ONLINE COLLABORATIVE LEARNING READINESS: THE RELATIONSHIP

WITH ORGANIZATIONAL CULTURE

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Introduction

Technology innovations have outpaced business process innovations for a long time. Demands of the knowledge age require different capabilities than the typical organization culture. Firms able to learn, apply knowledge, collaborate and use technology, better, faster and more effectively have the potential to build a competitive advantage (Schein, 1993). Yet firms struggle to build organizational capabilities in these areas. Literature from the respective disciplines (learning, knowledge management, collaboration, and technology) suggests that organizational culture is the critical challenge firms experience in building each of these capabilities. Online Collaborative learning (OCL), a recent innovation using virtual technology to conduct learning more collaboratively, promises a better, faster and more effective approach for organizational learning; however, successful diffusion of OCL is also susceptible to an organization's culture. In other words, without an organizational culture that supports behaviors conducive to OCL, employees are unlikely to adopt the new learning approach.

The use of technology for learning with others is not commonly found in organizations. OCL, educational applications that emphasize collaborative discourse and knowledge building mediated by the Internet (Harasim, 2012, p. 88), is one of the new ways organizations are applying the power of the web to build learning capabilities. OCL shares commonalities with collaborative learning, but its technological means of sharing and interacting can create significant challenges for firms without compatible norms (Harasim, 2012, p.

147). Depending on an organization's means of socializing knowledge, these challenges can be easily managed or create significant hurdles.

Due to OCL's newness and multi-disciplinary origins, it is relatively understudied in the literature. Despite significant discussions of the relationship of culture with OCL's underlying disciplines, OCL's limited research does not discuss its dependence on organizational culture. Consequently, current OCL understanding likely underestimates prerequisites of OCL success. Should organizations experiment blindly, or can they learn from empirical research from the four underlying disciplines to increase the likelihood of successful OCL introduction in an organization?

This paper demonstrates the relationship between organizational culture and OCL, transitively, by reviewing cultural requirements of the disciplines of learning, knowledge management, collaboration, and technology adoption in the literature. This approach will illustrate culture's relationship with OCL, identify cultural requirements for OCL fit, and suggest a set of criteria that can be used to evaluate a firm's readiness for successful OCL execution.

OCL, a New Approach to Learning

An evolution from cognitive learning theory, OCL finds its theoretical underpinning in socio-culturalism and constructivism. OCL marks a shift from individual comprehension and knowledge transfer to a socially oriented co-construction of knowledge (Harasim, 2012). This new approach incorporates our ability to learn with and from others while leveraging technology; however, in doing so, OCL challenges some of our traditional assumptions about the way employees learn, individually and together.

Steeped in behavioral and cognitive theory, the educational system and school culture of the 20th century established learning as an individual pursuit. Instruction focused on the teacher-student relationship, not a peer-to-peer relationship (Harasim, 2012). Work was meant to be completed individually and evaluated similarly. Assignments were given as a way to practice and demonstrate individualization and learning of the concepts presented. The acceptable and unacceptable standards established that knowledge was to be possessed, not shared. This was the most advanced learning theory at the time. For these reasons, collaboration in learning activities is not a natural association for students from the 20th century.

The focus on the individual did not stop here, though. Schools were, and still are, used to prepare individuals for employment and good citizenry. So, it isn't surprising that individualistic approach remained unchallenged by industry. In fact, organizational structures reinforced the individual approach.

Evidence of individual focus in organizations can be seen in most 21st century organizations. Current organizational structure and performance remains inherently based on 20th century management practices (Hamel, 2007) largely built on power, hierarchy, authority and the division of labor. Unfortunately, the old fundamental assumptions still drive organizational structure, division of labor, and roles despite general acknowledgement of the importance of collaboration for success in the knowledge economy. If an organization's culture supports these outdated practices, OCL will meet resistance. Although OCL is promising, it requires alignment with an organization's culture.

According to practitioners, misalignment is real. As a senior L&D professional from a global luxury goods company explained, "OCL wouldn't work here because it takes away something we like, being in the same room." In this company, employees are used to doing things in-person. They are able to conduct work in person because, as this learning leader's comments indicate, it *has been* and *still is* socially accepted way to learn and work. However, the preferences described by this senior learning leader indicate that how individuals and organizations learn and work are as much choices as they are norms.

First, people and organizations are adaptable. The ubiquity of email, mobile phone use, and even the meteoric rise in popularity of Facebook demonstrate that people can adopt and enjoy technology for social interaction if they and others believe it serves a purpose. Equally, recent global events such as the 2010 eruption of Iceland's volcano Eyjafjallajökull and the 2005 Asian bird flu pandemic did not stop business, global work or learning. People and organizations used technology to accomplish what needed to be done in lieu of being able to convene in person. Therefore, using technology to learn or interact is a matter of choice, not capability.

However, change is not easy, alone or to a new group norm. It is commonly accepted that humans have a difficult time changing behaviors, even when they realize the new way might be better for them (Achor, 2010; Kable and Glimcher, 2010). After all, people like what they know and are used to. Past generations have grown up with *in-person*, *individual* means of interaction. The comfort and familiarity of individual, face-to-face learning and working differs from some of OCL's characteristics. Using a new method to accomplish these

activities may conflict with established individual and organizational habits. Consequently, if behaviors differ from those required of OCL, individuals and organizations must decide which behaviors they will use. Individuals may recognize benefits of the new approach or even intend to use the new approach, but they must actively make the make the necessary change. At the organizational level, organizations are responsible for providing, allocating and commissioning resources to accomplish work in a culturally acceptable manner. Thus, ways of working and learning that require adaptations represent choices at both the individual and organizational level.

