

PATTERNS OF ORGANIZATIONAL SUCCESS: LEADERSHIP COMPETENCE, ORGANIZATIONAL KNOWLEDGE SHARING, AND CUSTOMER/MARKET FOCUS

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This empirical research study examined the relationship between organizational learning culture and intellectual capital performance, and ultimately, the association of the dimensions with systems-level learning and transformation, explaining the value-added organizational performance through value-creating management strategies. The study found that organizational learning culture is significantly and positively associated with organizational performance, as measured by intellectual capital performance. Overall, organizational learning culture creates value-added outputs to systems-level learning through continuous learning and transformation, which, in turn, act as inputs to intellectual capital performance. Research results contribute to a theory of high performance by providing distinctive patterns of success—leadership competence, organizational knowledge sharing, and customer/market focus—accounting for superior organizational outcomes.

1. Purpose of the Study and Rationale

This study was motivated by a gap in the literature on understanding the value created in firms by their organizational learning cultures and the outcome forms of value that can be leveraged to increase organizational performance. Business strategy and organizational learning scholars each have a different perspective and explanation of the antecedents of organizational performance and the consequents of organizational learning culture. Research examining organizational performance from multiple perspectives is limited. This study examined the relationship between organizational learning culture and intellectual capital performance. Research results can potentially inform the development of a business model that aligns with today's global, knowledge economy by converging internal strategic management practices with external leveraging of organizational outcomes.

2. Critique of Relevant Literature

Learning can be defined as the capacity, capability, and process of problem solving and adaptation through perception, interaction, integration, and assimilation whereby knowledge, attitudes, skills, or values are acquired through study, instruction, or experience, and which results in persisting change in behavior, cognition, and/or performance. Within an organizational setting, learning can be on the individual, group, or organizational levels (Watkins & Marsick, 1996). On the individual level, learning within an organization is context-dependent and shared through group interactions. When transferred to organizational learning, individual learning becomes embedded into an

organization's memory and structures through shared mental models. Group learning is dependent upon collective individual learning, the organizational context—its structure, procedures, and management system—and the interpersonal context within which group learning takes place. In turn, group learning contributes to organizational memory and influences structural change. Organizational learning occurs on a macro level when the organization learns by drawing upon the organization's memory and structures, adapts through the detection and correction of error (feedback), and aligns the organization to the external environment (Argyris & Schon, 1996). In summary, learning within an organizational setting is an active process of transformation on the systems level.

Organizational knowledge is the result of systems-level learning on the individual, group, or organizational levels. Derived from mutual understanding of individual and collective knowledge, organizational knowledge is a shared collection of principles, facts, skills, and rules embedded into an organization's knowledge assets. Knowledge assets are the stocks of knowledge in an organization from which services flow for an unspecified period of time, creating open-ended value (Boisot, 1998). Knowledge assets embed into an organization's structures, routines, processes, and procedures and contribute to the organization's value-adding activities, core competences, intangible value, and sustainable competitive advantage.

An organizational learning culture is supported by the values, practices, and beliefs of a firm's members along with the systems and structures that reflect organizational behavior from the perspective of learning and development on the individual, group, organizational, and global levels of an organization. Organizational learning culture can impact organizational effectiveness, which is dependent on valid communication across subculture boundaries and shared meaning. An organization's culture and values reside at the core of intellectual capital. Tacit knowledge is embedded into organizational culture, which provides the channels through which information is transmitted and processed into knowledge. Collective mindsets create an organization's culture and filter its organizational knowledge for future access and application within the firm. An organization's tacit knowledge manifests differently for each category of intellectual capital. In human capital, tacit knowledge takes the form of values, beliefs, assumptions, and biases in the mindsets of individuals. In relational capital, tacit knowledge takes the form of perceived value of products or services within the individual and collective mindsets of customers, suppliers, or other strategic constituencies. In structural capital, the tacit knowledge that is embedded in the collective mindsets of organizational members shapes organizational culture. This linkage between organizational cultural and intellectual capital suggests that the intentional strategic management of a firm's organizational learning culture would influence its intellectual capital performance.

