

Perception toward Organizational Learning Culture in Small-Size Business Enterprises

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This study sought to determine the relationship between four independent variables educational level, longevity, gender, type of enterprise, and the dependent variable respondents' perception of culture toward organizational learning readiness. An exploratory correlational research design was employed to survey 498 employees in seven small business enterprises in the southern and Midwestern United States. The results indicated a large portion of the variance in the dependent variable was explained by the variable enterprise type.

Keywords: Organizational Learning, Culture, Small Business Enterprise

Marquardt (2002) referred to culture as “an organization’s values, beliefs, practices, rituals, and customs” (p. 27). The learning organization’s culture habitually learns and works to integrate processes in all organizational functions. In effect, the culture of a learning organization is constantly evolving and travels along an infinite continuum in a harmonious learning environment. Ultimately, the goal is an exchange of useful knowledge leading to innovation, improved performance, and sustained competitiveness (López, Peón, & Ordás, 2006).

Edgar H. Schein, veteran researcher and world-renowned psychologist, made the following statement in an interview, as noted by Coutu (2002): “We don’t know a lot about organizational learning. Sure, we know how to improve the learning of an individual or a small team, but we don’t know how to systematically intervene in the culture to create transformational learning across the organization” (p. 5). Schein’s statement underscores the need to continue exploring culture as a dimension that facilitates and supports organizational learning.

Problem Statement

Previous researchers have investigated employees’ perception of culture, a dimension believed to facilitate organizational learning readiness, based on the influence of various independent variables (Graham & Nafukho, 2005; Preskill, Martinez-Papponi, & Torres, 2001; Russ-Eft and Preskill, 2001). Also, instruments have been developed and utilized in large-sized business enterprises to identify crucial elements necessary to identify organizational learning readiness or capability (López, Peón, & Ordás, 2005; Marquardt, 2002; Marsick & Watkins, 2003; Preskill et al., 2001; Russ-Eft & Preskill., 2001; Schwandt and Marquardt, 1999; & Yeung, Ulrich, Nason, & Glinow, 1999). However, within the small-size business enterprise, those with less than 150 employees, there is limited empirical evidence investigating the selected independent variables of educational level, longevity, type of enterprise, and gender, and the perception of culture toward organizational learning readiness.

Purpose and Research Question

The purpose of this study was to determine the relationship between select independent variables and the dependent variable perception of culture toward organizational learning readiness. The following research question guided the study: (1) What is the estimated relationship between four independent variables, also referred to as pseudo-interval variables, education level, longevity, type of enterprise, and gender, and the dependent variable *perception of culture toward organizational learning readiness* among the small-size business enterprises studied?

Theoretical Framework

Organizational learning and the learning organization paradigms support the theoretical framework for this study. However, within the literature there is a void of theoretical harmony which fuels a lingering pro vs con debate among numerous scholars. Some believe different perspectives impede theoretical establishment (Huber, 1991; Nicolini & Meznar, 1995) and others see the numerous perspectives as advantageous to the cause (Easterby-Smith, 1997; Easterby-Smith & Araujo, 1999).

This study recognizes several introductory theories beginning with the earlier work of W. Edwards Deming's notion of a system of profound knowledge necessary for the transformation of organizations (Deming, 1990). Closely tied to Deming's contributions and the development of total quality management systems is Senge's (1990) foundation theory. Senge confirmed Deming's views and the total quality management movement as integral to organizational learning and fundamental to improvement and business success (Senge, 1992). Senge's contribution to a framework of theoretical support includes the organization's need to develop five core disciplines: (a) personal mastery, (b) mental models, (c) shared vision, (d) team learning, and (e) systems thinking. Senge's theory on the learning organization served as a compelling force for others interested in exploring organizational learning theory. Other applicable theory is derived from contributions related to diagnosis and strategies for successful organizational learning implementation (Marquardt, 1996; Pedler, Burgoyne, & Boydell, 1991; Watkins & Marsick, 1993).