The Pervasive Power of Organizational Culture

Organizational culture provides a tipping point for aligning individual behaviors with organizationally acceptable ones and adapting existing organizational norms to newly desired norms. Every system (i.e., country, organization, culture, individual) possesses its own norms that can affect its ability and readiness to adopt an innovation (Rogers, 2003). According to Janz and Prasarnphanich (2003, p. 353), "organizational culture is believed to be the most significant input to effective knowledge management and organizational learning." They go on to argue "that corporate culture determines values, beliefs, and work systems that could encourage or impede knowledge creation and sharing." Firms whose culture supports characteristics important to knowledge creation or sharing are more "ready" to adopt related practices. By extension, one can assume that organizations with cultures conducive to learning,

knowledge management, collaboration, and technology, OCL's four fundamental principles, will be more ready to assimilate OCL.

How Organizational Culture Manifests

To understand organizational culture's relationship with OCL adoption in the firm, one must first understand how culture manifests in the organization. Organizational culture is a set of practices shared by a group with common interests that defines basic guidelines for acceptance. Scholars do not agree on a how to describe organizational culture, but Schein's (1985) three-level model is the most universal. More importantly, for purposes of this paper, Schein's model is referenced and used in the literature to describe three out of four of OCL's constructs, learning, knowledge management, and collaboration. Technology adoption, even though not explicitly described in cultural terms, can also be linked to values. To understand the relationship between culture and OCL's constructs, it is important to understand the basics of Schein's organizational culture model.

An organization's culture can be described in terms of three different levels of evidence that represent tangibility and a member's potential awareness of the evidence. The three levels include artifacts, values, and basic assumptions (Schein, 1995). The most fundamental level of culture is *basic assumptions*. Basic assumptions form the interpretive framework that people use to make sense of actions, behaviors, events, and relationships they encounter. They inform the group from repeated successes or failures involved in solving a challenge or problem (Schein, 1995). These assumptions are very difficult to change and require time and deep restructuring of mental maps to do so (Argyris, 1996).

Examples of basic assumptions affecting OCL are "in-person training is better", "classes have to have a teacher", "I've got the right answer", and "leaders need face-to-face training". Each of these assumptions drives the way organizations make choices about learning and the way individuals perceive the choices made.

The next level above assumptions, *values*, is the most commonly articulated level. Many firms take the time to articulate their values, at least their espoused or preferred ones. Values represent the group's sanctioned behaviors by reflecting the organization's normative beliefs: what is right and wrong, what is acceptable and unacceptable. Values also guide individual member's interpretations of daily signals, events, and relationships encountered in the organization (Schein, 1995). A few examples of values that affect OCL include "we are a learning organization", "healthy competition brings out the best in everyone", and "the best ideas win".

Artifacts, Schein's top level, are the most visible cultural elements but the most difficult to interpret. Artifacts are the manifestation of the choices made and, therefore, the evidence of values. They are the phenomena that one sees, hears and feels upon entering a new organization and include structures, policies, processes, rituals, formal statements, and critical incident stories. Artifacts indicate the routinization of behaviors and unique ways a specific organization "gets things done" (Schein, 1995). Examples of OCL related artifacts include social media use policies, telecommuting policies, choice of important meeting modes (in-person, virtual), and the provision of formal work time for learning.

These three levels are the means by which organizations exhibit culture and individuals interpret and participate in it. Cultural norms may help or hinder

an individual's willingness or ability to perform basic tasks because of the associated social risk. If an organization says it values OCL, but in practice rewards individual ideas, employees are less likely to share information, thereby reducing opportunities for organizational learning and innovation. Culture is a powerful force in shaping its members' beliefs and behaviors, and therefore an organization's culture needs to be incorporated into the analysis of how to implement OCL.

Social Management through Organizational Culture

Having developed a better understanding of the different levels of culture, one can explore the ways culture shapes behaviors critical to an organization's ability to assimilate an innovation. An organization's culture affects social adoption of new practices in four ways: it signals, reflects, reinforces and stabilizes acceptable member behaviors.

Organizational culture shapes behavior by *signaling* what is acceptable or not. The signals can influence how people perceive, think, and feel (Van Maanen & Kunda, 1989; Schein, 1985). Signals provide the means for managing consistency across the different groups within an organization. For example, executive participation in OCL can signal belief in its ability to deliver high-quality learning experiences.

Some signals are *reflected* in actual work practices, whereas others are not. Many cases in which a difference exists between what firms *espouse* and what they *do* are mentioned in the literature (Argyris & Schon, 1974; Prouty McLaren, 2011). For example, a global computer manufacturer told employees it provided equal and unprecedented opportunities for development and career

advancement through a comprehensive internal jobs database. Yet, employees cited several examples of positions and promotions that were awarded and announced without ever having been posted on the job site (Prouty McLaren, 2011). In the case of OCL, firms may profess they are innovative and committed to learning, yet simultaneously limit learning by endorsing only face-to-face opportunities that can only be offered to limited groups a once or twice a year due to budget constraints. In other words, espoused beliefs signal how the organization *wants* things to work, but not necessarily the way things *actually work* – the differences between values and artifacts. If firms espouse the use of OCL but do not align the culture through daily examples, employees are less likely to believe in and support it.

Next, the frequency of occurrence of these signals affects the speed of adoption through the fourth enabler: *reinforcement*. Adults require multiple occurrences of cultural norms over time to change behaviors (Achor, 2010). Firms that reinforce the importance of certain values and behaviors through multiple sources will develop a discipline in the respective area (Skerlavaj, et al., 2006). Reinforcement of the 'right' culture will sustain or enhance the impact of OCL investments.

