

## Original Paper

# Knowledge Capital Accumulations and Employee Involvement Work Systems—Does Workplace Culture Have a Role?

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Received: May 27, 2020

Accepted: June 9, 2020

Online Published: July 3, 2020

doi:10.22158/jbtp.v8n3p1

URL: <http://dx.doi.org/10.22158/jbtp.v8n3p1>

### Abstract

*Knowledge capital accumulations are impacted by a variety of workplace factors, including the human resource management work system and the workgroup culture in which it is embedded. Organizations adopting high-involvement work systems stressing employee participation, empowerment, commitment, and accountability have the potential to produce, and to be a beneficiary of, greater stores of employee intellectual capital. The role of workplace culture in this relationship is potentially salient but its operational characteristics require further elucidation. Using a competing values framework to characterize workplace culture, four culture archetypes can be specified: hierarchical, market, entrepreneurial, and clan. Results from step-wise regression analysis show that the four workplace culture archetypes contribute differentially to intellectual capital stores, yet only the clan and entrepreneurial culture archetypes partially mediate this relationship.*

### Keywords

*intellectual capital, high-involvement work system, workplace culture, long-term care organizations*

## 1. Introduction and Background

If organizations are going to prosper and utilize their full potential they will have to harness the intellectual contributions of everyone (von Krogh, Nonaka, & Ichijo, 2000). In today's knowledge economy, organizational assets that generate competitive advantage and secure customer value require exploiting stores of employee and organizational intellectual capital (Stewart, 2001). As an intangible asset, intellectual capital refers to a combination of the collective knowledge of individuals (human capital), their relationships and associations with others both inside and outside the organization (social capital), as well as the codified structures, procedures, and operationalized routines (organizational capital) (Bontis, 1998; Swart, 2006). Grounded in the field of economics, intellectual capital delineates the "stocks and flows" of knowledge and "know-how" at all organizational levels. An increase in knowledge stocks occur when organizations make investments in their human capital through hiring, training, and developing their employees. Knowledge capital formation is also affected by the way that work is structured and organized in addition to the adoption of certain employee work practices.

In addition to these knowledge stocks, intellectual capital also relates to the ease by which knowledge can be generated and applied when needed. An organization's internal and external networks assist in

the diffusing of these stocks of knowledge, but also help in the creation of new knowledge when people are organized in ways that exploit their unique skill sets (Westlund, 2006). Social networks involve personal interactions between people which facilitate organizational learning and innovation by increasing the efficiency of knowledge diffusion, by reducing transaction costs for participants in a network, and by encouraging cooperative behaviours and shared trust. Knowledge capital is associated with the social collective's knowledge and their "knowing capability" (Nahapiet & Ghoshal, 1998). Organizations that are able to effectively harness the intellectual capital of their workforce have the potential to continuously innovate their products and services necessary to achieve success in the marketplace (Buenechea-Elberdin, 2017).

An organization's knowledge capital stores can also be augmented when organizations adopt organizational practices that increase employee participation, empowerment, and commitment to the enterprise. In recent years, many organizations have adopted a variety of human resource management and employment practices that are designed to increase employee involvement to all activities associated with their work. High-involvement employee work practices describe a loose coterie of approaches for organizing, deploying and managing human resources (Rana, 2015; Rondeau, 2007). Although there is no uniform agreement concerning what is a high-involvement practice (Guthrie, Spell, & Nyamori, 2002), many scholars suggest that these practices probably include such approaches as self-managing work teams, flexible work arrangements, employee suggestion and recognition systems, quality improvement teams, job redesign activities such as cross-training, multi-skilling, and job enrichment, as well as the adoption of merit-based pay such pay-for-performance compensation. Proponents maintain that these work practices, when "bundled together" and conceived of as a viable, consistent work system, have the potential to contribute to as well as draw upon, stores of an organization's knowledge capital. The need to combine work practices into a coherent work system necessitates the selection of distinct human resource management practices that support and reinforce one another so that a consistent message is communicated to shape and guide employee behaviours with respect to the pursuit of organizational objectives (Paauwe, Guest, & Wright, 2013). Yet, the construction of a coherent work system will produce few benefits if its purpose is antithetical and inconsistent to the organization's culture. Indeed, the role of workplace culture may be pivotal to understanding the potential of an employee work system to be lead to higher organizational performance or to impact stores of organizational knowledge capital so as to release creativity and innovation.

