

Artículo de investigación

Levels of readiness in total quality management

Niveles de preparación en la gestión total de la calidad

Níveis de prontidão na gestão da qualidade total

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Nazım Serkan Burgul (Corresponding Author)¹Simay Kanan²Özgü Bayraktar³Osman Emiroğlu⁴Ahmet Güneşli⁵^{1,2,3,4,5}Near East University. e-mail: nazim.burgul@neu.edu.tr

Tel.: +90 542 851 30 15

Abstract

The aim of this study was to define the perceptions of instructors of Near East University based on their level of readiness for total quality management. Total quality management is a management mentality that provides institution or organization with maximum productivity, reduced level of defects, high level of satisfaction for participants and principles of democracy within a company. Acceptance of total quality management as a mentality rather than a tool seems to be the most important way to implement it successfully. For this purpose, a special questionnaire has been prepared, which was checked for its reliability and validity by Cronbach's Alpha analysis (.963). The questionnaire was composed of two parts. The first part included personal information, whereas the second part focused on the students in terms of the centered, quality concept centered, continuous education centered, management, manager and leadership centered, measurement of quality centered and organization structure centered factors of total quality management. A total of 69 suggestions were related to these factors. The research was conducted with 120 participants who were instructors at Near East University and also residents of the Turkish Republic of Northern Cyprus. Collected data were analyzed by the SPSS 12.00 statistical package program through T-Test, Variance Analysis (ANOVA) and LSD Test. Furthermore, descriptive interpretations have been made by using frequencies, percentages, standard deviations and arithmetical

Resumen

El objetivo de este estudio fue definir las percepciones de los instructores de Near East University en función de su nivel de preparación para la gestión de calidad total. La gestión de la calidad total es una mentalidad de gestión que proporciona a la institución u organización la máxima productividad, un nivel reducido de defectos, un alto nivel de satisfacción para los participantes y los principios de democracia dentro de una empresa. La aceptación de la gestión de la calidad total como una mentalidad en lugar de una herramienta parece ser la forma más importante de implementarla con éxito. Para este propósito, se preparó un cuestionario especial, que fue verificado por su análisis de Alpha de Cronbach (.963). El cuestionario estaba compuesto por dos partes. La primera parte incluía información personal, mientras que la segunda se centró en los estudiantes en términos de centrado, concepto de calidad centrado, educación continua, administración, gestión y liderazgo centrado, medición de la calidad centrada y factores centrados en la estructura de la organización de la gestión de la calidad total. Un total de 69 sugerencias se relacionaron con estos factores. La investigación se realizó con 120 participantes que fueron instructores en la Universidad del Cercano Oriente y también residentes de la República Turca del Norte de Chipre. Los datos recopilados se analizaron mediante el paquete estadístico SPSS 12.00 a través de T-Test, Variance Analysis (ANOVA) y LSD Test. Además, se han realizado interpretaciones descriptivas utilizando

means. In this study, the perceptions of Near East University instructors based on their readiness level for total quality management were identified. Additionally, the instructors perception levels were analyzed according variables of: faculty/vocational school, employment status (full time/part time), degree level, education field, gender, professional level and position were analyzed. Based on these variables, their perceptions of student centered, participation centered, quality concept centered, continuous education centered, management, manager and leadership centered, measurement of quality centered and organization structure centered were analyzed.

Keywords: Quality, management, education, total quality.

frecuencias, porcentajes, desviaciones estándar y medios aritméticos. En este estudio, se identificaron las percepciones de los instructores de la Universidad del Cercano Oriente según su nivel de preparación para la gestión de la calidad total. Además, se analizaron los niveles de percepción de los instructores según las variables de: facultad / escuela vocacional, situación laboral (tiempo completo / tiempo parcial), nivel de grado, campo de educación, género, nivel profesional y posición. Sobre la base de estas variables, se analizaron sus percepciones de centrado en el alumno, centrado en la participación, centrado en el concepto de la calidad, centrado en la educación continua, gestión, gestión y liderazgo, centrado en la calidad y centrado en la estructura de la organización.

Palabras claves: Calidad, gestión, educación, calidad total.

