

4. To study the need of continuous quality improvement, components of TQM, and challenges of TQM in higher education.
5. To analyse the means and strategies to be adopted by HEI for implementing TQM.

4. Research Methodology

A descriptive study has been conducted by understanding information in the existing literatures and research journals. The secondary data from the books, websites and research journals are used in the study.

5. Literature Review

Black and Porter (1996) place emphasis on Baldrige Award criteria, revealing ten critical factors for the successful implementation of TQM, and these factors are: supplier partnership, People and customer management, customer satisfaction orientation, external interface management, communication of improvement information, strategic quality management, operational quality planning, quality improvement measurement systems, teamwork structure for improvement, and corporate quality culture.

Saraph et al. (1989) developed a reliable instrument to measure quality adoption and management practice this instrument based on 8 critical factors, these factors are: Role of divisional top management and quality policy, Role of quality department, Training, Product/service design, Supplier quality management, Process management operating Quality, data and reporting, Employee relations.

Ahire et al, (1996) expanded the practices even further and identified 12 factors that are critical for the implementation of TQM derived mainly from the literature, these factors are: Top management commitment, Customer focus, Supplier quality management, Design quality management, Benchmarking, use of statistical process control, internal quality information, Employee empowerment, Employee involvement, Employee training, Product quality, and Supplier performance.

Fotopoulos et al. (2009), surveyed 370 Greek companies, they find out that, leadership, process management, service design, human resource management, customer focus, Education and Training, and supplier quality management are critical success factors in TQM implementation.

Although there are many studies in TQM literature, authors such as (Idris & Zairi, 2006; Karuppusami & Gandhinathan, 2006; Prajogo & McDermott, 2005; Sila & Ebrahimpour, 2002; Singh & Smith, 2006; Vouzas & Gotzamani, 2005) recommend that further concern should be made for the evaluation of critical success factor of TQM, the results of their adoption and the type and extent of their relationships.

Several non-Libyan specific studies, such as (Al-Khalifa & Aspinwall, 2000; Alomaim, Tunca, & Zairi, 2003; Baidoun, 2004; Chapman & Al-Khawaldeh, 2002), carried out in The Arab countries, indicate that there are seven

common critical success factors of TQM (top management commitment; education and training; supplier quality management; employee involvement; vision and plan statement; Recognition and Reward ;customer focus) and that these factors have been applied to studies in similar environments of developing countries in general, and in the Arab countries in particular. Therefore, these factors were adopted for this study to evaluate TQM implementation in Libyan Iron & Steel Company (LISCO)

6. Importance of TQM in HEI

In the present competitive scenario, HEI's are forced to formulate and implement strategies within global context. Total Quality Management (TQM) has been described as a management philosophy and a way of thinking that has helped higher education institutions move towards achieving excellence in providing education. TQM helps create a culture of trust, participation, teamwork, quality-mindedness, zeal for continuous improvement, continuous learning and eventually, a working culture that contributes towards HEI's success and existence.

TQM must be widely recognized and successfully implemented in HEI's, giving them the edge in international as well as local competitiveness, to ensure high quality services and satisfy the needs of stakeholders. HEI's must gain in-depth understanding of the key factors associated with the quality performance practices that is important to improve efficiency and enhance growth and sustainability.

7. TQM Model for Higher Education [Deming Cycle – PDCA]

PDCA stands for Plan-Do-Check-Act. Higher education institutions must plan for achieving quality, Do the work according to the plan, Check whether it confirms with the standards and finally act on the difference. This PDCA cycle leads to continuous improvement. This PDCA Cycle was first proposed by Deming. Hence it is also called Deming's Cycle.

Plan step in Deming cycle includes identifying and doing a research for the purpose of studying of what TQM really is and top management should understand the concept, its objectives for accomplishing their plan. This involves defining values, methodologies, tools, objectives and visions.

Do step in Deming cycle is about start implementing solutions. In this step, there must be some training to all faculties/employees about terms like Quality, TQM, Core Values, Methodologies and tools. Furthermore, Quality assessment cell must be established for assessment and improvement of quality in HEI's. Finally, some measures must be established to perform a benchmarking in order to recognize and reward improvements.

Check step in Deming cycle has been regarded as evaluation step. This step has to do with evaluation of the first two steps i.e., plan and do steps. The management must evaluate to find out whether faculties and employees

at all levels are working to meet the requirements of all stakeholders.

Act step in Deming cycle involves taking measures and implementing changes in the system for the problems Identified in the previous step.

8. How to Implement TQM in HEI [Proposed Steps]

Any educational institution which wants to implement TQM should develop its own model. Here is a proposed model for implementing TQM in HEI.

- 1. Understanding/Identifying:** The top management of the educational institution should first understand what TQM is.
- 2. Decision for Change:** The top management must make decisions for bringing in change for achieving quality and motivate other employees and faculties to adapt to changes.
- 3. Preparation for implementing changes:** The institution must determine the requirements of all stakeholders, identify the goals and vision to be achieved and prepare strategies to facilitate the flow of communication between and within the different levels of the organization.
- 4. Training and education to faculties and other employees:** The institution must devise training and development programmes to educate and equip faculties/employees, guiding them to carry on their work such that they will support the institution in meeting its goals thereby achieving quality.
- 5. Initiative:** The institution must take an initiative/give a start with new assignments/projects. There is no achievement without a beginning. Hence, a good leader may be selected by the HEI to begin and motivate other staff members for quality performance. Benchmarking may also be regarded as one of the effective tools for the successful implementation of TQM.
- 6. Evaluation:** The HEI must evaluate its performance annually for quality sustenance and improvement so that it will be able to achieve productivity and success in this competitive scenario. In this stage, the institution will be able to identify any problem/obstacle that is responsible for not achieving TQM and may take measures for overcoming such obstacles.
- 7. Recognition:** This is necessary to motivate a faculty/employee which will boost his/her morale and self-interest. Monetary or Non-monetary rewards may be awarded to employees to make them feel committed to their job as well as institution which will in the long run ensure quality.
- 8. Continuous Improvement:** TQM is a continuous process. It is an unending process of improvement. The TQM process should be reviewed and communicated to all levels of employees on a regular basis.