Organizational culture encompasses the values, beliefs and behaviors of organizational participants (Deal & Kennedy, 2000). Organizations that value knowledge and employees who possess "know how" are more likely to select, advance, and retain individuals with these traits and develop knowledge management systems that facilitate knowledge acquisition and application. Given the broad range of intellect, skills, aptitudes, and experiences that characterize human populations, organizations that place a premium on innovation and learning are more likely to employ individuals with these traits, and create, nurture, and institutionalize workplace cultures that embody these characteristics. It seems self-evident that organizations employing "knowledge workers" may have very different workplace cultures than would organizations whose jobs require little intellectual effort. The culture of a workplace contributes to the creation of conditions that facilitates (or impedes) the acquisition of organizational learning that can lead to innovation and require employees to demonstrate problem-solving behavior (Friedman, Lipshitz, & Overmeer, 2001).

The proper alignment of organizational culture with employee work system has long been considered an essential pre-requisite to achieving high performance by augmenting stores of intellectual capital. Scholars such as Mushref (2014), Sánchez-Cañizares, Muñoz & López-Guzmán, (2007), Buenechea-Elberin (2017) and Ferreira (2014) propose that organizational culture can play a role in shaping the relationship between intellectual capital and organizational performance, including organizational innovation. A number of scholars propose that organization culture is among the most critical barriers for leveraging new knowledge and for implementing novel innovations. Youndt and Snell (2004) show that intellectual capital is variously correlated with human resource management policies and culture, while Sharifirad and Ataei (2012) demonstrate that constructs of organizational culture correlate with those of intellectual capital. Mushref (2014) explores the moderating role of organizational culture on the intellectual capital and business performance.

In order to learn about the potential of organizational culture to impact knowledge capital accumulation, it is essential to characterize culture using a conceptual lens. Organizational culture can be examined using a number of frameworks which can provide a means to categorize culture into distinctive culture archetypes (Schein & Schein, 2017). The *Competing Values Framework* (CVF) is one of the most popular and frequently used approaches for assessing workplace culture (Cameron & Quinn, 2006). The CVF identifies four archetypes: hierarchical, market, entrepreneurial, and clan (see Figure 1). The *hierarchical culture* archetype is internally-focused and has a mode of operation that is rigid, stable and control-oriented. The central values of the hierarchical culture archetype are the adherence to rules and operating procedure, respect for authority, and predictability of action. The *market culture* archetype is externally-focused and is reinforced by a rigid and stable structure. Its dominant values are strategic planning, goal-setting and the pursuit of measurable outcomes. The *entrepreneurial culture* archetype is externally-focused and reinforced by a flexible and adaptable structure. Its dominant values include creativity and innovation, risk-taking and problem-solving. The *clan-culture* archetype is internally-focused and is reinforced by a decentralized and flexible structure. The core values of the clan culture archetype are teamwork, group cohesion and mutual support. The hierarchical and market culture archetypes are “control-oriented” and “top-down” in character, while the entrepreneurial and clan culture archetypes are “commitment-oriented” and considered “bottom-up” as to their point of application (Quinn & Rohrbaugh, 1983).

	Internal-focus	External-focus
Control-oriented Rigidity	<p><i>Hierarchical culture archetype</i></p> <ul style="list-style-type: none"> <li>• Adherence to rules</li> <li>• Respect for authority</li> <li>• Stability and predictability</li> </ul>	<p><i>Market culture archetype</i></p> <ul style="list-style-type: none"> <li>• Strategic planning</li> <li>• Goal-setting and targets</li> <li>• Outcomes and results</li> </ul>
Commitment-oriented Flexibility	<p><i>Clan culture archetype</i></p> <ul style="list-style-type: none"> <li>• Human relations and trust</li> <li>• Teamwork and cohesion</li> <li>• Human resources development</li> </ul>	<p><i>Entrepreneurial culture archetype</i></p> <ul style="list-style-type: none"> <li>• Creativity and innovation</li> <li>• Risk-taking and problem solving</li> <li>• Entrepreneurship</li> </ul>

