

Organizational Role Alliance in Quality Management Effectiveness Perceptions

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ABSTRACT

The objective of this study was to determine if differences exist between managers and non-managers in their perceptions of the quality management achievement in their organizations. A secondary objective was to determine if the areas of misalignment were associated with lower quality management achievement scores than the scores indicated for the areas in alignment. A survey instrument, designed to measure the level of quality management achievement, was administered to the 130 employees of three companies, all part of one corporation. Sample *t* tests and the Whitney-Mann U tests were used to compare the responses between management and non-management groups. Although there were differences in responses for several of the individual questions, in aggregate, there were no misalignments found between managers and non-managers in their perceptions of the effectiveness of their organization's quality management system for any of the seven constructs evaluated by this study. This may indicate that a successfully implemented quality management program increases the degree of alliance between managers and non-managers in an organization. Moreover, there is the possibility that the implementation of an effective quality management system can produce results visible enough to counteract the natural misalignment between managers and non-managers. The findings of this study provide practical guidelines to increase alliance in an organization and suggest that investing in improving quality management may provide organizational advantages not previously attributed to quality management achievement.

Key Words: Quality, Quality Management, Total Quality Management, Quality Management Achievement

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INTRODUCTION

The future role of quality management is expected to focus more heavily on quality, not as an optional extra, not even as a differentiation technique, but as a necessary element required of all organizations to stay viable. With an increasingly saturated marketplace and more informed consumers, the organizations of today must utilize every cost reducing, productivity-increasing advantage that an effective quality management program can provide (Beckford, 2002; Tichindelean, 2013). Additionally, the ever-increasing global focus on quality management recognition and awards underscores the importance of developing research studies to gain a better understanding of this topic. To do so, it is necessary to identify the constructs with which the presence of quality within an organization can be measured.

A discussion of quality management begins with a definition of the term and related concepts. The definitions of the terms quality, quality management, and total quality management (TQM) are often debated (Rijnders & Boer, 2004; Sila & Ebrahimpour, 2003). Furthermore the constructs, or elements, of a total quality management program are also not universally agreed upon (Anderson, Rungtusanatham, & Schroeder, 1994; Grandzol & Gershon, 1998; Prajogo & Brown, 2004).

Since quality-related definitions are abundant and the perceptions of quality-related terms vary, it is critical that all parties participating in an effort to improve the level of quality within an organization agree on and have shared communications about common definitions that apply specifically to their organization. Shetty (1982) wrote about the importance of ensuring clarity in definition. Managers, supervisors, and employees must all have a common understanding of productivity - what it is, "what it means to their jobs and companies, and how it can be measured and improved" (p. 18).

Furthermore, in addition to a common agreement of terminology and definition of terms, there is also a need for all employees in an organization to be in agreement on the effectiveness of a particular quality construct in promoting a higher level of quality within that organization. Misalignment between managers and non-managers in their perceptions of the effectiveness of quality improvement initiatives could seriously undermine the success of any quality management initiative. Colin Fuller (1999) suggested that the key to effective management does not rest solely on the creation of policies and processes, but also on the employees' perceptions of the level of effectiveness of operational practices. Other studies have reported morale and performance issues stemming from the lack of a shared vision by managers and non-managers and/or performance improvements attributable to manager/non-management alignment (Crotts, Dickson, & Ford, 2005; Gottschalg & Zollo, 2007; Yu-Yuan Hung, 2004; Richbell & Ratsiatou, 1999).

Gaining an understanding of the specific areas where perceptions significantly differ between managers and non-managers can help these groups openly discuss and ultimately bridge this gap. According to Crane and Crane (2000), quality improvement required the joint effort of all team members, including both supervisors and nonsupervisory employees. Their case study indicated that common quality goals and expectations within a team produced enhanced job satisfaction and employee morale. Grandzol and Gershon (1997) found customer satisfaction was positively influenced by internal/external cooperation and, to a lesser extent, by customer focus, but negatively influenced by employee fulfillment. A study by Douglas and Fredendall (2004) found that increased internal coordination lead to higher levels of customer satisfaction. Customer satisfaction was found in studies to be positively related to profitability (Anderson,

Fornell, & Lehmann, 1994; Douglas & Fredendall, 2004) and higher customer retention (Rust, Zahorik, & Keiningham, 1995). A study by Sabella, Kashou and Omran (2014) found that both process management and people management were strong predictors of performance. Other studies, while not supporting a relationship between quality management and financial improvement, did suggest a relationship between quality orientation and operational efficiency and cost effectiveness (Lai, Weerakoon, & Cheng, 2002; Yeung & Chan, 1998). Prajogo and Brown (2004) found that TMQ practices are always highly correlated with quality performance, whether or not an organization has implemented a formal TQM program.