3. Conceptual and Theoretical Framework

The study's conceptual framework hypothesized that a firm's organizational learning culture would affect its intellectual capital performance. In turn, a firm's intellectual

capital performance would support systems-level learning by feeding back to its organizational learning culture and contributing to total organizational performance. An integrative model of the learning organization (Watkins and Marsick, 1996) served as the theoretical foundation and operational definition for the study. Yang (2003) examined the dimensionality of the construct, finding it psychometrically sound. Marsick and Watkins (2003) reviewed findings across multiple studies and found evidence of the relationship between the dimensions of an organizational learning culture and organizational performance. The theoretical dimensions of the organizational learning culture construct for this study are listed in Table 1.

Table 1. Dimensions of the Organizational Learning Culture Construct for the Study^a

Level	Dimension	Definition
Global	Connect the organization to its environment	People are helped to see impact of their work on the entire enterprise; people scan environment and use information to adjust work practices; the organization is linked to its communities.
Global	Provide strategic leadership for learning	Leaders model, champion and support learning; leadership uses learning strategically for business results.
Organizational	Empower people toward a collective vision	People are involved in setting, owning, and implementing a joint vision; responsibility is distributed close to decision-making so that people are motivated to learn what they are held accountable to do.
Organizational	Establish systems to capture and share learning	Both high- and low-technology systems to share learning are created and integrated with work; access is provided; systems are maintained.
Team/Group	Encourage collaboration and team learning	Work is designed to use groups to access different modes of thinking; groups are expected to learn together and work together; collaboration is valued by the culture and rewarded.
Individual	Promote inquiry and dialogue	People gain productive reasoning skills to express their views and the capacity to listen and inquire into the views of others; the culture is changed to support questioning, feedback, and experimentation.
Individual	Create continuous learning opportunities	Learning is designed to work so that people can learn on the job; opportunities are provided for ongoing education and growth.

The concept of drivers of organizational performance suggests relationships between a firm's resources, capabilities, and competencies and its organizational value creation. Evidence exists of causal relationships between intangible assets and financial performance. Little research has provided evidence of causal relationships between intangible assets and intellectual capital performance. An organization's intellectual capital comprises its core intangible assets, including market, intellectual property, human-centered, and infrastructure assets. Intellectual capital performance focuses on long-term earning capability and emerges from corporate culture. The most common

^a Note. From "Demonstrating the value of an organization's learning culture: The dimensions of the learning organization questionnaire" by V. J. Marsick and K. E. Watkins, 2003, *Advances in Developing Human Resources*, 5(2), p. 139. Copyright ©2003 by Sage Publications. Reprinted and adapted with permission of the publisher.

typology of intellectual capital includes human, structural, and relational capital (Stewart, 1997). Three dimensions of intellectual capital, the organizational performance construct for this study, as listed in Table 2.

Table 2. Dimensions of the Organizational Performance Construct for the Study

Dimension	Definition
Relational capital	The intangible assets that create value for the firm through strategic alliances, such as customers, suppliers, market channel knowledge, and government/industry associations
Structural capital	The firm's organizational capabilities, mechanisms, and structures that support organizational members in their quest for optimal performance
Human capital	The firm's collective capability to extract the best solutions from the knowledge of its individuals

The theoretical framework (Figure 1) that guided the research study was informed by prior research on the learning organization and intellectual capital. Several empirical studies (Yang, 2003; Yang, Watkins, & Marsick, 2004) had recommended further empirical explanatory research, which could provide evidence that organizational learning culture practices are related to organizational performance. In addition, Bontis (2002b) posited a conceptual foundation of organizational culture as the driver for intellectual capital performance, suggesting deeper investigation into this research topic. Undertaking the authors' recommendations, the current study expanded on the prior research findings by integrating a wider variety of non-financial indicators to represent intellectual capital as an organizational performance outcome.

