Organizational Culture Types And Knowledge Management In U.S. Manufacturing Firms

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ABSTRACT:

This paper examined the relationship between organizational culture and knowledge management in a manufacturing environment. The objective of this study was to determine what organizational culture type was significantly related to knowledge management in U.S. manufacturing firms. This study used the following research questions: 1) Is organizational culture related to knowledge management in U.S. manufacturing firms? 2) What organizational culture type relates to knowledge management in U.S. manufacturing firms? The findings highlighted an opportunity for many manufacturers to improve their businesses by adopting a formal knowledge management program.

Keywords: *Organizational culture, Culture type*

Introduction

Knowledge management is an important topic in modern management (De Long & Fahey, 2000; McCuiston & Jamrog, 2005). Practitioners have made significant investments in information technology to support knowledge management initiatives (Benbya, 2006). Many of these knowledge management initiatives have failed to produce the expected results (DeTienne et al, 2004). According to Davenport et al, (2008, p. R11), “Their knowledge-management efforts, while useful in some ways, haven’t necessarily led to better products and services, more effective employees or superior work processes.” Recently, academicians have emphasized the need to study the human factors involved in knowledge management (Chin-Loy & Mujtaba, 2007).

According to Alavi and Leidner (2001), scholars have identified organizational culture as an important factor in how a firm manages its knowledge. They note that culture acts as a barrier or an enabler of knowledge creation and transfer (Alavi & Leidner, 2001). Organizations need to consider culture before engaging in knowledge management initiatives (Ribière & Román, 2006). If an organization understands its culture type, it can consider the degree of fit required between its knowledge management practices and culture for a given business environment. In addition, the organization can create a culture that promotes knowledge sharing which is important to its success (Chin-Loy & Mujtaba, 2007).

Research that examines which organizational culture type supports knowledge management is important to help managers understand how to improve their organizations' competitiveness (Chin-Loy & Mujtaba, 2007). The empirical evidence in the knowledge management literature is unclear how to determine the appropriate organizational culture type for knowledge management success in a given environment. Academics and practitioners need more research to understand the relationship between organizational culture and knowledge management and the specific organizational culture type that relates to knowledge management programs in a manufacturing environment.

This study examined the relationship between organizational culture and knowledge management in U.S. manufacturing firms. It sought to determine which organizational culture type related to knowledge management in a manufacturing environment. The study used the Competing Values Framework as the overarching framework for organizational culture (Cameron & Quinn, 2006). The base theory was that one could segregate organizational culture into organizational profiles that had a positive relationship to knowledge management (Chin-Loy & Mujtaba, 2007; Lawson, 2003). This study investigated the following research questions:

> *Research Question 1: Is organizational culture related to knowledge management in U.S. manufacturing firms?*
>
> *Research Question 2: What organizational culture type relates to knowledge management in U.S. manufacturing firms?*

Review of Literature

According to Lawson (2003, p. 10), "Knowledge management is a continuous process and becomes an expanding spiral as more and more knowledge is added and managed over time." This continuous process of escalating knowledge is referred to as the knowledge management cycle. According to Lawson, researchers combine various processes to form the knowledge management cycle. The processes used depend on the researcher. Lawson (2003) combined the processes used by Wiig (1993), Parikh (2001), and Horwitch and Armacost (2002) to describe the knowledge management cycle. This research study followed Lawson (2003) by using the six processes of creation, capture, organization, storage, dissemination, and application to describe the knowledge management cycle.

The Competing Values Framework. According to Cameron and Quinn (2006), the Competing Values Framework was initially developed from research conducted on organizational effectiveness. Campbell et al, (1974) developed a list of 39 indicators of organizational effectiveness. Through statistical analysis, Quinn and Rohrbaugh (1983) organized the list into two dimensions that encompassed four main clusters. Cameron and Quinn (2006) asserted that one could group the dimensions into four quadrants. According to Cameron and Quinn (2006, p. 37), "each quadrant represents basic assumptions, orientations, and values---the same elements that comprise organizational culture." Figure 1 shows the Competing Values Framework.

