ethically-informed research questions in order to further this line of inquiry.

**Table 1. KM research focuses and corresponding ethical research questions**

<b>KM Research focus (Adapted from Alavi and Leidner 2001)</b>	<b>Possible Ethical Issues</b>	<b>Relevant Ethical Perspective</b>	<b>RQ #</b>	<b>Overall Summary Research Questions</b>
IT-enabled knowledge creation	Conformance to ethical rules within the scope of knowledge creation	Deontological	1	Do certain characteristics of IT promote/inhibit certain deontological values; what effect does the promotion/inhibition of such deontological values have on knowledge creation?
Storage, Access, and Retrieval in KMS	Conformance to ethical rules within the scope of knowledge storage, access, and retrieval	Deontological	2	What deontological values can be applicable especially to a knowledge storage, retrieval, and access context?  How can procedures and techniques be designed that promotes such deontological values?  Can it be empirically verified whether storage, access, and retrieval mechanisms actually uphold such values?
	Organizational/individual ethical characteristics enabling knowledge storage, access, and retrieval	Virtue	3	What virtues, at the organizational or individual level, can influence proper storage, access, and retrieval of knowledge within a KMS?  How can such virtues be developed within an organizational community of practice?
	Outcomes (ethical) of knowledge storage, access, and retrieval	Consequentialist	4	Does free access to stored knowledge create ethically positive/negative consequences like quality of work life or end user happiness?  How can KMS be designed to uphold (or inhibit) such ethically positive (or negative) consequences?
Knowledge Transfer	Conformance to ethical rules within the scope of knowledge transfer	Deontological	5a	Do certain characteristics of IT-based KMS promote/inhibit certain deontological values (like freedom of expression); what effect does the promotion/inhibition of such deontological values have on knowledge transfer?
			5b	Do organizational level deontological values act as potent interventions so as better promote knowledge transfer using a KMS?
	Organizational/individual	Virtue	6	Does the practice of virtues, both at the



	ethical characteristics enabling knowledge transfer			organizational or individual level, promote knowledge transfer; what virtues are relevant in this regard and how do they promote knowledge transfer?
Knowledge agents/intermediaries in push and pull knowledge processes	Agent ethical characteristics enabling push and pull knowledge processes	Virtue	7	Who are the knowledge agents (e.g. creativity agents, or innovation agents) in an organization and what virtues should they practice and be bestowed with in order to facilitate the push and pull knowledge processes in an organization?
Knowledge capture and modification	Conformance to ethical rules within the scope of knowledge capture and modification	Deontological	8	What are the deontological values that may be used to design a KMS; how can the inscription of such deontological values promote proper knowledge capture and modification of knowledge?  How can KMSs be designed so as to be inscribed with the above deontological values?
	Agent ethical characteristics enabling knowledge capture and modification	Virtue	9	What virtues should knowledge gatekeepers have in order to ensure proper knowledge capture and modification?
Increasing trust in KMS	Conformance to ethical rules within the scope of trust formation in KMS	Deontological	10	What deontological values, inscribed within the system, are especially important for promoting trust in the KMS; are there any conflicting deontological values in this regard; how can such conflicts be resolved?
	Organizational/individual ethical characteristics enabling trust in KMS	Virtue	11	What virtues, at the individual or organizational level, can engender trust in KMS? (For example, do certain virtues of knowledge gatekeepers engender trust in the system (KMS) they own?)
Ethical impacts of KMS	Creating organizational ethical characteristics	Virtue	12	Does the use of KMS lead to the creation of organizational virtues and vices?
	Ethical outcomes of KMS	Consequentialist	13	What ethical consequences (for an individual and an organization) can arise from use of KMS within an organization?

**Ethical Considerations in IT-enabled knowledge creation**

**RQ1. Relevance of IT-enabled Deontological Values to Knowledge Creation**

In this research question, we call for an investigation of whether certain characteristics of IT (e.g. the knowledge management system or KMS) can promote/inhibit certain deontological values and what effect the promotion/inhibition of such deontological values have on knowledge creation. Looking at it from an ethical perspective, we propose that it would be worthwhile to investigate if certain communication media (due to their various media richness properties) give rise to better (or worse) knowledge creation due to their (media’s) inherent promotion/inhibition of certain deontological values. For example, prior literature (e.g. Carlson and George 2004; Dennis et al. 2008; Chatterjee 2007) has argued that media characteristics can promote unethical behavior such as deception. Deception is an unethical behavior violating deontological values such as consistency and respect for individual’s autonomy. Deception may be conjectured to have a detrimental influence on knowledge creation (Castelfranchi 2004). On the other hand, arguing based on the Interpersonal Deception Theory (Buller and Burgoon 1996), deception (whether detected or not) may have unintended consequences such as giving rise to new unintended biases (Darke and Ritchie 2007) and thus to other unintended forms of knowledge.