Finally, the continuous repetition of the cultural signals, reflections, and reinforcements creates predictability and serves as a *stabilizing* factor for members of the group. The predictability of an action and the group's reaction to the action removes potential risks an individual may associate with adopting specific behaviors. Reduced risk can make it easier for individuals to make necessary changes. Easier and more predictable endorsement of certain behaviors increases the likelihood that more individuals will adopt the same

behavior, thereby reducing the variance in behaviors, or in other words, increasing its stability.

While stability can strengthen a culture, it can also cause resistance to change or prevent influence by outside forces (Schein, 1993). A strong, and therefore stable, culture can actually accelerate the adoption of OCL, but only if it is the *right culture*. If the culture is not consistent with OCL enabling values, it can significantly retard OCL adoption.

To take root, introduction of an innovation requires cultural fit or adjustment. In the case of OCL, organizations must check their cultural alignment with signals, reflections and reinforcements that are supportive of OCL principles. Without attention to potential cultural friction caused by the introduction of OCL, individual cognitive, behavioral or emotional dissonance can retard or limit the diffusion of OCL. In this way, organizational culture shapes behaviors regarding employees' openness to accepting a new model of learning such as OCL.

Culture's Relationship with OCL's Components

To understand culture's relationship with OCL, we need to explore the link between organizational culture and the individual components of OCL - learning, knowledge management, collaboration and technology - by leveraging prior findings, transitively. We will begin with learning culture, due to its strategic importance, reference to knowledge management and collaboration, and scholarly representation in the literature. Knowledge management and collaboration will be taken in turn as they are considered as subsets to learning, followed by technology as the means of accomplishing the previous three.

Key Elements of Learning Culture

Understanding the importance of culture to a group's commitment to a common way of doing things, it is easy to see why scholars frequently describe learning in organizations as a cultural construct (Senge, 1990; Schein, 1992; Fiol & Lyles, 1985; Cook & Yanow, 1993; Argyris & Schon, 1978; Skerlavaj et al., 2007). A learning capability is the gateway to an organization's ability to adapt, establish unique means of meeting needs, and outperform the competition (Barney, 1991; Senge, 1990). Yet scholars disagree over whether organizational learning results from 1) the cognitive activity of individuals in the context of the organization (Argyris & Schon, 1978) or 2) considering the organization as the learning entity itself and accumulating knowledge beyond that of individuals (Cook & Yanow, 1993). Regardless of the repository of organizational learning, the combination of the two perspectives connects the individual learning process with an organization's ability to systematically create the shared learning values, skills, and behaviors across employees. These two views of learning are equally important to OCL because they imply expectations of the scope and dynamics of the OCL learning process.

OCL requires learning and understanding both from individuals and across individuals in the organization. According to Vygotsky (1978), socio-cultural views of learning, the content and the process require participation from individuals, collection of individuals and are facilitated by tools and other sources outside of the individual or group. These three elements reflect the basic

components of OCL, the individual, the group and the tools or other information used to negotiate and create new knowledge.

Based on individuals' past experiences, it is unlikely that all group members share fundamental assumptions (Argyris & Schon, 1978) of the scope and dynamics of organizational learning. In general, the assumptions are the foundation on which the learning culture, values and artifacts, is built.

Learning culture scholars generally agree on the importance of core values or principles to systematically influence a shared learning mindset (Senge, 1990; Schein, 1985; Fiol & Lyles, 1985; Cook & Yanow, 1993; Massey & Massey, 2006; Argyris & Schon, 1978; Skerlavaj et al., 2006). Although each scholar highlights characteristics to support his/her respective argument, the following list of generally accepted characteristics illustrates commonly mentioned elements in which at least three scholars converge on the importance of the specific values or artifacts to signaling, reflecting and reinforcing a learning culture.

Generally Accepted Learning Organization Characteristics

1. *Mental models* (Senge, 1990; Fiol & Lyles, 1985; Argyris & Schon, 1978) - understanding the role of past experience and scripting in fundamental assumptions of how things work

2. *Systems thinking* (Senge, 1990; Schein, 1985; Argyris & Schon, 1978) - thinking holistically about the interdependence of variables involved while avoiding functional or fragmented perspectives

3. *Group learning and collaboration* (Senge, 1990; Schein, 1985; Skeerlavaj et al., 2006; Chen & Huang, 2008) – importance of a common way of

learning that incorporates the group or team, not just the individual; also describing the need for interaction and diversity of thought

4. *Problem-solving/seeking* (Schein, 1985; Argyris, 1977; Garvin, 1993; Seely Brown, et al., 1988; Senge, 1990) – a general desire for proactive issue resolution and constant improvement

5. *Insight through evidence* (Schien, 1993; Fiol & Lyles, 1985; Huber, 1991; Skerlavaj et al., 2006) –commitment to creating, analyzing, and managing knowledge through objective use of data and facts in decision making, rather than power, relationships and intuition

6. *Knowledge as a shared resource* (Garvin, 1993; Goh, 1998; Senge 1990; Nonaka, 1994; Huber, 1991) – a desire to seek information, knowledge, and new ways of operating, both internally and externally, and to effectively transfer this knowledge among people in the organization

7. *Openness to experimentation and innovation* (Garvin, 1993; Senge, 1985; Skerlavaj et al., 2006; Garvin, 1993; Fiol & Lyles, 1985; Schein, 1993; Adym & Tasci, 2005; Chen & Huang, 2007) – a willingness to test and try new ways of doing things, including an acceptance of mistakes and failures as a part of the process

8. *Behavioral agility* (Senge, 1990; Schein, 1993; Fiol & Lyles, 1985; Ramsey & Legg, 2006) – ability to assimilate new behavior patterns easily (changeability)

9. *Communication* (Schein, 1993; Fiol & Lyles, 1985)– keeping all levels and functions informed through horizontal and vertical information flows, and a general willingness to have discussions and debate about organizational issues