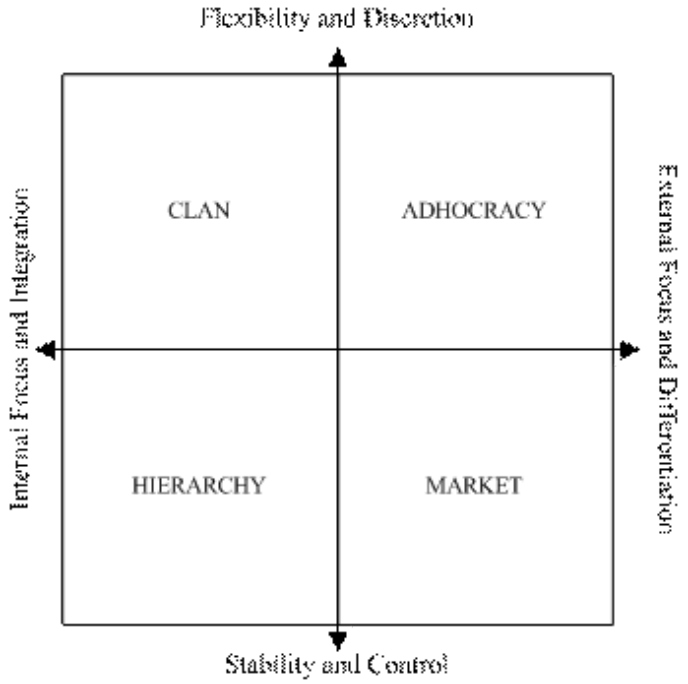

Figure 1: The Competing Values Framework (Cameron & Quinn, 2006, p. 35)

As shown in Figure 1, the first dimension distinguishes effectiveness criteria that emphasize flexibility, discretion, and dynamism from criteria that emphasize stability, order, and control. The second dimension distinguishes effectiveness criteria that highlight an external focus and differentiation from criteria that emphasize an internal focus and integration. The lower left quadrant represents a hierarchy culture type. The lower right indicates a market culture type. The upper left reveals a clan culture type, while the upper right indicates an adhocracy culture type (Cameron & Quinn, 2006).

The Hierarchy Culture Type. According to Cameron and Quinn (2006), a firm that displays a hierarchy culture seeks stability, maintains control, and has an internal focus. The work environment in the hierarchy culture is typically formalized and structured. Managers excel at organization and coordination. Cameron and Quinn note that the focus of the hierarchical organization is to maintain a smooth, efficient operation that produces deliveries on time and at a low cost. Managers maintain control through standard operating procedures and policies. McDonald's Corporation and governmental agencies exemplify a hierarchy culture type (Cameron & Quinn, 2006).

The Market Culture Type. Cameron and Quinn (2006) assert that a market culture type seeks control and stability but focuses on its external environment. This may include customers, suppliers, unions, contractors, and regulators. According to Cameron and Quinn, an organization with a market culture values competitiveness and productivity. These values are achieved by placing a priority on external positioning and control. Leaders in the market culture are demanding, competitive, and produce results. Cameron and Quinn contend that General Electric (GE) epitomizes a market culture type. GE emphasizes market share and growth through acquisitions (Cameron & Quinn, 2006).

The company is known for its competitive work environment and the use of stretch goals (Kerr & Landauer, 2004).

The Clan Culture Type. According to Cameron and Quinn (2006), the third form of organization is the clan culture. The clan culture seeks flexibility and focuses on its internal environment. Employees view the clan organization as a friendly place to work where leaders act as mentors or parent figures to foster high cohesion and morale. Cameron and Quinn note that the clan organization views customers and suppliers as partners. Many Japanese firms exhibit this organizational culture type. They value teamwork, high employee involvement, and are concerned with the well-being and development of their employees (Cameron & Quinn, 2006).

The Adhocracy Culture Type. The fourth form of organization proposed by Cameron and Quinn (2006) is the adhocracy culture. The adhocracy culture seeks flexibility and focuses on its external environment. According to Cameron and Quinn, this culture type values innovation, creativity, and risk-taking. Organizations in aerospace, software development, and consulting often exhibit an adhocracy culture. Cameron and Quinn assert that these firms compete in dynamic and turbulent industries that require the ability to change rapidly with its external environment. They compete by developing new products through innovations. Leaders in an adhocracy organization must be innovative, entrepreneurial, and visionary (Cameron & Quinn, 2006).

