

INVESTIGATING TOTAL QUALITY MANAGEMENT: THE CASE OF SMALL AND MEDIUM SIZE ENTERPRISES IN NORTHERN CYPRUS

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Abstract

Quality perceptions of the customers play a vital role in not only determining the satisfaction obtained thus creating a repurchase intention but also confirming the initial purchase decision. For this reasons companies in various locations and industries strive to improve their quality levels. In this sense, total quality management (TQM) is found to be a very useful tool suggesting a continuous improvement in its core. Keeping these in mind, this study aims first to investigate the acceptance level of TQM in Northern Cyprus. Second aim is to measure the five components of TQM (leadership, strategic planning, human resource management, customer satisfaction, management of process quality, and benchmarking) to find out the perceptions of small and medium size organizations' managers. To achieve this, all Small and Medium Size Enterprises (SMEs) in Northern Cyprus have been targeted for the data collection. Analysis of the results depicts an accurate picture of the current situation in Northern Cyprus as well as they revealed important managerial implications for managers in similar locations.

Keywords; Total quality management, small and medium size enterprises, managerial implications, Northern Cyprus.

INTRODUCTION

Quality has become an increasingly important means of competition in the world market. Management commitment strategy based on continuous quality improvement has thus to be applied more generally and systematically in any organization to enable it to keep its position in the market. Otherwise, large shares of the market will be lost to those competitors who are aware of the importance of quality (Bergman and Klefsjo, 1994). In this vein, total quality management (TQM) - an approach that seeks to improve quality and performance which will meet or exceed customer expectations (Cherkasky, 1992) - deemed to be an efficient management tool. Besides, Eng and Yusof (2003) highlighted that TQM integrates fundamental management techniques, existing improvement efforts and technical tools in a disciplined approach which make it an efficient management practice.

Since the late 1980s, companies around the world have launched TQM programs in an attempt to retain and/or regain competitiveness in order to achieve customer satisfaction in the face of increasing competition in this era of globalization. TQM involves an integrative philosophy of management for continuously improving the quality of products and processes (Ahire, 1996). In their review paper, Cua, McKone, and Schroeder (2001) identified the ten common TQM practices as; "human resource utilization, management of process quality, customer satisfaction, committed leadership, strategic planning, business outcome competitiveness, cross-functional training, supplier quality management, employee involvement, information and feedback" (p. 27). Among these practices earlier six found to be the more influential (Arawati and Mokhtar, 2000; Butz, 1995), resorted by more companies (Carpinetti, Buosi and Gerólamo, 2003; Dana, 1998) and can help to generate better outcomes (Aharoni, 1994; Gordon, 2002). For these reasons, these six practices are borrowed from the existing literature (Arawati and Mokhtar, 2000; Carpinetti et al., 2003; Mohanty, 1997) and used as constructs of the current study.

The applications of the TQM concept and its main practices have been tested in mainly large organizations around the globe (Hertzler, 1994; Kwok, 1990; Martins and Toledo, 2000; O'Regan and Ghobadian, 2002). Yet comparatively less attention paid on SMEs in general (Palo and Padhi, 2005; Quazi and Padibjo, 1998) and even less in developing island states (Djerdjour and Patel, 2000). To this end, this research fills the existing gap by investigating the TQM usage in Northern Cyprus. SEMs have strong influence on the economies of all countries (Aharoni 1994; Eng and Yusof, 2003), particularly developing ones (Drilhon and Estime 1993). They have been a major engine of economic growth and technological progress (Mulhern, 1995) and important source of employment (Lin, 1998). Case in Northern Cyprus is not different (Onet, 2003).

SMEs not only support production, productivity, raise entrepreneurs, and employment, but also play a crucial role in countries' economies due to their flexible and easily adaptable structure to changes and new developments in the market. SME's are known as important elements in the growth of economy, especially in the USA, Japan, and the EU. In spite of the fact that they are beneficial to national economies in various ways, it is also certain that they are faced with some serious problems (like); in production, marketing, finance and lack of professional qualified employees (Onet, 2003).

This exploratory study is aimed at determining the understanding and the level of application of the TQM concept among the SME's in TRNC from managerial perspectives. This paper tests the underlying theory of the TQM concept. The identification level of application of TQM characteristics in SME's in TRNC will be the core of the empirical research.