Further, deontological values such as freedom of expression and availing of equal opportunity to contribute (Chatterjee et al. 2009a) are core enablers of knowledge creation (Lee and Choi 2003). So here, example, one might investigate whether the extent of media synchronicity (Dennis et al. 2008) promotes espoused deontological perspectives like freedom of expression or equal opportunity to participate. One can conjecture that a

communication media with high synchronicity (e.g. video conferencing) might promote better scope for expressing one's ideas, which may ultimately facilitate better exchange of ideas and thus better knowledge creation. In this context, we should add that prior research (e.g. Chatterjee et al. 2009a; Friedman et al. 2006) has argued that it is possible to design and adopt IT in such a way so to promote deontological values.

So, future research can focus on distilling what deontological values are relevant to this context of knowledge creation using IT, and how IT (here the KM system or KMS) can have certain features that can promote/inhibit such values, and how such promotion and inhibition leads to better knowledge creation.

### ***Ethical Considerations in Storage, Access, and Retrieval of Knowledge in KMS***

#### **RQ2. Relevance of Deontological values to Storage, Access, and Retrieval of Knowledge in a KMS**

In this research question, we call for future research to investigate the relation of certain deontological values to storing and accessing of knowledge. Storage and access issues in existing KMS inherently give rise to deontological considerations of security and privacy (Friedman et al. 2006). Further, (in) accessibility is a key property of information objects (Floridi 1999) which arguably constitute any KMS. This issue is further exacerbated in the context of many types of KMS, especially those that cater to the healthcare industry (Meslin and Quaid 2004). For example, when a KMS stores sensitive medical data for a patient, should it be properly encrypted, and who should be able to access it? Should such KMS have authentication techniques to prevent improper access? On the other hand, deontological values such as equal access to information present an inherent contradiction to such deontological views of privacy and security. So, in such cases, which deontological values and their respective implementation into the KMS merit further consideration, depending upon the KMS in question?

The relevance of deontological values to knowledge storage and retrieval is aptly demonstrated by Upadhaya et al. (2005) who note that KMSs implement security methods like password authentication, intrusion-detection systems, or access control systems, and security policies due to issues of privacy in KMS (Thuraisingham et al. 2002). We argue that there are certain deontological values that may be inscribed into such security methods and techniques. For example, these methods and techniques can be designed while remaining faithful to deontological values such as privacy, access (Friedman et al. 2006), and consistency (Chatterjee et al. 2009a)

Knowledge retrieval also has other ethical (deontological) ramifications. This is because, as has been pointed out by van Wel and Royakkers (2004), deontological values such as privacy and autonomy of individuals can be easily compromised, especially in this age of data and knowledge mining. Advanced data mining algorithms can search from a vast amount of stored data for relevant patterns (Tavani 1999; Holsheimer 1999) due to which often times data mining may lead to discriminatory behavior (e.g. by "mining" the differences between men and women on a particular aspect) (van Wel and Royakkers 2004), a typical violation of the deontological value of equality.

We contend that if such retrieval and mining algorithms incorporate certain deontological values (e.g. privacy, equality, or autonomy), then such concerns might be lessened at least to an extent. As an example, van Wel and Royakkers (2004) provide an example on how such retrieval techniques could be implemented in the context of web mining by following what they call a "disallow-mining" technique. In their proposed solution, they refer to how the process of "spidering" (i.e. creation of indexes for database searches by the search engines by using web agents). The web agents check a file called "Robot.txt" in order to check which documents cannot be accessed. As van Wel and Royakkers mention, a similar 'mining.txt' file could be created for the content mining tool to check before mining the content of the site. This file [they note] could be controlled by the site owner to provide permission as to what content may be accessible. Thus we can see that such a retrieval technique inherently provides some respite against the threat to deontological norms of equality or autonomy.

We thus call for research that distills what deontological values can be applicable especially to a knowledge storage, retrieval, and access context and focuses on how procedures and techniques can be designed that promotes such deontological values. Future research may also investigate, by conducting empirical usability studies on whether these deontologically ethical retrieval mechanisms actually uphold such values.