Research in Organizational Culture and Knowledge Management. Holowetzki (2002) examined the relationship between organizational culture and knowledge management in small or not-for-profit businesses in the United States using a comprehensive literature review and content analysis. The researcher examined six categories of cultural factors that included information systems, organizational structure, reward systems, processes, people, and leadership. Holowetzki concluded that these factors were important to achieving successful knowledge management initiatives. The researcher recommended that organizations create an organizational culture that emphasizes knowledge sharing to promote effective knowledge management programs.

In her dissertation, Sheron Lawson (2003) examined the relationship between organizational culture and knowledge management in eight organizations in Jamaica. The results of her research indicated a significant correlation between organizational culture and knowledge management. A market culture showed a significant positive correlation with knowledge management, while the hierarchy culture displayed a negative correlation with knowledge management.

Due to a small sample size, Lawson (2003) did not find a dominant developmental or group culture in the sample; therefore, Lawson could not examine the relationship between organizational culture and knowledge management for these groups. Lawson recommended that future research include an increased sample size to allow for the evaluation of the relationship between the group and developmental culture types to knowledge management. This research seeks to draw upon and refine the work of Lawson (2003) by examining the relationship between organizational culture and knowledge management. This research builds on Lawson (2003) by determining what culture type relates to knowledge management in U.S. manufacturing firms.

Research Methodology

This research examined the relationship between organizational culture and knowledge management. It sought to determine what organizational culture type related to knowledge management. This research was cross-sectional and descriptive in nature. It determined correlation and not causal factors.

Survey research constituted the methodology for this study. The questionnaire consisted of three parts: Cameron and Quinn's (2006) Organizational Assessment Instrument (OCAI), Lawson's (2002) Knowledge Management Assessment Instrument (KMAI), and a demographics assessment. The OCAI was used to diagnose organizational culture and cultural strength. The KMAI measured knowledge management according to six processes of the knowledge management cycle (Lawson, 2003). Both the OCAI and the KMAI were common to the knowledge management literature.

This research measured organizational culture and knowledge management in various manufacturing firms in Virginia. Organizational culture served as the independent variable while knowledge management acted as the dependent variable. The sample population included those manufacturing firms with 20 or more employees listed in the *Virginia Manufacturers Directory*, which included 2,848 manufacturing firms in Virginia. The researcher emailed a cover letter with a link to an Internet based questionnaire to employees in these organizations. In addition, paper surveys were distributed to individuals in the same population.

The researcher analyzed the data using correlation analysis to determine if a significant correlation existed between organizational culture and knowledge management. The researcher also used correlation analysis to determine which culture type positively related to knowledge management. As an alternative method to correlation analysis, the researcher analyzed the above relationships using regression analysis.

Results

The results of this research suggested that organizational culture was related to knowledge management in U.S. manufacturing firms in Virginia. Table 1 shows the Pearson Correlation matrix for culture types and knowledge management.

Table 1. Pearson Correlation Matrix For Culture Types And Knowledge Management (*N* = 267)

		Clan	Adhocracy	Market	Hierarchy	KM
Clan	Pearson Correlation	1				
	Sig. (2-tailed)					
Adhocracy	Pearson Correlation	0.585**	1			
	Sig. (2-tailed)	0.000				
Market	Pearson Correlation	0.047	0.436**	1		
	Sig. (2-tailed)	0.448	0.000			
Hierarchy	Pearson Correlation	0.241**	0.105	0.321**	1	
	Sig. (2-tailed)	0.000	0.086	0.000		
Knowledge Management	Pearson Correlation	0.523**	0.625**	0.394**	0.321**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 1, the Pearson correlation matrix indicated that the four organizational culture types of clan (r = 0.523; p = 0.000), adhocracy (r = 0.625; p = 0.000), market (r = 0.394; p = 0.000), and hierarchy (r = 0.321; p = 0.000) were significantly related to knowledge management. The nonparametric correlation analysis also provided evidence that organizational culture was related to knowledge management. Table 2 shows the results of nonparametric correlation analysis for culture types and knowledge management.