**Figure 1. The Competing Values Framework**

While organizations reflect all four cultures to some degree, it is proposed that “commitment-oriented” cultures (entrepreneurial and clan) will be more closely associated in workplaces that have implemented a high-involvement work system, ostensibly because high-involvement work systems focus on teamwork and problem-solving. Nevertheless, each culture archetype can contribute to an organization’s stores of knowledge capital. A hierarchical culture contributes to intellectual capital because of its association with organizational databases, structure and established work routines. The market culture archetype may also contribute to intellectual capital because goal-setting and strategic planning are essential activities with respect to market and competitor surveillance and the attainment of market objectives. A clan culture archetype can potentially contribute to intellectual capital because it values group relations, teamwork, and trust, essential in group learning. The entrepreneurial culture archetype can contribute heavily to intellectual capital because it stresses creativity, innovation, and problem-solving.

From this discussion, we propose the following hypotheses to be evaluated:

**Hypothesis One:** All four culture archetypes contribute to intellectual capital accumulations.

**Hypothesis Two:** Commitment-oriented culture archetypes (entrepreneurial, clan) are more strongly associated with high-involvement work systems. It follows that “commitment-oriented” cultures make a stronger contribution to organizational stores of intellectual capital than do control-oriented cultures.

## 2. Method

### 2.1 Survey Respondents and Procedure

In 2016 a mail questionnaire were sent to the director of nursing care of 1579 Canadian long-term care facilities with 25 or more staffed beds. Institutional Review Board (IRB) approval for this study was secured from the University of Alberta Health Research Ethics Board. Identifying information on study subjects as found in the *Guide to Canadian Healthcare Facilities* (Health Care Can, 2014). Six weeks after the initial mailing, the questionnaire was resent to the facilities that had not responded to the initial request for participation. In total, 254 completed questionnaires were returned and constituted the study sample. After subtracting those in the study population that were refused, incomplete, or returned as undeliverable (70 establishments), a response rate of 16.8 percent was attained. Non-response bias was examined by comparing the number of residential beds in responding facilities (104.9 beds) against the number of reported beds in facilities in our population that did not participate in the study (106.0 beds). No statistical difference was found suggesting that our respondent LTC facilities in our sample may be representative of the larger population of long-term care facilities from which they are drawn. While our response rate is low, our sample may be representative of the larger population allowing us better generalize our findings.

### 2.2 Study Measures

We are interested in examining the contribution of workplace culture on the relationship between nursing high-involvement work system and accumulations of intellectual capital in nursing units in long-term care facilities. Estimates of intellectual capital constitute the dependent variable for our analysis.

*Dependent Variable:* Intellectual capital is a resource and refers to the combination of a collective of knowledge capital assets that are possessed by individuals, groups, and organizations. A 14-item measure of intellectual capital used in this study was developed by Subramaniam and Youndt (2005). The *intellectual capital facet scale* is composed of five items assessing human capital, five items assessing relational (social) capital, and four items assessing organizational (structural) capital. Using a

Likert scale where 1=strongly disagree to 7=strongly agree, facility directors of nursing care were asked to indicate their level of agreement with statements such as: “*our nurses are experts in their particular jobs and functions*” (a human capital facet item), “*our nurses effectively collaborate with other groups in our organization to develop solutions*” (a relational capital item), and “*our organization embeds much of its knowledge and information in structures, systems, and processes*” (an organizational capital facet item). Items for nursing intellectual capital produced a Cronbach alpha of .92 for our study sample, indicating an acceptable level of internal reliability.

*Independent Variables:* Our high-involvement work system was conceptualized to include ten (10) work practices (see Table 2). In order to assess the degree to which these work practices are “operationally embedded” across the three categories of nursing staff employed in Canadian long-term care facilities (Registered Nurses (RNs), Licensed Practical Nurses (LPNs), and Personal Support Workers (PSW) or nursing aides), respondents were asked to estimate the number of total nursing care personnel that is covered under each work practice at their facility (0=no, do not have the practice, 1=yes, but <50% of care staff covered, 2=yes, 50-99% of staff under this practice, 3=yes), all nursing staff covered under this practice. A nursing staff high-involvement score was calculated for each LTC facility based on the mean scores obtained for each of the ten high-involvement work practices.