It could also be argued that competitive advantage may serve as the origin of most organizational learning theory (De Geus, 1988; Stata, 1989). Organizations are stimulated to learn, especially as competing organizations may replicate products and processes in an overnight fashion, thereby causing a loss of market shares and threats to existing revenues (De Geus, 1988).

Outside-in Views

In a parallel manner, 1960's and 1970's organizations' leaders held outside-in views instead of the more current organic perspective reflected in enterprises where learning organization characteristics often exist (Yeo, 2005). Motivated by the earlier works of Cangelosi and Dill (1965), other researchers (Argyris and Schön 1978; Schein, 1988; Revans, 1980; and Senge, 1990) validated the organism view and the important need to embrace a "balancing inside-out focus of development and transformation of what is already there" (Garratt, 1995, p. xi). As previously mentioned, W. Edward Deming's notion of a system of profound knowledge necessary for the transformation of organizations offers important explanations of organizational learning phenomenon (Deming, 1990). Thus, the concept of organizational learning was formalized and quickly embraced by numerous enterprises in pursuit of a learning organization environment.

Culture's Influence on Organizational Learning

Of great importance to organizational learning and the learning organization is the issue of culture. Carleton (1997), Hoffman and Withers (1995), and Schein (1996) indicate culture directly influences the quality of learning, interpretation of other's behaviors, and determination of subsequent behaviors. Schein (1992) called attention to culture that includes shared assumptions, values, and knowledge that promotes organizational learning. Sambrook (2005) synthesized findings from two research studies and points out culture also encompasses factors that can inhibit or influence workplace learning. Examining culture's influence from the normative perspective, DiBella and Nevis (1998) note researchers claim organizational learning is not a random activity, nor is it achieved by chance alone. Normative refers to a culture with a set of prescribed conditions and practices that "function as a template to evaluate organizations" (DiBella & Nevis, 1998, p. 8).

Methods

Research Design

An exploratory correlational research design was chosen as the plan and structure (Kerlinger, 1986) necessary to obtain answers to the research question of this study. The choice of exploratory correlational research design is appropriate because it affords the best opportunity to determine if relationships of the selected dependent and independent variables and selected demographic characteristics exist in the heretofore unexplored context of small business enterprise. The correlational research design provides the opportunity to describe the homogeneity or heterogeneity of various variables—or the extent to which variables are similar or different from one another. Second, computation of specific correlation coefficients allows one to describe the *degree* to which two or more variables are intercorrelated with one another. Third, and perhaps the most important justification for this design, is that it allows one to *interpret* these data and give them meaning. Inferences of cause-and-effect relationships based on correlation coefficients within this study are avoided. However, evidence of common causal bonds among the variables in this study links the phenomena of selected variables in a logical fashion. Further, the design for this study is appropriate because it allows one to look beyond the forces of the correlated data. Correlation coefficients in this study act as an antecedent triggering a need to discover, predict, or explain relationships with additional analyses (Leedy & Ormrod 2001). Hence, multiple regression technique, as utilized in this study, often travels in tandem with correlational research.

The seven small business enterprises are located in five states within the Southern and Midwestern United States. Each organization was selected after meeting specified criteria, including, location (based on county and

state), heterogeneity requirements, and appropriate number of employees (less than 150). These criteria were keyed into the database *ReferenceUSA* and an estimated output pool of three hundred firms was subsequently obtained.

Enterprise Selection

Industry sectors from which organizations were selected were based on census data reporting the number of persons employed in small businesses. Five sectors: (1) construction, (2) manufacturing, (3) retail trade, (4) health care and social assistance, and (5) accommodation and food services were primary industry sector candidates due to high/low employment numbers, or those exceeding 5.5 million persons employed during 2004. A final sector, (6) agriculture and forestry, was selected for the purposes of including industries that employed, in the aggregate sense, less than one-half million persons in the U. S. economy. The final sector reported employment of less than 165,000 persons during 2004 (U. S. Small Business Administration's 2005 Report to the President). Consequently, eleven heterogeneous organizations were selected as either primary candidates or alternates in this study. Further, based upon accessibility and participant interest in this type of research, ten organizations were invited to participate, and as previously mentioned, seven completed the study.