Table 2. Spearman's Rho Correlation Matrix For Culture Types And Knowledge Management (N = 267)

		Clan	Adhocracy	Market	Hierarchy	Knowledge Management
Clan	Correlation Coef.	1.000				
	Sig. (2-tailed)					
Adhocracy	Correlation Coef.	0.550**	1.000			
	Sig. (2-tailed)	0.000				
Market	Correlation Coef.	0.067	0.408**	1.000		
	Sig. (2-tailed)	0.278	0.000			
Hierarchy	Correlation Coef.	0.221**	0.072	0.305**	1.000	
	Sig. (2-tailed)	0.000	0.241	0.000		
Knowledge Management	Correlation Coef.	0.498**	0.629**	0.415**	0.302**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 2, the Spearman's correlation also indicated that the four organizational culture types of clan (r_s = 0.498; p = 0.000), adhocracy (r_s = 0.629; p = 0.000), market (r_s = 0.415; p = 0.000), and hierarchy (r_s = 0.302; p = 0.000) were significantly related to knowledge management. Table 3 presents salient variables generated from the regression analysis.

Table 3. Summary Of Regression Analysis For Variables Predicting Knowledge Management (*N* = 223)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.575	1.328		2.691	0.008**
	Clan	0.592	0.202	0.178	2.939	0.004**
	Adhocracy	1.191	0.221	0.350	5.380	0.000**
	Market	0.180	0.193	0.053	0.935	0.351
	Hierarchy	0.567	0.186	0.147	3.043	0.003**
	KM Program in Place	0.838	0.137	0.302	6.138	0.000**
	Amount of Training	0.378	0.097	0.177	3.888	0.000**
	Years in Present Position	-0.252	0.123	-0.099	-2.049	0.042*
	Employees	2.843E-5	0.000	0.030	0.662	0.509

Note. $R^2 = 0.633$

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From Table 3, the regression model indicated that the adhocracy, clan, and hierarchy culture types were significant predictors of knowledge management. The results of the both the parametric and nonparametric analysis lends support to the hypothesis that organizational culture was related to knowledge management. In general, this finding was consistent with previous research (Ba, 2004; Chang & Lee, 2007; Chin-Loy & Mujtaba, 2007; DeTienne et al, 2004; Kangas, 2005; Kaweevisultrakul & Chan, 2007; Lawson, 2003; Nayir & Uzuncarsili, 2008; Palanisamy, 2007; Zheng, 2005). For example, Chin-Loy and Mujtaba (2007) found that knowledge management positively correlated ($p < .001$) with the four organizational culture types of clan, adhocracy, market, and hierarchy. Lawson (2003) found a significant correlation between all of the culture types and knowledge management. Kangas (2005) found a significant correlation between organizational culture and continuous knowledge management initiatives for clan, adhocracy, and market culture types.

As shown in Table 1, the parametric analysis revealed that manufacturing firms that had dominant clan culture types had a significantly positive and stronger relationship to knowledge management than market culture types. However, the nonparametric analysis did not support this finding. This study concluded that manufacturing firms that had dominant clan culture types had a significantly positive and stronger relationship to knowledge management than hierarchy culture types. Manufacturing firms that had dominant adhocracy culture types had a significantly positive and stronger relationship to knowledge management than clan, market, and hierarchy culture types did to knowledge management.

From Table 3, the regression analysis demonstrated the importance of training and a knowledge management program to achieving higher knowledge management scores. Amount of training ($p = 0.000$) and a knowledge management program in place ($p =$

0.000) were significant predictors of knowledge management. The independent variable, years in present position, had a beta of -0.099 with a *p* value of 0.042. The significant result implied that employees that have fewer years in their positions indicated higher knowledge management scores. This result was unexpected; however, it may be reasonable since these employees may have received recent training on their organization's knowledge management system. The regression did not support the importance the size of the organization, as measured by the number of employees, in explaining knowledge management scores. The number of employees ($p = 0.509$) was not a significant predictor of knowledge management.

Implications

This study had implications for practicing managers and academia. This study concluded that organizational culture was related to knowledge management in a U.S. manufacturing environment. In particular, the adhocracy culture type was highly related to knowledge management scores. These findings show that managers need to consider culture in the strategic planning of knowledge management initiatives. If managers understand their organizations' culture type, they can consider the degree of fit required between their company's knowledge management initiatives and culture.