9. Barriers / Obstacles for TQM Implementation in HEI

The major impediments for successful implementation of TQM include,

1. Lack of management commitment
2. Poor Vision and Plan Statement
3. The Government Influence
4. Lack of highly qualified professionals
5. Lack of knowledge about the self-assessment mechanisms
6. Resistance of institutional assessment/change.
7. Poor co-ordination between employees and departments
8. Lack of interest in training
9. Expectation of immediate results
10. Instability of leaders and departments
11. Rigid organisational structures
12. Lack of clarity about role and responsibilities
13. Lack of employees' commitment.

10. Principles of TQM in Higher Education Institutions

1. Putting the customer first

Customer in case of HEI's is none other than students. The fundamental aspect of TQM in higher education institutions is giving importance for catering to the need of the student community and making them employable to face the challenges in the current scenario.

2. Management by Fact

The second principle which HEI's are adopting these days is management by fact. This principle is difficult to institutionalize, because every employee/faculty in a higher education institution holds different opinions, views and notions about how things should be done. Hence, rather than opinions, views and ideas, the facts are to be given due consideration by the management while making decisions on improving quality.

3. Principle of PDCA Cycle

PDCA stands for Plan-Do-Check-Act. According to this principle, higher education institutions must plan for achieving quality, Do the work according to the plan, Check whether it confirms with the standards and finally act on the difference. This PDCA cycle leads to continuous improvement. This PDCA Cycle was first proposed by Deming. Hence it is also called Deming's Cycle.

4. Focus on prevention

Taking corrective action is a common step in any organization/institution. But trying to prevent any cause is better than correction. As such TQM concentrates on prevention rather than correction. Whenever a problem has arisen in an HEI, the management must focus on finding out the root cause of the problem and solve such causes so that such problems do not occur in future.

5. Principle of employee involvement

This principle emphasizes on how people should work together. For becoming a TQM oriented institution, the HEI's must respect the employee's views, opinions & suggestions.

Conclusion

The Success of higher education institutions depends on their management strategy on how to identify, classify, analyze and react to the effective approach. This study reveals that TQM will have an excellent impact on the institution's goals, mission and vision, and creates value in enhancing quality and assuring growth. Even though the implementation of TQM brings a wide range of changes in HEI's, many institutions are not prioritizing its implementation.

To conclude, total quality management is a concept rather than a process by itself. The TQM cannot be implemented overnight. Hence, the HEIs must analyze various obstacles carefully for the effective implementation of TQM for achieving continuous improvement and sustainability.

References

- [1] Abdul Raheem. M.A Zabadi, Implementing TQM in HEI- A conceptual model, Journal of finance and economics, ISSN 2291-4951, Volume 1, Issue 1,2013.
- [2] Black S A and Porter C J, Identification of Critical Factors of TQM, Decision Sciences 27(1), 1-21, 1996.
- [3] Crosby, Quality is free: The art of making quality certain, New York, Mc GrawHill, 1979..
- [4] D Akpon – Ebiyomare, S C Chiemekwe, F A Egbokhare, A Study on Critical Success Factors influencing data quality in Nigerian Higher Institutions, African Journal of Computing and ICT, ISSN 2006-1781, Volume 5 (2), March 2012.
- [5] Dr. Sudha, TQM in HEI, IJSSIR, ISSN 2277-3630, Volume 2 (6), June 2013.
- [6] Ghnaim Hmoud Al Tasheh, Obstacles to the application of TQM in HEI in the state of Kuwait, European Scientific Journal, ISSN 1857-7881, Volume 9 (4), February 2013
- [7] Idris MA and Zairi M, Sustaining TQM: A synthesis of literature and proposed research framework, TQM and Business Excellence, 17 (9), 1245-1260, 2006.
- [8] Karen J Fryer, Jiju Antony, Alex Douglar, Critical Success Factors for continuous improvement in public sector, Emerald, The TQM magazine, ISSN 0954-478X, Volume 19 (5), 2007
- [9] Karuppusami and Gandhinathan, Pareto analysis of critical success factors of TQM: A literature review and analysis, TQM magazine 18 (4), 372-385, 2006.
- [10] Md Hasan and Amer Hani, TQM in HEI: A Review, IJHRS, ISSN 2162-3058, Volume 4 (3), 2014.
- [11] Md Imran Qureshi, Khalid Khan, Quality function deployment in higher education institutes of Pakistan, Middle East Journal of Scientific Research, ISSN 1990-9233, Volume 12 (8), 2012.
- [12] Murad Ali and Rajesh Kumar Shastri, Implementation of TQM in higher education, AJBM, ISSN 2041-8752, Volume 2 (1), 2010.
- [13] Norhayati Zakuan, Shalini Muniandy, Md Zamri Mat Sanman, Md Ariff, Critical Success Factors of TQM implementation in HEI: A Review, International Journal of Academic Research in Business and Social Sciences, ISSN 2222-6990, Volume 2 (12), December 2012.
- [14] Rajni Bhalla, Study on Indian Higher Education: A TQM perspective, Research Journal of Arts, Science and Commerce, ISSN 2231-4172, Volume 3, Issue 4 (2), October 2012.
- [15] Singh PJ and Smith, An empirically validated quality management measurement instrument: Benchmarking, An international journal 13(4), 493-523, 2006