### **RQ3. Virtues Relevant to Access and Retrieval of Knowledge**

This research question gets at understanding if there are certain virtues, whether at the organizational level or at the individual level, that can influence whether any stored knowledge within a KMS is used or accessed by individuals who are not the originator of the knowledge. The relevance of understanding certain virtues related to access of knowledge stored in a KMS is aptly highlighted by Floridi (1999) who comments:

*“Accessing information is not like accessing physical objects. Physical objects may not be affected by their manipulation, but any cognitive manipulation of information is also performative: it modifies the nature of information by automatically cloning it. Intrusion in the me-hood is therefore equivalent to a process of personal alienation: the piece of information that was meant to be and remain private and unique is multiplied and becomes public, it is transformed into a dead piece of my self that has been given to the world, acquires an independent status and is no longer under my control.”(p. 46)*

Not surprisingly, due to this reason, issues of who accesses the knowledge-base embedded in a KMS becomes important. Our basic conjecture is the fact there are certain virtues which we think are readily more amenable to understanding how stored knowledge is accessed and used. For example, consider the virtue of integrity (Solomon 1992) or the virtue of conscientiousness (Chun 2005). Assuming that these virtues are practiced at the organizational or individual employee level, an individual within an organization, who subscribes to this virtue can be counted on to access knowledge in a “proper” (i.e. ethical) manner. For example, one of the problems with storing knowledge especially in a KMS is that it is often made accessible to many individuals, who may misuse the knowledge (Alavi and Leidner 2001). Hence we can argue that if such virtues are practiced within an organization, or even at an individual level, such concerns of accessing knowledge can be minimized.

So, future research may focus on what virtues are relevant in this context of knowledge access and retrieval, how they can be developed within the organizational community of practice, and whether these virtues can influence how the knowledge stored within KMS are accessed and used.

### **RQ4. Ethical Consequences Relevant to Free Access of Stored Knowledge**

In this research question, we call for an investigation of whether free access to stored knowledge results in positive or negative ethical consequences. Essentially a consequential perspective, this research question is aimed at research conducted to investigate the ethical benefits of free knowledge access. In fact, our call for this research question is primed by prior suggestions that a framework based upon the consequentialist ethical notion can be very relevant to investigate issues of access to stored knowledge within an organization (Dulipovici and Baskerville 2007).

In order to investigate this research question, future research could investigate and define consequences that are essentially “good” from the organizational or individual perspective, and those that have distinct ethical connotations- quality of work life, employee happiness or satisfaction, and employee commitment. It would be interesting to see whether such free access to knowledge influences these ethical consequences to a great extent. On the other hand, due to this free access, organizations could run the risk of fraud, misrepresentation, knowledge distortion, and ultimately a possible loss of economic benefits. It would be useful to investigate which ethical considerations are more dominant in this dilemma that organizations may face.

Herein, future research can also investigate the consequential effects of various information retrieval mechanisms. Related to this, they can try to delineate what ethical consequences become important for various information retrieval mechanisms. As noted by Jarvelin and Ingwersen (2004), a major concern of knowledge retrieval should be the *consequential utility* in the task and surrounding contexts. As Ingwersen and Jarvelin (2005) reiterate, issues like quality of life should be prime concerns in such information retrieval techniques.

As an example of such a system increasing the quality of life is the Microsoft Research product called Stuff I’ve seen (SIS) (Cutrell et al. 2006). As the authors (who worked on developing this product) note, this system allows a user to retrieve “electronic information the user would see regardless of how it was initially encountered (such as in

email, files, calendar information, instant messages, Web pages, and digital photographs)” (p.61), thus enabling them to experience positive consequences (e.g. better ease and quality of work life).

Following the delineation of such ethical considerations, future research can seek to design information retrieval techniques based on such consequential ethical considerations like the SIS product at Microsoft. While the SIS product was mainly for retrieving personal information, future research may extend this to retrieving work related information. All these newly designed systems using sophisticated retrieval techniques can be said to focus on the end-user’s utility- either in terms of better quality of personal or work life, or even hedonistic utility in terms of more happiness and ease- and we call for designing better systems that incorporate access techniques that upholds these consequential utilities even better.

### ***Ethical Considerations in Knowledge Transfer***

#### **RQ5a. Relevance of IT-enabled Deontological Values to Knowledge Transfer**

In this research question, we call for an investigation of whether characteristics of IT (i.e. KMS) can promote (or inhibit) certain deontological values and whether promotion of such deontological values leads to greater knowledge transfer. Referring back to the earlier research question of knowledge creation, we contend that characteristics of IT that are used for knowledge exchange, especially in collaborative settings, can promote certain deontological values. Our conjecture in this area is primed by the recent observation by Chatterjee et al. (2009a) who argue that technology should have features to support/promote certain deontological values such as consistency, respect for individual’s autonomy, accountability, equality, and freedom of expression. Such deontological values can be deemed very important for knowledge sharing and knowledge transfer. For example, in their work, Szulanski and Jensen (2006) highlight the value of accountability in the context of knowledge transfer. As noted by Bock et al. (2005), considerations of extrinsic rewards are extremely important in formation of an attitude toward knowledge sharing and transfer. Such reward considerations implicitly incorporate the notion of accountability because unless one is accountable (in effect, known) for sharing or transferring of knowledge, one cannot perceive possibilities of rewards for that.