Resumo

O objetivo deste estudo foi definir as percepções dos instrutores da Universidade do Oriente Próximo com base no seu nível de prontidão para o gerenciamento da qualidade total. A gestão da qualidade total é uma mentalidade de gestão que proporciona à instituição ou organização o máximo de produtividade, reduzido nível de defeitos, alto nível de satisfação dos participantes e princípios de democracia dentro de uma empresa. A aceitação da gestão da qualidade total como uma mentalidade, e não como uma ferramenta, parece ser a maneira mais importante de implementá-la com sucesso. Para tanto, foi elaborado um questionário especial, que foi verificado quanto à sua confiabilidade e validade pela análise de Alpha de Cronbach (.963). O questionário foi composto de duas partes. A primeira parte incluía informação pessoal, enquanto a segunda parte focava nos estudantes em termos de centrado, centrado no conceito de qualidade, centrado na educação continuada, gestão, gestor e liderança centrada, medição dos fatores centrados na qualidade e centrados na estrutura organizacional da gestão da qualidade total. Um total de 69 sugestões foram relacionadas a esses fatores. A pesquisa foi realizada com 120 participantes que eram instrutores da Universidade do Oriente Próximo e também residentes da República Turca do Norte de Chipre. Os dados coletados foram analisados pelo programa estatístico SPSS 12.00 por meio do teste T, Análise de Variância (ANOVA) e Teste LSD. Além disso, interpretações descritivas foram feitas usando frequências, porcentagens, desvios-padrão e meios aritméticos. Neste estudo, foram identificadas as percepções dos instrutores da Universidade do Oriente Próximo com base em seu nível de prontidão para a gestão da qualidade total. Além disso, os níveis de percepção dos instrutores foram analisados de acordo com variáveis de: faculdade / escola profissionalizante, situação empregatícia (tempo integral / meio período), grau, escolaridade, gênero, nível profissional e posição. Com base nessas variáveis, suas percepções de centrada no aluno, centrada na participação, centrada no conceito de qualidade, centrada na educação contínua, centrada na gestão, gerente e liderança centrada, medição da qualidade centrada e estrutura organizacional centralizada.

Palavras-chave: Qualidade, gestão, educação, qualidade total.

Introduction

The total quality method was developed by combining the Japanese work ethic and cultural traits with their successful production (service) technique approaches that they have developed

over hundreds of years. Fredrick W. Taylor (1911) founded the scientific management movement with his studies in the area of time and work (-Başaran-, 2014) showed that the use

of statistical quality tools during application will enable the mistakes system to be determined and solved. The Martin Company (1962) determined that it is possible to produce a zero defect rocket system for the first time. In 1950, W. Edwards Deming (1950), gave a speech at a conference as a guest of the Union of Japanese Scientist and Engineers that described quality control techniques for industrial products. The fact that the human resources continually consulted each other and proposed recommendations to better the system during the country's production phase caught the interest of Deming and motivated him to start the new philosophy and procedures for quality production processes. Deming appeared prominently on an NBC TV documentary on quality and its applications (1980) which led to the general opinion among the American public that "If the Japanese can do it, why can't the Americans". The Us Federal Government embraced this view and made encouraging decisions that resulted in its dissemination among different industries, as well as health, education and other public and private organizations (Başaran, 2014).

The total quality principles started to become popular in the American educational systems in 1990. Numbers of educational organizations that apply these principles starting from pre-school to higher education and postgraduate programs at universities continues to increase. These applications cover both education, management and support services departments as well as classroom education, program development, and management or only in the support service department as pilot studies (Aksu, 2012).

The Fox Valley Technical College in America focused on developing customer services within their total quality management procedures and achieved impressive results. The results showed that 90% of graduates found employment, the number of students leaving the university decreased by 32%, agreements that were made with other universities that led to many students graduating early, increasing financial support from their surroundings and academic and administrative activities increased.

In 1992 Albeda College in the Netherlands decided to apply the total quality management method with the aim of using their resources more effectively, they applied this philosophy by focusing on solving communications instead of education, and this solved the most problematic

areas. They aimed to increase transparency, participation and commitment through this process.