The CVF is used to assess the nursing care workplace culture along two key dimensions: 1) the extent to which LTC facility workplace values “adaptability” or “stability”, and 2) the extent to which the organization’s strategic focus is “external” outwards toward its markets, customers and community, or “internal” toward the needs of its employees and organizational processes. The nursing workplace of each LTC facility was assessed with respect to the strength of four distinct culture archetypes: hierarchical, market, entrepreneurial, and clan. The nursing workplace culture of each participating facility was measured using the *Organizational Culture Assessment Instrument (OCAI)*, a twenty-four (24) item psychometrically-validated measure of organization culture, as described by Cameron and Quinn (2006). As an example, using a Likert scale where 1=strongly disagree to 7=strongly agree, respondents were asked to indicate their level of agreement with the following statements: “*This organization is a very personal place. It is like an extended family. People seem to share a lot of themselves*” (a clan culture archetype item), and “*The organization defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key*” (a market culture item). The Cronbach alphas ranged from .79 to .89, indicating an acceptable degree of internal reliability for the four components of the OCAI.

*Control Variables:* Two facility-level variables, potentially associated with the adoption of HRM work practices, workplace culture, or knowledge capital estimates were controlled in our statistical analysis: *LTC facility size* (nominally measured as the natural log of the number of resident beds), and *facility financial designation* (coded as 1=for-profit status, and 0=not-for-profit status).

### 2.3 Data Analysis

Data for the study was analyzed using SPSS version 23. Table 1 includes the site characteristics of participating LTC facilities showing sample means, standard deviations, and ranges. Table 2 shows the individual HRM nursing work practices that comprise our high-involvement work system, presented on the basis of facility size (small facilities with less than 100 beds versus large facilities having 100 or more staffed beds), and financial status (for profit versus not-for profit).

**Table 1. LTC Facility Characteristics (n=254)**

	Mean	Std. Dev.	Range
<i>Facility Characteristics</i>			
Facility resident beds (#)	104.87	66.74	25-450
Financial status <sup>a</sup>	.36	.48	0-1.0
Full-time & part-time registered nurses (RNs)	12.43	25.64	0-290
Full-time & part-time licensed registered nurses (RPNs)	17.53	23.64	0-219
Full-time & part-time personal support nurses (PSWs)	67.80	81.39	6-978
High-involvement work system score (0=low to 3=high)	1.63	.52	.20-3.00
Intellectual capital score (1=low to 7=high)	4.94	.82	2.43-7.00
<i>Facility Workplace Culture (1=low to 7=high)</i>			
Hierarchical culture score ( $\alpha=.79$ )	4.84	.85	1.00-6.83
Market culture score ( $\alpha=.85$ )	3.89	1.02	1.33-6.67
Entrepreneurial culture score ( $\alpha=.87$ )	4.45	1.04	1.33-6.83
Clan culture score ( $\alpha=.89$ )	5.35	.95	1.50-7.00

Note. <sup>a</sup>Facility financial status: 1=for-profit; 0=not-for-profit.

**Table 2. LTC Facility Nursing Staff High-involvement Work Practices**

<b>High-involvement Work Practices</b>	<b>Small</b>	<b>Large</b>	<b>For-Profit</b>	<b>Not-for-Profit</b>
(% of LTC facilities with work practice)	<b>Facilities</b>	<b>Facilities</b>	<b>Facilities</b>	<b>Facilities</b>
Employee recognition and reward program	91.9	95.6	96.0	93.5
Joint union-management committees	88.2	89.3	87.8	89.7
Quality improvement teams	85.9	85.8	83.8	87.7
Employee attitude/opinion surveys	82.4	85.0	89.2	84.1
Employee suggestion system	76.3	84.1	89.2*	76.1
Cross-training and multi-skilling	65.7	63.4	64.4	65.2
Shared governance	46.9	60.2*	55.1	51.5
Self-managing teams	41.0	54.1*	57.0	43.5
Self-scheduling system	23.0	15.2	15.1	21.7
Incentive-based merit pay	10.4	18.8	20.6*	8.7

*Note.* Significant difference in means: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

In order to study the relationships between study variables, bi-variate and partial bi-variate correlations (controlling for facility size and financial status) are shown in Tables 3A and 3B.