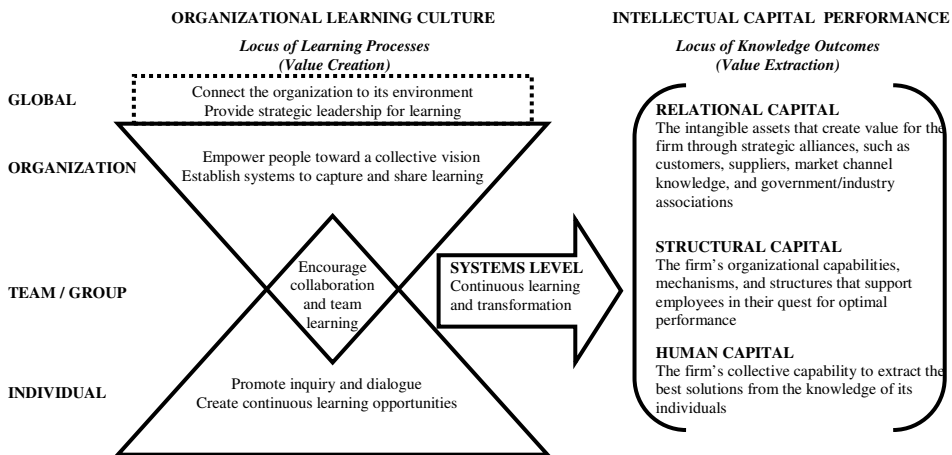


Fig. 1. Theoretical framework of the research constructs and their respective dimensions.^b

^b Note. From "Identifying Valid and Reliable Measures for Dimensions of a Learning Culture" by B. Yang, 2003, *Advances in Developing Human Resources*, 5(2), p. 156. Copyright ©2003 by Sage Publications. Reprinted and adapted with permission of the publisher.

3.1. Research question and hypotheses

This theoretical research framework provided guidance in explaining the value-added organizational performance, as measured by intellectual capital dimensions (Table 2), through value-creating management strategies, as measured by organizational culture learning dimensions (Table 1) on multiple process levels. The study examined the relationship between organizational learning culture and intellectual capital performance, and ultimately, the association of the dimensions with systems-level learning and transformation by proposing the following research question: Is there a positive relationship between a firm's organizational learning culture and a firm's intellectual capital performance? Seven hypotheses were investigated (Forrest, 2006).

4. Research Design and Methodology

This empirical research study had a correlation research design and quantitative approach with a survey instrument as the primary method of data collection. Since the study examined constructs at the organizational level of analysis, higher-level data were inferred from individual respondents. To test the theoretical hypotheses in the operational domain, manifest variables were identified as acceptable substitute measures for the latent variables at the organizational level and acted as proxy measures to determine the relations between the research constructs and their dimensions. Operationalization of the research framework used Likert-type scales that tapped into leaders' perception of organizational learning culture and intellectual capital performance within their organizations. The measurement instrument was pretested and psychometrically assessed before research data were collected for the study. Reliability estimates of subscales for all perceptual items were above .70, demonstrating adequate internal consistency. The coefficient alpha for the refined measures for organizational learning culture dimensions ranged from .74 to .83. The reliability estimates under the refined measures for the intellectual capital performance dimensions ranged from .79 to .85. The coefficient alpha for split-half reliability was .95 ($N=21$) for the first form and .94 ($N=21$) for the second form, confirming the estimate of internal consistency for the initial measurement instrument.

Construct validity for the measures was determined through examination of convergent validity and discriminant validity as well as confirmatory and exploratory factor analysis. All correlation coefficients were significant at the level of .001, implying strong convergent validity of the subscales in assessing the research constructs for the study. Evidence of adequate discriminant validity was provided by the lower correlations, which indicated that perceptual items were measuring different constructs. Having met the assumptions of normality, linearity, and homoscedasticity, construct validity was further determined through examination of confirmatory and exploratory factor analysis. For the organizational learning culture construct, factors were confirmed using principal components extraction method on the covariate matrix with a Varimax rotation method on the scale with forced loading on seven components using SPSS Version 14. The

seven-component solution explained 77.9 per cent of the cumulative variance. Interpretation of seven components for the organizational learning culture scale was fairly consistent with previous studies using the Dimensions of the Learning Organization Questionnaire scale (Marsick & Watkins, 2003). For the intellectual capital construct, factors were derived using exploratory factor analysis provided by principal components extraction method on the correlation matrix with a Varimax rotation method on the scale with no forced loading, as the measurement model for intellectual capital was still under psychometric evaluation. The three-component solution explained 75.6 per cent of the cumulative variance, exceeding the recommended component retention criteria of 75 percent. The results of this analysis revealed construct validity of the three-component measurement model for the intellectual capital performance variables and supported its use in hypothesis testing.