10. Building a discipline (habit or process)(Senge, 1990; Schein, 1993;

     Skeerlavaj et al., 2006; Argyris, 1977; Fiol & Lyles, 1985; Huber, 1991) –

     commitment to continuously building habit, expertise, and agility through

     the process of learning

     This list of ten generally accepted characteristics of learning organizations provides insight into the assumptions, values and artifacts associated with learning cultures. The first two, *mental models* and *systems thinking*, represent deeply embedded assumptions that affect one's ability to frame thinking and learning process. Characteristics three through seven, *group learning and collaboration*, *problem-solving/seeking*, *insight through evidence*, *knowledge as a shared resource*, and *openness to experimentation and innovation*, indicate the type of mindset or values required for learning across groups. The final group, *communication*, *behavioral agility*, and *building a discipline*, describe artifacts or areas of evidence that reflect the principles of the learning culture.

     OCL fundamentally requires each of these characteristics, except four and eight, *problem-seeking/solving* and *behavioral agility;* however, OCLs adoption in the workplace can be enhanced by focusing the learning on current business issues and by developing behavioral agility. Significant overlap in key relationships between learning culture and OCL highlights the importance of cultural aspects to OCL adoption.

     The last, *building a discipline*, describes the importance of routinizing the other characteristics to establish a learning culture. True organizational commitment requires constant demonstration of the values in structure, accountability, reward and recognition, policies, procedures and training. Employees do not accept values alone as signals for how they should behave;

they also seek evidence in the artifacts and behaviors they experience daily. The more frequently over time an employee experiences consistent signals, the more an employee will accept in the espoused belief (Schein, 1985; Rosethorn et al., 2009; Prouty McLaren, 2011). Repetition will stabilize and strengthen the practices.

From the arguments provided, it is evident that developing a learning culture requires shared assumptions and consistent signals from practices, processes and policies that reinforce the importance of the shared beliefs to shape organizational behaviors. Knowledge of the organizational context influences individual learning and its application. In addition to signaling, the cultural elements must consistently reflect and reinforce the ten common values of learning organizations. While not all of these are required for effective OCL adoption, problem-seeking/solving and behavioral agility can enhance and be enhanced by OCL.

Key Elements of Knowledge Management Cultures

Having illustrated culture's impact on the discipline of learning in organizations, it is important to consider the impact of learning's product, knowledge, as it related to culture. Expanding on the notion of learning's *knowledge as a shared resource*, the process of sharing knowledge at the organizational level requires systematic management of information and knowledge signals, reflections, and reinforcements.

Although it is generally accepted that organizational culture significantly influences successful adoption of knowledge management in organizations (Alavi et al., 2005; Goh, 2002), the literature reveals less information on the

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treatment of knowledge management as a culture than observed on learning cultures. KM research focuses on the process of knowledge, distinguishing between different stages of creation, acquisition, transfer, and management. Of the KM studies that do refer to culture's relationship with KM, mentions point back to values and artifacts (Alavi et al., 2005) associated with learning cultures.

Four characteristics of KM's relationship with organizational culture that appear in the literature are critical to OCL adoption: 1) characterization of KM as a process (Alavi, et al., 2005; Janz & Prasarnphanich,, 2003) or *discipline*, 2) influence of sub-cultures (Alavi et al., 2005; Janz & Prasarnphanich, 2003), 3) level of virtualness (Alavi, et al., 2005), and 4) introduction of social capital. KM's use of technology and conceptualization of knowledge as a construct sheds light on additional cultural characteristics critical to reaping the benefits of OCL.

The first characteristic, *KM as a process or discipline*, pervades the literature on KM. Janz and Prasarnphanich (2003) highlight that KM is a business practice, not a technology. The majority of KM research describes KM as a process (Alavi, et al, 2005). Many make distinctions between different stages of creation (Janz & Prasarnphanich, 2003; Nonaka, 1991), acquisition, transfer (Goh, 2002; Janz & Prasarnphanich, 2003), and management. Established values, beliefs, work and social systems can significantly encourage or impede the stages of knowledge management (Alavi et al., 2005), especially acquisition, creation and sharing. In terms of OCL, the specific type of process is less important than the commitment to one. If the firm has an established commitment to routinizing the practice of sharing knowledge, individuals will find it natural to transfer a new technology to enabling this process.

Where people go to get information and how they create and transfer information depends on their attitudes and skills. Values mentioned in the KM literature that affect employee behaviors and their perception of KM related to knowledge creation include collaboration, trust, and learning (Goh, 2002; Alavi et al., 2005; Lee & Choi, 2003) as well as innovation, cooperation and social interaction (Alavi et al., 2005; Chen & Huang, 2007).

Similarly, successful knowledge transfer requires the willingness of a group or individual to cooperate with others and share knowledge to their mutual benefit (Goh, 2002; Alavi et al., 2005). Executives surveyed report that successful knowledge transfer remains one of their biggest challenges (Goh, 2002). Management can avoid some of the most common KM problems, specifically those anticipated with OCL, by fostering a culture of trust, openness, problem-seeking/solving, and experimentation (Goh, 2002). KM reference to knowledge transfer explicitly picks up on the social aspects and settings that influence knowledge transfer (Alavi et al., 2005; Miranda and Saunders). KM's introduction of technology makes the need for redefining social interaction even more important. Social interaction is acutely important in sharing or transferring knowledge in OCL. Where individuals do not have an established means, boundaries, and commonly agreed guidelines for interacting and sharing knowledge, it cannot be assumed they will easily adopt new means of engagement. In the case of KM, without attention to the impact of differences of time, geography, functional orientation, and technical capability on use of technology in social interactions, KM culture is unlikely to take root. The same can be expected of OCL.

