# The role of organizational culture in the knowledge management process

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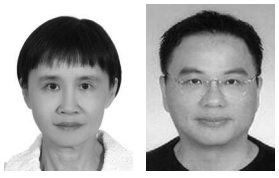

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**Abstract**

**Purpose** – *The purpose of the study is to focus on the enhancement of knowledge management (KM) performance and the relationship between organizational culture and KM process intention of individuals because of the diversity of organizational cultures (which include results-oriented, tightly controlled, job-oriented, closed system and professional-oriented cultures). Knowledge is a primary resource in organizations. If firms are able to effectively manage their knowledge resources, then a wide range of benefits can be reaped such as improved corporate efficiency, effectiveness, innovation and customer service.*

**Design/methodology/approach** – *The survey methodology, which has the ability to enhance generalization of results (Dooley, 2001), was used to collect the data utilized in the testing of the research hypotheses.*

**Findings** – *Results- and job-oriented cultures have positive effects on employee intention in the KM process (creation, storage, transfer and application), whereas a tightly controlled culture has negative effects.*

**Research limitations/implications** – *However, it would have been better to use a longitudinal study to collect useful long-term data to understand how the KM process would be influenced when organizational culture dimensions are changed through/by management. This is the first limitation of this study. According to Mason and Pauleen (2003), KM culture is a powerful predictor of individual knowledge-sharing behavior, which is not included in this study. Thus, this is the second limitation of this paper. Moreover, national culture could be an important issue in the KM process (Jacks* et al.*, 2012), which is the third limitation of this paper for not comprising it.*

**Practical implications** – *In researchers' point of view, results- and job-oriented cultures have positive effects, whereas a tightly controlled culture has a negative effect on the KM process intention of the individual. These findings provide evidences that challenge the perspective of Kayworth and Leidner (2003) on this issue. As for practitioners, management has a direction to modify their organizational culture to improve the performance of KM process.*

**Social implications** – *Both behavioral and value perspectives of the organizational cultural dimensions (results-oriented, tightly control, job-oriented, sociability, solidarity, need for achievement and democracy) should be examined to ascertain their effects firstly on KM culture and then on the KM process intention of the individual. It is hoped that the current study will spawn future investigations that lead to the development of an integrated model which includes organizational culture, KM culture and the KM process intention of the individual.*

**Originality/value** – *The results-oriented, loosely controlled and job-oriented cultures will improve the effectiveness of the KM process and will also increase employees' satisfaction and willingness to stay with the organization.*

**Keywords** *Organizational culture, Knowledge management*

**Paper type** *Research paper*

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## 1. Introduction

The knowledge-based perspective of a firm suggests that intellectual resources are a key organizational asset that enable a sustainable competitive advantage (Wenger and Schneider, 2000; Hansen and Oetinger, 2001; Teece, 2000, 2003). In light of this, knowledge has become a primary resource in an organization (Schultze and Leidner, 2002). Based on this perspective,

> **"To date, few studies have attempted to investigate the knowledge management intention of individuals from the organizational culture perspective."**



those firms which effectively manage their knowledge resources can expect to reap a wide range of benefits such as reduced manpower and infrastructure costs as well as improved corporate efficiency, effectiveness, innovation and customer services (Davenport and Prusak, 2000; Hansen and Oetinger, 2001). Thus, knowledge management (KM) is a key issue in this era of knowledge economy.

Although KM has gained attention over the past decade (Alavi and Leidner, 2001; Grover and Davenport, 2001; Huber, 2001; Schultze and Leidner, 2002), its focus has shifted from advances in technologies designed to move inputs and products to the moving of information and knowledge, altering the nature of organizations and the basis of competition (Barkema *et al.*, 2002; Massey *et al.*, 2002). Within the domain of KM, researchers and practitioners have considered a broad array of theoretical questions, strategic issues and technical approaches, including knowledge creation, the capturing of best practices, the measuring of intellectual capital, installation of groupware and the fostering of collaboration (Alavi *et al.*, 2005-2006; Massey and Montoya-Weiss, 2006). KM is a dynamic and continuous set of processes and practices embedded in individuals as well as in group and physical structures. At any point in time in a given organization, individuals and groups may be involved in different aspects of the KM process (Alavi and Leidner, 2001; McInerney, 2002; Pawlowski and Bick, 2012; Pirkkalainen and Pawlowski, 2014). Thus, KM must be considered as a sequence of activities and events (i.e. creation, storage, transfer or application of knowledge) that ultimately lead to KM outcomes (Kayworth and Leidner, 2003; Newell *et al.*, 2003; Alavi *et al.*, 2005-2006; Eaves, 2014). The outcome depends on whether the individual has the intention to create, store, transfer or apply their knowledge (KM process intention) to the organization.

However, in the KM process, individual efforts are often seen to clash with organizational culture (Bedford, 2013). This is because organizational culture consists of the basic, taken-for-granted assumptions and deep patterns of meaning shared through organizational participation as well as the manifestation of these assumptions (Ajmal and Koskinen, 2008). According to Schein (2000), any difficulties in the KM process among people are primarily related to the "psychological climate" of the organization, which, in turn, depends upon the culture of the organization. Moreover, the failure of many knowledge transfer systems is often a result of cultural factors rather than technological oversights (Ajmal and Koskinen, 2008; Pirkkalainen and Pawlowski, 2013). For this reason, organizational culture is a major barrier to success in the KM process (DeTiene and Jackson, 2001; Kayworth and Leidner, 2003; Ajmal and Koskinen, 2008). Moreover, organizational culture has multi-faceted dimensions (including *results-oriented*, *tightly controlled*, *job-oriented*, *closed system* and *professional-oriented cultures*) (Hofstede, 1990; Eaves, 2014) rather than a single dimension (Fey and Denison, 2003). At the same time, the KM process emphasizes knowledge as being created, shared and applied through interpersonal social relationships and appropriate organizational culture. Therefore, knowledge of how to advocate a supportive organizational culture that encourages employees to have the intention to ensure that knowledge is created, stored, transferred and applied is essential (Kayworth and Leidner, 2003; Leidner and Kayworth, 2006; Ajmal and Koskinen, 2008).

To date, few studies have attempted to investigate the KM intention of individuals from the organizational culture perspective. There are many processes in KM (knowledge creation,

storage, transfer and application) (Kayworth and Leidner, 2003; Leidner and Kayworth, 2006). From the above-mentioned works of literature, it is apparent that the different kinds of organizational culture dimensions have positive and negative influences on four KM processes. Past studies of organizational culture and KM processes have provided contrasting results; for example, although in some studies, *results-oriented* and *tightly controlled* cultures have been shown to have positive effects on employees' knowledge storage intention (Kayworth and Leidner, 2003), in the studies of Jarvenpaa and Staples (2001) and Alavi *et al.* (2005-2006) negative effects have been demonstrated. In light of these contradictory findings, further study of this issue is necessary. In this paper, the objective of our study is to explore the relationship between organizational culture and the individual's KM process intention. The study aims to clarify the relationship between five kinds of organizational culture dimensions and four kinds of KM process intention of the individual. Specifically, we seek to address the following research question: How does organizational culture influence the KM process intention of the individual?

The structure of the paper is as follows. The first part reviews the theoretical background and research model. This researcher relies on quantitative data collected from 315 samples to analyze the study's research model. The validity, reliability and structural model are examined in the data analysis and results section, after which, the data analysis and results are discussed and the implications highlighted. The paper ends by drawing conclusions and pinpointing possibilities for future research.