The evidence suggests that incorporating the characteristics of an adhocracy culture type in a manufacturing environment will increase the chances for higher knowledge management scores. This finding is important to knowledge management theory since Lawson's results were inconclusive for the adhocracy culture type. According to Cameron and Quinn (2006), the values of an adhocracy culture include innovation, creativity, and risk-taking. Organizations employing the adhocracy culture type maintain a competitive advantage by developing new products though innovations (Cameron & Quinn, 2006). Thus, the proper management of knowledge is critical to the survival of these organizations. This may explain the adhocracy culture type's strong relationship to knowledge management.

Recommendations For Practitioners

The findings of this study suggested that training and having a knowledge management program in place were important to achieving higher knowledge management scores. Only 30.3 percent of the respondents indicated having a knowledge management program in place while over 67 percent reported having no program or were unsure if one existed at their organization. This lack of awareness of knowledge management implied that manufacturers needed to enhance their knowledge management training activities. In addition, this finding highlights an opportunity for many manufacturers to improve their businesses by adopting a formal knowledge management program.

Managers should conduct a review of their current knowledge management program to access the comprehensiveness of the program and identify any gaps. Managers could use Lawson's (2002) KMAI to facilitate the review. The review should consider the six processes of the knowledge management cycle, which include creation, capture, organization, storage, dissemination, and application. The organizations should have mechanisms in place that address each process. For example, to address the creation process, the organization should have programs that create and acquire knowledge from

employees, customers, and business partners. In addition, the organization should have mechanisms that encourage employees to exchange knowledge and reward them for new ideas. The organizations should use best practices when implementing projects (Lawson, 2002).

For those organizations that have no knowledge management program in place, managers should start a program by implementing a small pilot project. For example, a manager could focus on the process of storing knowledge by implementing databases, repositories, and other information technology applications to store knowledge. The manager may consider starting a company newsletter or creating manuals that store knowledge from employees. The manager may also start a patent and copyright process for his or her organization (Lawson, 2002). After initial successes have been achieved, executives can move to larger projects. According to Davenport and Prusak (1998, p. ix), "What firms must do in the second phase of knowledge management is to integrate it with the familiar aspects of the business: strategy, process, culture, behavior."

The knowledge management program should incorporate training as a core element of the program. This will help create a culture of knowledge sharing while teaching employees the importance of knowledge management. The results of the regression analysis implied that employees that had fewer years in their present position should have higher knowledge management scores. This was an unexpected result; however, it may be reasonable since these employees may have received recent training on their organization's knowledge management programs. This provides additional evidence on the importance of training.

Managers should also evaluate the culture of their organization in conjunction with assessing their knowledge management programs. Managers can use Cameron and Quinn's (2006) OCAI to determine their organization's culture type. Cameron and Quinn note that no one organizational culture type is best. However, the results of this study suggest that in a manufacturing environment, the adhocracy culture type leads to higher knowledge management scores than the clan, market, and hierarchy culture types. Managers may want to consider incorporating some of the values of the adhocracy culture type in their organizations. These values include innovation, creativity, and risk-taking.

Limitations And Future Research

The findings and limitations of this study provide several opportunities for future research. This study investigated the organizational culture and knowledge management practices in manufacturing companies located in Virginia. The results may not be generalized to other locations in the United States or other countries. Therefore, future research may replicate this study in manufacturing environments in other states, multiple states, or countries. In addition, future studies may examine a different business sector or compare knowledge management scores across different business sectors in other regions or countries (Lawson, 2003).

Another limitation of the study was the low response rate of 10.3 percent obtained from the survey. Future studies should seek to increase the response rate. Researchers should consider soliciting participants before distributing the survey. In addition, researchers

should consider offering incentives to attract additional respondents (Dillman, 2007; Survey Monkey, 2008).

This study used a mixed method survey design to gather data from the respondents. The web-based survey method, while having many advantages, did have its limitations. A primary concern was that the researcher received notifications of non-delivered email messages and messages rejected by company servers. This contributed to the low response rate. Future researchers should send an initial email message that gives the participants the option of opting out of the survey. This will allow the researcher to identify unusable email addresses before sending the survey.