Self-administered questionnaires were administered to 289 leaders in U.S. advanced manufacturing and technology firms, which yielded 106 returns at a 37 percent response rate. Parametric statistical procedures statistically measured the association between the variables, as assessed by interval data. Factor analysis empirically verified the number of dimensions conceptualized and goodness of fit. Since causality was not implied, correlation analysis tested the research hypotheses. The data were examined for direction of nonresponse bias within the sample, and no evidence of nonresponse bias was found.

5. Results and Findings

Data analysis used descriptive and inferential statistical techniques. Table 3 presents the descriptive statistics, reliability estimates, and Zero-order intercorrelations among the dimensions of organizational learning culture and intellectual capital performance. Means for the subscales ranged from 3.63 to 4.68 on a six- point scale, coinciding closely with medians and modes for the subscales, implying a normal distribution of responses. Overall, the subscales had approximately one to one and one-half point standard deviation on a six-point scale, which showed adequate variations to capture the variability among the different organizations sampled. Reliability estimates for the research variables were provided by Cronbach's coefficient alpha and are presented on the main diagonal in Table 3. Reliability estimates for all dimensions were above .70, which indicated satisfactory internal consistency for the subscales. Zero-order correlation coefficients were provided by bivariate Pearson product moment correlation coefficient method and are presented on the off-diagonal block in Table 3. All correlation coefficients were positive and significant at the level of .001. Most correlations were medium with few being large, indicating moderate to strong positive relationships among the variables.

Table 3. Means, Standard Deviations, Reliabilities, and Zero-order Intercorrelations Among Dimensions of Organizational Learning Culture and Intellectual Capital Performance

Variables ^a	N	M	SD	1	2	3	4	5	6	7	8	9	10
1. Environmental connection	318	4.24	1.26	(.81) ^b									
2. Strategic leadership	318	4.08	1.23	.54	(.83)								
3. Collective vision	318	4.19	1.13	.50	.54	(.83)							
4. Shared-learning systems	318	3.63	1.51	.36	.41	.42	(.74)						
5. Collaboration/team	318	4.08	1.13	.48	.44	.49	.37	(.78)					
6. Inquiry and dialog	318	3.87	1.07	.44	.51	.53	.41	.46	(.79)				
7. Continuous learning	318	4.45	1.16	.37	.34	.43	.40	.38	.33	(.77)			
8. Relational capital	318	4.68	1.04	.39	.43	.41	.34	.30	.38	.21	(.82)		
9. Structural capital	318	3.83	1.27	.45	.44	.55	.50	.38	.50	.45	.34	(.79)	
10. Human capital	318	4.45	1.09	.49	.56	.51	.39	.41	.41	.37	.37	.49	(.85)

Note. This was a two-tailed test on the refined measure. All coefficients are significant at $p < .001$.

^aEach dimension is measured by six-point scale.

^bReliability estimates (coefficient alpha) are presented on the main diagonal.

5.1. Summary of significant findings

The results of the correlation analysis validated all research hypotheses in this study. Perceptual measures for organizational learning culture have an overall moderate positive association with perceptual measures for intellectual capital performance, accounting for 20 percent of the variance in organizational performance. Perceptual measures for individual-level learning process dimensions of organizational learning culture have a moderate positive association with the perceptual measure for human capital performance, accounting for 14 percent of the variance in organizational performance. As the individual-level learning processes, *create continuous learning opportunities* and *promote inquiry and dialogue*, increase, so does the value of human capital. The perceptual measure for the dimension, *create continuous learning opportunities*, has a moderate positive association with that for human capital performance [$r=.37$, $n=106$, $p<.01$], accounting for 14 percent of the shared variance between the two dimensions. The perceptual measure for the dimension, *promote inquiry and dialogue*, has a moderate positive association with that for human capital performance [$r=.41$, $n=106$, $p<.01$], accounting for 17 percent of the shared variance between the two dimensions.

Perceptual measures for the team/group-level learning process dimension of organizational learning culture have moderate positive associations with the perceptual measures for: (1) human capital performance, accounting for 17 percent shared variance between the two dimensions; (2) structural capital performance, accounting for 14 percent shared variance between the two dimensions; and (3) relational capital performance, accounting for 9 percent shared variance between the two dimensions, respectively. As the team/group-level learning process, *encourage collaboration and team learning*, increases, so does the value of human, structural, and relational capital.

