
The learning organization: motivating employees by integrating TQM philosophy in a supportive organizational culture

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Keywords

Organizational learning,
Motivation, TQM,
Corporate culture

Abstract

An organizational development model is developed to measure the constructs of a learning organization. A descriptive study was conducted investigating the relationships of total quality management, organizational culture and their impact upon a learning organization. The study investigated the attributes of a learning organization and its influence upon employee motivation. A total of 307 executives participated in the survey. The survey revealed that many executives had pursued professional development programs in TQM principles and/or in Senge's organizational learning principles over the last four years. The executives completed a questionnaire measuring their perceptions involving the principles of a learning organization, TQM attributes, and their organizational culture. The results indicate a corporation implementing TQM principles in a supportive organizational culture has a positive and significant relationship with organizational learning compared to those executives not exposed to these constructs. Also, the findings revealed a positive and significant relationship between a learning organization and the motivational level of its business executives.

The synergistic elements in creating a learning organization

The evolution of change for business organizations will require organizational development specialists to distinguish the synergistic effects of many elements within a business entity (Harung *et al.*, 1999). The majority of the literature defines a learning organization as acquiring, improving, and transferring knowledge that improves individual learning (Campbell and Cairns, 1994). In conducting their work, organizational development specialists identified that many companies utilized the learning organization principles. But, what are the other synergistic elements that could have an impact on a learning organization.

Among the effective keys for success are organizational designs that permit continuous improvements in their business processes. A corporation utilizing total quality management by implementing continuous improvements demonstrates the basic integral tenet of total customer satisfaction. Total quality management (TQM) integrates quality in all functions throughout the organization and considers every interaction between the various elements of the organization. Thus, the overall effectiveness of the system is the synergistic effect of the individual outputs. Knowledgeable leaders in developing the TQM philosophy are Deming, Juran and Crosby (Deming, 1982; Juran, 1979; Crosby, 1992). Most organizational development professionals analyze the company's ability to utilize TQM principles or similar quality standards in their business environment. Organizational development practitioners must examine the organizational culture before implementing TQM principles. In reviewing an organization's culture, it is important to identify the support or nonsupport of these contemporary concepts in a business environment.

Organizational culture is a set of values and guiding beliefs shared by members within an organization (Brown and Starkey, 1994). The organizational development experts understand the importance of culture in a business organization. Culture serves as a foundation for an organization's management system. It reinforces a set of management practices and behaviors that should exemplify and reinforce learning organizational and TQM principles (Denison, 1990). A question consultants examine: "What are the relationships between a learning organization, TQM philosophy, and the organizational culture in a business?" These relationships have many commonalties and complementing components that ultimately produce favorable results.

Relationship between TQM philosophy, the learning organization, culture, and work motivation

Consultants and executives must examine the existing relationship between TQM and the learning organization. Also, an organization's culture should support the learning organization philosophy in promoting employees' motivation. TQM initiatives have improved the quality of products and profits over the past decade. Collman (1995), and the learning organization philosophy has proved successful at Ford, Harley Davidson, Herman Miller and Federal Express (Kofman and Senge, 1993). So how do TQM principles and the learning organization philosophy work together? Borrow (1993), Kim (1992) and Sohal and Morrision (1995) discovered both TQM and learning organization initiatives provide teamwork, a systematic approach, adapting to one's environment, and the ability to learn as an organization. Borrow (1993) specifically states that TQM and organizational learning are inextricably linked. He supports his position by describing their

Received: February 2000
Revised: August 2000
Accepted: August 2000

Leadership & Organization
Development Journal
21/8 [2000] 373-378

© MCB University Press
[ISSN 0143-7739]

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cause/effect, and a system/process relationship. Both relationships allow organizations to examine how they systemically perform tasks, to develop and implement new insights, and transmit new knowledge throughout the organization (Sohal and Morrison, 1995). Caudron (1993) and Schein (1993) state that a supportive organizational culture is essential in promoting a learning organization. Advocating challenging work, open communication, trust, innovation, and cohesion among employees are essential attributes defining a supportive culture. The organization development model measures the relationship of a supportive culture and TQM principles on a learning organization. Also, the model measures the relationship between the learning organization and its impact on worker motivation.

Hypotheses

An organization that implements TQM principles will observe a significantly higher level of organizational learning, compared to those organizations not exposed to TQM principles. This relationship examines how TQM supports new knowledge throughout the organization.

Therefore:

H1: Organizations implementing TQM principles will be associated with high levels of organizational learning.

Organizational culture is the values and guiding beliefs shared by employees that reinforces management practices and behaviors. Accordingly, it is imperative to measure the relationship between a supportive organizational culture and the learning organization. Executives working in a supportive organizational culture will experience higher levels of organizational learning as compared to those executives not working in a supportive culture.

Therefore:

H2: A significantly higher level of organizational learning occurs when executives are performing in a supportive organizational culture.

If there exists a significant and positive relationship with a supportive culture and TQM principles in a learning organization, what is the motivational level among executives in performing their work? Business executives operating in a learning organization will have higher motivational levels, compared to those executives not engaged in this philosophy. Therefore:

H3: Executives in a learning organization will be associated with higher levels of motivation in performing their work.

