Chapter- 6

Conclusion
In this research work we discussed the importance of the Improvement Education Quality System and effective implementation of TQM tools for enhancement the education quality. So, experiences from the implementation of an education quality enhancement strategy at the State Engineering University of Armenia (SEUA) were presented.

Total Quality Management (TQM) is an approach that organizations use to improve their internal processes and increase customer satisfaction. When it is properly implemented, this style of management can lead to decreased costs related to corrective or preventative maintenance, better overall performance, and an increased number of happy and loyal customers.

The aim of this thesis was mainly to explain the nature and scope of TQM implementation, and to develop an appropriate framework that can serve as an internal organisational arrangement for personnel in educational institutions. This has so far been achieved through discussions of the dimensions of TQM, the proposal of a framework within which it can be applied, the provision of contextual information about the educational institution, a exposition of the research methodology employed in the empirical part of the study, as well as an in-depth analysis of the results obtained from the latter. The model proposed for implementation of TQM in educational institutes is the one given below:
Continuous improvement and effectiveness of teaching and learning of management

Strengthen the interaction with SEUA/Polytech alumni
Recruit potential sponsors
Organize initiatives to attract more foreign students to

New sources of Growth of non statutory revenue

Develop and enhance the system of continuing education in the SEUA
Use of distance learning technologies in training
Activate the work of University and Industry Liaison Center

Effective use of existing resources Proactive interaction with external environment

Create policies for development of the University’s student body
Improve policies to use effectively of students’ stipends, scholarships and education loans
Develop mechanism to stimulate students learning achievements

Improve the practical skills of graduates

Customers

Values and traditions
Unique ‘‘Polytechnic’’
Students’ success and satisfaction from programmes

Customers

External relations
Research links with partner
Necessary feedback from

Recognition & Reputation

Status

Internal procedures

Improve the process and system of internal quality assessment
Implement scientific research results in the teaching process
Renovate study programs by the requests of industrial partners
Create technology enabled classrooms

Enhance the effectiveness of teaching in all study programs
Create mechanism for recruiting and developing
Improve academic staff consonant with requirements of quality

Learning and Improvement

Enhance the academic potential of the University

Enhance the academic potential of the University
TO PROVIDE AN ANALYSIS OF THE PRIMARY DIMENSIONS OF THE TQM FRAMEWORK

On analysing the six primary dimensions discussed in objective three, namely leadership and top management commitment, strategic planning, empowerment, teamwork, continuous improvement, customer and employee satisfaction, that all drive the TQM transformation, it was found that these six primary dimensions are based on the following findings derived from the literature and that they may reinforce or supplement air force base guidelines, built on a core set of values and paradigms, to complement the focus on TQM.

Leadership and top management commitment

The TQM telescopic framework is based on the primary (foundation) dimension of leadership and top management commitment to establish unity of purpose and give direction to attain the desired outcomes. It was found that leadership rather than management forms the essential factor in challenging times, i.e. to implement TQM in an institution. From the literature research it became clear that in order to attain quality service, top management must become directly involved and be committed. Top management must demonstrate visible commitment through deeds, personal involvement in the TQM programme and maintaining close contact with those personnel members responsible for implementing quality service. Good leaders convey a sense of urgency to reduce the resistance to change that prevents the institution from taking the steps required to complete the process. Top management should create and maintain an internal environment in which all employees become fully involved in achieving the institution’s objectives. Top management should commit themselves and encourage all employed by the institution to meet customer requirements through continuous improvement. Top management plays an active role in creating strategies, plans and systems
for achieving superior quality, and they should include quality as part of core institutional values and the corporate mission. They should inspire effective and efficient use of the resources and efforts of the institution towards quality excellence. Visionary leadership is necessary to transform an institution to TQM and the ability of top management is required to establish a long-term vision for the institution, driven by changing customer requirements as the main focus. They should serve as role models by reinforcing and communicating core values through their words and actions. Leadership traits, both positive and negative, have a great deal to do with the potential for success in leadership-required situations. Leadership style is very important in the quest for quality as some leadership styles support the TQM process more than others. It is important to understand leadership styles and how styles relate to team efforts. Top management should convince employees that by pursuing a TQM philosophy, there are further benefits for the institution. It was found that top management needs to align internal and external stakeholders and needs to provide change to accelerate the evolution to a TQM institution. This role should occur as follows: Leadership is responsible for developing vision and strategies, aligning relevant people behind these strategies and empowering employees to make the vision happen, despite obstacles. Top management should create an atmosphere in which people believe in strategy, believe in management decisions and believe in their work. To achieve this, top management as leaders should become more multi-skilled than their 20th century predecessors. Knowledge of languages, cultures and a wide range of subjects is vital to achieve success in implementing TQM. Leaders should be experts in several fields and they should strive for almost anything that increases their institution’s success. Leaders should have an attitude of continuous improvement.