The second characteristic, organizational structure, is well documented in organizational culture literature but is also surprisingly important in KM tool use in organizations and thus, OCL. KM literature raises the potential difference or dysfunction a subculture can have on KM (Alavi et al., 2005). Due to the use of technology, KM depends on interaction across groups separated by time, geography, hierarchy, and function. These are the very characteristics that increase the likelihood of subculture (Goffee & Jones, 2003). Similarly, varying degrees of openness among subgroups can create different behaviors and levels of participation in joint activities across an organization to OCL. To determine the level of readiness of an organization to OCL, KM literature suggests that one must also understand the organizational contours of the culture. In fact, Alavi, et al. (2005) found that a difference between organizational values and subculture values even predicted different KM tool uses. At the organization-wide level, KM tool use depended on expertise, formalization, and innovation, whereas subgroups using KM tools espoused collaboration and autonomy. The difference in KM tool use implies that 1) one must assume that application of KM inside an organization can vary across subgroups, and 2) different values can provoke different uses in tools. The former indicates a need to understand the contours of the organizational culture, but the latter confirms the importance of the relationship between values and tools used specifically for knowledge related activities such as OCL.

One of the main factors involved in subcultures is the extent to which a firm relies on virtual forms of communication and interaction (virtualness). If appropriate mechanisms and structures are required to facilitate KM, especially in today's fast-paced, distributed working environment, the amount and form of

interaction between people on the team is also likely to be affected. The degree of virtualness can indicate potential for fragmentation among individuals collaborating on a team (Alavi et al., 2005).

If a culture of KM, a technology facilitated exchange designed to improve the use of knowledge for a firm's strategic capability, is affected by a firm's commitment to building a KM process, the organizational structure, the level of virtual interaction amongst its members, and the way in which individuals accrue social capital, then one can say its success is related to the organization's culture. One of these characteristics, *KM as a process or discipline*, reflects an overall approach to developing a focused organizational culture, the continual signaling, reflection and reinforcement of specific values and behaviors, ways of working. Two of characteristices are new and can affect the ability to establish a KM culture, *social interactions* and *level of virtualness*. Although the *importance of subcultures* is not a value or artifact, it results from differences in values and/or artifacts and serves as a warning of the differences in organizational cultures across different groups and their ability to slow down diffusion of technologically supported practices such as KM and OCL. Therefore, KM adds one additional value to the OCL culture list.

11. *Social interaction & capital* (Goh, 2002; Alavi et al., 2005; Lee & Choi; Chen & Huang) – Deliberate focus on establishing new norms of trust and social capital to replace historic /traditional standards

In summary, KM studies echo many of the same values and artifacts that are important to learning cultures. However, KM expands learning culture characteristics to include relevant characteristics resulting from the introduction of technology. KM cultural values are important to OCL adoption for four

reasons. First, KM findings suggest that differences between an organization's group and sub-group values result in differences in the way groups use the tools provided. This dichotomy highlights possibilities of competing values and behaviors and suggests managers cannot expect uniformity across employee sub groups in the use of KM technologies. Second, in addition to the technical aspects of KM implementation, managers must think carefully about the socio-affective aspects that enable KM behaviors. The third important aspect of KM culture to consider is the reference to values that empirically support successful KM adoption. Finally, we would expect individuals and organizations to respond more favorably to technologies that support one or more of the firm's values. Identification of KM related values supports this paper's argument that a firm's ability to adopt OCL, a learning and knowledge tool, is related to the firm's culture and can benefit from understanding specific KM related values and artifacts.

As one of the key aspects associated with learning and using technology to facilitate learning, findings from the KM literature are significant to OCL readiness. Research describes the organizational forces, such as the social and technical context, that will exert influences on individual and group adoption of knowledge related behaviors that one would expect to affect the rate of adoption of OCL.

Key Elements of Collaboration Cultures

It has been shown that successful organizational learning and knowledge management depend on a firm's ability to signal, influence and facilitate desired employee behaviors through assumptions, values and artifacts.

According to the literature, a firm's collaborative capability is also affected by its culture. Interestingly, collaboration, the way firms combine their expertise and deploy people in teams, within a firm is frequently mentioned as important in today's competitive landscape, yet earlier descriptions of educational and working experiences reveal that collaboration in the workplace does not occur automatically (Hansen & Nohria, 2004; Beyerlein et al., 2003). Collaboration literature also indicates that although commonly pursued, organizations have challenges creating collaborative cultures. In fact, CEOs report that building collaborative environments is one of their most difficult challenges.

Difficulties with intra-organizational collaboration can be distilled down to issues of attitude (assumptions & values), behavior (artifacts) and skill. Universal understanding of collaboration in firms is especially important because collaboration requires more than one colleague to take place. As indicated throughout this paper, organizational culture is the mediator for influencing the behavior of individuals and the group by manipulating processes that influence beliefs (assumptions), values, and behaviors (artifacts) toward a specific goal (Schein, 1985). According to scholars, collaboration similarly requires values, business practices, and supportive structures to flourish (Nemiro et al., 2008).

Although scholars do not agree on the definition of collaboration (Nemiro et al., 2008; Grant, 1996b; Gutierrez et al. 2009), common core characteristics of "more than one", "knowledge sharing", and "social interactions" provide insight into collaboration's key success factors. If collaboration is to thrive, specific values and behaviors must exist. By extension,

if OCL diffusion is largely based on a collaborative act, OCL will meet less resistance in organizations that are primed with a collaborative culture.