Organizational development model for a learning organization

Organizational specialists recognize the importance of a learning organization. But what sequence or model can be recommended in integrating TQM principles that promotes a learning organization? Many researchers have not integrated their constructs into a common model in measuring their results. Therefore, a contemporary organizational development model must be designed with measurable results. Figure 1 shows a model in testing the constructs of a learning organization. The variables tested and measured in this model are the learning organization philosophy, TQM principles, organization culture, and employee motivation.

The study

The sample for this research project consisted of 307 graduate students in the College of Business at Ashland University, who were employed full-time in many different business organizations and professions. Participants were asked if they were trained in TQM and/or learning organization principles within the last four years. A total of 162 executives completed one organizational development program in TQM and 132 executives participated in a program for the learning organization. The study's purpose was to investigate the consequent effects on those executives exposed to a supportive organizational culture and TQM principles, regardless of the differences in their TQM experiences and the time variant of implementing TQM. Table I illustrates the professional occupations of these executives and their demographic characteristics. This includes the classification of organizations, organizational level, age, and gender.

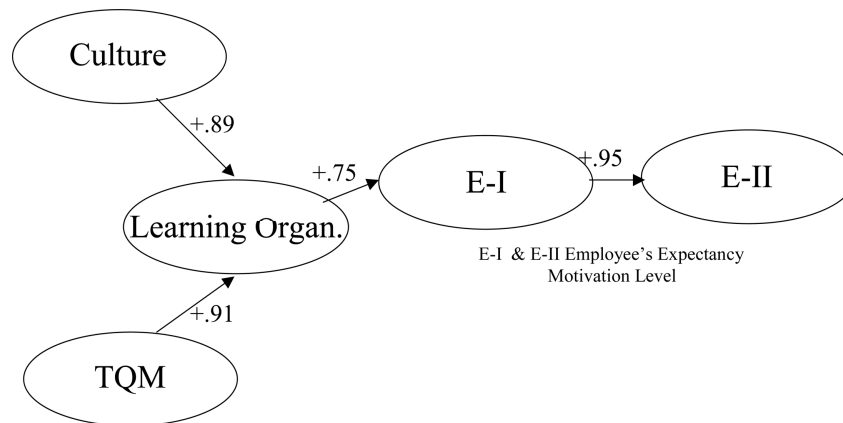
The questionnaire and measurement

The questionnaire measured four constructs in the organizational development model.

The survey instrument measured the:

- 1 attributes of learning organization;
- 2 TQM principles;
- 3 organization culture; and
- 4 worker motivation in developing the organizational development model.

Figure 1
 Structural equation model for best fit model



Goodness of Fit = .891 Adjusted Goodness of Fit = .873 Calc. Chi-Square = .19 Coefficient Determination = .839

The total quality management and the organization culture attributes were measured utilizing the Zeitz *et al.* (1997) measuring instrument. Their research developed a scale that measures TQM implementation and related cultural dimensions. The survey measures six TQM constructs and five supportive culture constructs. The scales have very acceptable psychometric properties in measuring both TQM and culture attributes.

The expectancy measurement for motivation was a validated instrument developed by Vroom (1964). Expectancy motivation attempts to determine how individuals choose between alternative behaviors in studying motivation. The survey instrument measures two components in work motivation. They are effort to performance (E-I) and performance to outcomes (E-II). Effort to performance expectancy (E-I) is a person's perception of the probability that effort will lead to successful performance. Performance to outcome expectancy (E-II) is a person's perception of the probability, that performance will lead to certain other outcomes (organizational and individual). The work motivation measurement scales have illustrated high validity and reliability dimensions in other studies (Nadler, 1977).

Data analysis methods

EQS Structural Equation Software Program (Bentler, 1995) tested the hypotheses in this organizational development model. Confirmatory factor analysis was determined

in applying EQS. EQS is a linear structural equation technique that specifies, estimates and tests hypothesized interrelationship among a set of important variables (Bentler, 1995). The EQS computer software program provides a diagrammer. The researcher designed a practical organizational development model before running the data analysis. The statistical results measure the specific relationships and their contribution to the overall model. In this organizational development model, the linear structural equation design measures the relationship between organizational culture and the learning organization, TQM principles and the learning organization, and the learning organization and workers' motivation.

Test of hypotheses

The organizational development model tested all of the hypothesized constructs. The hypotheses were measured for the best fit model by utilizing EQS software (Bentler, 1995). A chi-square examined the goodness of fit between the data and the model. If the data statistically "fit" the designed organizational development model, then the researcher can interpret the meaningful results accurately. The chi-square measurement was 0.19. This indicates the chi-square was insignificant at the 0.10 alpha level. This result confirms the observed relationships do not significantly differ from the hypothesized relationships. Also, Figure 1 indicates a high goodness of fit of 0.891 with an adjusted goodness of fit of 0.873. Although Hair *et al.* (1995) state the

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goodness of fit measurement should exceed 0.90, the close proximity suggests continuation of interpreting the final results. The study measured the path coefficients between the constructs and is illustrated in Figure 1. Also, Table II provides the results of significance test (*t*-test) for each path coefficient in the organizational development model.