## 2. Theoretical background

### *2.1 Knowledge management*

Knowledge has been defined as "information possessed in the minds of individuals" (Alavi and Leidner, 2001), or as "individual's experience and understanding" (Marwick, 2001), or as "a high value form of information that is ready to apply to decisions and actions" (Davenport and Prusak, 2000). Given the growing perception of importance of intellectual resources, it is not surprising that firms have begun to engage in a wide range of strategies to create, store, transfer and apply knowledge within their organizational contexts (Kayworth and Leidner, 2003). In light of this, the KM process can be defined as "the process of capturing, storing, sharing, and using knowledge" (Davenport and Prusak, 2000; Leidner and Kayworth, 2006) or as "a systemic and organizationally specified process for acquiring, organizing, and communicating both tacit and explicit knowledge of employees that other employees may make use of to be more effective and productive in their work" (Alavi *et al.*, 2005-2006). Thus, the KM process is the generation, representation, storage, transfer, transformation, application, embedding and protection of organization knowledge (Schultze and Leidner, 2002; Massey and Montoya-Weiss, 2006).

Kankanhalli *et al.* (2005) have mentioned that the strategic management of organizational knowledge is a key factor in helping organizations to sustain competitive advantage in volatile environments. Organizations are turning to KM initiatives and technologies to leverage their knowledge resources (Kankanhalli *et al.*, 2005). Therefore, the goal of KM is for an organization to become aware of its knowledge, individually and collectively, and to shape itself, so that it makes the most effective and efficient use of the knowledge it has or can obtain (Bennet and Bennet, 2003; Newell *et al.*, 2003; Alavi *et al.*, 2005-2006). To date, the scientific understanding of knowledge in organizations is still in its infancy, in spite of a

**"A results-oriented culture has a significant positive effect on the individual's knowledge storage intention."**

> **"Maintenance of results-oriented and job-oriented cultures and elimination of the tightly controlled culture will lead to improvements in the KM process intention of the individual."**

large and growing body of literature focused on organizational culture, KM process and knowledge (Griffith *et al.*, 2003; Alavi *et al.*, 2005-2006; Pawlowski and Bick, 2012).

Kayworth and Leidner (2003) suggested that there are four elements in the KM process:

1. *Knowledge creation*: Involving the developing of new content or the replacing of existing content within the organization's tacit and explicit knowledge. Through social and collaborative processes as well as individuals' cognitive processes, knowledge is created, shared, amplified, enlarged and justified in organizational settings (Norman, 2004; Ajmal and Koskinen, 2008).
2. *Knowledge storage*: Knowledge residing in various component forms (explicit knowledge and tacit knowledge) acquired by individuals and networks of individuals (Tan *et al.*, 2009). Organizations must arrange and structure knowledge, thereby making it easier to access and distribute within the organization (Massey and Montoya-Weiss, 2006; Heisig, 2009). By combining or integrating knowledge, redundancy can be reduced and efficiency can be improved (Davenport and Prusak, 2000; Alavi *et al.*, 2005-2006).
3. *Knowledge transfer*: This is an important process of KM in organizational settings and refers to the transfer of knowledge to locations where it is needed and can be used. Firms must carefully transform aspects of tacit knowledge into explicit knowledge; otherwise, the tacit knowledge may be lost (Gold *et al.*, 2001; Ko *et al.*, 2005; Wasko and Faraj, 2005; Massey and Montoya-Weiss, 2006; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008; Pirkkalainen and Pawlowski, 2013).
4. *Knowledge application*: This refers to the actualizing of knowledge. This knowledge can be used to adjust strategic direction, solve new problems, improve efficiency and reduce costs (Davenport and Prusak, 2000; Markus *et al.*, 2002; Orlikowski, 2002; Newell *et al.*, 2003, 2004).

### *2.2 Organizational culture and KM*

Schein (1985, 2000) asserted that organizational culture is the set of shared, taken-for-granted implicit assumptions that a group holds and that determine how it perceives, thinks about and reacts to its various environments. However, members are often unaware of the underlying assumptions of their culture and may not become aware of their culture until they encounter a different one (Ajmal and Koskinen, 2008). Alavi *et al.* (2005-2006) propounded the values perspective of culture, asserting that organizational culture consists of four dynamic and cyclic elements: assumptions, values, artifacts and symbols. In contrast to a focus on underlying assumptions, the behavioral perspective focuses on culture, as defined by actual work practices (Hofstede *et al.*, 1990; Alavi *et al.*, 2005-2006). Hofstede *et al.* (1990) provided empirical data which showed that shared perceptions of daily practices form the core of organizational subunits of culture (including *results-oriented*, *tightly controlled*, *job-oriented*, *closed system* and *professional-oriented* sub-units).

According to a positive relationship of organizational culture and knowledge creation process, shaping an organizational cultural factors are a key of a firm's ability to manage knowledge effectively (Janz and Prasarnphanich, 2003; Lee and Choi, 2003; Wei, 2005;

Ajmal and Koskinen, 2008). However, KM requires a major shift in organizational culture and a commitment at all levels of a firm to make it work (Gupta *et al.*, 2000; Norman, 2004; Ajmal and Koskinen, 2008). Moreover, Ajmal and Koskinen (2008) believed that the success of KM is achieved by building a supportive culture while developing these KM systems. Therefore, organizational culture is a vital element of an organization's ability to create value through leveraging knowledge assets (Wei, 2005; Ajmal and Koskinen, 2008). In light of this, organizational culture and KM need to be worked coherently (Ajmal and Koskinen, 2008).

Thus, the ability to shape organizational culture is of paramount importance in fostering learning environments (Wei, 2005). A learning culture organization creates an environment in which the acquisition of skills and knowledge is not only viewed as a key responsibility of each employee but also supported by the interaction and encouragement of organizational members (Norman, 2004; Wei, 2005; Alavi *et al.*, 2005-2006). At the same time, many scholars believe that the eventual purpose of knowledge storage is to embed employees' knowledge into the process and culture of the organization, thereby improving organizational performance (Davenport and Prusak, 2000; Newell *et al.*, 2003; Alavi *et al.*, 2005-2006; Massey and Montoya-Weiss, 2006; Chow and Chan, 2008; Ranasinghe and Dharmadasa, 2013). An important aspect of transfer is knowledge-sharing. Shared organizational values influence the individual's perception of ownership of knowledge and subsequent tendencies to share knowledge with others (Gibbert and Krause, 2002; Jarvenpaa and Staples, 2001; Wasko and Faraj, 2005; Tan *et al.*, 2009; Lin and Dalkir, 2010). In addition, knowledge sharing requires organizational members to be willing to contribute their knowledge to the organization (Politis, 2003; Wei, 2005; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008).

Finally, a culture may influence the motivation of individuals to pursue knowledge application practices (Bock *et al.*, 2005). Organizational efforts to foster knowledge application through rewards and other incentives will ultimately fail unless the underlying cultural climate exists that rewards, celebrates, and values knowledge application (Markus *et al.*, 2002; Orlikowski, 2002). Therefore, organizational culture can prevent employees from sharing and disseminating their individual powerbase and viability (Gupta *et al.*, 2000). Thus, it is apparent that organizational culture will influence the KM process of organization by affecting employee behavior. Moreover, organizational culture is critically important in facilitating knowledge creation, storage, transfer, and application (Gupta *et al.*, 2000; Bhatt, 2001; Janz and Prasarnphanich, 2003; Leidner and Kayworth, 2006; Ajmal and Koskinen, 2008).

For this reason, Kayworth and Leidner (2003) asserted that behavioral perspectives of organizational culture are represented by various behaviors, beliefs, institutions, structures, and processes in organizations and influence employee behavior. Such a perspective, therefore, is suitable for analyzing the implementation of KM processes of the individual (Kayworth and Leidner, 2003).

## 3. Research model

Based on the behavioral perspectives culture of Hofstede *et al.* (1990) (results-oriented, tightly controlled, job-oriented, closed system and professional-oriented cultures), this

**"Some organizational culture dimensions (results-oriented, tightly controlled and job-oriented) have a significant effect on the KM process (creation, storage, transfer and application) intention of the individual."**

study analyzes how these cultures influence the four kinds of KM process (creation, storage, transfer and application).