In this study, persons employed per small business enterprise ranged between 30 and 125, for an average number of respondents per business of 65. Due to the low number of potential participants in each organization all employees were presented surveys. Thus, randomization was not a practical feature within the study's design.

Instrumentation

A research questionnaire entitled "Learning Survey for Small Business Organizations" was adopted and modified with the permission of the previous developers (Preskill & Torres, 1999; Preskill, et al., 2001; Russ-Eft, et al., 2001). The previous application of this instrument involving eight heterogeneous pilot organizations insured its construct validity regarding the question these researchers posed in this study. Several experts scrutinized the instrument to ascertain its validity for measurement of the dimensions. The survey questionnaire previously referred to as the Readiness for Organizational Learning and Evaluation (ROLE), included the following dimensions: "(a) Culture – 26 items, (b) Leadership – 12 items, (c) Communication of Information – 8 items, (d) Systems and Structures – 10 items, (e) Teams – 11 items, and (f) Evaluation – 9 items" (Preskill, et al., 2001, p. 705). In its modified version, the "Learning Survey for Small Business Organizations" asked the participants to specify a management orientation perspective (manager, supervisor, or administrator) or a production orientation perspective (customer service, sales, procurement, secretarial, etc.) in their responses. The questionnaire sought answers to four demographic questions (longevity, level of education, ethnicity, and gender). The remainder of the instrument has fifty-nine items measured on a 5-point Likert scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree) accounting for the extent to which they disagreed or agreed with each statement. These questions addressed organizational learning issues related to four of the six previously mentioned dimensions singularly and in an aggregated compilation. Items from the dimensions of Culture, Leadership, Systems and Structures, and Evaluation remained intact. The dimensions of Communication of Information, and Teams and related questions were deleted.

Reliability

The original developers obtained a Cronbach Alpha Coefficient of .97 on all Likert scale items (Preskill, et al., 1999; Russ-Eft, et al., 2001). However, in the case of this study, a new reliability coefficient determined a Cronbach's Alpha Coefficient of .96, based on standardized items. Thus, reinforcing the internal consistency reliability—the extent to which the items of the modified instrument assessed common characteristics. "In general, in the social and behavioral sciences, a good measure should have a Cronbach's alpha of at least .6 or .7 and preferably closer to .9" (Aron, Aron, & Coups, 2005, p. 383). This method for assessing internal reliability is appropriate when using a Likert-type questionnaire where the five response options for each statement extend from strongly disagree to strongly agree and are scored with the integers 1 through 5 (Huck, 2004).

Data Collection Procedures

Prior to data collection, permission to initiate the study from the Institutional Review Board at the researchers' institution was requested and subsequently granted. Written permission to acquire data from the responding organizations was received from each organization's management. Six of the seven participating organizations preferred to directly distribute the surveys to employees. The responsibility for this action was completed by the human resource managers/directors at each small business location. The agricultural organization preferred a direct mail approach and furnished an updated list of employee names and addresses. Responsibility for mailing surveys to these employees was managed by these researchers.

The initial data acquisition began with the assistance of the small business enterprises' human resource managers and team leaders. Each location's managers notified potential participants in team meetings or via e-mail of the planned research study and employees' invitation to participate. One week later 498 surveys were distributed among the initial eight enterprises. A letter of transmittal addressing the purpose and the significance of the study, participant instructions, and implied consent information accompanied the initial distribution. Included with all surveys was a self-addressed, stamped envelope and appropriate contact information for the primary researcher, supervising researcher, and a representative from the Institutional Review Board at the researchers' institution. Two weeks after the initial distribution to the 498 employees of the eight enterprises, 150 completed surveys were received for an overall response rate of 32 percent. Response rates for each enterprise were reviewed and a replicate distribution of 370 surveys was initiated in six of the seven remaining enterprises for the purpose of increasing response rates. Four weeks following the second distribution of surveys, yielded 253 of the original 498 for a 51 percent response rate. Each of the replicate distributions was accompanied with a letter which requested a response from only participants who had not previously responded. One of the original eight small business enterprises was dismissed from the study due to an unacceptable rate of participation. In the end, there was a net response of 243 out of 453 for a 54 percent overall response rate among the final seven small business enterprises that completed the study.