Furthermore, as Lee and Choi (2003) note, freedom of expression is an extremely important enabler of knowledge transfer and knowledge creation. Again, consider the deontological value of equality, which can be interpreted, within our context as the fact that everyone has a basic right to equal information. If the KMS used for knowledge transfer and sharing promotes such a deontological value (e.g. the ability to broadcast knowledge across the organization), then, we argue that it would be quite beneficial to knowledge transfer.

Overall, we thus see that KMS can be designed which can promote such deontological values. This view is supported by Garavelli et al. (2002) who argues that KMS should support practices that can engender knowledge transfer. We propose that deontological values (due to their focus on basic human rights and dignity) are such values. Consider again the deontological value of freedom of expression. As an example, communication media (as part of the KMS) can be designed which can promote alternate channels of communication, which can enable in a collaborative setting, both synchronous (e.g. chat) and asynchronous knowledge transfer (e.g. email) (Marwick 2001; Morey 2001), thus bolstering freedom of expression. We contend that future research may thus fruitfully engage in delineating such deontological considerations in the course of knowledge transfer and designing communication media as part of the KMS that promote such values.

#### **RQ5b. Relevance of Organizational Norms or Codes (Deontological) to Knowledge Transfer**

In this research question, we call for an understanding of whether there are some organizational level deontological norms for using IT (KMS) used for knowledge transfer. In this context, we draw the reader’s attention to the well-known codes of practice for using computer and information systems, as outlined for example in the ACM code for ethics. This code of ethics can be likened to a deontological imperative which promotes certain rules of conduct for IS professionals related to designing, managing, and using IT. For example, one of the codes of ethics mentions that “computing professionals have a responsibility to *share technical knowledge* [emphasis added] with the public by encouraging understanding of computing, including the impacts of computer systems and their limitations. This imperative implies an obligation to counter any false views related to computing” (<http://www.acm.org/about/code-of-ethics/#sect1>).

Prior literature (e.g. Victor and Cullen 1988; Cullen et al. 2003) suggests that organizations may have ethical climates that are associated with deontological norms at an organizational level. For example, deontological norms such as consistency of knowledge, freedom of expression, and equality in access to knowledge (see Chatterjee et al. 2009a) can be inscribed within organizational practices which might influence knowledge transfer within an organization.

We contend that if such deontological norms are present within an organization, it will promote using KMS in a manner that will facilitate knowledge transfer within such organizations. Primed by Courtney's (2001) observation of creating organizational policies for encouraging knowledge sharing and transfer, we thus call for a clearer delineation of organizational level deontological norms for using KMS in a manner to facilitate knowledge transfer. Our view here is also reinforced by Szulanski's (2000) argument that knowledge transfer depends upon organizational norms and values. Again, Okhuysen and Eisenhardt (2002) argue that certain organizational interventions often promote knowledge transfer. Following such observations, we conjecture that it would be interesting to investigate the effect of such organizational deontological ethical norms (for KMS use), as an example of such interventions, and whether they can ultimately promote knowledge transfer.

#### **RQ6. Virtues Relevant to Knowledge Transfer**

In this research question, we call for an investigation whether there are certain virtues, both at the organizational or at the individual level, that can influence knowledge transfer within an organization. As noted by MacIntyre (1985), virtues are situated within a community of practice. We conjecture that an organization with its norms, ethical climate, and directives, can be such a community of practice (Chun 2005). As articulated earlier, extant research has actually articulated that organizations, as communities of practice, can possess certain virtuous attributes which might lead them to achieve organizational successes across multiple dimensions (Chun 2005; Collier 1998).

We contend that an investigation on delineating and articulating certain virtues, whether at the individual or organizational level, and how they impact knowledge transfer can be a worthwhile venture for future research. For example, as noted by Singh (2008) citing Hubbard et al. (2002), for good knowledge management, the characteristics of innovation or creativity need to be encouraged. The notions of innovation and creativity draw us very close to the notion of zeal, a recognized virtue at the individual and the organizational level (Chun 2005). We contend that if the organization, its members, or its leader, are characterized by such virtues, there would be a greater practice of knowledge transfer in order to engage in knowledge sharing and thus create better and new knowledge, which will satisfy this virtue of zeal or innovativeness.