LITERATURE REVIEW

The evolutionary philosophy of TQM, which stands as a testimony today, is due to the pioneering contributions made by several researchers (Juran, 1991; Deming, 1986; Feigenbaum, 1986; Crosby, 1991; Ishikawa, 1985) who propose the definitions on a variety of definitions on the quality concept and TQM in order to arrive at an understanding of theory on TQM. Juran (1991), stressed upon planning, improvement and control as essentials of quality management. Feigenbaum (1986), proposed the concepts of organization-wide quality control. Deming (1986) recommended 14 principles for effectively managing quality. Crosby (1991) proposed a 14-step zero defect quality improvement programs. Ishikawa (1985) has been credited with originating the concept of quality circles and cause-and-effect diagrams. The dominant emphasis of these pioneers was on top management leadership for quality, supplier quality management, process design and control, employee training and employee involvement in quality (quoted from Mohanty and Lakhe, 1998).

TQM integrates fundamental management techniques, existing improvement efforts and technical tools in a disciplined approach. The two researchers continue and mentioned that TQM is a collection of principles, techniques, processes and best practices that over time have been proven to be effective (Eng and Yusof, 2003). The rapidly increasing global competition that many industry sectors worldwide have been facing over the past decade, associated with rapid technological changes and product variety proliferation have led to a new scenario in which industries, in order to remain competitive, must continuously implement best practice management principles, strategies and technologies (Carpinetti et al., 2003). Below Figure 1 illustrates the theoretical model of this study.

Leadership: Instead of emphasis on controlling people, which has been the hallmark since the 1950's, we now need management styles and methods based on effective leadership and TQM (Goh and Ridgway, 1994). Kanji and Moura (2001) adopted the view that leadership today is an important new development and to regard it as a long-term relationship or partnership between managers, employees, customers and stakeholders. Hertzler (1994) reported that for TQM to be successful, leaders should work with subordinates towards a shared vision. Russel (2000), states that successful leaders anticipate change, vigorously exploit opportunities, motivate their followers to higher levels of productivity, correct poor performance and lead the institution toward its objectives. Graetz (2000), states that the goal of leadership should be to improve performance, increase output, and simultaneously bring pride of workmanship to employees. Schein (1980) also noted that leaders should introduce the principles of cognitive redefinition in effecting change in organizations. Cognitive redefinition is a task-oriented approach, suggesting the importance of performance leadership in effecting TQM change.

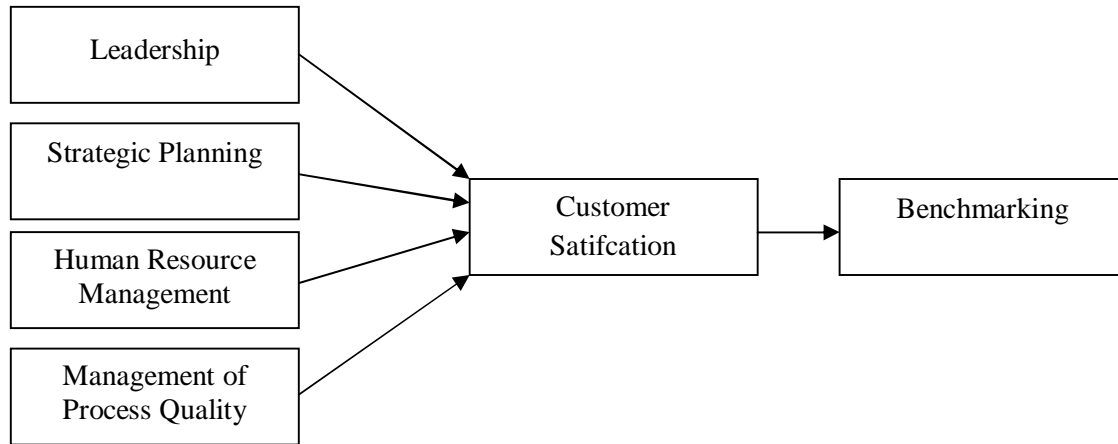
Strategic planning: Strategic planning implies an attempt to alter a company's strength relative to that of its competitors in the most efficient and effective way. Strategic planning focuses on the direction of the organization and actions necessary to improve its performance. It is the process by which firms derive a strategy to enable them to anticipate and respond to the changing dynamic environment in which they operate (Hewlett, 1999). According to Butz (1995), the way in which TQM is implemented affects its success. In support of Butz's point of view (1995), Ghobadian et al. (1998), noted that synergy between TQM and strategic planning will strengthen institutions' competitiveness and will enable them to achieve success in the modern institutional environment. Strategic planning thus provides the focus for TQM implementation. Full integration provides a basis for employees to understand the direction the institution is moving towards and how the new culture relates to the new direction. TQM alone cannot guarantee success, but TQM coupled with strategic planning offers the best hope, therefore TQM and strategic planning must become a single process.