Within organizations, collaboration requires specific, positive values to create collaborative attitudes. Positive values are those that support respect and appreciation for people (Chen & Tjsovold, 2007). Collaborative cultures require a culture of sharing (Yang, 2007), trust (Beyerlein et al., 2003), cooperation, communication, and coordination (Wangsa, Uden, and Mills, 2011). Collaborative values become cognitive and moral cues that create the conditions that guide social interaction in a mutually beneficial manner (Chen & Tjosvold, 2007). In summary, positive values create a relationship culture. Without values to encourage mutually beneficial behaviors, individuals are likely to revert to past experiences, existing mental models, and current organizational forces as guides for old-fashioned individualistic behavior.

Anti-collaborative attitudes are evidenced in the literature and shown to impede knowledge sharing. A lack of knowledge sharing is described as *knowledge hoarding*. Knowledge hoarding happens in cultures where knowledge is perceived as power (Wah, 2000) or belief that it is not necessary to share, otherwise known as inertia (Hansen & Nohria, 2004). Unless knowledge is shared, it will have limited impact on an organization (Inkpen, 2000). Without supporting values to serve as social and working guidelines and counteract knowledge hoarding, individuals and common work structures are less likely to enable knowledge sharing (Chen & Tjosvold, 2007), thus dampening any latent collaborative intent.

Although supportive values are necessary, they are insufficient without

collaborative practices, processes and skills. Collaboration is frequently lauded and is mentioned repeatedly in the literature because of its ability to counteract the limitations of formal and informal structures and practices used in organizations.

Organizations need collaborative practices to achieve integration, alignment, agility and innovation from their processes and people, yet most organizational structures are actually designed to prevent integration due to their foundations of assembly line management practices. According to the literature, collaborative cultures require deliberate decision and a practice. Declaration of the importance of collaboration is not enough. Individuals need to learn how to collaborate and need supporting structures to encourage and enable collaboration. Without the relearning and reinforcement, many of our past experiences and current environments will work against collaboration.

Hansen and Nohria (2004) describe the importance of both attitude and capability to collaboration in organizations by identifying points of resistance. Overcoming barriers to collaboration requires willingness and ability from both seekers and providers of information. Interestingly, Hansen and Nohria's (2004) four barriers reflect specific learning and KM values previously identified. The first barrier, an individual's willingness to seek input from others, is driven by beliefs of *knowledge as a shared resource* with its emphasis on seeking information internally and externally. The flip side to this belief is the second barrier, the knowledge provider's willingness to help. The willingness of both parties to engage in knowledge sharing activities found in *group learning and collaboration* lies at the heart of a culture of collaboration. Assuming that

willingness exists, sufficient conditions and skills may not. Hansen and Nohria's (2004) third barrier emphasizes the importance of ease of use. Individuals must find it easy to collaborate. If search costs outweigh the benefits of collaboration due to poor infrastructure and limited technology, individuals are unlikely to collaborate because it is simply to difficult and inefficient to do so. Finally, individuals must also know how to collaborate. As evidenced by the fourth barrier, even if willingness exists, the skills may not. The inability to work together and transfer knowledge, especially tacit knowledge reflects the importance of *building a discipline or capability* through processes, training and working practices. Simple knowledge of the benefits of collaboration is insufficient to create a collaborative culture.

Therefore, the discussion of collaboration and its relationship with culture adds two more values to the list of values important to OCL:

12. *Positive values* (Chen & Tjsovold, 2007; Yang, 2007; Beyerlein et al., 2003; Wangsa, Uden, and Mills, 2011) – values such as trust, openness, respect, caring, sharing and relationships
13. *Commitment to training* (Hansen & Nohria, 2004) – Development and learning of the actual means and processes required for collaboration

Now more than ever, colleagues need to share knowledge and work together. However, knowledge sharing depends on trust and relationships, factors that can be affected by firm growth and globalization. Without close relationships, it can take up to 20 – 30% more time to complete projects (Hansen & Nohria, 2004). Therefore, despite knowing the need for collaboration, organizations must deliberately facilitate knowledge sharing among individuals

in the firm. It is evident that without collaborative values, skills and working conditions, an organization's readiness for OCL will meet resistance and be limited.

Since OCL is an application of technology having illustrated culture's relationship with learning, knowledge management and collaboration, it is now important to turn to the cultural requirements that affect technology adoption. Understanding culture's relationship with technology diffusion will complete the understanding of OCL's relationship with culture and therefore characteristics of firms more "ready" to implement OCL.

Technology Adoption Culture

OCL is an innovative approach to using technology to deliver established practices, learning, sharing knowledge, and working together, in a fundamentally new way. Earlier in this paper, I explained the cultural requirements associated with innovations to these established practices. Virtual learning, virtual knowledge management and virtual collaboration are all reliant on a firm's ability to understand and apply new technology efficiently and effectively. While OCL is under researched, diffusion of innovations and technology is well covered in the literature. Therefore, I will now consider culture's relationship with technology and the Internet on three levels, individual, group, and organizational, to identify the final set of concerns for OCL readiness.

For diffusion of innovation to happen most efficiently, individuals must perceive positive characteristics, possess the right skills, and participate effectively. Groups and teams provide the necessary organizational grease by

working out social norms. Organizations provide the values and infrastructure required to encourage and guide the use.

Individual adoption of technology and innovations is largely influenced by perceptions, experiences, and skills. For individuals to take up new practices and technology, they must perceive it is important to their jobs, it will be easy and others share this perception. The technology adoption model (TAM) identifies the importance of perceived usefulness and perceived ease of use (Lee, 2006). Similar to adult learning theory, individuals must believe that "using the new technology will enhance their task performance" (Lee, 2006). In addition to task importance, the degree to which an individual believes "using a particular technology will be free of effort" matters greatly (Lee, 2006). Training on new concepts and technology helps individuals overcome self-doubts as well as skill gaps, indicating that employees must learn the technology and feel comfortable with it before they can use it. The training helps create positive experiences, critical to overcoming pre-established competing perceptions.