#### ***Ethical Considerations related to Knowledge Agents or Intermediaries***

#### **RQ7. Virtues Relevant to Knowledge Agents or Intermediaries**

In this research question, we call for an understanding of whether there are certain virtues, at the organizational, unit, or individual level that can influence the efficacy and balance of the push and pull processes for knowledge creation, diffusion, and transfer within an organization (Datta 2007). As noted by Datta (2007), there are certain agents or intermediaries of KM. They include creativity agents, innovation agents, or diffusion agents. While all these agents perform different functions within the scope of KM, one of their fundamental attributes is to encourage knowledge management through better creation, transfer, and dissemination of knowledge, and thus inherently increase the efficacy of knowledge push and pull processes which support such activities.

We argue that if these human agents are endowed with certain virtuous attributes, then they could appropriate the available technology to optimize and balance the push and pull processes, a prerequisite to managing knowledge in an organization (Alavi and Leidner 2001). For example, consider the virtues of courage and zeal (Chun 2005). These virtues respectively are associated with qualities such as ambition, competency, imagination, or innovation. All these attributes can be seen to be favorable ones for such agents. For example, creativity agents (human beings) if endowed with such qualities, would possibly appropriate the available IT (KMS) much better. As an example, such agents could configure the KMS so that certain pushed information (e.g. related to innovations) are broadcast across the organization (by the KMS) while others are not. Again, they can configure the KMS so that the pull processes

can facilitate pulling of innovative knowledge by the requested organizational members. Overall, thus, these virtues can assume importance on how KMS are used and how the push and pull processes are facilitated and balanced and we urge future research to take up this investigation.

### ***Ethical Considerations in Knowledge Capture and Modification***

#### **RQ8. Relevance of Deontological Values to Knowledge Capture and Modification**

In this research question, our argument is that if certain deontological values can be promoted or inscribed, by the KMS technology, it might possibly facilitate proper capture and modification of knowledge, in order to maintain its sanctity (Alavi and Leidner 2001). For example, consider the deontological value of consistency. Such a value, if incorporated into a KMS might imply that the KMS allows knowledge modification only if the knowledge is properly modified within its true scope and context. As a possible case, the KMS might incorporate controls so as to make this possible. Consider the possibilities of an open KMS like Xerox's Eureka (Fischer and Otswald 2001). In such a case modifications to knowledge are subjected to peer review by the KMS. We note that such a KMS inherently has the deontological value of consistency built in, because it allows peers to verify whether the modifications are *consistent* with the historical context and the objective of the stored knowledge. Our contention is that distilling such deontological values and using them for designing KMS that promote such deontological values, is a fertile area of research. Again, one can conduct empirical studies on whether these deontological values are really being upheld. Similarly, for knowledge capture, we call for an understanding of whether there are certain deontological values that can be promoted by the IT (KMS) in order to facilitate proper knowledge capture and modification.

In this context, we should acknowledge that one danger of knowledge modification in a KMS is that the existing knowledge may be distorted or lost, due to both intentional and unintentional issues (Hansen 2002). The issue of the knowledge creating context is of importance and so, for example, a KMS may have technological controls build in to help maintain the knowledge modification process (e.g. upholding the deontological value of consistency). Future research may thus focus on distilling such deontological values and investigating how they can be incorporated into design considerations for KMS.

#### **RQ9. Virtues Relevant to Knowledge Capture and Modification**

In this research question, we call for an investigation of the presence of certain individuals with appropriate characteristics that can ensure the sanctity of knowledge, its modification, and its effective application. Before we dwell on our conjectures, let us venture into the concept of "gatekeeping", which has become an important scope of inquiry in information and knowledge management. Within the scope of knowledge management, we can define gatekeepers as "those who guard and preserve a community's information (Aganda, 1999; Metoyer-Duran, 1993) or as agents to gather and disseminate information" (Klobas and McGill, 1995; Sturges, 2001) (c.f. Barzilai-Nahon 2008, p. 1494). Such gatekeepers operate a variety functions within a community of practice e.g. adding information, manipulating information, channeling information, withholding information, and integrating information (Barzilai-Nahon 2008).