**Table 3A. Correlation Matrix**

Study Variables	1	2	3	4	5	6	7	8
1. Facility size <sup>a</sup>	1.00	.13	.08	-.12	.09	.21***	.17**	-.03
2. Facility financial status <sup>b</sup>		1.00	.17 *	.02	.11	.17 *	.01	.00
3. High-involvement work system			1.00	.28***	.03	.08	.29***	.28***
4. Intellectual capital				1.00	.25***	.15*	.41***	.50***
5. Hierarchical culture					1.00	.50***	.24***	.28***
6. Market culture						1.00	.53***	.04
7. Entrepreneurial culture							1.00	.60***
8. Clan culture								1.00

Note. Significance: \*p<.05; \*\*p<.01; \*\*\*p<.001,

<sup>a</sup>Facility size: natural log beds,

<sup>b</sup>Facility financial status: 1=for-profit; 0=not-for-profit.



**Table 3B. Partial Bivariate Correlation Table for Nursing Staff Individual High-Involvement Work Practices, Knowledge Capital and Workplace Culture (Controlling for LTC Facility Size & Financial Status)**

	Control-oriented Cultures		Commitment-oriented Cultures	
	Hierarchical Culture	Market Culture	Entrepreneurial Culture	Clan Culture
<b><i>High-Involvement Work Practices</i></b>				
Employee recognition & reward system	-0.11	-0.09	0.04	0.13
Joint union-management committees	0.01	0.05	0.02	0
Quality-improvement teams	0	0.06	0.09	0.02
Employee attitude/pulse surveys	-0.01	-0.02	0.11	.15*
Employee suggestion system	-0.11	-0.06	0.08	.15*
Cross-training and multi-skilling	0.06	0.04	.21**	.17**
Shared governance	0	0.08	.27***	.16*
Self-managing teams	0.08	0.08	.21**	.17*
Self-scheduling systems	0.02	0.06	.16*	0.1
Incentive-based merit pay	0.01	0.08	0.11	0.08
<b><i>Knowledge Capital Components</i></b>				
Human capital ( $\alpha=.90$ )	0.1	0.05	.30***	.38***
Relational/Social capital ( $\alpha=.94$ )	0.1	0.03	.35***	.44***
Structural/Organizational capital ( $\alpha=.62$ )	.45***	.34***	.40***	.36***

Note. Significance: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Using nursing staff intellectual capital as the dependent variable, a step-wised Ordinary Least Squares (OLS) regression analysis was run. We are interested in examining the independent contribution of workplace culture and the potential of each archetype to moderate or mediate the relationship between high-involvement work practices and knowledge capital formation. In order to determine the magnitude of each culture archetype on the formation of intellectual capital, we measured the amount of variance explained (adjusted  $\Delta$  R-square) from a base model that includes our two control variables in addition to the contribution from the nursing high-involvement HRM work system. Table 4 includes the OLS regression analysis for nursing staff knowledge capital accumulations.

We are also interested in examining the potential of workplace culture to mediate the relationship between our employee involvement work system and intellectual capital accumulation. Mediation analyses are employed to understand a known relationship by exploring the underlying mechanism or process by which one variable influences another variable through a mediator variable (Baron & Kenny, 1986). Mediation is demonstrated by the loss of statistical significance in our mediated variable (employee high-involvement work system) in the step-wise OLS regression procedure.

#### *2.4 Discussion*

From our correlation matrix (Table 3A), larger LTC facilities are associated with market ( $p < .001$ ) and entrepreneurial workplace cultures ( $p < .01$ ). For-profit LTC facilities are slightly more likely to have adopted our high-involvement work system ( $p < .05$ ), and slightly more likely to describe their workplace culture as market ( $p < .05$ ). Long-term care facilities which have adopted high-involvement work systems for their nursing care staff report higher stores of intellectual capital ( $p < .001$ ) for their nursing care staff. High-involvement work systems are more strongly associated with the entrepreneurial culture ( $p < .001$ ) and the clan culture ( $p < .001$ ) archetypes.