The Aarhus Business School in Denmark (1995) made a pre-application assessment and decided that applying the total quality management method to their educational associations would be less problematic for them when compared to other organizations. Vaal Triangle (1995) which is connected to North-West University in Potchefstroom, South Africa and Aston College (1995) in England started the total quality management method in order to overcome the financial crisis in which they found themselves. The first results that were reported from Africa showed that this was extremely successful; furthermore, Aston College, which started applying this method in 1970, still aims to spread quality throughout the university through continuous projects.

North Carolina University started its studies in total quality management in 1988. An internal department was firstly established and all aspects of the process were monitored by this department. The duty of the department was to apply the quality and responsibility principles in the faculties, occupational and specialisation schools, management and support units throughout the university. The department presents reports to the higher management sectors of the university with regards to their work. They help and inform all lecturers and all other members of staff in regard to increasing quality. The university faculties select their own total quality management coordinators amongst themselves (Berry, 2012).

More than 1.300 lecturers have attended corporate effect training programs and 400 workers have participated in 41 official planning and improvement programs since July 1998 at North Carolina University in terms of total quality management. Furthermore, the university accounting, information systems and press departments have started to work on total quality management systems. Cook (1994) evaluated the students working individually and in groups in order to continuously improve quality in his study that he conducted at Santa Fe College, New Mexico. According to this research, 82% of the participants reported their views with regards to the necessity of continuous developments and updates within education (Özevren, 2012).

Ergül (2010), conducted a study on the applicability of total quality management, in which the perceptions of Gazi University academicians were analysed. These perceptions were analysed to show if there is a correlation between faculty, academic title, branch, gender, occupational experience and being a manager or not. By means of sub-levels of total quality management (being customer centred, sustainability in efficient education, continuous improvement), the study aimed to find answers in three groups for the perceptions of academicians by developing sub-purposes. In this framework, a meaningful difference between staff structure and duties was found (Ergül, 2010).

Methods

- **Research Model:** As this study aims to determine the level of academicians preparedness for total quality management, it is conducted as a general survey type descriptive research. As the objective was to ascertain the perceptions of academicians regarding their level of readiness for total quality management and data that can differentiate relative perceptions

like faculty, staff structure, title, branch, gender, experience and duties survey represented the best method, survey modelling was used.

- **Population and Sample:** The population of the study consisted of academicians working at Near East University between 2013 and 2014, which is a private university located in Nicosia. One hundred and twenty academicians who were working in the TRNC on a full time or part time basis were included in the study out of total of 385 academicians employed at NEU. The study population included 5 academicians from the Faculty of Engineering, 18 from the Faculty of Economics and Administrative Sciences, 11 from the Faculty of Architecture, 14 from the Faculty Arts and Sciences, 6 from the Faculty of Maritime Studies, 8 from the Faculty of Law, 5 from the Faculty of Communications, 4 from the Vocational School of Tourism and Hotel Management, 24 from the Vocational School of Physical Education and Sports, 14 from the Faculty of Education and 11 from the English Preparatory School. As the aim was to reach all academicians living in the Near East University campus in TRNC, a sampling method was not used. The characteristics of the academicians are shown in Table I.

Table I. Distribution of Academicians Included in the Study

Variables	N
Faculty of Engineering	5
Faculty of Economics and Administrative Sciences	18
Faculty of Architecture	11
Faculty of Arts and Sciences	14
Faculty of Maritime Studies	6
Faculty of Law	8
Faculty of Communications	5
Vocational School of Tourism and Hotel Management	4
School of Physical Education and Sports	24
Faculty of Education	14
English Preparatory School	11
Full Time	96
Part Time	24

Professor	6
Associate Professor	14
Assistant Professor	25
Instructor	56
Research Fellow	6
Specialist	3
Lecturer	10
Social Sciences	42
Life Sciences	29
Educational Sciences	49
Female	47
Male	73
0-5 Years	38
5-10 Years	36
10-15 Years	29
More than 15 Years	17
Dean/Headmaster	5
Head of Department	11
Head of Sub-Department	9
Academician	95

Data Collection Tool

In this study, based on the concepts of successful total quality management philosophy, the aim was to determine the perceptions of academicians working in higher condition in regard to their level of preparedness for total quality management. This was analysed using a survey designed by a specialist.