Given this understanding of knowledge gatekeeping, it is not difficult to understand that such gatekeepers engage in certain activities within the organizational community of practice and that such actions have an important influence on an organization's knowledge management and application. Hence we argue that it will be worthwhile to investigate whether these gatekeepers should be endowed with certain virtues. For example integrity would probably be an important consideration for such gatekeepers. A gatekeeper who has such a virtue would probably encourage proper, conscientious, and relevant modifications of information and their subsequent use through the KMS. We thus call for future research to delineate such important virtues relevant to knowledge gatekeeping and how they can influence the extent of knowledge stored, modified, and applied via KMS.

### ***Ethical Considerations related to increasing trust in KMS***

#### **RQ10. Relevance of Deontological Values to Trust in KMS**

In this research question, we can also argue that there could be certain characteristics of the technological system itself that may give rise to greater trust in the KMS. Trust in any IS, especially one like a KMS, is of prime importance since without trust, a KMS loses potency (Alavi and Leidner 2001). As Ardichvilli et al. (2003) note, KMS can be trusted if they are perceived to be sources of reliable information. Note that the notion of reliability compares very favorably to the deontological concept of consistency. As reiterated by Corritore et al. (2003), any information systems (including a KMS) can be trusted if the information system (i.e. the KMS) performs *consistently* and reliably. The importance of deontological values toward designing information systems (which, arguably include KMS) can be found in the works of Batya Friedman and colleagues. Specifically Friedman et al. (2000) showcase that certain deontological values- accountability, consistency and reliability, and security- are especially important to be promoted in a technology-mediated environment.

So, we call for future research to identify potential deontological values that could be promoted by KMS and which would lead to an engendering of trust in the KMS. As an example, consider a KMS endowed with the deontological value of accountability, (i.e. one should reveal one's identity when incorporating some new knowledge into the system). In such a system a KMS user may feel that auditability of the system is increased and as a result, the system and the knowledge it contains can be trusted further.

However, Friedman et al. (2000) draw our attention to the fact that there can be certain deontological values which might come in conflict with others and hence designers for information systems should be aware of it and take appropriate steps of action. Such issues of conflicting deontological values and the corresponding conflict resolution strategies may also be fertile avenues for future research.

#### **RQ11. Virtues Relevant to Trust in KMS**

In this research question, we call for an understanding of whether there are certain organizational, or individual virtues that may engender trust in the knowledge captured by the KMS. The need for an understanding of virtues stems from the fact that, as discussed earlier, the knowledge captured via IT is subjected to the knowledge gatekeepers' actions. And, since we call for an understanding of the gatekeeper's virtues earlier, we contend that such an investigation should be fruitful to understand whether it leads to the knowledge captured by the KMS. As a very simple example, if the organizational members feel that a system is in "able hands" (i.e. the gatekeeper has certain virtuous characteristics), the overall trust in the KMS may be increased. The relevance of virtues toward engendering trust is brought out by Flores and Solomon (1998) who note that the virtue of sincerity (or conscientiousness) has strong implications for development of trust. So, we argue that certain virtues of the human "knowledge gatekeepers" might actually help develop trust toward them.

However, why should a trust on the knowledge gatekeepers enhance the trust on the KMS they own? This follows from the logic of trust transfer (Stewart 2003) which articulates that once individuals trust an entity (here the gatekeeper), they also begin to trust other entities closely tied to that entity (here the KMS). As a parallel example from E-commerce research, when individuals trust the e-vendor more, they use the vendor's website for purchases more often (Gefen et al. 2003), i.e. implicitly forward the trust from the e-vendor to its product or its website. Likewise, we can surmise that if the owner of the KMS becomes trustworthy (due to the virtuous characteristics), the KMS they own also might become trustworthy. This can again be investigated by future research.

### ***Ethical Considerations in the Impacts of KMS***

#### **RQ12. Virtues/Vices as a result of KMS Use**

In this research question, we call for an understanding whether the use of IT (KMS) leads to certain dysfunctional virtues or vices within the organization. There has been a long-standing argument that the IT-enabled information age has ushered in new and complex and ethical problems (Mason 1986; Marshall 1999; De George 2000). In fact,

as noted by De George (2000), disinformation and misleading information are often vices that have characterized the information age and that organizations need to understand the ethical implications of using IT (such as a KMS).