Shetty (1982) conducted case studies to determine the characteristics of an effective productivity program and found:

A full awareness must exist at all levels of the objectives of the productivity improvement program. Managers, supervisors, and employees must understand the concept of productivity: its role, its benefits to employees as well as to the company, and how to measure and improve it (p. 21).

Other studies indicate that alignment between managers and non-managers in an organization can increase efficiency, reduce costs and improve customer satisfaction (Anderson, Fornell, & Lehmann, 1994; Crane & Crane, 2000; Douglas & Fredendall, 2004; Lai, Weerakoon, & Cheng, 2002; Yeung & Chan, 1998). A study by Casimir et al (2014) found that employee commitment to the organization is strengthened by strong leader-follower relationships.

QUALITY CONSTRUCTS

The constructs used in this study were selected by Grandzol and Gershon (1997) based on the early research by Anderson, Rungtusanatham, and Schroeder (1994). They found these constructs “appear consistent with others suggested for general principles of total quality management” (p. 46). Grandzol and Gershon (1997) further stated that the “indicators theorized for these seven constructs were selected from the myriad management practices, policies, and programs now being utilized by organizations professing to have total quality programs or initiatives” (p. 46). Grandzol and Gershon (1998) defined each of seven quality management constructs examined in this study as indicated in Table 1 (Appendix). These seven constructs of quality have been shown to have a positive effect on the long-term sustainability of an organization (Powell, 1995; Sliziene & Vaitkiene, 2003).

There is considerable literature support that effective quality management systems lead to improved business outcomes (Anderson, Fornell, & Lehmann, 1994; Crane & Crane, 2000; Douglas & Fredendall, 2004; Lai, Weerakoon, & Cheng, 2002; Yeung & Chan, 1998). There is also considerable literature support that misalignments between managers and non-managers result in degraded business performance (Crotts, Dickson, & Ford, 2005; Gottschalg & Zollo, 2007; Yu-Yuan Hung, 2004; Richbell & Ratsiatou, 1999). Therefore, understanding if and where quality management systems are compromised due to manager/non-manager misalignment could provide valuable insight on how to remedy the misalignment.

SIGNIFICANCE OF THE STUDY

Many articles have been written about quality management and a number of studies have been conducted to gain an understanding of the elements underlying various quality constructs. However, the majority of research in this area has been in the form of case studies, in an effort to

understand and explain the nature of a successful or unsuccessful implementation of a quality program. Morrow (1997) found that assessments of quality management efforts are typically garnered only from the ranks of managers. A finding from the Hipkin (1999) case study was that “perceptions relating to management practices also revealed differences between managers and [employees]; the latter did not accept that senior management was sharing and championing a quality vision, nor that management support was available to those grappling with new thinking” (p. 4). A study by Richbell and Ratsiatou (1999) found there were differences in perceptions between managers and the majority of employees in what management viewed as the ‘listening culture’.

Missing from the current body of research is a study that specifically compares the perceptions of the intended outcomes of a quality management initiative from the manager and non-manager perspectives. Once the specific differences in perceptions are known and areas of misalignment identified, guidelines can be prescribed in an effort to bridge the gaps.

KEY VARIABLES AND RESEARCH DESIGN

The independent variables are role (manager/non-manager), where a manager is defined as an employee with one or more direct reports and a non-manager is an employee with no direct reports. Other independent variables include demographic data, including age, tenure, educational level, gender, and company employed.

The dependent variables are measured through the cumulative responses to 39 items that seek to evaluate the degree of quality management system achievement in an organization. Achievement is evaluated through the average combined scores of statements related to each of seven quality constructs: 1. Leadership, 2. Continuous Improvement, 3. Employee Fulfillment, 4. Learning, 5. Process Management, 6. Internal/External Cooperation, and 7. Customer Focus.