H1 measures the relationship of an organization utilizing TQM principles and its association with a learning organization. This hypothesis states an organization

implementing TQM principles will experience high levels of organizational learning. The TQM construct is significant at the $p < 0.01$ and has a direct positive relationship with the characteristics of a learning organization. Organizational learning increases when executives utilize TQM principles in their business organization. The results of *H1* suggest the implementation of TQM supports a learning organization. This suggests as other studies have revealed, both constructs are inextricably linked together (Borrow, 1993).

Table I

Descriptive statistics

Variable	Mean	Continuous demographic variables					
		Standard deviation	Years	Category analysis			
Age	29	7.78	20-25	59			
			26-30	88			
			31-35	60			
			36-40	50			
			41-45	29			
			Over 45	21			
Years of work experience	11	5.33	0-5	154			
			6-10	84			
			11-15	37			
			16-20	22			
			21-25	7			
			Over 25	3			
Years employed	7	6.45	0-5	174			
			6-10	76			
			11-15	28			
			16-20	19			
			21-25	9			
			Over 25	1			
Working with current supervisor	4.5	4.76	0-5	271			
			6-10	31			
			11-15	5			
Discrete demographic variables							
Gender	Supervisor's gender		Type of organization		Organizational level		
Female	138	Female	60	Private manufacturing	120	Non-management	126
Male	169	Male	247	Private service	82	Middle management	139
				Public government	40	Senior management	26
				International business	22	Executive	15
				Other	43	Owner	1
TQM training last four years				Learning organization training last four years			
Trained	162	Trained	132				
Not trained	145	Not trained	175				
Summary statistics							
Variable name	Possible range	Empirical range	Mean	Standard deviation	Coefficient variation		
Learning organization	15-75	21-64	48.22	8.68	0.18		
TQM	32-160	46-156	143.65	21.93	0.15		
Culture	24-120	50-119	102.11	20.42	0.20		
E-I	12-60	18-51	43.06	4.58	0.11		
E-II	22-110	29-101	76.96	9.47	0.12		

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H2 measures the relationship between a supportive organizational culture and a learning organization. This hypothesis states an organization that has a supportive organizational culture will encounter higher levels of organizational learning. The organizational culture construct is significant at the $p < 0.01$ and has a direct positive relationship with the characteristics of a learning organization. The essential attributes measured in a supportive culture are open communication, trust, innovation, providing challenging work, and cohesion among employees in this study. Organizational learning increases when executives perform their assignments in a supportive organizational culture. The results of *H2* suggest there is a strong correlated relationship between a supportive culture and the higher levels of learning in an organization.

H3 studied the relationship between a learning organization and the executive's work motivation. The higher the levels of organizational learning, the higher the levels of motivation among executives. Table II supports this finding with a significant *t*-test at $p < 0.01$ and has a direct influence on motivation. There is strong support that implementing a learning organization philosophy will increase work motivation among executives. The learning organization promotes and supports a higher and significant motivation level among executives when exposed to organizational learning.

Conclusion and managerial implications

The organizational development model was designed as a realistic diagram for practitioners, executives, researchers, and organizational development specialists to consider when investigating the attributes of TQM and culture in a learning organization. There are numerous and essential elements in studying these constructs. This study supports contemporary findings and reinforces the importance of implementing

TQM principles in a supportive culture will enhance organizational learning. The synergistic effect of learning has been supported by other researchers, Borrow, (1993), Sohal and Morrison (1995). The results of this study supports these past findings. The positive and significant synergistic effects in this study investigated TQM principles and organizational culture. The results support the implementation of TQM principles in a supportive organization culture will increase organizational learning. This study suggests that organizational development specialists and business executives should concentrate on transforming their culture to a supportive culture before implementing new business concepts. The conversion to a supportive culture would include TQM principles or similar high quality standards. Transformation of the culture sustains a learning environment for organizational members. Learning strategies necessary for successful transformation, will include educational programs and specialized training for the synergistic effect to become successful (Baldwin *et al.*, 1997). The study identified a positive and significant relationship was associated with applying TQM principles in a supportive culture. This approach to organizational learning is supported by Tsang (1997). He recommends that organizational development specialists utilize both descriptive and prescriptive methods in strengthening organizational learning. It is vital for business executives and organizational developments specialists to synthesize the complexities of a learning organization in today's contemporary business environment. The organizational development model was designed for innovative leaders to distinguish the synergistic relationships in the learning organization and provide leadership in designing successful organizational development programs.

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Table II

Measuring path coefficients relationship utilizing *t*-test statistics

Constructs	Standard error	t-statistic	DF	P-value
TQM and learning	1.2777	65.55	306	0.0000
Learning and E-I	0.6728	25.02	306	0.0000
Culture and E-I	0.4103	24.58	306	0.0000
E-I and E-II	0.4413	76.82	306	0.0000

Note: All path coefficients were significantly correlated utilizing *t*-test statistics

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