Another limitation of the web-based survey was that the respondents might have answered the survey differently had they taken the paper survey (Dillman et al, 2009). To mitigate the potential for variation, the web-based survey and the paper survey used in this study were identical. Future researchers seeking to replicate this study may consider using qualitative research methods by interviewing 20 employees from different organizations and compare their responses with the responses obtained from the web-based survey and the paper survey method.

Finally, this study did not examine knowledge management effectiveness (Zheng, 2005), firm performance (Powers & Hahn, 2004), knowledge management success (Román et al, 2004), organizational innovation (Obenchain & Johnson, 2004), organizational benefits (Chin-Loy & Mujtaba, 2007) or other organizational outcomes (Balthazard & Cooke, 2004). Future research may determine the relationship between organizational culture, knowledge management, and one or more of the mentioned variables. This would provide valuable information to practicing managers and academics.

Conclusions

This research provided academics and practitioners with empirical evidence on the knowledge management practices of 267 manufacturing firms in Virginia. Specifically, this study examined the relationship between organizational culture and knowledge management in these firms. It sought to determine which culture type supported knowledge management. The results suggested that organizational culture was related to knowledge management in U.S. manufacturing firms. The adhocracy culture type showed a stronger relationship to knowledge management than the clan, market, and hierarchy culture types did to knowledge management. Future research can be done to validate the results of this research. Researchers can learn more about the details of this study by referring to Jones (2009).

References

Alavi, M., & Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *Management Information Systems Quarterly, 25*(1), 107-136.

Ba, L. (2004). Knowledge management and organizational culture. (Doctoral dissertation, George Washington University, 2004). Retrieved from Proquest dissertation database. (UMI No. 3126188)

Balthazard, P. A., & Cooke, R. A. (2004). Organizational culture and knowledge management success: Assessing the behavior–performance continuum. *Proceedings of the 37th Hawaii International Conference on System Sciences.*

Benbya, H. (2006). *Mechanisms for knowledge management systems effectiveness: Empirical evidence from the Silicon Valley.* Paper presented at the 2006 Annual Meeting of the Academy of Management. Atlanta, GA. (AN 22898698). Retrieved April 24, 2008, from http://www.aomonline.org/

Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture: Based on the Competing Values Framework* (2nd ed.). Addison-Wesley Publishing Company, Inc.

Campbell, J. P., Brownas, E. A., Peterson, N. G., & Dunnette, M. D. (1974). *The measurement of organizational effectiveness: A review of relevant research and opinion.* Minneapolis: Navy Personnel Research and Development Center, Personnel Decisions.

Chang, S., & Lee, M. (2007). The effects of organizational culture and knowledge management mechanisms on organizational innovation. *The Business Review, Cambridge, 7*(1), 295-301.

Chin-Loy, C., & Mujtaba, B. G. (2007). The influence of organizational culture on the success of knowledge management practices with North American companies. *International Business and Economics Research Journal, 6*(3), 15-28.

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know.* Boston: Harvard Business School Press.

Davenport, T. H., Prusak, L., & Strong, B. (2008, Mar 10). Business insight (A Special Report): Organization: Putting ideas to work: Knowledge management can make a difference -- but it needs to be more pragmatic. *Wall Street Journal.* (Eastern Ed.). New York, p. R11.

De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *The Academy of Management Executive, 14*(4), 113-127.

DeTienne, K. B., Dyer, G., Hoopes, C., & Harris, S. (2004). Toward a model of effective knowledge management and directions for future research: Culture, leadership, and CKOs. *Journal of Leadership & Organizational Studies, 10*(4), 26-43.

Dillman, D. A. (2007). *Mail and internet surveys: The tailored design, Second edition-2007 update*. Hoboken, NJ: John Wiley.

Dillman, D. A., Smyth, J. D., Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Holowetzki, A. (2002). The relationship between knowledge management and organizational culture: An examination of cultural factors that support the flow and management of knowledge within an organization. (Capstone Report, University of Oregon, 2002). Retrieved August 21, 2010, from http://aim.uoregon.edu/research/pdfs/Holowetzki2002.pdf

Horwitch, M., & Armacost, J. (2002). Helping knowledge management be all it can be. *The Journal of Business Strategy, 23*(3), 26-31.