The goal of this study is to compare the perceptions of two groups of employees, managers and non-managers, to determine if their perceptions of a quality management program are aligned. Alignment was determined by conducting independent sample *t* tests to compare the mean of manager responses with the mean of non-manager responses. Independent sample *t* tests were used to analyze the difference between manager/non-manager responses based on gender. Analysis of variance (ANOVA) tests were conducted to determine differences in manager and non-manager responses based on age, position classification, length of employment and organization. For data that were not normally distributed, the Kruskal-Wallis test was used in place of the ANOVA tests.

The research questions and hypotheses sought to determine if there are differences in the alignment of perceptions between managers/non-managers of the level of organizational achievement in the areas of: 1. Leadership, 2. Continuous Improvement, 3. Employee Fulfillment, 4. Learning, 5. Process Management, 6. Internal/External Cooperation, and 7. Customer Focus. And, if differences in perspectives are found for one or more constructs, are these differences associated with a lower level of quality management achievement for those constructs when compared to the constructs in the organization where alignment is present.

The TQM survey was administered to managers and non-managers in a service based corporation comprised of three physically separate companies located in different cities within a similar geographical location. Surveying separate companies within one corporation helped control for some potentially confounding variables, such as top management culture and corporate policies, and allowed all participants to take the survey in the same time period. The

three companies were different in a number of ways, such as the number of years in operation, the relationship with the parent corporation, and the services provided. Company A has been operating for 25 years, Company B for 10 years, and 5 years for Company C. Company A and Company B were wholly owned by the parent corporation. Company C was a joint partnership. The three companies were service-based companies of different types – printing, financial support services, and information technology development, respectively, for Company A, B, and C.

The selection of service sector-based companies for this study is relevant to the growing importance of the service sector. The historical rate of growth in the service sector, combined with the projected rate of future growth, indicated the growing importance of service sector research. Projections by the United States Department of Labor Bureau of Labor Statistics indicated the service sector is expected to add over 9 million new jobs between 2014 and 2024, while the manufacturing sector is expected to decline at a 0.7% rate during the same period of time. The manufacturing sector currently accounts for less than 10.0% of all jobs in the United States. The service industry is expected to grow at an annual rate of 0.7% annually between 2014 and 2024, accounting for 94.6% of all jobs added during that period. (United States Department of Labor – U.S. Bureau of Labor Statistics, 2014).

The study used a census methodology to collect data. The total number of people employed by the three companies was 500. Each employee was invited to voluntarily participate in the study by filling out a 20 minute web-based survey. Employee confidentiality was maintained in that no personally identifiable information was collected and any groups of 10 or fewer respondents, when stratified based on demographic data, were incorporated into the next closest strata. A total of 130 employees, or 26% of the population, responded to the survey.

The TQM survey instrument developed by Grandzol and Gershon in 1998 was used to gather data for this study. Grandzol and Gershon (1998) created this instrument to improve the consistency of research projects and to provide a mechanism leaders can use to evaluate how well TQM has been incorporated into organizations. The survey instrument consisted of 62 statements and six demographic questions. The first 39 items related directly to the seven constructs under investigation. Responses to the remaining statements were collected to provide information with which to analyze any differences found. Each statement was answered using a 6 point Likert response scale. In order to reduce the potential for patterned response bias, one-third of the statements, 13 out of 39, were recoded, worded in the reverse or opposite direction than the other 26 statements. The recoding was completed prior to analysis in order to ensure a consistent response scale across all statements and associated constructs. A web-based survey was used to collect the survey data.

RELIABILITY AND VALIDITY

The survey was developed for the purpose of linking descriptive models of TQM with prescriptive models. It was tested for reliability and validity. Reliability, the degree of consistency with which the survey statements measure the related construct, was tested using Cronbach's coefficient alpha. The results of the test validated the reliability of the survey instrument. Grandzol and Gershon (1998) reported the results of the test surpassed the acceptable .70 threshold value for reliability. "[The] alpha exceeds this value for each of the seven exogenous latent constructs – leadership (0.7305), continuous improvement (0.7524), employee

fulfilment (0.7391), learning (0.8132), process management (0.8185), cooperation (0.8358), and customer focus (0.8651) – and in the majority of cases exceeds 0.80” (p. 92-94).

