A Study on Total Quality Management in Higher Education Industry in Malaysia

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Abstract

Total quality management (TQM) has grown and defined in so many industrial organizations but nowadays TQM is playing a vital role in educational field. This paper briefly reviews how total quality management operates in the industrial field and clarifies how the philosophy of TQM may be translated into the educational field; it also explains how lecturers of universities implement total quality management processes and concepts in their classrooms and highlights the relationship between these factors. Target population of the study was 112 lecturers of five famous universities in Malaysia and a questionnaire has designed by researcher as a study instrument. SPSS has used as a analyzing software for comparing and analyzing data.

Keywords: Total quality management (TQM), Rewards, Commitment, Teamwork, Involvement, Training, Funding.

1. Introduction

Total quality management (TQM) is a famous management method. This method was developed by Deming in US industry during and before the Second World War .This method began in USA but being further refined by the Japanese industry. That time TQM was just important for the industrial sector .So many businesses have realized that total quality management can be beneficial in services but now it can also be a vital factor for educational sector. So many universities are using TQM and it shows that TQM is one the concepts which is related to managing innovation. Hence, all personnel should be ready to embrace this method. However it's a big mistake that managers implement TQM without training .Training is an effective means of enhancing employees' skills and abilities.

The second step is the review of culture of commitment .Staff members should know their responsibilities and after that if they have a good workplace and system. They will share their ideas and this system leads to a good decision making process. Review of management's role is the third step .This step allows all levels of managers to participate in decision making and they can identify their ability and potentials. Authority to change is the next step and it allows employees to analyze their problems .The most important problem of management is giving an opportunity to employees for collecting and evaluating data .Managers should ensure employees provide feedback for further suggestion. The final step is review of rewards system .If employees recognize that there is a reward for their contributions .So they will improve their performance and it shows that high performance has a significant relationship with rewards and recognition. If we analyze performance of Japanese companies we can find that companies can easily improve the quality without any changes in prices (Drucker, 1985).

Quality is seeking and perceiving the customer's needs and knowing how we can satisfy their expectations and needs and execute activities to improve our products and services. With quality improvement, we can satisfy our customers and increase their loyalty so as to keep our sales and profits. All of us are interested in quality in education because the future of a country depends on its children and university should provide the best instruction. Using quality framework in higher education can lead to many benefits. William Edwards Deming defined two vital problems in order to implement of TQM. Performance evaluation is the first problem which is related to job satisfaction and the other one is concentrating on short term goals that can be a big obstacle for planning the long term goal.

Joseph M. Juran introduced a model with three processes for solving these problems .He believed that managers can improve quality with three steps; quality planning, quality control and quality improvement. But this model did not consider the cost of quality. William E. Conway, one of the co-founders of The Carlyle Group introduced a plan for reducing cost of quality. He defined three main costs for quality and he mentioned that every organization needed to consider these items; cost of conformance, cost of nonconformance and cost of last opportunities. There had been very few studies on the implementation of total quality management in universities. There had been few studies on total quality management processes and concepts being presented and used in the classroom. This paper highlights the factors that contribute in the implementation of TQM in higher education institutions in Malaysia and Highlights the relationship between these factors. Moreover, define a framework for this study. The organization of this study is based on 5 universities in Malaysia; Multimedia University, University of Putra, Limkokwing University, University of Malaya and UCSI University involving 112 lecturers as participants of survey.

2. Previous Research

Students, their families, education and government administrator, all are requesting for good quality education for students. However, the question is that "what does high quality education mean?"Education and the results and consequences obtained from it, lack industrial attraction, due to a relatively long period needed to observe the achievements which makes practice of quality management approach in education even less favourable (Seymour, 1994).Considering that there is no single thought about the quality of education centres in different societies; therefore, it is first important to achieve an appropriate understanding of the concept of academic education. Such a definition could be a guide to regulate the educational systems in society and it can help to organize educational centres (Zuckerman, 2000).

In selection of patterns and methods of quality management, which has notably developed in commercial and industrial units, paying attention to special differences of education and industry is of significant importance. It is really important that we know university is not a factory and students are not a product. However, educating students is a product.In successful completion of training product, students need to have active cooperation, same as a worker and believe in managing the E-learning process. The point is that, teaching and learning are two different processes (Noonan, 2006). Teaching is more similar to management rather than observing detailed activities. Learning, on the other hand, is similar to research and development processes rather than a set of processes. In industry, every manager needs quality management to have an appropriate governance system to determine the customer needs in a rational process (Senge, 2007).