Popularity also matters to individuals. Individuals look to other's use to signal value of the new technology. As evidenced in previous sections, individuals' perceptions are influenced by other's attitudes. A person's willingness to use a new technology depends on his/her perception that superiors or peers want them to use it. An individual conforms to others' expectations to strengthen relationships or avoid punishment (Goodwin, 1987; Deutsch and Gerard, 1995). Individual perceptions are essential to diffusion of technology and indicate specific activities to affect level of readiness for adoption of innovations such as OCL.

Building on insights provided by the introduction of KM systems, cloud-based technologies make virtual collaboration an organizational possibility. This interaction takes place in groups or teams. Groups must overcome traditional benefits of co-location to successfully use the new technology. Achieving social integration is complex when the technology such as OCL cuts across social norms. In the Handbook of High-performing Virtual Teams, Nemiro et al. (2008) confirm the importance of communication channels and social system to resolving six critical challenges of effective technology adoption: distance, time, technology, culture, trust, and leadership, the most difficult and yet important of which is trust.

Establishing new group social working norms is essential to building trust and relationships in the virtual world because people are used to establishing trust, cultural norms, and understanding through face-to-face interactions. Given that OCL uses technology to conduct learning virtually instead of face-to-face, it is reasonable to assume that OCL will also require trust to function well. Groups signal in-group information through organizational artifacts such as common language, dress code, office space, coworkers, logos, acceptable timing, and other organizational norms (Nemiro, 2004). Without these, the group and its individuals will experience additional challenges of isolation, trust, work protocols and cognitive distractions. Similarly, without trust and understanding, it is unlikely that collaborative learning will take place because individuals cannot confirm it is safe to do so. In fact, Gorelick (2000) indicates that the technology itself is less important than the techniques the group uses to establish communication, appropriate team leadership styles and structures, regularly scheduled meetings and occasional face-to-face meetings (Gorelick,

2000). These techniques address the social capital required to truly work together in groups. Trust and identity are critical for team and group formation. With less face-to-face contact, personal cues about identity and social roles are absent in virtual spaces (Kimble at al, 2000). As seen with OCL, without the face-to-face learning experience, groups must agree and replace how they plan to give personal cues and establish social roles.

Communication is also a key element of trust. Frequency, regularity, and quality of communication foster and sustain trust (Nemiro, 2004). By acknowledging the social differences implicitly imposed by the technology, virtual groups can overcome the challenges associated with effective use and ease of use with technology. Additional supplementation of traditional norms with other forms of bonding rituals can strengthen a group's connection by blending face-to-face activities, building social rapport through humor, sharing stories, creating stories and experiences, spending time on personal stories, issues and crises, and serving as a support network for each other (Nemiro, 2004). Additional bonding rituals should be incorporated into OCL to ensure development of the links and relationships between participants. By using the group's power to address and reestablish group norms in the new "space", the group plays a key role in diffusion of new innovations and technologies such as OCL.

Although facilitated by groups, culture's relationship to technology adoption is also evidenced by organizational factors such as values, leaders, and organizational structure. Values of trust and communication are referenced throughout the literature; however, a third value, a positive attitude toward technology, makes a significant difference in a firm's readiness to adopt new

technology. The positive attitude can be identified by frequency of use or signaling through espoused values. Both of these are also linked to leadership.

Innovation and technology are also influenced by the organizational through leaders. Studies show that firms with CEOs who have a positive attitude towards IT adoption and who are knowledgeable about IT are more likely to adopt technology, independent of the organization's size (Aguila-Obra and Padilla-Melendez, 2006). Authority is also useful for influencing peers and subordinates. In fact, authority is suggested as an acceptable model for organizational diffusion (Rogers 2005, pg 403). Given that authority and values are largely initiated by CEOs, espoused values can also be used as a proxy for CEO characteristics. Therefore, firms that value innovation and nurture the use of technology are likely to have a positive overall attitude toward IT. By extension, these firms are also likely to find a fit with use of IT in other business practices such as OCL.

Finally, in addition to leader influence, key stakeholder groups also play a significant role in the diffusion innovative practices and technology. In the case of OCL, specific stakeholders such as learning & development (L&D) are tasked with responsibility for training related to working practice innovation and capability development (Schulte, 2010). L&D members can help or hinder diffusion based on their openness to new practices such as OCL. Beliefs of organizational L&D are largely informed by our deeply entrenched images of teaching and learning. Despite evidence that good-quality business education can be achieved using classroom, blended, or on-line delivery (Redpath, 2012), education leaders tend to marginalize on-line learning (Redpath, 2012; Allen & Seaman, 2009; Kim & Bonk, 2006) and believe online learning means lower

quality learning. However, in a study of teachers, experience with online learning actually changed perceptions of the quality of online learning. Therefore, experience is important in affecting the individuals' perceptions of OCL. If they have had a bad experience, they are likely to expect and perceive it will be "less than" traditional means; however, if they have a good experience, they are likely to perceive it as good. This makes training and exposure for learning and development teams important to OCL diffusion.

Moreover, key stakeholders who perceive a threat to their power or role in the organization can affect diffusion. Two examples of this issue have been identified in recent conversations with learning leaders from two different organizations, one in consumer goods and the other in a technology driven financial services company. If key stakeholder groups perceive a loss of power and identity, they can slow down the diffusion of new approaches because they are the ones responsible for choosing and implementing the method. This phenomenon can also be seen in IT groups, responsible for technology choices and investment decisions. Recognizing the potential impact of the organizational structure and key stakeholders is important for OCL adoption because it points to the need to incentivize and ensure key stakeholder support. In this case, training and trial can play an important role in organization diffusion of OCL.