Strategic planning
It was found that strategic planning is of vital importance to establish TQM. In the dimension of strategic planning the specific TQM objectives and requirements of an institution must be determined and incorporated into a strategic plan. Strategic planning should be used to plan, develop and implement strategies that should result in improved customer and employee satisfaction. This action should involve employees throughout the institution, translating customer requirements into short and long-term plans that guide the activities of every division, department, team and individual. Strategic planning should involve leaders, managers, employees, customers and suppliers in charting a course that every department, team and employee can translate into daily actions. TQM and strategic planning should become a single process and TQM should be fully integrated and linked into the strategy and operation of the institution. The link between TQM and strategic planning should provide an integrated management system for an institution. It was found that three critical links are required between TQM and strategic planning, namely that (1) the strategic plan must be customer driven, (2) strategic planning must provide the direction and context for TQM and must precede other TQM initiatives, and (3) strategic planning must establish a TQM culture in institutions and continuous improvement efforts must focus on achieving results that increase value to customers and ensure long-term success. The strategic plan should link the most precious resource, people, who achieve the vision, mission and strategy. The institution’s vision, mission and value system should be shaped around TQM. The synergy between TQM and strategic planning should strengthen the institution’s competitiveness and should enable the institution to achieve success in today’s business environment. Forecasting future needs should also be done, and reactions of customers and employees to certain operations should be estimated. This integration between TQM and strategic planning eliminates wasting resources on projects not directly linked to the strategic plan. It was found that strategic planning is the process of looking into the future and seeing that future as
institutions want it to be. Strategic planning is a necessary process for long-term success of
the total quality programme in an institution. An action strategic plan should be designed to
turn the institutional vision into reality. Customer and employee satisfaction is the outcome of
sound strategic planning. Strategic planning provides a mechanism for institutional managers
to shape their external environment, limit threats, take advantage of opportunities and enable
leaders to respond to issues proactively, rather than reactively. It was found that strategic
planning build institutional capabilities to espouse continual renewal as a central theme and
should be included in all statements concerning the institution’s vision and/or the
management philosophy and it must become a part of the social contract between the
institution and its employees. Top management need strategic planning in the institution to
repeatedly raise the performance bar, both in terms of institutional goals and challenges and
in individual expectations. The structures and systems in the institution through strategic
planning should be designed to promote lateral processes, including communication and
coordination, between those in direct contact with customers and suppliers and those
involved in the internal functions of the institution. It was also found that strategic planning
needs foresight which represents a vehicle for managing perceptions of environmental
uncertainty and change, thereby enabling the clarification of perception that is fundamental to
prescient and innovative use of macro-environmental phenomena and the pre-sponive
recognition of institutional opportunities.