Three types of validity were tested for the aforementioned survey instrument. These were construct, content, and criterion validity. Criterion validity was tested by examining the degree to which each item was correlated to total quality measures. Content validity was established through a review of the questionnaire by experts in the field of quality management, including Baldrige examiners, academics, and TQM practitioners. Construct validity was established using factor analysis. Tests conducted by Grandzol & Gershon (1998) included individual item-construct correlations and item factor loadings to confirm that each survey item contributed significantly to the measurement of the underlying construct. The overall strength of each construct was further tested using results of the structural equation modeling analyses performed on its respective set of items.

ANALYSES AND RESULTS

Out of the population of 500 employees, 130 employees responded to the request to participate in the study, a response rate of 26%. Of the employees who participated in the survey study, 31 were managers; the remaining 99 respondents were non-managers.

The primary data analysis utilized either a two sample *t* test or a Mann-Whitney U test to compare the mean or median responses respectively between these two groups. Other data collected included age of respondent, tenure, education level, gender, and company employed. These demographic data were used to determine if differences in responses were significant across any of these attributes.

To compare the responses of managers to those of non-managers, the average response per construct was calculated by summing the individual responses and dividing the result by the number of construct statements. The results for each construct were checked for normality. The responses to the constructs of Leadership, Learning, Employee Fulfillment, Process Management, Internal/External Cooperation, and Customer Focus were found to have a normal distribution; therefore the two sample *t* test were used to compare the means. The responses for the construct of Continuous Improvement did not have a normal distribution. The Mann-Whitney U test was used to compare the median responses of that construct. In total, no statistically significant differences were found. Significance was tested at $P < 0.05$, the results showed that there were no statistically significant differences between the responses collected from managers and those collected from non-managers when comparing the average response aggregated across each construct. These tests were then performed across each question, to determine if statistically significant differences were found for any of the individual questions related to each construct.

For the constructs of Leadership, Continuous Improvement, Process Management, Internal/External Cooperation and Customer Focus, no statistically significant differences were found for any of the questions. This corroborates the aggregated finding that there is alignment between managers and non-managers in their perceptions of the quality management achievement in these areas.

For the construct of Employee Fulfillment, the responses to two of the five statements tied to the Employee Fulfillment construct showed a statistically significant difference between the responses received from managers and those received from non-managers as indicated in Table 2 (Appendix). In both cases the perceptions of the achievement level was higher among

the managers than the non-managers. The specific statements under the Employee Fulfillment construct where there was misalignment between the perceptions of managers and non-managers were:

1. I like my job because I'm doing what I want to do.
2. Employees in this organization are dedicated to their jobs.

For the construct of Learning, the responses to one of the five statements tied to the Learning construct showed a statistically significant difference between the responses received from managers and those received from non-managers as indicated in Table 3 (Appendix). As was the case for the differences found in the Employee Empowerment, the perception of the achievement level was higher among the managers than the non-managers. The specific statement where there was misalignment between the perceptions of managers and non-managers was:

1. Managers and supervisors participate in specialized training on how to conduct business, whether dealing with employees or external customers.

Survey response data were analyzed by the demographic information to determine if any differences existed in the mean or median responses based on company, age, gender, educational level, and tenure. The constructs of Leadership, Employee Fulfillment, Learning, Process Management, Internal/External Cooperation, and Customer Focus were found to have a normal distribution; therefore the two sample *t* test was used to compare the means of gender and tenure and the analysis of variance test (ANOVA) was used for education level, age and company. The responses for the construct of Continuous Improvement did not have a normal distribution. The Mann-Whitney U test was used for to compare the medians of gender and tenure, while the Kruskal-Wallis test was used to compare medians of education level, age range, and company. The results of the One Way Analysis of Variance (ANOVA) and Kruskal-Wallis tests which compared the response to each of the seven constructs based on company is indicated in Table 4 (Appendix).

When the average response for each construct was compared by company, a statistically significant (with a 95% confidence rating) was found for each of the constructs of Leadership, Continuous Improvement, Employee Fulfillment, Learning, Internal/External Cooperation, and Customer Focus. The exception was Process Management, where no statistically significant difference was found. In every case where a difference was identified, the responses from Company A were lower than those of Company B and Company C.