Data Analysis

Prior to data analysis, all completed questionnaires were thoroughly examined for errors, coded, and organized for analysis using the SPSS computer program (Norusis, 2005). Utilizing SPSS, the data was screened for excessive response voids and possible coding errors related to specified values.

Results

As previously stated, the primary research question sought to determine the estimated relationship between four independent variables education level, longevity, type of enterprise, and gender, and respondents' perception of culture toward organizational learning readiness. Prior to answering this question, several steps were undertaken before utilizing a hierarchical multiple regression technique. This was found necessary since the independent variables were not originally measured at an interval level. Each of the categorical independent variables was recoded to meet this requirement. Thus, dummy coding was implemented to transform categorical (nominal) variables into pseudo-interval (continuous) variables.

Prior to conducting the hierarchical multiple regression on the recoded variables a simple correlation matrix was determined to establish whether the variables had any tendencies of multicollinearity. The coefficient correlations indicated respondents with less than one year of work experience ($r = .71$) were highly correlated with those who had high school diplomas or less educational levels. This correlation reveals those with less work experience often had less education. Those with some college or specialized schooling ($r = -.75$) were significantly negatively correlated with those with less than one year experience, indicating the contrasting perception of the less educated to those with education. Also, those affiliated with the Construction enterprise ($r = -.72$) were highly correlated in a negative manner with culture, indicating a lesser degree of perceived understanding or presence of this learning mechanism by the respondents within the Construction enterprise. Finally, Females ($r = .49$) were moderately intercorrelated with the Construction enterprise, indicating a moderate perception by females of organizational learning readiness, as demonstrated by the mechanism Culture.

To substantiate the conceived theoretical model, Table 1, the ANOVA summary, reflects the degree to which the model explains the dependent variable perception of culture toward organizational learning readiness. As revealed in Table 1, $F(12, 230) = 4.64, p < .001$, the test statistic associated with the probability strongly supports the model.

Table 1. *Hierarchical Multiple Regression Analysis of Education, Longevity, Type of Enterprise, and Gender Predicting Culture (N = 243)*

Source of Variation		<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	Between Groups	12	1.21	4.64	.000*
Residual	Within Groups	230	0.26		
	Total	242			

* $P < .01$

Hierarchical multiple regression was also used in this analysis to examine the influence of several independent variables in a specific order. Relevant theory from previous research supports the sequential approach to this analysis. As shown in Table 2, Education was the first independent variable entered into the hierarchical multiple regression analysis. This variable explained 1.5 percent of the variance in the dependent variable. Longevity was entered next, explaining an additional 2.2 percent of the variance in the dependent variable. Type of enterprise, the third variable entered, explained 11.9 percent of the variance in the dependent variable. Gender, the fourth and last variable that was entered, had a counteractive effect on the model and reduced the coefficient of determination (R^2) from 15.6 to 15.3, meaning that education, longevity, type of enterprise, and gender explained a total of 15.3% of the variance in the dependent variable perception of culture toward organizational learning readiness. Though the variable gender failed to increase the model's strength, it was retained to quantify its effect on the model.