Empowerment

Employee involvement is one of the best ways to create a positive culture that thrives on
TQM. Employees should be empowered to encourage innovation and creativity by all levels
of the workforce. Leaders should find a successful balance between control and employee
freedom to gain maximum benefit from the empowered process. Empowerment of all
employees is necessary as a source for improved performance and participation. Employees
should be empowered as they form the centre of any TQM approach, as they are involved in managing and improving processes and in serving customers. Employees have to be involved from day one to transform to the TQM philosophy and employees have to be motivated to do their work right the first time. Incentive schemes should be developed to reward employees accordingly and there should be no limit to their institutional achievements. They must perceive themselves as having equal opportunity in terms of institutional aspiration. Quality of life is also an important aspect of empowerment and should be rigorously managed by top management as a critical process. Total quality improvement should be managed as an integral part of all employees’ day-to-day work, and remuneration, reward and recognition programmes should be established to promote quality improvement activities. Institutions should give their employees the authority, responsibility, the knowledge and skills they need to be effective in their expanded roles. An institution can serve its customers only as well as it serves its own employees. Employees should therefore feel compelled to be empowered. It was found that top management must promote the establishment of an environment that encourages employee efforts toward institutional objectives that removes barriers between top management and employees. In high-performing institutions, employees who do the work should make most of the decisions about how the work is done. Therefore, access to data and developing skills to manage by fact are prerequisites for optimising employee contributions to the institution’s success. It was found that the message of empowerment is that leaders must know that employees need strong direction and a target and great ideas on how to implement TQM in an institution. Leaders must know how to set standards and boundaries and how to invite people to make their unique contributions. An institution can only move as fast as it develops people to move it. This is why empowering people are so critical to overcoming competitive disadvantage and gaining competitive leadership. Workers want to be a part of their institution and help in its improvement. Empowerment supports the TQM
process because employees at all levels have the responsibility for and authority to make
decisions that affect them and their work teams. Institutions cannot effectively move decision
making to the level where most of the work is done unless those doing the work have access
to the necessary data and are skilled at making fact-based decisions. Top management should
educate middle management, lower management and employees in decision-making
processes by using, for example, group decision making, brainstorming, self-directed teams
and cross functional teams to ensure rational decisions. Empowerment is a crucial part of
cultural change that brings the decision-making process down to the point where problems
are most visible. In order to be empowered to make decisions regarding their work,
employees, regardless of institutional level, must understand and know information relevant
to the performance of their institutions. Developing programmes and policies that truly
provide opportunities for employees to influence the work they do, the ways they do their
work, their commitment to meeting customer needs, through the methods described in the
section, can enable institutions to have the employee involvement necessary to be productive
in the complex competitive environment of the twenty-first century. Managers should also
empower employees to solve problems in real time rather than refer all problems to
managers. Empowerment is a portion of the delegate process that frees up management for
additional tasks of equal or greater importance. Empowerment requires substantial training,
job security, desire and a commitment to performance. In most cases, employees are
delighted to be empowered when empowerment is accompanied by these factors. Employees
who have been trained, empowered and recognised for their achievements see their jobs and
their institutions from a different perspective. When empowerment begins to be effective, the
institution will realize the benefits of synergy and empowerment will not work without a
participative management structure. Commitment to empowerment has implications for
virtually every area of managerial and institutional work and, therefore, has to be
implemented across all of an institution’s activities. Research studies have demonstrated that involvement brings about greater commitment to the end results. Empowerment is the natural output of a wellimplemented TQM programme. It should promote freedom to employees to use their initiative in matters of customer care. Additionally, this freedom creates an environment of trust, which enables staff to act towards the institution’s cultural transformation without fear.

**Teamwork**

The dimension of teamwork should not simply be used as a tool for performance improvement, but as a fundamental element to ensure that the climate of the workplace encourages all members to use their skills to make the workplace an even better place to be. Teamwork is necessary for the propensity of the institution to engage in non-competitive activities internally amongst employees and externally with respect to suppliers. These teams should have the power to make work-related decisions. Collective wisdom is virtually always superior to individual wisdom. The team and the individual should be recognised and rewarded equally. Teamwork should provide an opportunity for employees to work together in the pursuit of total quality in ways in which they have not worked together before. Through teams employees are brought together in terms of a common goal and quality improvement becomes easier to communicate over departmental or functional walls. In this way, the slow breaking down of barriers acts as a platform for change. Teams are a useful way of determining issues, involving those who must implement solutions, and they are crucial to the management of the next dimension, namely continuous improvement, one of the driving forces for successful TQM. It was found that teams are a major part of any TQM effort because teamwork enables various parts of the institution to work together to meet customer needs in ways that cannot be done through individual job performance alone. Teamwork is therefore a behavioural factor and must be part of the institutional culture. If
staff is to pull together, they will need to consider themselves part of a functioning team. Getting staff to pull together involves a variety of leadership skills - one of the most basic being conducting a team-building exercise. Effective teamwork will occur when team members feel positive towards each other. It was found that the only efficient way to tackle process improvement or complex problems is through teamwork. To develop this relationship, assemble all members in a social context with “getting-to-know-workmates” as the only set agenda. It is important for a team leader to have the trust and confidence of all members of the team. A leader must also develop team cohesion. Two necessary preconditions for cohesion to occur are: (1) members must be free to express their attitudes and feelings towards the team and its members; and (2) members must feel that they are listened to when they adopt this position. A team leader must also ensure that all team members feel sufficiently confident to behave in this way. Teams are viewed as ways for institutions to increase the speed, flexibility and methods with which they make work decisions. Teams are used to build commitment to the institution and to transform the workplace from one of low commitment to high commitment. It was found that grouping people into teams could manage the problemsolving requirements of the institution. Teams and teamwork can be a very powerful management strategy to improve competitive advantage and, together with people empowerment, form the basis of managing the most important resource or asset of an institution.