Human Resource Management: HRM encompasses a variety of functions designed to manage, support and develop the employees of an organization. HRM is seen, as Soltani et al. (2004) points out, "as a holistic process, integrating all the functions of the personnel management into business strategy and planning". In relation to the link between TQM and HRM, Mohanty and Lakhe (1998) presented a substantial literature review and argues that quality practices in the area of HRM include a systematic and careful approach to recruitment, the use of teamwork and group problem solving, egalitarian work structures, commitment to training, performance and reward systems. Oakland and Oakland (2001) highlight some of the main people management activities currently being undertaken in the sample award winning companies. The core HR activities include: effective communication, teamwork, planned training and development, strategic alignment of HRM policies, employee empowerment, and continuous improvement. According to Hussain and Ozgurur (2002), HRM is of utmost importance in successful organizations; the underlining philosophy is that people are the organizations' most important assets.

According to Walker (1992) the challenge of managing human resources is to ensure that all activities are focused on business needs. All human resource activities should fit together as a system and be aligned with human resource strategies (Walker, 1992).

Management of Process Quality: Close attention to process management and control is a core issue in the management of quality. Quality practices that typify effective process management include clarity of process ownership and boundaries, documenting process management procedures, and cleanliness / organization of the workplace (Fynes, 1999). This component is where strategies are assigned a process owner who will lead the execution of the strategic plan. These process owners are the key individuals who will lead the execution of these strategies, participate in the management review process, and also drive the correct behaviors into the organization. It is also desirable for these sub-process owners to develop a relationship with the customers (Eng and Yusof, 2003).

Figure 1: TQM conceptual model



Customer Satisfaction: Customer service and satisfaction are at the core of any institution and the main focus of the TQM framework (Dean and Terziovski, 2001). Listening to the ‘customers’ and responding quickly to their changing needs, expectations and perceptions are some of the basic TQM approaches (Carpinetti et al., 2003). This can be a winning strategy towards attracting new customers and retaining customer loyalty (Eng and Yusof, 2003). The “customer” concept in TQM says that everyone should seek to identify customer needs. This must be coupled with the idea that everyone has a customer both within and outside the organization (Kanji, 2001). Thus, to be successful, an institution must have the right product, right price and right availability. The level of customer satisfaction is based on what customers hear, see and feel about these product attributes (Soltani et al., 2004). The results of customer satisfaction are an increase in market share (by the maintenance of current customers and the acquisition of new ones), cost reductions and improvement of performance of products and services. The tools are the methodologies and techniques used within the process, such as reliability engineering, statistical process control, and Taguchi methodology (Martins and Toledo, 2000).

Benchmarking: According to Morling and Tanner (2000), benchmarking is a positive, proactive process to change operations in an institution in a structured fashion to achieve superior performance. Wainwright et al., (2005), noted that much of the first part of the TQM journey was about raising awareness and recognizing problems and opportunities, while the second leg utilized benchmarking to optimize operations through finding and implementing better practices. According to Zairi and Leonard (1994), benchmarking is the continuous process of measuring products, services and processes against the strongest competitors or those renowned in their field. The idea behind benchmarking is to adapt good practices from other companies to make significant improvements in functions which seem to fall short of full

customer satisfaction. By reviewing practices from several best-in-class (BIC) companies, one may be able to form a set of practices which is adaptable and will lead to even better performance.

SME's in TRNC

According to Onet (2003), TRNC economy has the characteristics of a small country economy with a small population and a narrow land area. Most of the companies in TRNC, consist of manufactures for internal market, so they remain small and cannot obtain the scale advantage. According to Ministry of Commerce (2009) 85 percent of the companies operating in TRNC are categorized as SME. Most of these enterprises cannot reach quality in export, cannot satisfy the requirements of customers; high quality – low price, and also cannot do business in world markets due to the following reasons: (1) Transportation Problems, (2) Scale, (3) High Production cost, (4) Low Efficiency, (5) Being an Unrecognized Country Politically, (6) Politics and Economics Embargoes (7) Macro Economic Problems (Occurring due to common economic structure of the country) (Onet, 2003).

The ongoing protection of SME's in TRNC also blocks their need to provide necessary technological development, and it also blocks competition among the enterprises. So, In order to confirm the place of SME's in the important TRNC economy, it can consider the important indicators; (1) The number of enterprises according to their sizes, (2) The number of the people employed, (3) Added value they create.