Perceptual measures for organizational-level learning process dimensions of organizational learning culture have a strong positive association with the perceptual measure for structural capital performance, accounting for 25 percent of the variance in organizational performance. As the organizational-level learning processes, *establish systems to capture and share learning* and *empower people toward a collective vision* increase, so does the value of structural capital. The perceptual measure for the dimension, *establish systems to capture and share learning*, has a strong positive association with that for structural capital performance [$r=.50, n=106, p<.01$], accounting for 25 percent of the shared variance between the two dimensions. The perceptual measure for the dimension, *empower people toward a collective vision*, has a strong positive association with that for structural capital performance [$r=.55, n=106, p<.01$], accounting for 30 percent of the shared variance between the two dimensions.

Perceptual measures for global-level learning process dimensions of organizational learning culture have a moderate positive association with the perceptual measure for relational capital performance, accounting for 15 percent of the variance in organizational performance. As global-level learning processes, *provide strategic leadership for learning* and *connect the organization to its environment*, increase, so does the value of relational capital. The perceptual measure for the dimension, *provide strategic leadership for learning*, has a moderate positive association with that for relational capital performance [$r=.43, n=106, p<.01$], accounting for 18 percent of the shared variance between the two dimensions. The perceptual measure for the dimension, *connect the organization to its environment*, has a moderate positive association with that for relational capital performance [$r=.39, n=106, p<.01$], accounting for 15 percent of the shared variance between the two dimensions. In addition, perceptual measures for the global-level of organizational learning culture have a moderately strong positive association with that for human capital [$r=.49, n=106, p<.01$], accounting for 24 percent of the variance in organizational performance, as well as a moderate positive association with that for structural capital performance [$r=.44, n=106, p<.01$], accounting for 19 percent of the shared variance between the two dimensions, respectively.

5.2. Interpretation of findings

All hypotheses were validated in the research study. Organizational learning culture is related to organization performance, as measured by intellectual capital performance. All levels of learning process dimensions have moderate to strong associations with the dimensions of intellectual capital performance. On the whole, all attributes of an organization's learning culture appear to be more highly correlated with intangible organizational performance than originally proposed in this thesis. Organizational learning culture creates value-added outputs to the systems-level learning through continuous learning and transformation, which, in turn, act as an inputs to intellectual capital performance. The following interpretation of significant findings, which were not originally planned or expected, may support this speculation.

The individual-level of organizational learning culture appears to have a stronger relationship with structural capital performance than human capital performance, which diverges from the researcher's original thesis. Even so, this finding supports the theoretical framework that continual learning and transformation on the systems-level is a mediator between organizational learning culture and intellectual capital performance. Individual-level learning processes that contribute to systems-level learning apparently embed more implicitly into the organizational system through the collective capability of individuals' knowledge. In contrast, individual-level learning processes that contribute to systems-level learning apparently embed more explicitly into the organizational system through its organizational capabilities, mechanisms, and structures, which support individuals in their quest for optimal performance.

All hypotheses relating the team/group-level of organizational learning culture with the dimensions of intellectual capital performance were validated in the research study. This finding supports the theoretical framework that the group-level learning culture is crucially pivotal in contributing to continual learning and transformation on the systems-level. Even so, the team/group-level appears to have a stronger relationship with human capital performance than structural or relational capital performance. Team/group-level learning processes that contribute to systems-level learning apparently embed more strongly into the organizational system through the collective capability of individuals' knowledge than through the organizational capabilities, mechanisms, and structures, which support individuals in their quest for optimal performance.

The organizational-level learning process dimensions of organizational learning culture have strong relationships with structural capital performance. This finding supports the theoretical framework that continual learning and transformation on the systems-level is a mediator between organizational learning culture and intellectual capital performance. Organizational-level learning processes that contribute to systems-level learning apparently embed strongly into the organizational system through the organizational capabilities, mechanisms, and structures, which support individuals in their quest for optimal performance.