The data was further analyzed for each of the three companies to determine if a difference was found between managers and non-managers for any of the seven constructs. No differences were found between the managers and non-managers in either Company A or company B for any of the seven constructs. The one difference found between the managers and non-managers in Company C was for the construct of Leadership. The findings for each individual company were consistent with the findings for the combined sample.

The comparison of responses based on demographic information (gender, tenure, level of education, and age) showed no statistically significant differences between male and female employees in their perceptions of the organization's level of quality management achievement.

The literature supports the research hypothesis that the average scores for constructs where there is misalignment in perceptions of quality management achievement between managers and non-managers will be lower than the average scores for constructs where there is alignment in perceptions between managers and non-managers (Anderson, Fornell, & Lehmann, 1994; Crane & Crane, 2000; Douglas & Fredendall, 2004; Lai, Weerakoon & Cheng, 2002;

Yeung & Chan, 1998). This hypothesis could not be tested through this study because all seven constructs were found to be in alignment between managers and non-managers.

The literature strongly supported the null hypotheses that differences in perceptions between managers and non-managers would be found (Bruce, 1986; Davis & Rothstein, 2006; Fitzpatrick, 2007; Hipkin, 1999; Lester, Kickul, and Bergmann, 2007; Schoorman and Mayer, 2008; Simons, 2002; Smircich & Chesser, 1981). Almost half of the statements evaluated, 18 out of 39, asked the employees to rate the performance, attitude, or behavior of those in a management position, which should have increased the probability of differences in perceptions being identified.

DISCUSSION AND IMPLICATIONS

The discussion that follows lists each of the seven quality constructs with corresponding implications based on the data findings and supporting literature.

1. Leadership

As defined in the survey instrument, Leadership is the ability of management to establish, practice, and lead a long-term vision for the whole organization, driven by changing customer requirements, as opposed to internal management control. The literature provides support that a quality management initiative, to be viewed as successful, requires the visible focus and commitment of the top leaders in the organization (Dale & Cooper, 1994; Deming, 1986; Kanji, 1998; McCambridge & Tucker, 1998; Morrow, 1997; Soltani et al, 2005; Laureani & Antony, (2015). Although no difference in perceptions between managers and non-managers was found to exist in this study within the Leadership construct, the overall high score assigned to this construct from both managers and non-managers and the similarity in scores by both groups may indicate that the alignment between managers and non-managers is the result of strong management commitment to the quality initiative. This assumption is supported by the finding that no statistically significant differences in perceptions were found for the Leadership construct based upon tenure, gender, employee age, or employee educational level.

2. Continuous Improvement

Continuous improvement is the tendency of the organization to pursue incremental and innovative improvements of its processes, products and services. Bowman (1994) found that successful continuous improvement initiatives require cooperation between managers and non-managers and Shetty (1982) found that effective communication between managers and their employees was a critical success factor in the development of a productivity improvement environment. This study did not find any difference between managers and non-managers in their perceptions of the degree of Continuous Improvement achievement in their organization. Of the seven constructs, Continuous Improvement received the second highest overall score from both managers and non-managers combined. This may indicate that the achievement in this area is so visible as to leave little room for misinterpretation between managers and non-managers.

3. Employee Fulfillment

Employee fulfillment is the degree to which employees of an organization feel that the organization continually satisfies their needs. Various studies have sought to explore and explain the relationship between Employee Fulfillment and manager/employee relations. Hipkins (1999) found a disconnect in this area with managers holding the opinion that employees did not want to take on the additional responsibilities inherent in achieving a higher level of Employee Fulfillment, while non-managers viewed managers as unwilling to relinquish power. Showaiter and Mulholland (1992) cite, as an obstacle to employee involvement, a lack of understanding by management of what motivates employees. A study by A'aqoulah et al (2016) found that lack of authority delegation contributed to unsuccessful quality management initiatives. Markos and Sridevi (2010) posit employee engagement is a two way commitment between the employee and the organization, finding "the full engagement equation is obtained by aligning maximum job satisfaction and maximum job contribution" (p. 90).