- Data Collection: The application of the survey created to collect data was approved by the Near East University rectorate. Subsequently, the researcher himself delivered the survey forms to the academicians and provided the necessary explanations (1 November 2013-1 January 2014). Within this process, the only complaint that was made was regarding the survey was that it was excessively long. Their attitude towards the subject while completing it was very encouraging and positive. However, due to unknown reasons, 8 academicians did not read or evaluate the survey. Therefore, a

total of 128 surveys were distributed and 120 were collected.

- Analysis and Review of the Data: The collected surveys were first verified to determine whether they were in accordance with the directions and those that were invalidated were disregarded. The opinions of academicians were evaluated based on the following possible responses "Always," "Above Average," "Average," "Below Average," "Never". The collected data was analysed with SPSS 12.00 (The Statistical Packet for The Social Sciences) statistics software computer.

Frequency, percentage, arithmetic mean and standard deviation values were used to determine the perceptions of the level of preparedness of the staff of Near East University for total quality management. In the comparison between the factors, t-Test, ANOVA and LSD Test were used. During the ranking, high score or high percentage items were interpreted as high level of readiness while low scores or low

percentage items were interpreted as low level readines.

Findings and Comments

This chapter consists of two sections in accordance with the research objectives based on total quality the acedemicians perceptions regarding their readiness for total quality management. While personal information can be found in the first section, finds related with total quality control perceptions and comments can be found in the second section.

- Findings related with personal information and comments: In this section, the personal information of the academicians; is presented including their positions, professional seniorities,

genders, fields, titles, staff structure and the faculties which they belong. The gathered data were tabulated based on frequencies and percentages.

- The distribution of academicians was as follows %4.2 of the individuals who participated in the survey were deans/manager, %9.2 percent were department heads, %7.5 were sub-department heads and %95 of them were academicians. When the professional seniority is examined, it can be seen that %31.7 had 0-5 years of experience, %30 had 5-10 years of experience, %24.2 had 10-15 years of experience and %14.2 had more than 15 years of experience. 47 females (%39.2) and 73 males (%60.8) participated in the reseach.

Table 2. The T-Test Results Of The Academicians On Total Quality Management Readiness Levels Based On Gender

Gender	N	SS	Sd	t	P
Female	47	236.34	42.31	.170	.86
Male	73	234.89	47.64		

P<.05

As car be seen in Table 2, the gender variable is not effective on the perceptions of academicians in regard to their total quality management readiness levels. In other words, there is no significant difference by gender in regard to level of readiness of the academicians for total quality management (.86 > .05). Parallel to this finding,

Ergül also suggested that there is no significant difference in the level of readiness of male faculty members for total quality management in coparisor to female faculty members. Ören reached the conclusion that there is no meaningful difference in terms of the gender variable (Ören, 2007).

Variance Analysis of Academicians According to Variables (ANOVA)

- Findings and Comments:

Table 3. ANOVA Test Results of the Level of Readiness for Total Quality Management According to the Duties of Academicians

Source of a variance	Sum of squares	Degree of freedom	Quadratic mean	F	P
Intergroup	33278.40	3	11092.80	6.05	.00
Intragroup	212561.40	116	1832.42		
Total	245839.8	118			

P<.05

As can be seen in Table 3, there is a statistically significant difference between the groups ($.00 < .05$). This difference between the groups was checked with the LSD Test to determine which groups were included, and the results are shown in Table 30.

Results

The philosophy of total quality management that has affected the industry in recent years; does not aim to diminish the defective products and/or services during the final stage of the production, but to keep the system effective and productive with quality operations.

In this research, the level of perceptions about the level of readiness of the academicians at Near East University on total quality management was investigated. Additionally, the perceptions of the academicians were examined based on: faculty/vocational school, staff structure, title, field, gender, professional seniority and vocational variables, while the perceptions of the academicians were examined based on: student focus, participant focus, sense of quality focus, constant improvement focus, management - manager and leadership focus, quality measurement focus and organizational structure focus.