Table 3B is a partial bivariate correlation (controlling for facility size and financial status) of the four workplace culture archetypes and the bundle of ten work practices that compose our high-involvement work system, as well as the three constituent facets of intellectual capital (human, relational, and organizational capital). Only a smaller subset of high-involvement work practices demonstrate statistically significant associations with the two “commitment-oriented” (bottom-up) culture archetypes (entrepreneurial and clan culture). Commitment-oriented archetypes are found to produce strong associations with all three knowledge capital components ( $p < .001$ ), yet only the organizational capital component of intellectual capital was found to be statistically significant associations with both “control-oriented” (top-down) culture archetypes ( $p < .001$ ) (hierarchical and market culture).

**Table 4. OLS Regression Analysis for Nursing Staff Intellectual Capital<sup>a</sup>**

	Control-oriented Cultures			Commitment-oriented Cultures	
	Employee Involvement Work System (Base)	Hierarchical Culture (Model A)	Market Culture (Model B)	Entrepreneurial Culture (Model C)	Clan Culture (Model D)
<i>Facility Control Variables</i>					
Facility size	-0.1	-0.14	-0.15	-0.19 *	-0.09
Facility financial status	-0.09	-0.08	-0.09	-0.08	-0.08
	-0.01	-0.05	-0.05	0.03	0.02
	-0.12	-0.11	-0.12	-0.11	-0.11
<i>Nursing HRM Work System</i>					
EI work system	.41 ***	.41 ***	.39 ***	.24 *	.25 *
	-0.11	-0.11	-0.11	-0.11	-0.1
<i>Nursing Workplace Culture</i>					
A. Hierarchical culture		.22 ***			
		-0.06			
B. Market culture			.12 *		
			-0.05		
C. Entrepreneurial culture				.30 ***	
				-0.05	
D. Clan culture					.37 ***
					-0.06
Constant	4.72 ***	3.85 **	4.48 ***	4.03 ***	2.92 ***
	-0.41	-0.47	-0.42	-0.39	-0.46
Adjusted R-square	0.052	0.099	0.071	0.192	0.22
Δ R-square	-----	0.047	0.019	0.14	0.168
F-test	4.87 **	6.74 ***	4.99 ***	13.47 ***	15.81 ***

Note. Significance: \*p<.05; \*\*p<.01; \*\*\*p<.001,

<sup>a</sup>Regression coefficients with standard errors in parenthesis.

Table 4 illustrates the results of our OLS regression analysis. Using intellectual capital as our dependent variable, we are interested in examining the contribution of our four workplace culture archetypes with respect to nursing staff knowledge capital accumulation. We are also interested in investigating the potential of workplace culture to mediate the relationship between high-involvement work systems and intellectual capital. Five separate OLS regressions were run. The first regression represented our “base model” assessing the contribution of our two control variables and the high-involvement work system in explaining the amount of variance realized in our dependent variable, intellectual capital. Each of the four workplace culture archetypes was separately entered into the regression (see Models A to D) to determine the contribution to the overall amount of variance explained in our dependent variable (intellectual capital), as well as to examine the potential of each culture archetype to mediate the relationship between the degree of embeddedness of a high-involvement work system and estimates of intellectual capital accumulation. Results indicated that our two control-oriented cultures explained only 4.7 percent of the variance (for the hierarchical culture) and 1.9 percent of the variance (for the market culture) of intellectual capital, while the two commitment-oriented culture archetypes explained 14.0 percent of the variance (for the entrepreneurial culture) and 16.8 percent of the variance (for the clan culture). The larger contribution of the commitment-oriented archetypes to intellectual capital is perhaps explained by their strong associations with human capital and relational (social) capital—associations that are absent with the two control-oriented culture archetypes. Table 4 also shows the ability of commitment-oriented cultures (entrepreneurial and clan) to partially mediate the relationship between the high-involvement work system and intellectual capital. Neither of the two control-oriented cultures (hierarchical and market) are found to produce a mediation effect.