The manufacturing sector in TRNC is comprised of small-scale, light industries ranging from processed agricultural produce, furniture, clothing, tobacco to plastic products (Arasli, 2002). The overwhelming majority of the manufacturing output is absorbed by the domestic market as exports are prevented to a certain degree by a number of constraints including difficulties in export markets, inability to attract new investments and to develop new industries, political constraints and cheap imports from Turkey (Arasli, 2002). TRNC has no comparative advantage in industrial goods in respect to neighboring Turkey and other EU countries.

METHODOLOGY

The primary objective of the study is to measure managers' perceptions of the quality management practices as well as which quality practices have been applied in their organizations, managers at the top level were appropriate subjects. The primary research data required for this research is firstly of a qualitative nature in order to derive issues to be included in the questionnaire. Qualitative research will be followed by quantitative research. The qualitative research will be executed by means of personal interviews with selected manufacturers with the main aim to identify important aspects to be included in the questionnaire (measurement instrument). This study has chosen personal interviews based on thinking that decision makers at the sample organizations will provide more precise information when interviewed person-to-person. The highest-ranking quality official managers of an organization were likely to be the 'suitable resource persons' (respondents) with respect to quality management practices in their organizations. If this person could not be identified, the survey would be carried out among the owners/directors or CEO's of the manufacturing enterprises in TRNC.

A survey questionnaire was designed in line with the Malcolm Baldrige/ Singapore Quality Award criteria (MBQAC). A five-point Likert scale was used (1= strongly disagree, 2= disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree). A synthesis of the literature shows that these dimensions are used in prior empirical studies (e.g., Quazi and Padibjo, 1998). The questionnaire was divided into two distinct sections. The first one contains questions about the back ground of the establishment. The second section included TQM related questions. A total of 35 statements (items) were used in the questionnaire to measure level of application of quality management issues. Quality management issues include leadership (LSHP), strategic planning (SP), human resource utilization (HRU), management of process quality (MPQ), customer satisfaction (CS), business outcome comparative (BOC). Two additional statements were also included to measure the ISO 9000 and TSE certification status of the responding companies.

This study uses the back-translated survey instrument by Quazi and Padibjo (1998) the survey instruments were originally prepared in English and then translated into Turkish by using a back-translation method (McGorry, 2000). The cross-linguistic comparability of the questionnaire was further tested with the faculty members of a Turkish university who were fluent in both languages. This was deemed necessary since the concern was not so much with a literal translation but with generating meaning which was as similar as possible to the original English version.

The population in question is all SME's in TRNC and the sample is a subset of this particular population as mentioned in chapter one. SMEs based on the number of employees (10-249) are chosen. Manufacturers were chosen based on their contribution to the percentage of people employed in TRNC. The sample size determined by this study is based on a sample proportion for an ending population of 196 SME's in TRNC. The sample size decided was 131 for SME's according to Sekaran (2003) who greatly simplified size decision by providing a table that ensures a good model. To enable the fieldwork of this study to systematically select the sample elements from the SPO list, every 5th element will be drawn systematically from the SPO list until a number of 80 SME were reached.

A sample frame as described in chapter six was obtained from the SPO and TO of the TRNC. The sample frame used in this study is shown in Table 1 depicting the SMEs employing 10-249 employees with a total population of 196 employees. The data have been collected between July – September 2010 with by using a convenience sampling technique. Out of 80 SEMs 71 were reached and included to the research with a response rate of 88.7 percent.

FINDINGS

The LISREL 8.30 for Structural Equation Modeling software package was used for data processing. Cross Tabulation, Validity, Content Validity and Criterion Validity are the main statistical procedures for possible inclusion in this research. The results of reliability coefficients and Pearson product-moment correlations as well as the results of descriptive statistics are presented for main study. Psychometric properties of scale are assessed through corrected item-total correlations and Pearson product-moment correlations. In addition to these analyses,

confirmatory factor analysis is used to evaluate the psychometric properties of the scales for main study.

Reliability and Validity Issues

Table 1 below shows corrected item-total correlations and reliability coefficients. When the whole items in the survey instrument are considered, coefficient alpha is 0.75 at the aggregate level. This means that the overall coefficient alpha exceeds 0.70 cut-off value recommended by Nunnally (1978). As for the reliability coefficients for each variable in the model depicted in table, coefficients alphas are 0.93, 0.90, 0.76, 0.74, 0.72, and 0.70 for business outcome comparative, customer satisfaction, management of process quality, human resource utilization, leadership, and strategic planning, respectively. All coefficient alphas are deemed acceptable. Low sample size is likely to be responsible for low alpha scores.