### 3.1 Results- versus process-oriented culture

Individuals in a *process-oriented* culture tend to be risk-averse, whereas those in a *results-oriented* culture are comfortable in unfamiliar situations and embrace challenging situations (Hofstede *et al.*, 1990). On the one hand, a *process-oriented* culture focuses on how individuals accomplish their work, the "method" and "process" for improving their goal being emphasized. In such a culture, there is an individual propensity to conform to rules and regulations but, at the same time, to avoid innovative methods of resolving problems due to the presence of considerable risk aversion (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008). In contrast, a *results-oriented* culture emphasizes the importance of individuals accomplishing their goals rather than the process. Thus, the organization encourages any kind of adventure as long as the task is done (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008). In this type of culture, individuals are willing to be innovative and to face challenges. Although mechanistic or stable organizations are more *process-oriented* cultures, organic or flexible organizations are more *results-oriented* (Burns and Stalker, 1961; Ajmal and Koskinen, 2008).

The creation of new knowledge is not a formal process, but one that is socially constructed, occurring over time largely through informal human networks (Gupta *et al.*, 2000; Wenger and Schneider, 2000; Newell *et al.*, 2004; Chen and Edgington, 2005; Wasko and Faraj, 2005; Heisig, 2009). For this reason, the *process-oriented* culture needs employees to follow the standard operation procedure (SOP) and working manual through a tightly controlled administration, and to be unwilling to face challenges or to take risks (Ajmal and Koskinen, 2008). On the other hand, the *results-oriented* culture respects employees' individual preferences, and so tends to encourage individuals to innovate to create new knowledge in the organization (Kayworth and Leidner, 2003; Wei, 2005; Ajmal and Koskinen, 2008). On the basis of the above discussion, the first sub-corollary of $H_1$ is as follows:

$H_{1a}$. A *results-oriented* culture will have a more positive effect on the individual's knowledge creation intention than a *process-oriented* culture.

In an organization with a *process-oriented* culture, storing knowledge is encouraged. For this reason, employees tend to embed the previous knowledge into the enterprise process easily, thereby forming a stable knowledge base and knowledge memory (Markus *et al.*, 2002). In contrast, in changing and flexible (*results-oriented*) organizations, there are possible greater difficulties with respect to knowledge storage (Kayworth and Leidner, 2003; Schein, 2000; Ajmal and Koskinen, 2008), making such a culture not conducive to the effective storage and memory of knowledge (Kayworth and Leidner, 2003). Therefore, this leads to the second sub-corollary of $H_1$:

$H_{1b\text{-}1}$. A *results-oriented* culture will have a more negative effect on the individual's knowledge storage intention than a *process-oriented* culture.

On the other hand, in an organic or flexible organization, such as a *results-oriented* culture, it is possible to increase the individual's knowledge contribution to the achievement of organizational goals (Jarvenpaa and Staples, 2001; Wei, 2005; Alavi *et al.*, 2005-2006). Therefore, this leads to the following reverse Hypothesis of $H_{1b\text{-}2}$ to test which sub-corollary of $H_{1b}$ is correct:

$H_{1b\text{-}2}$. A *results-oriented* culture will have a more positive effect on the individual's knowledge storage intention than a *process-oriented* culture.

Much of the knowledge transfer that occurs in organizations is tacit in nature and is best transmitted through informal environments as opposed to formal control systems such as *results-oriented* cultural organizations (Wenger and Schneider, 2000; Ajmal and Koskinen, 2008). In view of the close relationship between knowledge application and knowledge

transfer (sharing), it is reasonable to assume that similar organizational climates will foster knowledge transfer as well as knowledge application activities (Orlikowski, 2002; Kayworth and Leidner, 2003; Newell *et al.*, 2003, 2004). In addition, learning communities thrive in a culture that supports the sharing of knowledge and the creating of a culture of sharing (Wasko and Faraj, 2005). For this reason, a *results-oriented* culture will be one that most favors knowledge transfer (Bhatt, 2001; Ajmal and Koskinen, 2008) and application practices (Markus *et al.*, 2002). Therefore, this leads to the third and fourth sub-corollaries of $H_1$:

$H_{1c}$. A *results-oriented* culture will have a more positive effect on the individual's knowledge transfer intention than a *process-oriented* culture.

$H_{1d}$. A *results-oriented* culture will have a more positive effect on the individual's knowledge application intention than a *process-oriented* culture.

### 3.2 Tightly controlled versus loosely controlled culture

*Loosely controlled* organizations have few written or unwritten codes of behavior, whereas *tightly controlled* organizations have strict unwritten and written policies (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008; Shih and Huang, 2010). In *loosely controlled* cultures, members may display a casual attitude toward such things as deadlines and cost constraints and may often make fun of the unit they are a part of (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008; Shih and Huang, 2010). At the same time, there is less formal and restrained control of individuals, who are encouraged through incentive and respect policies (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008; Shih and Huang, 2010). In contrast, tightly controlled cultures tend to place more importance on cost-consciousness and punctuality and rarely encourage jokes about the company or jobs. In addition, a *tightly controlled* culture controls individuals in a restrained and official way, with the management mechanism always adhering to rules, laws and SOP, and emphasizing on a precise, serious and joke-free work attitude (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008; Shih and Huang, 2010).

Knowledge creation is difficult in a tightly controlled organizational culture. In contrast, *loosely controlled* organizations might be readily able to introduce knowledge creation strategies (Kayworth and Leidner, 2003) and encourage employees to undertake potentially innovative initiatives (Janz and Prasarnphanich, 2003). Thus, *loosely controlled* cultures emphasize on employee encouragement in an attempt to establish a relaxed atmosphere and easy-going work environment. Unlike the precise and *tightly controlled* culture, a *loosely controlled culture* tends to have a positive influence on knowledge creation (Brockman and Morgan, 2003; Kayworth and Leidner, 2003; Norman, 2004; Jacks *et al.*, 2012). This leads to the first sub-corollary of $H_2$:

$H_{2a}$. A *tightly controlled* culture will have a more negative effect on the individual's knowledge creation intention than a *loosely controlled* culture.

In an organization that has a *tightly controlled* culture, it is easier to store knowledge. For this reason, this type of culture tends easily to embed the previous knowledge into the enterprise process and, thereby, forms a stable knowledge base and knowledge memory. In contrast, a *loosely controlled* culture emphasizes on freedom and flexibility, an environment not conducive to the storage and memory of knowledge (Kayworth and Leidner, 2003; Ajmal and Koskinen, 2008). Therefore, this leads to the second sub-corollary of $H_2$:

$H_{2b\text{-}1}$. A *tightly controlled* culture will have a more positive effect on the individual's knowledge storage intention than a *loosely controlled* culture.

On the other hand, a *loosely controlled* culture may increase an individual's contribution of their own knowledge to the achievement of organizational goals (Jarvenpaa and Staples, 2001; Wei, 2005; Alavi *et al.*, 2005-2006; Jacks *et al.*, 2012). Therefore, this leads to a reverse hypothesis of $H_{2b\text{-}2}$ to test which of the $H_{2b}$ is correct:

$H_{2b\text{-}2}$. A *tightly controlled* culture will have a more negative effect on the individual's knowledge storage intention than a *loosely controlled* culture.

Much of the knowledge transfer that occurs in organizations is tacit in nature and is best transmitted through informal environments as opposed to formal control systems such as those found in *loosely controlled* cultural organizations (Wenger and Schneider, 2000). *Loosely controlled* cultural values such as openness and high levels of employee autonomy (Janz and Prasarnphanich, 2003) will lead to positive KM behaviors (Alavi *et al.*, 2005-2006; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). For this reason, a *loosely controlled* culture will be most conducive to knowledge transfer (Bhatt, 2001; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008; Jacks *et al.*, 2012) and application practices (Kayworth and Leidner, 2003; Wei, 2005; Ajmal and Koskinen, 2008; Jacks *et al.*, 2012). This leads to the third and fourth sub-corollaries of $H_2$:

$H_{2c}$. A *tightly controlled* culture will have a more negative effect on the individual's knowledge transfer intention than a *loosely controlled* culture.

