Implementing strategic collaborative quality management in healthcare sector

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Abstract: The limited success of Total Quality Management (TQM) in Iranian healthcare organisations led the researcher to search for a more viable solution, and therefore the concept of Strategic Collaborative Quality Management (SCQM) was created. The purpose of this study was to evaluate the effectiveness of the SCQM model. A Participatory Action Research (PAR) was conducted at a public hospital for a period of 2.5 years to implement and evaluate the SCQM model. This study shows that SCQM provides a number of advantages over traditional TQM methods. These include improving the satisfaction of employees, clients, and suppliers and improving organisational productivity. SCQM application resulted in a cultural change in the hospital with improved communication, teamwork, and attitude towards continuous improvement. Employees’ morale, commitment, and satisfaction were improved. Consequently patient care was improved. These improvements were associated with top management active support, employee commitment and involvement, education and training, customer focus, supplier relations, and use of appropriate quality management methods.

Keywords: strategic quality management; action research; hospital; working practices; organisational culture.


Biographical notes: Ali Mohammad Mosadeghrad is an Assistant Professor at Tehran University of Medical Sciences where he teaches at post-graduate levels. He received his PhD from the University of London in Health Policy and Management. He is an author, speaker, and a professional quality management consultant and trainer. He has written extensively on many aspects of organisation and management covering a full spectrum of subjects in strategy formulation, implementation, and evaluation. His research interests include public sector management, strategic management, quality management, and organisational change. His latest research is focused on international strategies.

1 Introduction

The implementation of Total Quality Management (TQM) was not very effective in sustaining quality improvement and customer satisfaction in Iranian health sector (Nouri,
Some studies even suggest that Iranian healthcare organisations are not ready yet to adopt TQM practices (Naiebi et al., 2002; Raiesi and Madani, 2002; Amerion, 2003; Mosadeghrad et al., 2006).

TQM is a Western management concept, which originally evolved out of Japanese management practices and came from industrial experience. Hence, it may not integrate well into a different context (e.g., Iran) and sector (i.e., healthcare). Differences in cultures, healthcare structures, leadership and management styles, working relationships, employees’ attitudes and values, and customers’ demands and expectations all play a significant role in TQM implementation and its effectiveness. Changing policies and regulations, traditional and authoritative management style, short-term attitudes, lack of adequate legal requirements for service quality, lack of knowledge among consumers about their rights, and lack of competition among providers are the main barriers to successful TQM implementation in Iranian healthcare organisations (Delgoshaei et al., 2004; Mohammadi et al., 2005; Mosadeghrad, 2005; Torani et al., 2008).

The limited success of TQM in Iranian healthcare organisations led the author to search for a more viable solution, and therefore the concept of Strategic Collaborative Quality Management (SCQM) was created (Mosadeghrad, 2012). SCQM provides a system of quality management with 13 constructs, of which eight are enablers and five are results. The enablers cover the structure and the processes that the organisation can use to manage quality. The results criteria cover the aspects of performance in a broad way. SCQM is an integrated system of principles, methods, and best practices, which provides a framework to strive for excellence by continuously improving overall organisational performance (employee results, customer results, supplier results, society results, and organisation results) through leadership and management, strategic quality planning, corporate quality culture, total continuous learning, employees management, customer management, resource and partnership management, and process management.

The relationship among SCQM constructs is shown diagrammatically in Figure 1. The driver is leadership that develops a strategic quality plan, promotes continuous learning, shapes a corporate quality culture, and manages employees, customers, resources, and processes, which lead to excellence in overall organisational performance.

**Figure 1** A conceptual framework of SCQM model
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SCQM provides a comprehensive triad of conceptual, implementation and assessment models. Its conceptual model represents a set of core values and principles that focus on continuous quality improvement as a driving force in all functional areas and at all levels of the organisation. SCQM is a combination of strategic management, quality management, and project management. SCQM integrates the principles of quality management into all the three steps of strategic management. This means that quality concepts are integrated into the mission, vision, goals, strategies, and actions plan of the organisation and in the deployment and evaluation of the actions plans. Quality action plans can be implemented effectively and efficiently through sound project management. A project management approach is the best approach to implement such a change. It helps to build a culture of quality and learning throughout the organisation through planning, implementing, monitoring, and controlling timely, purposeful and well-defined quality improvement projects (for more information on SCQM model, see Mosadeghrad, 2012).

The implementation of SCQM involves establishing quality infrastructure to include a quality management council, quality management department, and quality improvement teams, developing quality goals as part of the strategic plan, adopting cultural change, providing extensive quality-related training for all employees to manage quality through continuous improvement of well-designed processes. In SCQM, the emphasis is to standardise processes, determine reasonable, and achievable objectives for processes and improve them continually and continuously until achieve the objectives.

SCQM integrates the contents of 12 fundamental management techniques under a disciplined systematic approach focused on continuous improvement. These include Quality costing, Benchmarking, Suggestion Scheme, The Five S, Total Productive Maintenance (TPM), Hoshin Kanri, Business Process Re-engineering (BPR), Kaizen (Continuous Quality Improvement), Clinical pathways, Six Sigma, Quality Function Deployment (QFD), and Balanced Scorecard (BSC). In the first year of SCQM implementation, the first six techniques are implemented to develop organisational maturity, build up a culture of commitment, teamwork, and discipline and develop a strategic quality plan for the organisation. In the second year of the model implementation, employees improve their work processes at functional and cross-functional levels. The contents of BPR, Kaizen, Six Sigma, QFD, and clinical pathway (applicable in clinical areas) techniques are integrated into a ten-step approach to process improvement. It includes determining customer requirements, re-defining, and designing processes to reduce the variation and mistake rates, defining working standards and guidelines (protocols and procedures), and improving processes by using PDSA cycle (Plan, Do, Study, and Act cycle) to meet the needs of customers effectively (Mosadeghrad, 2012). Implementation of SCQM model consists of the following five phases: motivation, preparation, promotion, implementation, and evaluation.