TQM is a management policy, which becomes a tool for utilization and exploitation of all human, finance and technology resources in educational institutions. The most important goal of the educational organization management is to utilize staff capabilities, which can be easily achieved through TQM system. The meaning of the concept of TQM is to use physical and intellectual capabilities of staff in different levels of an organization. Instead of one person or unit being in charge of teaching and learning, TQM best optimizes participants within the organization at all levels. TQM uses employee capabilities in all activities and processes and makes cooperation practical and tangible (Schargel, 1994). In spite of great efforts in industry, education and health to improve quality of life, our educational organizations and centres still suffers from low quality in many aspects, including education. TQM improves educational organizations in many ways such as improving education process, making educational environment become motivating, improving educational curriculum, boosting the speed of training services and reducing costs (Peak, 1995).

The process toward total quality in universities and educational centres is a slow and steady process. Change in TQM needs time; this change can be achieved with patience, cooperation and assistance. Universities and educational institutes could be successful in implementing the TQM method, if they have cooperation of the managers, which means having knowledge, belief, confidence and skills towards TQM. However, support of senior and mid-level managers of educational centrs is very effective. Lack of support from managers does not mean the failure of TQM; it only slows down the process of success. Participation, interest, knowledge and commitment of university employees, especially lecturers and faculty members in TQM could greatly decrease the effect of lack of support. Their participation means that they are dedicated and committed in implementation of TQM (Frong, 2007).

Management style must be firm and visible based on participation to judge practically and fairly about values and strategies, not to be solely based on personal power of the manager. Managers and all staff must have a deep understanding and belief towards TQM in educational organizations and they know benefits of continuous improvement. To achieve this, first, all individuals must acquire sufficient instruction; second, practically experience the effect of TQM in universities and educational organizations. The second step in the development of TQM is the development of knowledge, attitude and skills of employees. The effectiveness of TQM is more on the knowledge of people. Knowledge is directly related to attitude and skills. The more knowledge people acquire, the more they change their attitude and they become more successful. The attitude and approach towards TQM facilitate university resources, or the opposite, block the path of its success (Boothe, 1990).

Like dynamic systems, organizations are in connection with other social systems and they have interactive effects on each other. On one hand, they should adapt to their environment in order to survive, on the other hand, they should influence their environment by offering services and products (Peters, 1999). In recent years, electronic microchip, network production and nanotechnology in technology improvement has created new topics such as E-commerce, E-learning, E-banking, etc. developments of technology and science shows that any change and progress is the result of new insight to education, and education could be called infrastructure of technology development (Schroeder, 2001). TQM is a consistent effort for continuous improvement of processes, products, services and all organization activities in order to meet all customer needs, enhancing competition and achieving optimum level of work, related to changing the environment. According to definitions of American institute, DOD, TQM is a management system, consisted of principles and operation rules, which is based on continuous and gradual improvement of the organization, and its goal is satisfaction of customers (Sherr, 1995).

Murgatroyd and Morgan (1993) offered a practical model of implementing TQM principles at schools, which seem to be practical in universities as well. This model is based on three factors: trust, commitment of leadership and empowering. Trust is a foundation, which depends on many aspects of the organization culture. Leadership commitment to TQM must be evident. Empowerment is attainable through devolution of responsibilities and education. In Murgatroyd and Morgan model, three factors of culture, communication and commitment are effective in the formation of TQM thinking, which the outcome is goal setting, strategies, tools and team working. In this model, the interaction between strategies and goals, tools and teams and their dependency to culture is characterized and a condition that affects the organization is created through communication and commitment.

There are so many definitions for customer in industrial field but in the educational field how is the customer? Actually there is not a clear understanding of who is a customer in institutions but in the field of education student can be a customer .Also faculties can called customer and they need to talk each other to see what they want and which factors can lead to quality improvement .Faculties should consider customer orientation because of teaching – learning process improvement and if they create a good customer orientations plan so they can make recommendations for continues improvement for learning (Chizmar, 1994). An initial step in total quality management implementation is to assess the organization's current fact. Relevant preconditions must do with the history of organization, its current needs, precipitating events leading to total quality management, and the existing employee quality of working life. If the current fact does not include vital preconditions, total quality management implementation must be delayed until the organization is in a state in which total quality management is likely to succeed (Eakin, 1993). It's an axiom that funding should be available in the institution to provide training in total quality management usage and concept (WaltonMary, 1993). Undoubtedly, Training is a vital element for any implementation of TQM in higher education institutions .The first level that has to define training is executive level in the organization (Meyer, J P and Allen, N J, 1991).

When organizations define training in this level people can easily understand the concepts and procedures .In this case an internal trainer has to define all of the concepts of total quality management and its application. There are three levels for implement training in total quality management in higher education. The first level is Plan (P) .In this level the management defines the time frame for achieving goals , the delivery model , the roles and responsibilities and detail of assessment .All of these processes lead to an excellence performance . The second step is Control (C) .Control can proceed from total quality management, but not the other way around. TQM is a structured system for satisfying external and internal customers and suppliers by continuous improvement, integrating the business environment, breakthroughs with development, improvement, and maintenance cycles while changing organizational culture (Evans & Lindsay, 1996).