Although the combined scores for the five statements associated with the Employee Fulfillment construct showed no statistically significant differences between managers and non-managers, there were differences for two of the individual questions. Anderson, Rungtusanthan, and Schroeder (1994) found that Employee Satisfaction is exemplified by job satisfaction and job commitment. The two statements where misalignment between managers and non-managers were:

1. I like my job because I'm doing what I want to do.
2. Employees in this organization are dedicated to their jobs.

It is interesting to note that in both cases the non-manager responses are lower than those of the managers. In the first instance this misalignment may be due to the use of the word 'I' in that statement. This contrasts with the remaining questions, where the more generic terms 'Employees' or 'Managers and Supervisors' are used. The statement, 'I like my job because I'm doing what I want to do' is more likely to evoke a more individualized response. The apparent misalignment between managers and non-managers, in this case, may be because a manager may feel more satisfied with his or her position in the company and the benefits that typically accompany a managerial role – higher pay, increased autonomy and power, and better working accommodations (Gorn & Kanungo, 1980; Klein & Maher, 1966; Watson, 1942).

4. Learning

Learning is the organization's capability to recognize and support the development of its skills, abilities, and knowledge. There is extensive research on Training, which is one aspect of Learning. The body of studies focused on the broader topic of Learning is much smaller. The Malcolm Baldrige National Quality Award model and the ISO 9000 Quality Management System standard both evaluate elements related to employee training and, in the case of ISO 9000, of training effectiveness. The requirement for learning applies to the both the manager and non-management employees. In fact, according to Ruburic (2015), "the most important thing is that a leader learns together with his team and followers, and the learning is based on requirements, needs, and expectations of users and other interested parties" (p.102). Grandzol and Gershon (1997) have identified six aspects of Learning: Companywide training, Foundational knowledge, Process knowledge, Educational development, Continuous self-improvement, and Managerial learning. From this definition, it would appear that Learning is closely tied to other quality constructs, such as Process Management, Employee Fulfillment, and Continuous Improvement. The data from this study does show a similarity in the means for

these four constructs. Like these other constructs there was no statistically significant difference in responses between manager and non-manager responses overall for this construct. There was one statement under this construct that showed a difference in response. The statement was:

1. Managers and supervisors participate in specialized training on how to conduct business, whether dealing with employees or external customers.

As was the case in the two questions under the Learning construct, the response by managers was higher for managers than for non-managers. One possible explanation for this difference is that non-managers are not apprised that this training is taking place for managers and supervisors. Another potential explanation is that the effects of this training are not visible to non-managers. In either case, additional communication between managers and non-managers about this training may help bridge this disconnect and bring this statement in line with the consensus responses found in the other statements tied to Learning.

5. Process Management

Process management is the set of technical and behavioral practices emphasizing the management of processes, or means of actions, rather than results. According to Varhese (2004), the level of Process Management achievement can be measured three ways: the degree to which the processes benefit the customer, the degree to which the processes benefit the organization, and the extent to which the processes enable organizational flexibility. Process management practices were found to be positively related to inventory management performance, innovation performance, social responsibility, and market and financial performance (Sadikoglu & Olkay, 2014). There were eight statements in the survey instrument related to the construct of Process Management. Although no difference in responses between managers and non-managers was found, the responses to this construct overall were lower than other, related constructs, such as Customer Focus and Continuous Improvement. In exactly half of the cases, the mean response for managers was slightly higher than the mean responses for non-managers, but in all except one case the median scores were identical for all questions.

6. Internal/External Cooperation

This cooperation is the tendency of the organization to engage in noncompetitive activities among employees and externally among suppliers. Solini (2005) cites management-employee mistrust as a key limiting factor in achieving common goals. Other studies attribute success in the area of Internal/External Cooperation to be tied to teamwork, shared expectations, and open communication (Crane & Crane, 2000; Fuller, 1999; Jawaharisen & Price, 1997). Douglas and Fredendall (2004) found a strong relationship between internal cooperation and the ability of an organization to deliver value to its customers. Another study found that communication within a team builds connections within the team and leads to clear aims and a common purpose (Petkovski & Joshevska, 2014). This study found no differences in the alignment between managers and non-managers for this construct.

7. Customer Focus

Customer focus is the degree to which the organization's customers continually perceive that their needs are being met by the way the organization's products and services are designed and produced. According to the literature, customer focus has a positive impact on organizational

success (Oakland, 2005; Sliziene & Vailkiene, 2003; Tichindelean, 2013). A study by Sadikoglu and Olcay (2014) found customer focus was positively related to increased customer results, operational performance, and market and financial performance.