Further, standardized multiple regression coefficients and uniqueness indices (semi-partial correlations) were analyzed to sort out the effects of an influential predictor variable, while holding constant the effects, or influence of other variables. In other words, "the uniqueness index for a given predictor is the percentage of variance in the criterion accounted for by that predictor, beyond the variance accounted for by the other predictor variables" (Hatcher & Stepanski, 1994, p. 444). As shown in Table 2, the beta weights (standardized coefficients or β) were reviewed to assess the relative importance of the twelve variables in the prediction of culture. The twelve variables represent the various levels of education, length of employment (longevity), type of enterprise, and gender. In Table 2, four of the twelve predictor variables, employees with less than one year ($t = 2.94$), and those who worked in the Agricultural ($t = 2.40$), Health Care ($t = 3.03$), or Construction ($t = 1.97$) enterprises, were statistically significant and effected the perception of culture toward organizational learning readiness across the small business enterprises. As shown in Table 2, the Uniqueness Index reveals the extent to which this Health Care relates to the dependent variable, after the influence of the other independent variables (education, longevity, and gender) has been removed. The squared semi-partial correlation for Health Care ($r = .18$, or $R^2 = .03$) represents the unique portion of variance in the dependent variable, perception of culture toward organizational learning readiness, accounted for by this enterprise. The predictors, Less than 1 year ($r = .17$ or $R^2 = .03$), Agriculture Sales/Service ($r = .14$ or $R^2 = .02$), and Construction ($r = .12$ or $R^2 = .01$) account for an additional 6% of the variance in the dependent variable. These four predictors explain 10% of the variance in the dependent variable perception of culture toward organizational learning readiness. The combined R-squared values for the remaining predictor variables, at various stipulated levels, are approximately 3%. The balance of variance explained in the dependent variable is suspended in the unstandardized coefficient (constant).

Table 2. *Beta Weights and Uniqueness Indices Obtained in Hierarchical Multiple Regression Analysis Predicting Culture (N = 243)*

<i>Predictor</i>	<u>Beta Weights^a</u>		<u>Uniqueness Indices^b</u>	
	<i>Beta</i>	<i>t^c</i>	<i>Uniqueness Index</i>	<i>p</i>
(Constant)	-	17.97	-	.000**
High School or less	.03	.35	.02	.725
College or more	-.16	.35	-.11	.078
Less than 1 year	.20	2.94	.17	.004**
1 yr – 3 yrs	.04	-.87	-.05	.385
4 yrs - 6 yrs	.04	.57	.03	.570
Timber	.08	.92	.06	.357
Agriculture	.24	2.40	.14	.017*
Mfg – Public	-.10	-.97	-.06	.333
Health Care	.32	3.03	.18	.003**
Construction	.15	1.98	.12	.049*
Mfg-Government	.14	1.22	.07	.225
Female	.02	.22	.01	.825

Note: Adjusted $R^2 = .153$; * $p < .05$; ** $p < .01$

^a Beta weights are standardized multiple regression coefficients obtained when *Culture* was regressed on all 12 predictors. ^b Uniqueness indices indicate the percentage of variance in *Culture* accounted for by a given predictor beyond the variance accounted for by the other predictors. ^cFor *t*-tests that tested the significance of the beta weights, $df = 243$.

Conclusions, Discussion, and Implications

The independent variable type of enterprise was the major variable that explained the employees' perception of culture toward organizational learning readiness. This was followed by the independent variables education, longevity, and gender. This conclusion is supported by the following findings: Statistical significance, as reported by the test statistic, $F(12, 230) = 4.64$, associated with the probability, $p < .01$, substantiate the hierarchical multiple regression model.

The dependent variable was regressed on re-coded independent variables education, longevity, type of enterprise, and gender. The coefficient of determination R^2 was .153, meaning that 15.3% of the variance in the dependent variable, perception of culture toward organizational learning readiness, was explained by the independent variables within the enterprises in this study. Thus, education, longevity, and type of enterprise, explained 1.5%, 2.2%, and 11.9% respectively of the variance in the dependent variable and establishes considerable practical significance within the model. The last independent variable, gender was left in the model to explain its influence, or lack thereof, in this case. After gender was added to the model, the coefficient of determination was reduced from $R^2 = .156$, to $R^2 = .153$. As the coefficients indicate, education and length of employment (longevity) explained approximately one-fourth of the 15.3% variance in the dependent variable. Thus, it is concluded that within this model, the independent variable type of enterprise accounted for the greatest amount of variance in the dependent variable perception of culture toward organizational learning readiness. Correspondingly, education and longevity explained small amounts of the variance in the dependent variable.