$H_{2d}$. A *tightly controlled* culture will have a more negative effect on the individual's knowledge application intention than a *loosely controlled* culture.

### 3.3 Job-oriented versus employee-oriented culture

This dimension contrasts a concern for people (*employee-oriented*) with a concern for getting the job done (*job-oriented*). In *employee-oriented* cultures, important decisions tend to be made by committees with considerable concern for individual welfare, and important decisions tend to be made by individuals (Hofstede *et al.*, 1990; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008; Woodman and Zade, 2011). Such a culture emphasizes on the employee as an individual and shows concern for individual welfare (including care, family, trust and love and a spirit of mutual support). In contrast, *job-oriented* cultures tend to foster strong pressure for "over-performing tasks effectively" with limited concern for employees' personal or family welfare (Hofstede *et al.*, 1990; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). This type of culture focuses on the work performance of the employee, with emphasis being placed on work flow optimization and employee productivity and with individual feelings being ignored.

Because of the focus on work performance in a *job-oriented* culture, individuals have a greater commitment to their organization (Woodman and Zade, 2011), being more willing to share their own knowledge with colleagues to create new knowledge (Jarvenpaa and Staples, 2001; Wei, 2005) and to store this knowledge for their organization (Jarvenpaa and Staples, 2001; Norman, 2004; Alavi *et al.*, 2005-2006). This leads to the two sub-corollaries of $H_3$:

$H_{3a}$. A *job-oriented* culture will have a more positive effect on the individual's knowledge creation intention than an *employee-oriented* culture.

$H_{3b}$. A *job-oriented* culture will have a more positive effect on the individual's knowledge storage intention than an *employee-oriented* culture.

The lack of knowledge transfer context, "personal ties" or "caring relationships" among organizational members has been associated with knowledge transfer failure (Newell *et al.*, 2004; Yuan *et al.*, 2006). For this reason, those cultures that foster intimacy, care and concern among employees (*employee-oriented* cultures) will generally experience a greater ability to transfer knowledge (Hofstede *et al.*, 1990; Wasko and Faraj, 2005; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). In such an organization, a climate of warmth is fostered, in which the welfare of the employee is emphasized (Janz and Prasarnphanich, 2003). In contrast, in a *job-oriented* culture, with its focus on productivity requirements and the training of employees, an atmosphere of individual hero worship is fostered, rendering the overriding care of individuals to be one of competition with their colleagues (Kayworth and Leidner, 2003; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). For this reason, the relationship between employees is cold, and individuals are not willing to share

knowledge with others (Kayworth and Leidner, 2003). As knowledge application is closely related to knowledge transfer (sharing), it is reasonable to assume that similar organizational climates will foster knowledge transfer as well as knowledge application activities (Brockman and Morgan, 2003; Kayworth and Leidner, 2003; Wei, 2005). This leads to the other two sub-corollaries of $H_3$:

$H_{3c\text{-}1}$. A *job-oriented* culture will have a more negative effect on the individual's knowledge transfer intention than an *employee-oriented* culture.

$H_{3d\text{-}1}$. A *job-oriented* culture will have a more negative effect on the individual's knowledge application intention than an *employee-oriented* culture.

On the other hand, some scholars have asserted that in a *job-oriented* cultural organization, employees are more committed and willing to share their own knowledge with others (Davenport and Prusak, 2000; Bhatt, 2001) and to use organizational knowledge (Jarvenpaa and Staples, 2001; Alavi *et al.*, 2005-2006) to enhance their work performance. This leads to a reverse Hypothesis of $H_{3c\text{-}2}$ and $H_{3d\text{-}2}$ to test which of the $H_{3c}$ and $H_{3d}$ is correct:

$H_{3c\text{-}2}$. A *job-oriented* culture will have a more positive effect on the individual's knowledge transfer intention than an *employee-oriented* culture.

$H_{3d\text{-}2}$. A *job-oriented* culture will have a more positive effect on the individual's knowledge application intention than an *employee-oriented* culture.

### 3.4 Closed system versus open system culture

This dimension describes the communication climate in the organization. In *open* cultural organizations, emphasis is placed on clear communication channels (Hofstede *et al.*, 1990; Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). Such organizations consider themselves to be open to outsiders and new employees with little time being needed for new employees to settle in because of the encouragement of employee interaction (Gupta *et al.*, 2000). In contrast, *closed* cultural organizations are typically secretive and very suspicious of outsiders as well as insiders. In this environment, only a select few may become part of the "inner circle" and new employees may require a significant amount of time to settle in (Hofstede *et al.*, 1990).

An *open system* culture encourages the individual to communicate and interact with outsiders and newcomers (Gupta *et al.*, 2000; Wei, 2005; Jacks *et al.*, 2012). As the most difficult part of knowledge transfer is the transfer of tacit knowledge, the sharing of such knowledge must be done through continuous openness, trust, common language and tacit agreement (Norman, 2004; Ajmal and Koskinen, 2008). In light of this, an *open system* culture tends to be beneficial for knowledge transfer (Kayworth and Leidner, 2003; Bhatt, 2001; Alavi *et al.*, 2005-2006; Ajmal and Koskinen, 2008; Jacks *et al.*, 2012). In contrast, a *closed system* culture is distrustful of outsiders, permitting only inner circle interaction and being resistant to communication with others. Therefore, a *closed system* culture has a negative impact on knowledge transfer (Kayworth and Leidner, 2003; Norman, 2004; Ajmal and Koskinen, 2008). This leads to the first sub-corollary of $H_4$:

$H_{4a}$. A *closed system* culture will have a more negative effect on the individual's knowledge transfer intention than an *open system* culture.

An *open system* culture encourages interaction and communication between knowledge contributors and receivers. Under such circumstances, receivers have the opportunity to learn and apply new knowledge (Norman, 2004; Ajmal and Koskinen, 2008; Jacks *et al.*, 2012). In contrast, a *closed system* culture resists communication with outsiders and has a negative influence on the absorption and application of new knowledge (Kayworth and Leidner, 2003; Alavi *et al.*, 2005-2006). This leads to the second sub-corollary of $H_4$:

$H_{4b}$. A *closed system* culture will have a more negative effect on employee knowledge application intention than an *open system* culture.

### 3.5 Professional versus parochial culture

In this section, those units whose employees derive their loyalty largely from the organization (*parochial*) are contrasted with units in which people remain exclusively loyal to their profession (*professional*) (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008). In *parochial* cultures, individuals obtain their identity from the company they work for whose social values, beliefs and norms are similar to their own. At the same time, the organization is concerned to recruit new employees whose personalities and beliefs will be compatible with the organizational culture (e.g. risk-taking or risk-averse cultures) (Hofstede *et al.*, 1990). In contrast, in *professionally* driven cultures, individuals obtain their sense of identify from the type of work they are involved in. Moreover, their personal values may not necessarily coincide with those of the organization for which they work (Hofstede *et al.*, 1990; Norman, 2004; Ajmal and Koskinen, 2008). A professional culture shapes a professional community by ensuring that the members of the profession think and behave as the profession requires (Ajmal and Koskinen, 2008). Because they identify themselves with their profession (e.g. doctor, accountant, lawyer, computer engineer, advertisement designer), professional employees are loyal to their profession even when their professional culture is not consistent with the culture of the organization for which they work (Hofstede *et al.*, 1990; Ajmal and Koskinen, 2008). For this reason, when recruiting, this kind of organization places more emphasis on the individual's professional ability than individual's values that are consistent with those of the organization.