We conjecture that the use of IT can lead to certain such vices because often times, IT can provide a window or opportunity of unethical behavior (Datta and Chatterjee 2008). Recalling our definition of virtues, if virtues exist within a community of practice (MacIntyre 1985) then vices (the opposite of virtues) can also be argued to exist within a community of practice. For example, conscientiousness as a virtue finds its corresponding vice as laziness or indolence. Since IT promotes communities of practices (Pan and Leidner 2003), and since IT can induce harmful effects (Chatterjee 2007), our central conjecture is that IT may have the possibility to induce vices within the community of practice. For example, again consider the virtue-vice pair of conscientiousness and indolence. Use of KMS may have the possibility to make an individual “lazy” in order to search for alternate sources of knowledge. As a case in point, an individual might want to limit himself/herself only to information available via the KMS and not explore any other avenues of knowledge (e.g. face to face meetings), even if they are possible and are mechanisms of alternate or richer knowledge views. So, it remains to be seen whether use of IT can give rise to certain dysfunctional vices (e.g. indolence) that inhibit external and alternate searches for knowledge.

### **RQ13. Consequences of KMS Use**

In this final research question, we ask future research to investigate the ethical consequences of a properly designed and effective KMS. For example, research may investigate issues such as KMS-based allocation of human resources to projects, and its corresponding effects such as person-job fit, person-group fit, and person-environment fit (Kristof-Brown et al. 2005), each of which (or lack of which) may produce corresponding effects (with an ethical connotation) such as employee stress and quality of work life, as articulated earlier. We call for future research to investigate and delineate what “good” consequences ultimately are relevant considerations for a KMS. Correspondingly, what features should a KMS have so that it can uphold such consequences? Here, researchers might also apply the TAM model to various KMS and investigate what factors antecede the constructs of perceived ease of use and perceived usefulness. In this perspective, it may be possible to interpret the well known TAM constructs of perceived ease of use and perceived usefulness with the lens of consequentialist ethics and investigate what factors influence these and what are the downward ethical implications of these factors.

We propose that delineating such consequential implications for KMS use in an organization, and its corresponding empirical investigation on ethical consequences for employees and organizations, may be pursued to good effect by future research.

## **Contribution and implications**

### ***Contribution***

The contribution of this paper is manifold. First, it focuses on the relevant issue of KM, a growing focus in IS research. This is because of the fact that today’s economy is about knowledge workers (Mayer and Nickerson 2005) and hence issues of KM are inherently important and require continuous investigation. This paper thus focuses on a relevant and timely issue.

The second contribution of this paper is that it draws our attention to the relevance of ethics to KM, especially within the IS discipline. While there have been sporadic attempts at linking ethics to KM (e.g. Land et al. 2007; Frize et al. 2005; Alter 2006; Bryant 2006), and we certainly applaud such efforts, a systematic research agenda for infusing ethics into KM has thus far been missing. In fact, primed by these observations, this paper is inspired to categorically indicate the necessity of ethics to KM and articulate a research agenda, related to ethics, that can further the KM field.

On a related note, the third contribution of this research is in providing ready-made ethical research questions for KM. In that way, it can give rise to numerous empirical studies. Arguably, each of the research question raised in this paper can be an empirical study by itself. If our colleagues answer this call for an ethical agenda for KM, we shall definitely have a deeper understanding of the ethical implications in KM.



Fourth, the paper brings into fore the notion of virtues within IS research. By articulating the nature of virtue ethics and discussing certain virtues relevant to KM, this paper showcases the relevance and applicability of virtues within the IS discipline. In fact, the relevance of virtues of employees, leaders, and organizations is becoming a core issue of investigation in management research (e.g. Collier 1998; Murphy 1999; Chun 2005), and this paper shows that such considerations of virtues can be useful in understanding the management of information systems.

Fifth, this paper not only discusses the relevance of ethics to KM, but also offers further scope for granularity in our understanding of ethical KM. This is because in this paper, we have granularized ethical considerations in KM into the three distinct schools of ethical thought. As one can see, pursuit of these different perspectives of ethics gives rise to quite different scopes of investigation in KM. A common problem in IS research (as also KM research) has been that there has often not been a strong link to ethics, and also to the classic philosophical theories of ethics (Siponen and Oinas-Kukkonen 2007). This paper, by providing that link showcases the variety and richness that ethical thought can provide in order to further not only KM, but also IS research in general.

Finally, the paper contributes by showcasing the need for ethical considerations for both IS and business disciplines. The recent economic meltdown and spate of corporate scandals (e.g., Anglo Irish Bank in 2008, Satyam Computer Services in 2009, and Lehman Brothers in 2010) have prompted researchers to emphasize the importance of infusing ethics within business organizations (e.g., De Cremer et al., 2010). This call has been reiterated in the IS research community because IS research has often focused on economics, efficiency, and survivability (Bryant et al. 2009), it is also time to focus on ethics as “the stakes are high” (ibid, p. 785). This paper, by discussing ethical issues related to IT-enabled KM, answers this call to an extent. We emphasized earlier in the paper that ethical and economic considerations are quite closely linked. We feel that this issue merits some discussion so as to further appreciate the perspective and contribution of this paper and its relevance to the IS and business disciplines. Consequently, we further elaborate on it below.