Therefore, technology adds one more value to OCL's list of readiness criteria:

14. *Positive attitude toward/use of technology* – examples of commitment of resources and senior level use of technology. Supporting ease of use and training on the technology as well as leader use.

In summary, technology is a tool and is used to make things possible, more efficient, and/or more effective. Technology relates to culture at the individual, group and organizational level. Unless attention is paid to the importance of individual perceptions, experience and skills, group influence on social norms, and organizational commitment to technology through values, leaders and groups responsible for training in the organization, technologies such as OCL are likely to meet resistance. It is safe to say, therefore, that organizations that demonstrate a positive attitude to technology through their culture are likely to have a higher level of readiness for OCL adoption.

Summary of Culture's Relationship with OCL

In summary, the organizational culture is critical to introducing innovations such as OCL into an organization. OCL is an innovative application of technology to learning, knowledge management and collaboration. I have shown how scholars describe many ways in which culture affects learning, knowledge management and collaboration. Therefore, it is evident that culture affects OCL. The effects of culture on OCL can be seen through Schein's (1985) assumptions, values, artifacts model. In this way, organizational culture shapes beliefs and behaviors that affect the adoption of innovations such as OCL in the workplace. Culture affects the diffusion in four ways. It stabilized, signals, reflects and reinforces cultural norms. Evidence of culture's effects can be found in descriptions of each of OCL's components: learning, knowledge management, collaboration and technology adoption. Learning is the most studied and most important construct. Scholars converge on ten values required to build a learning culture. Less information exists on knowledge management culture, but

KM raises two additional values that are important to OCL. Collaboration includes two more, trust and relationships. While technology contributes one value, *commitment to technology*, it also emphasizes the importance of looking at practices at the individual, group and organizational level. By understanding the various components of OCL and their relationship to culture, organizations can anticipate a fit with values and organizational factors involved in technology adoption. This understanding will help firms assess their OCL readiness.

OCL Culture

Having identified what it takes to create learning, knowledge management, collaborative and technology oriented cultures, it is now time to describe what we have learned is important for successful OCL introduction. OCL is not described in cultural terms in the literature, but as illustrated in the literature, its core disciplines (learning, knowledge management, collaboration, technology) have strong relationships with culture. The disciplines exhibit cultural requirements primarily at the values and artifacts level.

OCL is not described in terms of values, but some values can be deduced from OCL's critical characteristics. OCL is described as a process. The process of OCL is founded on socio-cultural and constructivist learning (Harasim, 2011). Therefore, discourse, dialogue, and knowledge building are core elements. Collaboration is a critical feature of OCL as its very nature produces a different outcome: the product of mutual contribution and negotiated meaning. The interaction mediates the development of a more informed and better solution than the traditional one-directional or teacher-centered model. The process also uses divergent and convergent thinking (Harasim, 2011). Divergent thinking

requires openness to new ideas, innovation, and creativity. Divergent thinking generates many questions, ideas, responses and solutions. It is associated with brainstorming and creative thought: generating questions, drawing from others' ideas, from different perspectives, and many sources (including personal observations and experiences) (Harasim, 2011). On the other hand, convergent thinking requires respect, collaboration, and communication. Convergent thinking is the process associated with sifting through for the best ideas, comparing them, and discarding the rest. Obviously, some of OCL's basic norms cut across some of the fundamental assumptions of how people interact with each other in organizations. For these reasons, OCL challenges learning and corporate culture.

As evidenced by discussion of OCL's disciplines, fourteen other values are important to OCL's adoption in the workplace. These include:

Learning	Knowledge Management	Collaboration	Virtual Technology
• Mental Models • Systems Thinking • Group Learning and Collaboration • Problem-solving/seeking • Insight through evidence • Knowledge as a Shared Resource • Openness to Experimentation • Behavioral Agility • Communication • Building a Discipline	• Managing subcultures • Managing social capital	• Positive Values (Sharing, Trust)	• Positive attitude to technology

Organizations that align with these values will find it easier to adopt OCL. Organizations that do not align with these values are likely to see practices that can impede or even prevent adoption of OCL's value generating approach. Organizational readiness for OCL depends on existence and level of alignment between OCL and organizational supportive assumptions, values and artifacts. Alignment can be assessed by an organizational readiness survey.

For the purposes of successful OCL, it is important to focus on promoting OCL friendly values, creating the right conditions, and managing the characteristics of OCL's individual components, of online, collaborative and learning. A true OCL culture will facilitate multiple occurrences of the approach which can be observed in continued use by individuals, distributed experiences across most individuals in the system and by evolution of knowledge and expertise that is unique to the specific group.

Improvement Suggestions for Management

As evidenced by this paper, organizational readiness for OCL is important to its successful diffusion in an organization. Management seeking to leverage the benefits of OCL can do many things to improve the likelihood of success of OCL. First, given the importance of OCL friendly values, alignment of values is important to ensure OCL readiness. If the right underlying attitudes are not present, it will be difficult for firms to make the transition. Second, as perceptions play an important part in individual adoption of technology, training and exposure to the technology will be helpful to create the appropriate

perceptions. This is a perfect role for L&D teams to assume as L&D plays the role of re-enforcer of culture (Schulte, 2010). While requiring individuals to use the technology is not mandatory, it has a significant positive impact on user adoption as Lee (2006) found that participants were concerned about pleasing others by using technology. Finally, use of a readiness survey that uses questions to compare the current state of the organization to those required for OCL diffusion would help indicate the level of readiness and the areas of improvement. By considering OCL's relationship with culture, firms will be more likely to experience success in their use of OCL to develop a competitive advantage.

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