- Results of student centred aspect of instructors: Analysis of the perceptions of instructors in terms of student centred quality management reveals that they agreed to enforce the six articles related to educational programmes, their wants, criticisms, out of class methods of learning and solving problems with a score of "more than average" (between 68.01%-84%). However, they only agreed to the enforcement of the two articles that suggest that the complaints of the students are considered as well their creativity is encouraged with a "moderately frequent" (between 52.01%-68%) and an item related to effective guidance service with "less than average" (between 36.01%-52%).

- Results of participation centred aspect of instructors: Analysis of the perceptions of instructors regarding the participation centred quality management reveals that they always enforce the rule of holding everyone responsible for participation and procedures with an average response of "always" (between 84.01%-100%). The instructors agree to the participation of processes regarding legislature about themselves

and democratic perspective of the university administration with an average response of "more than average" (between 68.01%-84%). However, they agreed with the items about the participation of students, the workers, and teamwork with a score of only "average" (between 52.01%-68%).

- Results of quality centred aspect of instructors: Analysis of the perceptions of instructors regarding the participation centred quality management indicates that they agreed to always enforce the article of the relation between the quality and adequacy on success with an average response of "always" (between 84.01%-100%).

However, they agreed to the nine items that enforce teamwork in academic success, effectiveness of the graduates in their fields of work, satisfaction of students, characteristics of students, instructors and administrators, satisfaction of the environment, making new values, along with the adequacy of infrastructure (between 68.01%-84%). The average response was "average" to the question that asked about the proficiency of instructors in computer technologies (between 52.01%-68%).

- Results of continuous development centred aspect of instructors: Analysis of the perception of instructors about continuous development quality management shows that they agreed with a score of "more than average" to the three items that suggest adaptation to change in educational sciences due to continuous development and use of resources, and administrations constantly pushing instructors to develop (between 68.01%-84%). However, the average response was "average" to the items about transference of technological changes into university environment, teamwork in problem solving, using modern teaching methods examination system, being systematic in problem solving and performance evaluations (between 52.01%-68%).

- Results of continuous education centred aspect of instructors: Instructors agreed with the items that supported in service educational activities towards administrators and at work educational activities in terms of continuous education with "more than average" (between 68.01%-84%). However, the average reply was "average" to the five items that gave in service educational activities towards instructors, and the planning of these events when necessary

(including administrators) as well as the adequacy of at work educational events towards administrators and public focused on in service educational activities (between 52.01%-68%).

- Results of administration, administrator and leadership centred aspect of instructors: Analysis of the perception of instructors about administration, administrators and leadership centred quality management reveals an “above average” response to the three items that suggested factors which lead to form the “us awareness”, high number of professional administrators and administration that are trying to form a vision is (between 68.01%-84%). However, the items that suggested that the administrators are for removing obstacles standing in front of success and bureaucracy is in abundance was scored as “average” (between 52.01%-68%).

- Results of evaluating quality centred aspect of instructors: Analysis of the perception of instructors about the total quality management of evaluation of quality showed a response of “always” the item that stated evaluation of quality brings personal success and is important for the success of the university as well (between 84.01%-100%). Furthermore, they agreed with “above average” to the items that suggested the teaching-learning processes and the indicators of society’s satisfaction (between 68.01%-84%). However, they replied with “average” to the five items that suggested that there is a process of organised evaluation, measuring success and improving processes, feedback, objective scales (between 52.01%-68%).

Results of organisation structure and reward system centred aspect of instructors:

Analysis of the perception of instructors about the organisation structure and reward system centred total quality management shows that they answered with “above average” to the four items that suggest teamwork towards mutual goals, regulating student relationships, instructors providing guidance and effective communication for instructors (between 68.01%-84%). On the other hand, they replied

with “average” to the seven items in the survey that suggested that the workers are happy with their jobs, the process of operation towards mechanisms of decision making towards students and instructors (between 52.01%-68%).

Recommendations

An organisation that has implemented quality management; it not only finds solutions to problems but it also brings new horizons aimed at improvement. It does not cause an increase in cost if applied. If total quality management can be regarded as a foundation in improving quality of education, items such as “quality of instructors, teaching methods, modern class management, student satisfaction, productivity and continuous development”, which are regarded as indicators of a school’s quality, will continue in an effective manner.

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