There are so many articles about this key factor .Rewards and recognition were very vital to the implementation of TQM in higher education process (Kohlbacher & Markus, 2010). There should be commitment to quality with the executive levels in the departments and also organizations .This applied to all organizations either higher education institutions and business ,Attendance at information sessions and specially training provided for the top level management showed commitment . The process of TQM in higher education institutions is not a simple process that could be put in on day because this process can take long time and when an organization define it, It takes so many years to see the beginning of benefits, if organizations want to reduce this time so they have to improve the commitment factor because it's a key item for success of total quality management (Ahire, S. L , 1997).

Total quality management relied heavily on teamwork.Every organization needs teamwork and it can achieve goals because every organization without teamwork will fail .There is so many benefits for working in a team.

In implementation of TQM in higher education teamwork is one the most important factor so responsibilities and also roles of team members should be well defined (Xyrichis A, Ream E , 2008).

The most important factor that can improve the working atmosphere in all levels of an organization is teamwork (Xyrichis A, Ream E , 2008).

There is a significant relation between two terms: Work commitment and job involvement .But what is the difference between work commitment and job involvement? Involvement is a broader term which includes both participation and commitment .Every organization wants to improves quality and increases productivity that's why they should have employee involvement because with a good employee involvement ,Employees make better and they make better decisions using their expert knowledge of the process .With a good employee involvement plan employees are more likely to support and implement decisions they had a part in making and they are able to take immediate corrective actions .The other benefit of employee involvement is motivation because employees feel that they can control the work environment and finally employee involvement can increase commitment to goals because employees are involved .All of these factors can lead to satisfaction because employees have an authority to change procedures and routine forms (Carl R Rogers, 1990).

3. Proposed Framework and Hypotheses

According to model of research and research objectives, these hypotheses are as below:
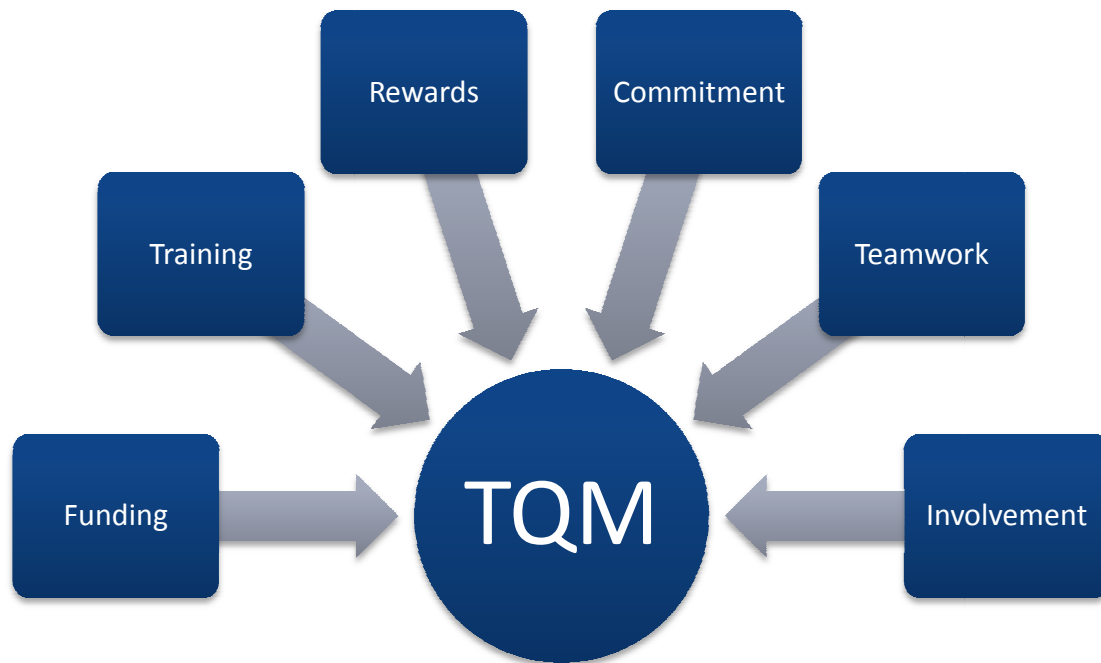
H1: Funding has a significant effect on TQM in higher education industry.

H2: Training has a significant effect on TQM in higher education i industry.

H 3: Rewards and Recognition have a significant effect on TQM in higher education industry.

H 4: Commitment has a significant effect on TQM in higher education industry.

H 5: Teamwork has a significant effect on TQM in higher education industry.

H6: Involvement has a significant effect on TQM in higher education industry.