**Continuous improvement**

Institutions should adopt a policy of continuous improvement. It was found that continuous improvement is one of the key success factors in the quality improvement process. Continuous improvement provides a way for managers to provide a form of strategic control that allows their institution to respond more proactively and timely to rapid developments in the different areas that influence an institution’s success. The institution should move from
one-off quality targets to a continuous and ongoing process, which will retain and increase employees’ commitment in the long term. The propensity of the institution to pursue incremental and innovative improvement of its processes, products and services should be the driver to achieve continuous improvement. Any institution should have procedures and processes established to ensure that incremental and ongoing improvements are made to products and services. This includes the application of techniques for problem solving and analysis to achieve continuous improvement. Institutions should establish the most appropriate and effective ways to translate the data they obtain into real and continuous institutional improvements. Improvement seeks to eliminate problems at their source and should become part of the daily work of all individuals and work units. Sources of improvement include employee ideas, research and development, customer input and benchmarking or other comparative performance information. Improvement and learning are directed not only on providing better products and services, but also to being more responsive and efficient. Institutions should encourage the fostering of creativity and innovation to achieve continuous improvement. It was found that knowledge management or intellectual capital is one of the latest techniques for continuous improvement adopted by institutions. Performance measurement provides institutions with the opportunity to strengthen the institutional delivery process in the areas of quality, cost and delivery. Performance measurements keep institutions focused on continuous improvement according to the actual results they achieve in producing products and services as compared to internal baselines and external benchmarks of “Best Practices”. For performance measurement it was found that a balanced scorecard must be used as a management decision tool to be used as a framework for linking strategy with operational performance measures. A truly balanced scorecard aligns the strategic objectives of an institution with customer priorities. Benchmarking is also a positive, proactive process to change operations in a structured fashion to achieve superior
performance. It is a continuous process of measuring products, services and practices against the toughest competitors or those institutions recognised as industry leaders. It was found that various techniques are necessary to solve problems relating to an individual job or the improvement of a work process. These techniques reflect foundation principles that guide total quality institutions in problem solving, measuring and making rational decisions about improvement processes. There are two stages involved in problem-solving to achieve continuous improvement, namely (1) Stage 1: explain the situation and define the problem (i.e. PDCA, seven step method, brainstorming and flowcharting), and (2) Stage 2: understand the situation by collecting and analysing data (i.e. check sheet, cause-and-effect diagram, Pareto chart, scatter chart, run chart and histogram). The most potent value in TQM is continuous improvement where high-performing institutions create cultures that seek to evaluate and improve everything they do. A culture of continuous improvement is essential to maintain and sustain true competitive advantage. Without systematic improvement, institutions will ultimately face extinction. Continuous improvement results provide a track record that can give an institution an advantage over their competitors for service delivery and additional resources. Continuous improvement is essential for increasing customer satisfaction, and alleviating waste of employee time and institutional resources. The process of continuous improvement encompasses all groups horizontally and vertically in an institution.