Here it should be noted that the instrument is subjected to a series of strict analyses, to be more precise exploratory factor analysis is utilized several times until statistically significant results were achieved. During this process 3 items were deleted from the scale due to their low factor loadings as suggested by Tabachnick and Fidell (1996). Out of these 3 items - 2 were from human resource utilization dimension and 1 from leadership dimension - were eliminated by following Nunnally's (1978) recommendations.

Table 1: Scale items, reliabilities, and corrected item-total correlations

| Scale Items | Corrected Item- Total Correlations | Cronbach Alpha |
|-------------------------------------|---------------------------------------|-------------------|
| Leadership (LSHP) | 0.80 | 0.72 |
| Human Resource Utilization (HRU) | 0.83 | 0.74 |
| Management of Process Quality (MPQ) | 0.79 | 0.76 |
| Strategic Planning (SP) | 0.78 | 0.70 |
| Customer Satisfaction (CS) | 0.83 | 0.90 |
| Business Outcome Comparative (BOC) | 0.79 | 0.93 |

Notes: Each item group is measured on a five point Likert scale. All correlations are equal to and/or above 0.32. Coefficient alphas for all dimensions exceed 0.70, except for explanation. A rigorous test was undertaken for the issues of convergent and discriminant validity, and dimensionality. Specifically, confirmatory factor analysis was employed to provide support for the issues of dimensionality, convergent and discriminant validity of the instrument. Table 2 indicates a reasonable fit of the six-factor model to the data on the basis of a number of fit statistics. Only 2 items were deleted from customer satisfaction dimension to increase the fit results, as suggested by Jöreskog and Sörbom (1996). As also demonstrated in Table 2, the majority of the factor loadings are above 0.70. Overall, these results provide support for the dimensionality, convergent and discriminant validity of the scale (Anderson and Gerbing, 1988).

Table 2: Scale items and confirmatory factor analysis results

| Scale Items | Standardized Loadings | T-test |
|----------------------------------------------|-----------------------|--------|
| Leadership (<i>LSHP</i>) | 0.81 | 5.62 |
| Human Resource Utilization (<i>HRU</i>) | 0.74 | 5.05 |
| Management of Process Quality (<i>MPQ</i>) | 0.81 | 8.70 |
| Strategic Planning (<i>SP</i>) | 0.78 | 5.30 |
| Customer Satisfaction (<i>CS</i>) | 0.77 | 8.05 |
| Business Outcome Comparative (<i>BOC</i>) | 0.77 | 7.90 |
| Fit Indices: | | |
| Chi-square / df | =3.98 | |
| GFI (Goodness of Fit Index) | =0.94 | |
| AGFI (Adjusted Goodness of Fit Index) | =0.91 | |
| NNFI (Non-Normed Fit Index) | =0.96 | |
| CFI (Comparative Fit Index) | =0.97 | |
| RMR (Root Mean Square Residual) | =0.038 | |

Notes: Each item group is measured on a five point Likert scale. All loadings are significant at 0.001 level or better.

In order to provide support for discriminant validity, Pearson product-moment correlations among the study variables were computed. For this purpose, composite scores for each dimension were calculated by averaging scores representing that dimension. As demonstrated in Table 3, the significant correlations among the study variables ranged from 0.34 (business outcome comparative and human resource utilization) to 0.70 (management of process quality and leadership). Since all correlations were below 0.90 (Tabachnick and Fidell, 1996), it can be concluded that all dimensions are distinct, providing evidence for discriminant validity. Means and standard deviations of composite scores of the study are also given in Table 3. Overall, these results provide additional support for the discriminant validity of the scale.

Table 3: Means, standard deviations, and correlations of study variables

| Variables | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------------------|--------|--------|--------|-------|-------|-------|
| Human Resource Utilization (<i>HRU</i>) | 1.00 | | | | | |
| Leadership (<i>LSHP</i>) | 0.45* | 1.00 | | | | |
| Management of Process Quality (<i>MPQ</i>) | | 0.55** | 0.70** | 1.00 | | |
| Strategic Planning (<i>SP</i>) | | 0.46* | 0.35 | 0.39* | 1.00 | |
| Customer Satisfaction (<i>CS</i>) | 0.65** | 0.63** | 0.51** | 0.41* | 1.00 | |
| Business Outcome Comparative (<i>BOC</i>) | | 0.34** | 0.51** | 0.40* | 0.36* | 0.40* |
| Mean | 4.35 | 4.05 | 4.20 | 4.06 | 4.33 | 3.94 |
| Standard deviation | 1.58 | 0.57 | 0.55 | 0.65 | 0.79 | 1.00 |

Notes: Composite scores for each measure were obtained by averaging scores across items representing that measure. The scores range from 1 to 5. A higher score indicates a more favorable response ($p < 0.05$ and $p < 0.01$).