In this study, the scores associated with this construct were higher than any other construct, for both managers and non-managers. The average score for managers and non-managers was 5.08 and 4.97, respectively, out of a 6 point scale. This overall positive rating would seem to indicate that the visible results of customer focus, such as the number of customer-reported issues, customer satisfaction scores, and customer feedback are shared with all levels of the organization.

A strong implication of this study is the possibility that the implementation of an effective quality management system can produce results visible enough to counteract the natural misalignment between managers and non-managers. A second implication is that the results of a quality management system can be objectively evaluated, which supports the underlying assumption of the major quality management models.

LIMITATIONS AND FUTURE RESEARCH

The study analyzed seven constructs of quality and the difference in perceptions between managers and non-managers in how each perceived their organization's level of quality in these seven areas. Although the study found perceptions to be in alignment overall between managers and non-managers, the areas that had some misalignment fell under the constructs of Employee Fulfillment and Learning. The specific attributes of the misaligned areas suggest that the difference in scores may be due to the nature of the two roles, rather than to information, communication, or expectation asymmetry between the two roles.

This study is not without limitations. As always, self-reported data are subject to personal and social bias. Confounding variables, such as the maturity of the quality management program within each company, the existence of unique quality-related initiatives, and other differences in culture, strategy, and operations among the three companies may have affected the results obtained.

Areas of future research study include replicating this study across a larger population of service organizations, expanding the study to include health care, government, and manufacturing industries and investigating the role location and culture might play in a study of this kind. Nonetheless, this work provides a requisite foundation for advancing such research in the field of quality management, as well as in higher education contexts where quality management processes are taught.

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APPENDIX

Table 1. Quality Construct Definitions Applicable to the Study

Quality Construct	Definition
Leadership	The ability of management to establish, practice, and lead a long-term vision for the whole organization.
Continuous Improvement	The tendency of the organization to pursue incremental and innovative improvements of its processes, products and services.
Employee Fulfillment	The degree to which employees of an organization feel that the organization continually satisfies their needs.

Learning	The organization's capability to recognize and support the development of its skills, abilities, and knowledge.
Process Management	The set of technical and behavioral practices emphasizing the management of processes, or means of actions, rather than results.
Cooperation	The tendency of the organization to engage in noncompetitive activities among employees and externally among suppliers.
Customer Focus	The degree to which the organization's customers continually perceive that their needs are being met by the way the organization's products and services are designed and produced.

(Grandzol and Gershon, 1998)

Table 2. Statistical Results of Two-Sample t Tests Applied to the Questions Related to the Construct of Employee Fulfillment

EMPLOYEE FULFILLMENT CONSTRUCT	MEAN: MANAGERS	MEAN: NON-MANAGERS	P-VALUE
Sample Size (n)	31	99	
Q1	4.77	4.52	0.343
Q2	4.96	4.44	0.004*
Q3	4.77	4.43	0.046*
Q4	4.23	4.05	0.526
Q5	4.42	4.26	0.517

* Significant at 0.05%

Table 3. Statistical Results of Two-Sample t Tests Applied to the Questions Related to the Construct of Learning

LEARNING CONSTRUCT	MEAN: MANAGERS	MEAN: NON-MANAGERS	P-VALUE
Sample Size (n)	31	99	
Q1	3.90	3.84	0.792
Q2	3.55	3.61	0.824
Q3	3.81	3.87	0.812
Q4	4.10	3.87	0.765
Q5	4.52	3.87	0.018*

* Significant at 0.05%

Table 4. Analysis of Statistically Significant Differences in the Mean/Median of the Survey Responses by Company

RESPONSE BY COMPANY	MEAN: COMPANY A	MEAN: COMPANY B	MEAN: COMPANY C	P-VALUE
Sample size (n)	68	34	26	
Leadership	4.105	4.564	4.761	0.001*
Continuous Improvement	4.500**	4.500**	5.000**	0.013*

Employee Fulfillment	4.173	4.617	4.769	0.005*
Learning	3.655	4.311	3.953	0.004*
Process Management	4.090	4.250	4.193	0.191
Internal/External Cooperation	3.799	4.187	4.211	0.018*
Customer Focus	4.797	5.154	5.423	0.001*

* Significant at 0.05%

** The data from this construct did not follow a normal distribution. Therefore median values were analyzed using the Kruskal-Wallis test.

J B
S B