The global-level of organizational learning culture has a moderately strong positive association with human capital and moderate positive association with structural capital. Both associations appear to be stronger than the association with the relational capital dimension, which diverges from the researcher's original thesis. Even so, this finding may support the theoretical framework that continual learning and transformation on the systems-level is a mediator between organizational learning culture and intellectual capital performance. Global-level learning processes that contribute to systems-level learning apparently embed into the organizational system more strongly through its collective capability to extract the best solutions from the knowledge of its individuals as well as through the organizational capabilities, mechanisms, and structures, which support individuals in their quest for optimal performance. In contrast, global-level learning processes that contribute to systems-level learning apparently embed into the organizational system less strongly through intangible assets that create value for the firm

through strategic alliances, which may be the case for the organizations that participated in this study.

6. Discussion

The study found that organizational learning culture is significantly and positively associated with organizational performance, as measured by intellectual capital performance. Most correlations among the research variables were moderate with few being large, which suggested that some dimensions may lack adequate discriminant validity. In particular, correlations among the organizational learning culture dimensions on the global and organizational levels tended to be higher than those on the team/group and individual levels. This observation was verified by confirmatory factor analysis for the organizational learning culture dimensions. These results tend to confirm the research hypotheses that organizational learning culture encompasses the entire organizational system, extending well beyond the individual and team/group levels into the global and organizational levels. Even so, the results may imply that a more parsimonious assessment for the construct of organizational learning culture is justified, especially within the given context of this research study. Further studies are needed to prove the validity of the measures.

The results of exploratory factor analysis revealed construct validity of the three-component measurement model for the intellectual capital performance variables, providing a new explanation for the forms of organizational performance that manifest when organizations learn on a systems level. Intellectual capital performance manifests in leadership competence, organizational knowledge sharing, and customer/market focus. This parsimonious model of organizational knowledge performance provides evidence that value-creating practices result in value-added intangible assets and performance for organizations.

The research study was a first attempt to develop a psychometrically sound measurement instrument testing the detailed two-construct model of organizational learning culture and intellectual capital performance. The study contributes to the existing literature by developing explicit definitions of key concepts and processes for the two-construct model, measuring it, proving evidence of its construct validity, and demonstrating the relationships among organizational learning culture and intellectual capital performance through systems-level continuous learning and transformation. Evidence emerged providing a parsimonious model of high performance based on dynamic intellectual capital concepts instead of financial transaction concepts. A new model for strategic management—based on leveraged organizational knowledge for increased intellectual capital wealth and improved business outcomes—could be a potentially valuable strategic asset for firms to remain viable and competitive in the global marketplace.

7. Conclusions and Recommendations

The research study indicates that there is an underlying structure that represents systems-level learning within an organization. The patterns of a high-performing organization found in systems-level learning and their relationships to organizational outcomes offer valuable and practical strategies for researchers and practitioners in the fields of strategic management and human resource development. A parsimonious model of organizational knowledge performance emerged, which provided evidence that value-creating practices embedded within an organization's learning culture result in value-added intangible organizational performance. These research results contribute to development of a theory of high performance by providing distinctive patterns of success that have explanatory power. These patterns of success—leadership competence, organizational knowledge sharing, and customer/market focus—account for superior organizational outcomes. The next step is to provide predictive or even prescriptive power for development of a theory of high performance, which only future research can offer. The research results present several implications for practice. First, organizations need to nurture leadership competence to contribute overall superior organizational performance. Secondly, organizations need to leverage organizational knowledge sharing to contribute overall superior organizational performance. Lastly, organizations and their members need to have customer and market focus to contribute overall superior organizational performance.

7.1. Recommendations for future research

The researcher suggests extension of the research study findings to further develop and validate the measurement scale, particularly for the intellectual capital performance measures. Once the measurement model has been proven, the instrument can be used in other types of research studies with various research contexts. Longitudinal research studies could measure changes in an organization over time to investigate organizational or performance interventions on one or more aspects of organizational learning culture and the resulting changes in intellectual capital performance. Other studies could investigate the causes of systems-level learning and effects on total organizational performance, which includes intellectual capital performance and financial performance. Using a broader range of industries for the research context, further studies could examine the relationships among technology sophistication levels and organizational learning rate within organizational culture. Finally, cross-cultural comparative studies could examine the influences of national culture on organizational learning culture and organizational performance outcome.

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