In *parochial* cultures, employees may transfer knowledge simply because it is "good for the company" due to the fact that the organization recognizes employee performance through reward and organizational interest in the welfare of the employee (Janz and Prasarnphanich, 2003). Individuals contribute their knowledge voluntarily because of the benefit it derives for the organization, enabling the individuals to own the same background, perspective, values, language and tacit agreement as others and the organization. Consequently, this makes the sharing and transfer of tacit knowledge easier (Kayworth and Leidner, 2003; Wei, 2005; Ajmal and Koskinen, 2008). In contrast, it may be much more difficult to accomplish the same sharing and transfer of knowledge in *professional* cultures where members tend to identify with their profession as opposed to the organization and where company loyalty may be very limited (Griffith *et al.*, 2003; Kayworth and Leidner, 2003; Wasko and Faraj, 2005). This leads to the first sub-corollary of $H_5$:

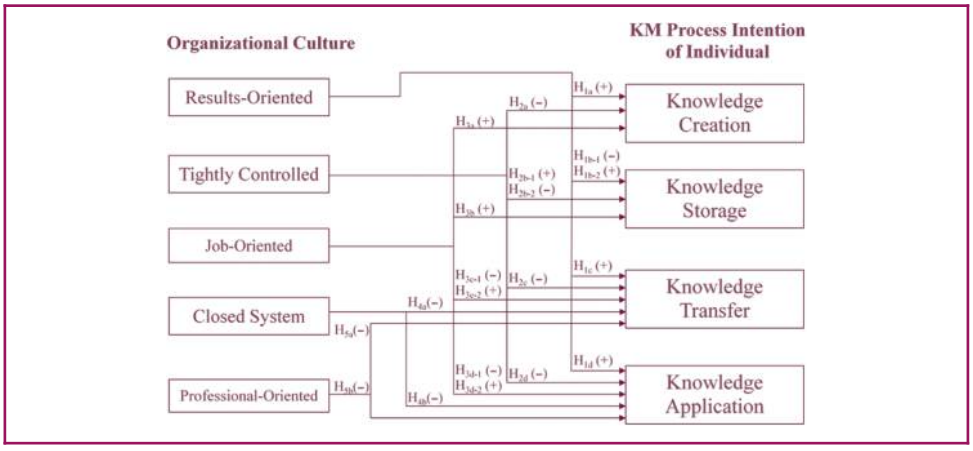
> $H_{5a}$. A *professional* culture will have a more negative effect on the individual's knowledge transfer intention than a *parochial* culture.

A *parochial* culture emphasizes on organizational (*parochial*) identification and loyalty, based on shared values, beliefs, ideas, language, culture and mental-model (Wei, 2005). The receiver can interpret precisely and quickly and apply the knowledge which is provided from the contributor (Bhatt, 2001; Ajmal and Koskinen, 2008). In contrast, employees in a *professional-oriented* culture only identify with the professional field to which they belong. Consequently, there is no sharing of mental model, beliefs and ideas among employees. For this reason, the receiver is unable to interpret new knowledge precisely and quickly. Thus, such a culture has a negative influence on the absorption and application of new knowledge (Kayworth and Leidner, 2003; Markus *et al.*, 2002; Ajmal and Koskinen, 2008). This leads to the second sub-corollary of $H_5$:

> $H_{5b}$. A *professional* culture will have a more negative effect on the individual's knowledge application intention than a *parochial* culture.

The research model used in this study to explain the KM process intention of individuals influenced by organizational cultures is depicted below (Figure 1).

**Figure 1** Research model




## 4. Research methodology

The survey methodology, which has the ability to enhance generalization of results (Dooley, 2001), was used to collect the data utilized in the testing of the research hypotheses.

### *4.1 Measures*

The survey measures for the study were derived from previously published studies and were divided into three parts, including organizational culture and KM process intention of individuals. To ensure its validity, the questionnaire was developed in two stages:

1. *First stage*: The questionnaire included: (A) 16 items relating to organization cultures, adapted from Hofstede *et al.* (1990); (B) 12 items relating to the KM process intention of individuals (creation, storage, transfer knowledge application of knowledge), adapted from Fishbein and Ajzen (1975) and Bock *et al.* (2005).
2. *Second stage*: 330 employees were selected as our subjects, from whom research data were collected.

This study used a Likert-type scale, ranging from 1 = completely disagree to 7 = completely agree, to ascertain the opinion of each respondent. Data pertaining to factor and reliability analysis were used, and some items were deleted to satisfy the requirements of validity and reliability.

### *4.2 Sampling*

The formal survey was conducted in Taiwan. Ranking second worldwide in terms of number of information technology (IT) companies with outstanding shareholder return and total revenue, Taiwan has 15 IT companies included in the Business Week Information Technology top 100 list (Business Week, 2004). At the time of the study, a number of public and private organizations on that list were in the process of embarking upon KM activities. To maximize the survey response rate, researchers randomly telephoned the senior managers of a large number of institutions and companies, inviting them to complete questionnaires for the study. Upon acceptance of our invitation to participate in the study, the employees in the participating companies became our survey subjects. The companies in our sample included financial, medical, insurance, manufacturing, service, electronic, communications industries, public enterprises and institutions as well as other industries.

A total of 330 samples were collected, and 326 subjects (response rate: 98.78 per cent) completed questionnaires. Among them, 315 (valid response rate: 96.626 per cent) were considered valid responses. This high response rate is attributed to the use of a corporate

representative/sponsor in the dissemination and collection of the survey instrument. Demographic analysis of the valid questionnaires is shown in Table I.

## 5. Data analysis and results

The constructs are first assessed for reliability and validity, after which, the hypotheses are tested using structural equation modeling and moderated multiple regression analysis.

### *5.1 Reliability and validity*

The first step in scale validation is to assess convergent validity with two different assessments:

1. individual item reliability; and
2. construct reliability.

The individual item reliability is assessed by examining the item-to-construct loadings for each construct measured with multiple indicators, with the exception of the type of power. The constructs are assessed for reliability using Cronbach's alpha (Cronbach, 1951). Nunnally (1978) and Chin (1998) suggested that a value of at least 0.70 indicates adequate reliability. To improve the reliability of the corresponding constructs, one item is omitted from each of the following constructs: *results-oriented* (RO1), *closed system* (CS3) and *professional-oriented* (PO3). Subsequently, the remaining constructs have adequate reliability (Table II), except for *professional-oriented* (0.6054), which, nevertheless, is higher than the 0.35 standard of Guielford (1965). The composite reliability (CR) scores are used to measure the internal consistency among the items of a given construct. All variables (CR) in this study are above 0.93, with their average variances extracted (AVE) also being over

**Table I** Sample demographics

| *Events* | *Contents* | *Sample* | *(%)* |
|---|---|---|---|
| Gender | Male | 194 | 61.6 |
| | Female | 121 | 38.4 |
| Age (years) | 20-29 | 82 | 26 |
| | 30-39 | 166 | 52.7 |
| | 40-49 | 59 | 18.7 |
| | 50 and over | 8 | 2.5 |
| Industry | Financial | 12 | 3.8 |
| | Medical | 22 | 7 |
| | Insurance | 7 | 2.2 |
| | Manufacturing | 54 | 17.1 |
| | Service | 66 | 21.0 |
| | Electronics | 25 | 7.9 |
| | Communications | 26 | 8.3 |
| | Public institution | 30 | 9.5 |
| | Public enterprise | 12 | 3.8 |
| | Other | 61 | 19.4 |
| Length of work experience (years) | 1~3 | 75 | 23.8 |
| | 4~6 | 61 | 19.4 |
| | 7~9 | 49 | 15.6 |
| | 10~13 | 54 | 17.1 |
| | 14~17 | 25 | 7.9 |
| | 18~21 | 27 | 8.6 |
| | 22 or more | 24 | 7.6 |
| Education | High school | 18 | 5.7 |
| | Junior college | 53 | 16.8 |
| | Bachelor's | 169 | 53.7 |
| | Master | 74 | 23.5 |
| | Doctor | 1 | 3 |
| Married | Yes | 177 | 56.2 |
| | No | 138 | 43.8 |