Uniqueness Indices for Supplemental Analyses

The aforementioned findings prompted supplemental data analyses and a need to determine which of the seven small business enterprises perceived a stronger presence of organizational learning readiness based on respondents' perception of culture toward organizational learning readiness. Thus, it is concluded that the health care, agricultural, and construction enterprises accounted for 6% of the variance in the variable type of enterprise. This conclusion is supported by the following: The various levels of these independent variables were investigated to determine their unique influence on the dependent variable. A uniqueness index was established and revealed the results of squared semi-partial correlation coefficients (R^2) of the re-coded independent variables education, longevity, type of enterprise, and gender. The indices showed the extent to which each level (variable) relates to the dependent variable after the influence of the other independent variables has been removed. Three of the four levels (variables), health care ($r = .18$, or $R^2 = .03$), agricultural sales/service ($r = .14$, or $R^2 = .02$), and construction ($r = .12$, or $R^2 = .02$) accounted for a total of 6% of the variance in the dependent variable. The independent variable, less than 1 year ($r = .12$, or $R^2 = .03$), accounted for the model's final 3% of variance in the dependent variable. Related to these results, these researchers go beyond the findings and imply the data may be interpreted with additional meaning. These findings indicate certain types of small business enterprises exhibit a stronger presence of organizational learning readiness based on perception of culture more than do others. The nature of these businesses also suggests that enterprises who use higher degrees of technology, (e.g., health care and agriculture) may have established more organizational learning capability than those enterprises with lesser requirements for the use of technology (i.e., food service, timber procurement/sales). Accordingly, organizations that capitalize on the use of technology for learning often have a decided competitive advantage (Marquardt, 2002).

Limitations

Generalizations are limited to the seven small-size business enterprises involved in this study. Due to the limited number of independent and background variables used in this study it is noted that primary reasons for the different outcomes cannot be fully explained. Thus, qualitative inquiry is recommended to more fully understand the phenomena and reinforce causal relationships

Implications and Recommendations for Further Research

This study partially fills a gap in the literature by providing information relative to the dependent variable perception of culture toward organizational learning readiness that implies the following: (1) an employee's length of employment with the enterprise, excluding those with less than one year of employment, indicate similar perception of organizational learning readiness; (2) accordingly, length of employment was not a major predictor of organizational learning readiness as reflected by perception of culture, and this finding parallels previous research of large-sized business enterprises (Preskill, et al., 2001); (3) employees' level of education is not a key variable that explains perception of organizational learning readiness in the dependent variable; (4) the type of enterprise, as

reported by the aforementioned uniqueness indices, implies specific types of small business enterprises form cultures that facilitate organizational learning readiness more successfully than do others; and (5) the types of enterprises within this study that were stronger predictors of organizational learning readiness, based on the respondents' perception toward culture, are also more advanced users of technology. Further, this finding is in agreement with Marquardt's (2002) work. Thus, the aforementioned implies HRD practitioners should focus type of organization when designing interventions. This also implies that HRD practitioners should seek out models, or other organizations with established learning practices and benchmarks when designing interventions.

Further research with additional heterogeneous enterprises is needed to reinforce these findings. The inclusion of other types of enterprises could validate the premise that technology-driven businesses tend to build cultures with learning organization infrastructure more effectively than those who use little technology. Also, additional research should classify or inventory the specific organizational learning elements and mechanisms within the technology-driven enterprises and determine if similarities exist in other business sectors.

Additional research in medium-and large-sized enterprises addressing these queries should also be conducted. Qualitative inquiry should be employed to determine why employees with less than one year of work experience perceived culture as a stronger indicator of organizational learning readiness than did those with more than one year of longevity.

Finally, further research needs to be conducted to determine if seasoned employees can specify deficiencies in the organizational learning infrastructure that should be addressed. Research of this nature should include the employees' perception of leadership commitment and modeling that contributes to, or diminishes, the level of organizational learning readiness.

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