4. Research Method and Results

The research is aimed to define the result and findings of the study and it provides results of the analysis data .The questionnaire consists of multiple choice questions .The data collected from all participants in this study explores how faculty implements total quality management processes and concepts in their classroom. The university lecturers are the target population in this study. In the study were selected from 112 male and female lecturers from 30 to 70 years old. These participants were lecturers of three universities of Malaysia and these lecturers were selected from so many different nationalities because of the obtaining a good result. Simple random sampling is the method assigned to this survey. In this study, the researchers had selected 200 random lecturers from five universities in Malaysia and these lecturers were from Multimedia University, University Putra Malaysia, Limkokwing University, University of Malaya and UCSI University and questionnaire had been sent to these 200 lecturers.

The results of reliability test by Cronbach's Alpha indicated all value are greater than 0.782 that asserts all have acceptable or good internal consistency. Besides the results of Pearson correlation is as follow that shows all variable have significant and positive relationship with TQM:

Table 1: Pearson Correlations

Correlations

		TQM	Funding	Training	Rewards	Commitment	Teamwork	Involvement
TQM	Pearson Correlation	1	.858"	.896"	.960"	.968"	.911"	.953"
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	112	112	112	112	112	112	112
Funding	Pearson Correlation	.858"	1	.922"	.864"	.849"	.893"	.887"
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	112	112	112	112	112	112	112
Training	Pearson Correlation	.896"	.922"	1	.908"	.894"	.941"	.914"
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	112	112	112	112	112	112	112
Rewards	Pearson Correlation	.960"	.864"	.908"	1	.945"	.904"	.968"
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	112	112	112	112	112	112	112
Commitment	Pearson Correlation	.968"	.849"	.894"	.945"	1	.904"	.935"
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	112	112	112	112	112	112	112
Teamwork	Pearson Correlation	.911"	.893"	.941"	.904"	.904"	1	.907"
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	112	112	112	112	112	112	112
Involvement	Pearson Correlation	.953"	.887"	.914"	.968"	.935"	.907"	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	112	112	112	112	112	112	112

**. Correlation is significant at the 0.01 level (2-tailed).

After Pearson correlation test, multiple regression was applied to measure the impacts of independent variable on TQM. From the result of ANOVA where sig is 0.000 and this sig is less than 0.05. It represents at least one or two of the six predictor variables can be used to TQM in higher education institution model.

Table 2: coefficient (multiple Regression)

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.002	.084		.021	.983
	Funding	.010	.052	.010	.187	.852
	Training	-.094	.067	-.099	-1.390	.168
	Rewards	.241	.077	.274	3.108	.002
	Commitment	.504	.065	.503	7.807	.000
	Teamwork	.124	.064	.125	1.949	.049
	Involvement	.161	.075	.186	2.146	.034

a. Dependent Variable: TQM

The significance level is more than 0.05 for funding and training and so they should not be included in the multiple regression equation.

TQM implementation in higher education institutions = 0.002+ 0.241 (Rewards and Recognition) + 0.504 (Commitment) + 0.124 (Teamwork) + 0.161 (Involvement)

For every unit increase in Rewards, TQM implementation will be implemented by .0241 units, so there is no change for other variables.

For every unit increase in Commitment, TQM implementation will be implemented by .504 units, so there is no change for other variables.

For every unit increase in Teamwork, TQM implementation will be implemented by .0124 units, so there is no change for other variables.

For every unit increase in Involvement, TQM implementation will be implemented by .0161 units, so there is no change for other variables.

6. Summary and Concluding Remarks

It can be concluded from the findings of this study that all lecturers were committed to use concepts of total quality management and processes in their classrooms as a way to quality improvement. This leads to better understanding of students about the material and ultimately it is a vital key in educational field. The results showed that the high role of Commitment and Teamwork in TQM implementation and it represents sharing ideas and decision making are two key elements in Malaysian universities that can lead to so many advantages. So many lecturers mentioned that there is a relationship between rewards and recognition and motivation and high performance and it shows with a suitable teamwork universities can improve their creativity, satisfaction, skills, and speed and finally support.

The method of implementation is really important because so many lecturers had obtained knowledge about TQM from workshops but unfortunately they were not taught how to teach these processes and concepts in their classrooms .The study has shown lecturers that participated in this research did not have any special training but honestly they wanted to continuously improve their knowledge , skills and teaching method that is why TQM processes and concepts were used as a method of achieving these goals.

Based on the results the following set of recommendations are made for future research:

Develop an adequate TQM program to define more filed in Malaysian universities Lack of training plays an important role in implementation of TQM in Malaysian universities so managers have to provide suitable and adequate training programs for personnel. There is not an adequate funds for providing the training programs in universities so managers should care about it and they must have funding plan available to procure the knowledge and skills training that they need.

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