**Table II** Cronbach's $\alpha$, item-to-construct loadings, CR and AVE of factors

| *Constructs* | *Cronbach's α* | *Items* | *Factor loadings* | *CR* | *AVE* |
|---|---|---|---|---|---|
| Results-oriented | 0.7906 | RO2 | 0.892 | 0.9575 | 0.9187 |
| | | RO3 | 0.814 | | |
| Tightly controlled | 0.7777 | TC1 | 0.622 | 0.9572 | 0.8835 |
| | | TC2 | 0.754 | | |
| | | TC3 | 0.860 | | |
| Close system | 0.7450 | CS1 | 0.908 | 0.9434 | 0.8944 |
| | | CS2 | 0.703 | | |
| Professional-oriented | 0.6054 | PO1 | 0.756 | 0.9374 | 0.8823 |
| | | PO2 | 0.817 | | |
| Job-oriented | 0.8348 | JO1 | 0.568 | 0.9622 | 0.8712 |
| | | JO2 | 0.900 | | |
| | | JO3 | 0.891 | | |
| | | JO4 | 0.507 | | |
| Intention to create knowledge | 0.9495 | KMC1 | 0.813 | 0.9699 | 0.9148 |
| | | KMC2 | 0.818 | | |
| | | KMC3 | 0.789 | | |
| Intention to store knowledge | 0.9597 | KMS1 | 0.790 | 0.9680 | 0.9097 |
| | | KMS2 | 0.794 | | |
| | | KMS3 | 0.774 | | |
| Intention to transfer knowledge | 0.9633 | KMT1 | 0.781 | 0.9688 | 0.9118 |
| | | KMT2 | 0.787 | | |
| | | KMT3 | 0.752 | | |
| Intention to apply knowledge | 0.9559 | KMA1 | 0.817 | 0.9718 | 0.9199 |

0.87 (Fornell and Larcker, 1981; Hair *et al.*, 1998). This indicates that each dimension has good inner-construct consistency (Bearden and Kinsella, 1993) (Table II).

Second, discriminate validity is evaluated for the measurement scales using each indicator's loading on its own construct as well as its cross-load on all other constructs. The indicators' loadings for each construct are higher than the cross-loadings for the indicators of other constructs. Moreover, scanning the rows, each indicator has a higher loading with its construct than cross-loading with any other construct, providing evidence of the research constructs' discriminant validity (Chin, 1998).

### *5.2 Structural model and hypotheses tests*

The structural model is evaluated using LISREL version 8.3. For models with a good fit, the chi-square normalized by the degree of freedom (P2/df) should not exceed 5 (Bentler and Bonnet, 1980); the Bentler–Bonnet non-normed fit index (NNFI), comparative fit index (CFI), goodness of fit index (GFI) and normed fit index (NFI) should exceed 0.9; the adjusted goodness of fit index (AGFI) should exceed 0.9; and the standardized root mean square error of approximation (SRMR) should not exceed 0.08. For the current structural model (Table III), P2/df does not exceed 5, suggesting an adequate model fit.

Next, the path significance in the research model is evaluated, and the variance explained ($R^2$ value) by each path examined. The significance and the relative strength of individual

**Table III** The fit index analyses of research model

| *Fit index* | *Model fit* | *Reference index* | *Reference literatures* |
|---|---|---|---|
| $\chi^2$ | 370.497 | | |
| $\chi^2$/df | 1.618 | < 3 | Carmines and McIver, 1981 |
| GFI | 0.914 | > 0.9 | Bentler and Bonnet, 1980; |
| AGFI | 0.878 | > 0.9 | Bentler, 1995 |
| NFI | 0.949 | > 0.9 | |
| NNFI | 0.972 | > 0.9 | |
| CFI | 0.979 | > 0.9 | |
| SRMR | 0.039 | < 0.08 | Hu and Bentler, 1999 |

paths specified by the research model are also evaluated, as summarized in Table IV and Figure 2.

## 6. Discussion

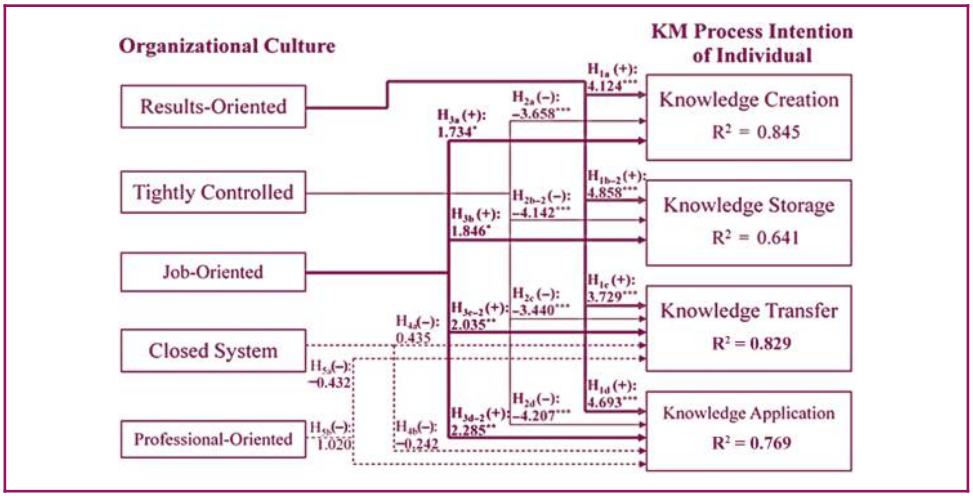
This study used as its basis the behavioral perspectives culture of Hofstede *et al.* (1990) to analyze how these perspectives influence the four kinds of KM process (creation, storage, transfer and application). The results of this study, namely, confirmation of the relationship between five kinds of organizational cultural dimensions (results-oriented, tightly controlled, job-oriented, closed system and professional-oriented) and four kinds of KM process, represent the study's practical contribution to managers. The research model constructed on this subject represents the study's contribution to the academic arena.

**Table IV** Research hypotheses and testing results

| Hypotheses | *Results:* t-*value* (β-*value*) | Hypotheses test |
|---|---|---|
| $H_{1a}(+)$: A *results-oriented* culture will have a more positive effect on the individual's knowledge creation intention than a *process-oriented* culture | 4.124*** (3.212) | Supported |
| $H_{1b}$<br>$H_{1b\text{-}1}(-)$: A *results-oriented* culture will have a more negative effect on the individual's knowledge storage intention than a *process-oriented* culture | NA | NA |
| $H_{1b\text{-}2}(+)$: A *results-oriented* culture will have a more positive effect on the individual's knowledge storage intention than a *process-oriented* culture | 4.858*** (2.779) | Supported |
| $H_{1c}(+)$: A *results-oriented* culture will have a more positive effect on the individual's knowledge transfer intention than a *process-oriented* culture | 3.729*** (3.361) | Supported |
| $H_{1d}(+)$: A *results-oriented* culture will have a more positive effect on the individual's knowledge application intention than a process-oriented culture | 4.693*** (3.180) | Supported |
| $H_{2a}(-)$: A *tightly controlled* culture will have a more negative effect on the individual's knowledge creation intention than a loosely controlled culture | −3.658*** (−2.702) | Supported |
| $H_{2b}$<br>$H_{2b\text{-}1}(+)$: A *tightly controlled* culture will have a more positive effect on the individual's knowledge storage intention than a *loosely controlled* culture | NA | NA |
| $H_{2b\text{-}2}(-)$: A *tightly controlled* culture will have a more negative effect on the individual's knowledge storage intention than a *loosely controlled* culture | −4.142*** (−2.323) | Supported |
| $H_{2c}(-)$: A *tightly controlled* culture will have a more negative effect on the individual's knowledge transfer intention than a *loosely controlled* culture | −3.440*** (−2.943) | Supported |
| $H_{2d}(-)$: A *tightly controlled* culture will have a more negative effect on the individual's knowledge application intention than a *loosely controlled* culture | −4.207*** (−2.782) | Supported |
| $H_{3a}(+)$: A *job-oriented* culture will have a more positive effect on the individual's knowledge creation intention than an *employee-oriented* culture | 1.734* (0.336) | Supported |
| $H_{3b}(+)$: A *job-oriented* culture will have a more positive effect on the individual's knowledge storage intention than an *employee-oriented* culture | 1.846* (0.306) | Supported |
| $H_{3c}$<br>$H_{3c\text{-}1}(-)$: A *job-oriented* culture will have a more negative effect on the individual's knowledge transfer intention than an *employee-oriented* culture | NA | NA |
| $H_{3c\text{-}2}(+)$: A *job-oriented* culture will have a more positive effect on the individual's knowledge transfer intention than an *employee-oriented* culture | 2.035** (0.440) | Supported |
| $H_{3d}$<br>$H_{3d\text{-}1}(-)$: A *job-oriented* culture will have a more negative effect on the individual's knowledge application intention than an *employee-oriented* culture | NA | NA |
| $H_{3d\text{-}2}(+)$: A *job-oriented* culture will have a more positive effect on the individual's knowledge application intention than an *employee-oriented* culture | 2.285**(0.444) | Supported |
| $H_{4a}(-)$: A *closed system* culture will have a more negative effect on the individual's knowledge transfer intention than an *open system* culture | 0.435 (0.027) | Not supported |
| $H_{4b}(-)$: A *closed system* culture will have a more negative effect on the individual's knowledge application intention than an *open system* culture | −0.242 (−0.016) | Not supported |
| $H_{5a}(-)$: A *professional-oriented* culture will have a more negative effect on the individual's knowledge transfer intention than a *parochial-oriented* culture | −0.432 (−0.030) | Not supported |
| $H_{5b}(-)$: A *professional-oriented* culture will have a more negative effect on the individual's knowledge application intention than a *parochial-oriented* culture | 1.020 (0.077) | Not supported |