On a general level, this paper showcases the relevance of ethics to organizations and their economic outcomes. This paper reiterates the notion that ethical considerations contribute to a caring image for an organization, because they uphold basic human values, and thus lead to overall stakeholder happiness and satisfaction, which, in turn contribute toward positive economic outcomes such as productivity and revenues (Sarker et al. forthcoming). On a related note, the ethical notion of corporate social responsibility (CSR) - which argues that organizations have a duty toward the greater society (e.g., Mackey et al. 2007) - has been argued to increase an organization’s market value (ibid). Not surprisingly, CSR strategies have become a core focus in today’s business environment (Maloni and Brown 2006).

We should note that being in a global economy heightens the need for ethics. Often there is a strategic need to consider ethical considerations and ethical codes in international supply chains where organizations often outsource to independent suppliers in developing countries, characterized by geographical, cultural and institutional distances (van Tulder et al. 2009). As Roberts (2003) notes, such ethical codes of conduct are prime considerations enabling the sustainability of supply chain relationships, by promoting intangible assets like reputation and brand value. Aptly put, today’s organizations need to focus on ethical values and ones who fail to understand this shall “suffer the consequences of their choices” (Giacalone, 2006, p.24). Indeed, a focus on ethics builds legitimacy and thus contributes to an organization’s value creation (Surie and Ashley 2008).

This is why increasingly many business schools are incorporating ethics as part of their business curriculum (Trevino 2006). In fact, the AACSB International, the principal accrediting body for business schools, has constituted an Ethics Education Task Force which reports that the time has come for business schools to acknowledge the “centrality of ethical responsibility at both the individual and the corporate levels” (AACSB 2004, p.9) and there is a need to advance “ethical awareness, ethical reasoning skills, and core ethical principles that will help to guide business leaders as they respond to a changing legal and compliance environment as well as complex, conflicting, and sometimes highly problematic interests and opportunities” (ibid, p. 9).

### ***Future implications***

Related to the contribution of this paper, numerous future implications arise. First, we call upon our colleagues to further this line of thought and articulate alternate conceptualizations of how ethics can be infused within KM. As Siponen and Iivari (2006) note, there are many other streams of ethical thought, which directly, or

indirectly, draw from one of these classical ethical perspectives- Habermas' discourse ethics (1990), Stevenson's emotivism (1944), Hare's moral rationalism (1981), or Singer's preference utilitarianism (1993). Additionally, postmodern ethicists (e.g. Bauman 1993) have challenged the universal perspectives of ethics such as deontology and consequentialism and proposed ethicality from a consideration of the moral impulse of individuals. We call upon authors to enrich the field of KM by drawing upon these diverse ethical perspectives and apply them to KM phenomena, raising further scopes of inquiry in the process.

Second, the paper here has numerous implications for future empirical studies. As mentioned earlier, each of the research questions could constitute a separate study. Having said this, such research questions could also be investigated in varied organizational, cultural, and technological contexts, which could provide us with a deeper overall understanding and implication of ethics in KM. Furthermore, it will also highlight certain dilemmas that can inherently be present in such ethical considerations, such as the conflict between two deontological values, or even the conflict on whether to follow a deontological, consequential, or virtue perspective in a specific context and situation.

The third implication of this paper is to raise the call for infusion of ethics into other facets of IS research. Ethics is a relevant phenomena to most, if not all, aspects of IS research as showcased in the recent publication of an Ethics special issue in the Journal of the Association for Information Systems (2009) and the International Conference on Information Systems' (2008) ethics related theme. The discussion on ethics in this paper can provide a base for investigating other areas of IS research. For example, E-commerce is a particularly relevant arena where opportunities of unethical behavior abound (Datta and Chatterjee 2008). Again, emerging areas of research such as Green IT can benefit from such ethical considerations. In fact, they can draw upon notions presented in the literature on Environmental Ethics, which in turn often draws upon the classic ethical perspectives presented in this paper. Further, IT strategies and leadership research may venture into devising ethical IT strategies and virtues related to ethical leadership. These are of course, some suggestions, and, as is evident, ethics can be infused to great advantage into many areas of IS research.

To conclude, we hope that in this piece we have raised the clarion call for an infusion of ethics into KM research in particular and IS research in general. We hope that this work will energize future research on ethical aspects of KM and also gear the IS research community toward conducting work related to explicit ethical issues in IS.

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