### 3. Discussion

We are interested in exploring how high-involvement work systems impact knowledge capital accumulation and to discern how workplace culture contributes to this relationship. Using a competing values framework to characterize workplace culture, four archetypes were identified and examined with respect to their potential to mediate the relationship between high-involvement work systems and intellectual capital. There are several messages that can be drawn from this study. First, high-involvement work systems are found to be strongly associated with intellectual capital accumulations, in particular because these work systems are more likely to be found in places with larger stores of human, relational, and organizational capital (facet components of intellectual capital). Second, the role of workplace culture in this relationship is highly consequential in that organic, bottom-up cultures stressing workplace flexibility and adaptation (our employee commitment-oriented culture archetypes) contribute far more to this relationship than rigid and stable cultures stressing routine and predictability (top-down, control-oriented culture archetypes). Yet, the contribution of workplace culture on this relationship is highly differential. Indeed, the contribution of high-involvement work systems to knowledge capital accumulations is much less consequential in workplaces that have strong commitment-oriented cultures, suggesting that these cultures may be a substitute for high involvement work systems. In conclusion, our results provide some important advice to managers that they should always consider how workplace culture contributes to the overall effectiveness of their human resources management work system. Adopting a set of work practices, even a coherently structured work system, needs to align with the dominant culture of the workplace. Just adopting human resource management practices without a proper alignment of these practices to

the existing culture will produce little benefit. Indeed, if an organization wants its employees to be innovative and creative (demonstrating high levels of knowledge capital), it needs to concern itself with employee work practices that align with, and reinforce, the dominant workplace values where employee involvement, participation, and engagement are operationalized.

### 3.1 Limitations

The results provide a general level of support for our study hypothesis and highlight the importance of workplace culture when implementing employee work systems. Nevertheless, there are a number of limitations that require elaboration (Gerhart, 2013). First, data collected are from nurse administrators who are reporting on conditions in their facilities. Since the dataset is assembled from a single source, common methods variance has the potential to confound results (Doty & Glick, 1998). Single respondent bias also limits our ability to generalize findings as nurse managers may not always be the best judge with respect to the presence or absence of particular employment or work practices that are actually implemented. Second, our measures of employee workplace practices are somewhat subjective and depend on the perception and inherent biases of respondents. For example, study respondents were asked to indicate the degree to which a particular work practice is “embedded” by estimating the number of nurses covered under each practice, program or policy. Even though a particular practice or policy has been adopted by an establishment, its characteristics may not match exactly the practice that has been adopted in any another organization. That is to say, the use of nursing shared governance program implemented in one facility may be quite different than a nursing shared governance program in another facility. Third, as discussed previously, there is no agreement with respect to which specific practice actually belongs to a particular HRM practice system. Given the lack of consensus as to what constitutes practices should be included in a high involvement work system, the construction of our high-involvement work system is somewhat artificial, yet for our purposes highly instructive because it is useful for theory building and theory testing (Rondeau, 2007). Fourth, in this study, the conceptual means by which our work system has been operationalized is generally consistent with a “*universalist perspective*” with respect to the relationship of discrete work practices to organization culture—an assumption that suggests that more work practices (in a particular work system) are “more effective” or “better” than fewer practices. This perspective suggests an additive effect when assessing the quality of a work system, but does not account fairly for the potential of producing “powerful connections” (synergy created among practices in the system) or “deadly combinations” (practices undermine other practices in the system) when certain practices are combined together (MacDuffie, 1995). Fifth, our analysis is retrospective and reflects assessments at one particular point in time. As such we cannot infer causality between study variables. Finally, our study reports on existing practices and conditions in Canadian long-term care organizations. We are unable to generalize our findings to organizations in other jurisdictions, other nations, or even to other industries without some qualification.

In conclusion, the results of this study provide some support for the importance of organizational (workplace) fit to the adoption of employee work systems when employee innovation and creativity are desired. An important implication of this research is that managers need to concern themselves with a better understanding of organizational objectives and with workplace culture considerations as a pre-condition to designing employee work systems. While the results of this study are interesting and potentially important, we recognize that further work needs to be undertaken to examine the exact mechanism by which organizational culture animates employee work systems in such a way that can lead to potential gains knowledge capital that produces workplace innovations.

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