Notes: ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$

**Figure 2** Results of the research model




### 6.1 Results-oriented culture's effect on the individual's KM process intention ($H_1$)

The *results-oriented* dimension has a significant positive effect on the intention of the individual employee to create knowledge ($t = 4.124^{***}$), a result that strongly supports hypothesis $H_{1a}$. Although the *results-oriented* dimension has a significant effect on the intention of the individual employee to store knowledge, and the *t* value is positive ($4.858^{***}$) rather than negative, the result strongly supports $H_{1b\text{-}2}$. The *results-oriented* dimension has a significant positive effect on the intention of the individual employee to transfer knowledge ($t = 3.729^{***}$), a result that strongly supports $H_{1c}$. It would appear that this kind of culture will lead to a positive KM behavior (Alavi *et al.*, 2005-2006; Heisig, 2009). The *results-oriented* dimension has a significant positive effect on the intention of individuals to apply employee knowledge ($t = 4.693^{***}$), a result that strongly supports $H_{1d}$. This is due to the fact that knowledge application is closely related to knowledge transfer and has the same result as $H_{1c}$.

The *results-oriented* culture has a significant positive effect on the knowledge creation ($H_{1a}$), storage ($H_{1b\text{-}2}$), transfer ($H_{1c}$) and application ($H_{1d}$) intention of the individual. Although Kayworth and Leidner (2003) asserted that the *results-oriented* culture might not be conducive to the effective storage of knowledge in the KM process, they did not prove their assertion with survey data. The current study not only refutes their assertion but also confirms that the *results-oriented* culture indeed has a positive effect on the individual's knowledge storage intention in the KM process (Jarvenpaa and Staples, 2001; Wei, 2005; Alavi *et al.*, 2005-2006; Heisig, 2009). Moreover, this signifies that a *results-oriented* culture will encourage the individual to be more willing to become involved in the KM process and to store/transfer their personal knowledge. At the same time, new knowledge is created and existing knowledge is applied to the organization, as this kind of behavior is self-imposed rather than forced (Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008).

In sum, a *results-oriented* culture has a strongly positive effect on the KM process (creation, storage, transfer and application) intention of the individual in whom the process is integrated rather than externalized. For this reason, it is important for the management to treat the KM process as integrated and to foster a *results-oriented* culture for the individual to strongly and unreservedly support that process.

### 6.2 Tightly controlled culture's effect on the KM process intention of the individual ($H_2$)

A *tightly controlled* culture has a significant negative effect on the intention of the individual employee to create knowledge ($t = -3.658^{***}$), a result that strongly supports $H_{2a}$. The *tightly controlled* dimension has a significant negative effect on the intention of the

individual employee to store knowledge ($t = -4.142^{***}$). The *tightly controlled* dimension has a significant negative effect on the intention of the individual employee to transfer knowledge ($t = -3.440^{***}$), a finding that strongly supports $H_{2c}$. The *tightly controlled* dimension has a significant negative effect on the intention of the individual employee to apply knowledge ($t = -4.207^{***}$), a result that strongly supports $H_{2d}$.

A *tightly controlled* culture has a significant negative effect on the knowledge creation ($H_{2a}$), storage ($H_{2b\text{-}2}$), transfer ($H_{2c}$) and application ($H_{2d}$) intention of the individual. According to Kayworth and Leidner (2003) and Ajmal and Koskinen (2008), people will not provide their knowledge for storage in their organization in a *loosely controlled* culture. However, this study finds their opinion not to be supported by the survey data. This indicates that such a *tightly controlled* culture may be conducive to inhibiting individuals from storing/transferring their own knowledge, or from creating new or applying existing knowledge to the organization due to the fact that such behavior requires a more relaxed and flexible environment (Jarvenpaa and Staples, 2001; Wei, 2005; Alavi *et al.*, 2005-2006; Jacks *et al.*, 2012).

Indeed, a *tightly controlled* culture has a strongly negative effect on the KM process (creation, storage, transfer and application) intention of the individual due to the fact that this process is integrated in nature. In light of this, management should be aware of individuals' reluctance to support the KM process in a *tightly controlled* cultural organization.

### 6.3 Job-oriented culture's effect on the KM process intention of the individual ($H_3$)

The *job-oriented* dimension of culture has a significant positive effect on the intention of the individual employee to create knowledge ($t = 1.734$*), a result that supports $H_{3a}$. At the same time, this dimension has a significant positive effect on the intention of the individual employee to store knowledge ($t = 1.846$*), a result that supports $H_{3b}$. The *job-oriented* dimension has a significant positive effect on the intention of the individual employee to transfer knowledge ($t = 2.035^{**}$), a result that strongly supports $H_{3c\text{-}2}$. In addition, the *job-oriented* culture has a significant positive effect on the intention of the individual employee to apply knowledge ($t = 2.285^{**}$), which strongly supports $H_{3d\text{-}2}$.

A *job-oriented* culture has a significant positive effect on the knowledge creation ($H_{3a}$), storage ($H_{3b}$), transfer ($H_{3c\text{-}2}$) and application ($H_{3d\text{-}2}$) intention of the individual. The result confirms that employees are willing to share their own knowledge (Davenport and Prusak, 2000; Bhatt, 2001) and use organizational knowledge (Jarvenpaa and Staples, 2001; Alavi *et al.*, 2005-2006) in a *job-oriented* culture, but not in an *employee-oriented* culture. Thus, the current paper has clarified the contradictory results of prior research. Our findings suggest that a *job-oriented* culture is an environment conducive to promoting the individual's intention to store/transfer their own knowledge and to create new and/or apply existing knowledge to the organization (Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008; Woodman and Zade, 2011). Moreover, a *job-oriented* culture has a positive effect on the KM process (creation, storage, transfer and application) intention of the individual for the same reason as that described with respect to the *result-oriented* and *tightly controlled* cultures. Thus, it is important for management to foster a *job-oriented* culture to increase individuals' willingness to support the KM process.

### 6.4 Closed system culture's effect on the KM process intention of the individual ($H_4$)

The *closed system* dimension does not have a significant effect on the intention of the individual employee to transfer knowledge ($t = 0.435$), a result that does not support $H_{4a}$. This is due to the fact that a *closed system* culture in an organization is typically secretive and fosters suspicion of outsiders as well as insiders. As a consequence, the free flow of ideas will be impeded and individuals' intention to transfer their knowledge to the organization will be adversely affected.