**Customer satisfaction**

It was found that customer service and satisfaction are at the core of any institution and the main focus of the TQM telescopic framework (see figure 9.1). Customer-driven quality should be the main focus of any institution, as it will ensure that products and services are delivered with the objective of satisfying customer needs. The customer is the final arbiter of product and service quality. Customer needs and requirements and how to deliver value
should be generally understood. The ultimate goal of TQM efforts is to delight the customer. The customer’s needs should be identified and appropriate product designs or service delivery designs be instituted to satisfy those needs. The focus of this dimension is the degree to which an institution’s customers continually perceive that their needs are being met by the institution’s products and services. Customer satisfaction should be continuously measured and analysed. The requirements of the final, external customer can be met only when the requirements of all internal and external customers are met. The total quality programme must begin by obtaining the customers’ perception of the service delivered and their expectations of the service to be provided by the institution. This information can also be gained from the internal feedback relationship created between the internal customer and supplier, known as quality chains. No matter how efficient the administrative system of an institution, it can produce zero defects only if the customers (internal and external) provide sufficient and accurate details to enable the quality process to meet their needs and expectations. The importance of internal and external customer satisfaction became a major theme in the TQM revolution. It was found that institutions should strive for customer satisfaction, as it results in customer enthusiasm. This implies that the customers are excited and loyal because the services and products available to them exceed their expectations. Institutions must create new and loyal customers through direct interaction with them. Customers do not care about management structures, strategic planning, financial perspectives or the leader of the institution. What they do care about are the products and services available to them. It was found that if internal customers were happy and empowered, they would also better serve their other internal customers. When internal customers can work together efficiently and effectively, costs will be reduced. Thus, happy and empowered external customers and happy and empowered internal customers could bring capabilities to the institution. The ultimate competitive advantage is established when an
institution develops a culture that supports its internal and external customers. 9.5.6.2

Employee satisfaction It was found that employee satisfaction must be set equal to customer satisfaction in the institution’s strategy and planning process to ensure the best results for any institution. Employees are defined as all the individuals employed by the institution, including full-time, part-time, temporary and contract workers. Employee satisfaction is the gratification or prosperity that employees get from their job. Every aspect that has to do with the influence that the job has on the employee as well as the perception that the employee has of the job/institution should be included in employee satisfaction. The full potential of employees should be released through shared values and a culture of trust and empowerment. Employees are the critical stakeholders in that, apart from being inherent stakeholders in an institution, only they ultimately deliver the institutional outcomes required to fully meet all the needs of the stakeholders. There should be widespread involvement and communication to achieve employee satisfaction and this should be supported by opportunities to learn and develop employee skills. The level of satisfaction of employees should be monitored and improved continuously. It was found that one of the ways to achieve this is to develop the full potential of the workforce, which includes employee involvement, training, recognition, safety and satisfaction. Human input should be encouraged to increase the self-esteem of employees and the degree to which the employees of an institution feel that the institution continually satisfies their needs. As employee satisfaction increases, an institution can expect its key performance and customer satisfaction indicators to improve also. Job satisfaction, job commitment and empowerment exemplify this. It was found that in order to achieve employee satisfaction, the following should be achieved: · First, top management must be involved in modelling employee involvement. Employee involvement programmes take time and require extensive commitment from all institutional levels. · In order for the employees to participate effectively, employees need power, information knowledge and rewards that
are relevant to institutional performance. · Institutions with involved employees have to share corporate performance and financial results, so that employees know the impact of their actions and work. · Reward systems that support participation by rewarding the initiation of change and the fostering of team building should be in place. · Training in the quantitative and qualitative aspects of decision-making and communication of real institutional information is also critical parameters to ensure employee involvement for employee satisfaction. · True employee involvement requires that power, knowledge, information and rewards be present at all levels of the institution. · Teams must be established to create involvement and share power, or utilize the problem-solving tools. · Problem-solving tools to employees is necessary to get them involved. The tools serve to enable employees to improve their job performance, giving them more control over their environment.
References


48. Ramesh G. Soni, Indiana University of Pennsylvania

49. Manmohan D. Chaubey, Indiana University of Pennsylvania

50. John C. Ryan, Indiana University of Pennsylvania