CONCLUSIONS AND IMPLICATIONS

The empirical finding of this research is that the main finding from the realization rate is that (71/80) 88,7% of respondent people within SME's of the sample in TRNC with between 10-249 employees indicated that their organizations know of and apply TQM concept in their SME's. The SME's industrial sector in TRNC is mainly engaged in the light industries of food, clothing, furniture and light metal works. The four leading SME's industries in TRNC (food, beverage and tobacco production industry, leather and clothing production industry, furniture production industry, and metal production industry) employ the majority of the industrial workforce. One in five SME's engaged in the manufacturing sector in TRNC possess an ISO9000/9001 certificate.

Only a small number of the SME's in the manufacturing sector possess TSE certificates. The percentage of quality certificates is higher when TSE and ISO9000/9001 certificates are added together. Almost one third of the SMEs in the industrial sector possess an international quality certificate. The SME's management in TRNC represents a leadership which supports and gets involved with TQM issues. Although training is strongly sought after there are financial difficulties in obtaining the most necessary training. Managers or the directors of SME's in TRNC, apply the general quality values at their workplace and value them seriously. Moreover, due to the current economic problems in TRNC, SME appear to have long-term and systematic strategic plans. In other words, they focus on short-term solutions to save the day, such as minimizing the number of employees, or buying the cheaper materials. This may be due to financial costs involved in training for career growth and due to the number of the working employees at each unit not being large enough to form teams. The responding SME managers are aware and apply the management of process quality at their workplaces. The application of statistical techniques is only slightly less due to a lack of training and academic background. The SME's management in TRNC appears customer oriented emphasizing TQM issues. Respondents reported enjoying high revenues, profitability, and an increase in the number of customers due to TQM applications.

The empirical investigations of this study have revealed that the SMEs management in TRNC represents a leadership which highly supports and gets involved within TQM issues. Managers or the directors of SMEs in TRNC apply the general quality values at their workplace and value them highly. SMEs in TRNC emphasize and make an effort to address human resource utilization in TQM issues. The responding SMEs' managers are aware and apply management of process quality at their workplace. The SME's management in TRNC appears customer oriented emphasizing TQM issues. The responding SME's reported enjoying high revenues, profitability and an increase in the number of customers due to TQM applications. Out of the 71 responding organization a total of 13 (18 %) had ISO9000/9001 certificates and only 6 (8 %) had TSE certificates. This is a small proportion relative to possessing ISO9000/9001 certificate. The result showed that the percentage of ISO9000/9001 quality certificates is higher than TSE certificates.

Empirical findings reveal that the established scales provided sound psychometric properties. The instrument has been found to have convergent and discriminant validity as well as acceptable reliability coefficients. As for the hypothesized relationships, all hypotheses are supported by the empirical data. As an important note, our findings provide support for the generalizations of the previous study results (Quazi and Padibjo, 1998). Based on the results provided in this study, the major findings in this paper cannot be generalized beyond the circumstances and conditions in which they occurred. The results are only representative of SME's in TRNC, employing 10-249 people.

The following recommendations are put forward based on the literature review and the empirical results achieved in this research: A comparative study among micro and large organizations in TRNC should be done to draw possible comparisons and to provide better clarity on the current debate on the practical application of the TQM concept by using the same methodology and measurement instrument. Further empirical research is needed on the use and applicability of the TQM concept in TRNC concentrating on micro organizations, due to the contribution of small organizations to the local economy expressed by their contribution to employment. More empirical research on the TQM concept is necessary to enable small and medium size business people globally to use the TQM concept as a foundation and guideline to improve business performance in the TRNC. This study used leadership, strategic planning, human resource management, customer satisfaction, management of process quality, and benchmarking criteria to find out the level of application of TQM in TRNC. The inclusion of other constructs in the model such as EFQM and Australian Quality Criteria Framework would provide further insights to understand the application level of TQM in TRNC.

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