Jones, M. B. (2009). Organizational culture and knowledge management: An empirical investigation of U.S. manufacturing firms. (Doctoral dissertation, Nova Southeastern University, 2009). Retrieved from Proquest dissertation database. (UMI No. 3388995)

Jones, M. B., Mujtaba, B. G., Williams, A., and Greenwood, R. A. (2010). A study of organizational culture types and knowledge management in U.S. manufacturing firms. Unpublished paper presented at the 5th International Conference on Knowledge Management in Asia Pacific (KMAP). September 16-18, 2010 in Xi'an, China. KMAP Website: www.kmirc.net/kmap2010

Kangas, L. M. (2005). An assessment of the relationship between organizational culture and continuous knowledge management initiatives. (Doctoral dissertation, Capella University, 2005). Retrieved from Proquest dissertation database. (UMI No. 3196728)

Kaweevisultrakul, T., & Chan, P. (2007). Impact of cultural barriers on knowledge management implementation: Evidence from Thailand. *Journal of American Academy of Business, Cambridge, 11*(1), 303-308.

Kerr, S., & Landauer, S. (2004). Using stretch goals to promote organizational effectiveness and personal growth: General Electric and Goldman Sachs. *Academy of Management Executive, 18*(4), 134-138.

Lawson, S. (2002). Knowledge Management Assessment Instrument. Nova Southeastern University.

Lawson, S. (2003). Examining the relationship between organizational culture and knowledge management (Doctoral dissertation, Nova Southeastern University, 2003). Retrieved from Nova Southeastern University dissertation database. (UMI No. 3100959)

McCuiston, V. E., & Jamrog, J. J. (2005). Knowledge management implementation: HR executives speak out. *Journal of Applied Management and Entrepreneurship, 10*(1), 20-39.

Nayir, D. Z., & Uzuncarsili, U. (2008). A cultural perspective on knowledge management: The success story of Sarkuysan company. *Journal of Knowledge Management, 12*(2), 141-155.

Obenchain, A. M., & Johnson, W. C. (2004). Product and process innovation in service organizations: The influence of organizational cultures in higher education institutions. *Journal of Applied Management and Entrepreneurship, 9*(3), 91-113.

Palanisamy, R. (2007). Organizational culture and knowledge management in ERP implementation: An empirical study. *The Journal of Computer Information Systems, 48*(2), 100-120.

Parikh, M. (2001). Knowledge management framework for high-tech research and development. *Engineering Management Journal, 13*(3), 27-33.

Powers, T. L., & Hahn, W. (2004). Critical competitive methods, generic strategies, and firm performance. *The International Journal of Bank Marketing, 22*(1), 43-64.

Quinn, R. E., & Rohrbaugh, J. (1983). A spatial model of effectiveness criteria: Toward a competing values approach to organizational analysis. *Management Science, 29*, 363-377.

Ribière, V. M., & Román, J. A. (2006). Knowledge flow. In D. G. Schwartz (Ed.), *Encyclopedia of knowledge management* (pp. 336-341). Hershey, PA: Idea Group, Inc.

Román, J. A., Ribière, V. M., & Stankosky, M. (2004). Organizational culture types and their relationship with knowledge flow and knowledge management success: An empirical study in the U.S. government and nonprofit sectors. *Journal of Information & Knowledge Management, 3*(2), 167-178.

Survey Monkey. (2008). Response rates & surveying techniques: Tips to enhance survey respondent participation. Retrieved from October, 14, 2008, from http://s3.amazonaws.com/SurveyMonkeyFiles/Response_Rates.pdf

Virginia Manufacturers Directory. (2009). Evanston, IL: Manufacturers' News, Inc.

Wiig, K. M. (1993). *Knowledge management foundations.* Arlington, TX: Schema Press.

Zheng, W. (2005). The impact of organizational culture, structure, and strategy on knowledge management effectiveness. (Doctoral dissertation, University of Minnesota, 2005). Retrieved from Proquest dissertation database. (UMI No. 3180040)

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