In addition, the *closed system* does not have a significant effect on the intention of individual employees to apply their knowledge ($t = -0.242$), a result that does not support $H_{4b}$. This is because the *closed system* culture discourages communication with outsiders and negatively influences the absorption and application of knowledge. Thus, the result refutes the opinions of Kayworth and Leidner (2003) and Alavi *et al.* (2005-2006). However, it is necessary for a future study to ascertain the reason for the inability of a *closed system* culture to induce individuals to transfer their knowledge to the organization in the KM process.

### *6.5 Professional-oriented culture's effect on the KM process intention of the individual ($H_5$)*

The *professional-oriented* culture does not have a significant effect on the intention of the individual to transfer their knowledge to other employees ($t = -0.432$), a result that does not support $H_{5a}$. In a *professional* cultural organization, individuals emphasize and respect their professional domain rather than the organization. In light of this, employees have no intention to share their professional knowledge with their colleagues.

At the same time, the *professional-oriented* dimension does not have a significant effect on the intention of the individual to apply their knowledge to other employees ($t = 1.020$), a result that does not support $H_{5b}$. The employees in the *professional* culture identify only with the professional field to which they belong rather than to the organization in which they work. This result not only refutes the opinion of Griffith *et al.* (2003), Kayworth and Leidner (2003), Wasko and Faraj (2005) and Ajmal and Koskinen (2008) but also highlights another consideration; that is, *professional* culture should be interpreted through the lens of the social identification theory (Bagozzi and Lee, 2002; Liu and Chan, 2011) rather than being viewed as a dimension of organization culture.

## 7. Implications

### *7.1 Academic implications*

First, the results of this paper have both clarified and confirmed the contradictory results of prior studies. These results include:

- a *results-oriented* culture has a significant positive effect on the individual's knowledge storage intention;
- a *tightly controlled* culture has a significant negative effect on the individual's knowledge storage intention; and
- a *job-oriented* culture has a significant positive effect on the individual's knowledge transfer intention.

Second, from the results of $H_1$, $H_2$ and $H_3$, the present study finds that knowledge creation, storage, transfer and application processes are associated with the same goals in the KM process. For this reason, each kind of cultural dimension has either a significant positive or a negative effect on the KM process (creation, storage, transfer and application) intention of the individual. Although cultures that are *results-* and *job-oriented* have positive effects, a *tightly controlled* culture has a negative effect on the KM process intention of the individual. These findings provide evidence that challenges the appropriateness of the perspective of Kayworth and Leidner (2003) on this issue.

Third, this study demonstrates that not every dimension of culture is of value in the KM process. The *closed system* ($H_4$) and *professional-oriented* ($H_5$) cultures have no significant effect on the intention of the individual to transfer and apply their knowledge to the organization. Moreover, the *professional* culture may not be suitable to explain the employees' organizational behavior. Rather, such behavior may be interpreted more satisfactorily through the social identification theory insofar as professionals strive to find,

create, define and maintain their places in their professional field and are willing to contribute their knowledge to their field (Bagozzi and Lee, 2002; Liu and Chan, 2011).

### 7.2 Implications for management practice

First, maintenance of *results*- and *job-oriented* cultures and elimination of the *tightly controlled* culture will lead to improvements in the KM process intention of the individual (Eskerod and Skriver, 2007; Ajmal and Koskinen, 2008). Therefore, management is advised to foster and maintain *results*- and *job-oriented* cultures, which will be conducive to the KM process and which, in turn, will lead to enhanced organizational effectiveness, performance and competitiveness (Newell *et al.*, 2003, 2004). At the same time, management should reduce the presence of a *tightly controlled* culture in the organization to encourage the KM process intention of the individual.

Second, in view of the negative effect of a *tightly controlled* culture, management should create a more autonomous and democratic climate, provide employees a flexible work space, encourage them to take greater risks such as in the *results-oriented culture* and be responsible of their mistakes. At the same time, management should consider integrating employees' performance and rewards in the KM process.

Third, as *results-oriented* and *job-oriented* cultures foster the KM process intention of the individual while the *tightly controlled* culture restricts it, management must aim to encourage employees to become freely willing to create, store, transfer and apply their knowledge to the organization without coercion. For example, create learning climate to ameliorate cohesion among the employees and their commitment. Moreover, based on the Fiedler's (1966) contingency theories of leadership, managers should also use different ways to lead their subordinates with different characters. Such an approach will substantially assist the KM process (creation, storage, transfer and application) in the organization.

Finally, as organizational culture is built through four stages: assumptions, values, artifacts and symbols and because it is a dynamic and cyclic process (Hatch, 1993), management should:

1. *Change organizational assumptions*: Encourage risk-taking, innovation and challenging ideas (*result-oriented*); foster a relaxed atmosphere and easy-going work environment (*loosely controlled*); and focus on work performance, productivity and commitment to the organization (*job-oriented*). At the same time, management should interpretation those assumptions to employees.
2. *Manifest organizational values*: Employees should realize those assumptions, and management should provide policies which are in accord with the organizational norms, such as establishing a promotion and reward system that is consistent with those policies. Also important are employees' belief in the organization's values and their willingness to adhere to them.
3. *Realize those new values as artifacts*: Employees' behavior should be respectful of those norm and politics.
4. *Embody those values as organizational symbols*: Achieved when the new organizational culture (*result-oriented*, *loosely controlled* and *job-oriented*) has been built, embedded in employees' minds and made manifest in their behavior.

## 8. Conclusion

In this survey study, the findings are as follows: some organizational culture dimensions (*results-oriented*, *tightly controlled* and *job-oriented*) indeed have a significant effect on the KM process (creation, storage, transfer and application) intention of the individual. In sum, the *results-oriented*, *loosely controlled* and *job-oriented* cultures will improve the

effectiveness of the KM process and while increasing employees' satisfaction and willingness to stay in the organization.

However, it would have been better to use a longitudinal study to collect useful long-term data to understand how the KM process would be influenced when organizational culture dimensions are changed through/by management. This is the first limitation of this study. According to Mason and Pauleen (2003), KM culture is a powerful predictor of individual knowledge-sharing behavior, which is not included in this study. Thus, this is the second limitation of this paper. Moreover, national culture could be an important issue in the KM process (Jacks *et al.*, 2012), which is the third limitation of this paper for not comprising it.

From researchers' point of view, *results-* and *job-oriented* cultures have positive effects, whereas a *tightly controlled* culture has a negative effect on the KM process intention of the individual. These findings provide evidences that challenge the perspective of Kayworth and Leidner (2003) on this issue. As for practitioners, management has a direction to modify their organizational culture to improve the performance of KM process.

Apart from the value of behavioral perspectives of organizational culture (*results-oriented*, *tightly controlled*, *job-oriented*, *closed control* and *professional-oriented*) in analysis of the KM implementation (Kayworth and Leidner, 2003), also of value is the foundation of the organizational culture perspective connected with KM (Jarvenpaa and Staples, 2001), such as *sociability*, *solidarity*, *need for achievement* and *democracy* (Jarvenpaa and Staples, 2001). These may be viewed as extremely important variables in the KM process. Based on the arguments provided in the present study, future research should use the value perspective factors (Jarvenpaa and Staples, 2001) as variables in the KM process. As knowledge also plays a significant role in achieving the goals of the KM process (Pirkkalainen and Pawlowski, 2014) and is a fundamental element of a strong KM culture (Gold *et al.*, 2001; Alam *et al.*, 2009; Tan *et al.*, 2009; Lin and Dalkir, 2010; Woodman and Zade, 2011), this is a further area upon which future research might focus. In addition, both behavioral and value perspectives of the organizational cultural dimensions (*results-oriented*, *tightly control*, *job-oriented*, *sociability*, *solidarity*, *need for achievement* and *democracy*) should be examined to ascertain their effects firstly on KM culture and then on the KM process intention of the individual. It is hoped that the current study will spawn future investigations that lead to the development of an integrated model which includes organizational culture, KM culture and the KM process intention of the individual.

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