The SCQM assessment model evaluates the approach, the implementation, and the results of SCQM concepts and principles. The SCQM model is structured in 13 constructs including 82 sub-criteria and 300 questions (areas to address). The SCQM model uses a 1000-point scoring system, which can be used to assess the extent of the progress of SCQM (Table 1).
Table 1 Criteria and scores of SCQM model

<table>
<thead>
<tr>
<th>Construct</th>
<th>Score</th>
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<tbody>
<tr>
<td>Leadership and management</td>
<td>100</td>
</tr>
<tr>
<td>Strategic quality planning</td>
<td>80</td>
</tr>
<tr>
<td>Total continuous learning</td>
<td>70</td>
</tr>
<tr>
<td>Corporate quality culture</td>
<td>80</td>
</tr>
<tr>
<td>Employee management</td>
<td>90</td>
</tr>
<tr>
<td>Customer management</td>
<td>90</td>
</tr>
<tr>
<td>Resource and partnership management</td>
<td>70</td>
</tr>
<tr>
<td>Process management</td>
<td>90</td>
</tr>
<tr>
<td>Employee results</td>
<td>80</td>
</tr>
<tr>
<td>Customer results</td>
<td>80</td>
</tr>
<tr>
<td>Organisation results</td>
<td>70</td>
</tr>
<tr>
<td>Supplier results</td>
<td>50</td>
</tr>
<tr>
<td>Society results</td>
<td>50</td>
</tr>
<tr>
<td>Total Points</td>
<td>1000</td>
</tr>
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</table>

2 Methodology

2.1 Purpose and objectives

The purpose of this study is to provide a practical example of how to implement the SCQM model in practice. This study also aims to investigate the impact of Iranian context on the process and impact of the proposed quality management model implementation. This paper describes the steps for implementing the SCQM system, methods used, difficulties encountered, and the advantages obtained.

2.2 Method

This study is an exploratory investigation of how SCQM model is implemented in an organisation. A case study design was employed using a longitudinal method of data collection. The study was carried out between 2005 and 2008. In order to implement and evaluate the SCQM model, a PAR was conducted at a public hospital for a period of 2.5 years. It involved the use of functional and cross-functional quality improvement teams to improve working practices and generate new knowledge. The study involved the action research cycle of action planning, action taking, and action monitoring and reflecting on the results of phases 1–3 to make decisions for the next cycle of action research.

2.3 Setting

Hospital ‘A’ agreed to participate in the action research. The hospital is a 262-bed teaching general public hospital affiliated to Isfahan University of Medical Sciences. The hospital’s activities include nephrology, urology, clinical toxicology, psychiatry, cardiology, emergency, and general medical care. The hospital had 517 employees in January 2006, including more than 70 doctors and 170 nurses.
2.4 Data collection

Quantitative and qualitative methods such as checklists, questionnaires, interviews, observation, and document analysis (Triangulation) were employed for data collection. The author interviewed relevant key individuals at experimental hospital using the SCQM assessment tool. The assessment tool included a total of 300 indicators (items) covering 13 constructs of SCQM model. In addition, specific survey instruments were utilised after pre-testing and measuring their validity and reliability to enrich as well as cross-check the qualitative data. The first set of data was collected before the introduction of the SCQM model in the experimental hospital (December 2005) to be used as a benchmark. The second set of data was collected in September 2008. The difference between the two data sets was measured to find out the impact of SCQM implementation on hospital performance.

2.5 Data analysis

Constant comparative method was used in the analysis of the data. The structure chosen for presenting the cases was largely to follow the structure of the SCQM 13 constructs. The analysis compares the SCQM practices and results, in order to determine whether an association exists between the intervention and the outcome in the experimental hospital. The recorded data were transcribed. The transcriptions and the field notes were coded and categorised using QSR NVivo software. The quantitative data were analysed using SPSS 11 software. Descriptive statistics such as means and standard deviations were computed for each of the questionnaire items. Paired-samples $t$-tests were used to test the change between two samples in the experimental hospital before and after SCQM implementation.

2.6 Evaluating the quality of research

Prolonged engagement and persistent observation enabled the researcher to establish the necessary rapport and trust and identify the political, social and cultural factors in the context that are relevant to the intervention. Member checks were also conducted through assessing a group of hospital employees’ confirmation and reaction to findings and using their feedback to reduce researcher-inducted bias.

3 Results

A summary of SCQM model implementation is provided in the following section:

Phase 0: feasibility studies

Prior to implementing SCQM (October–December 2005), an organisational diagnosis was conducted using SCQM assessment tool, questionnaire surveys, interviews and observations to assess the capacity and readiness of the hospital culture, sub-cultures, structures, systems, processes, and people to adopt and adapt SCQM practices. In 2005 assessment, on the 1000-point scale, the hospital received a rating of 380 overall (Table 2). Therefore, the hospital was at the ‘Awareness’ stage of SCQM implementation.
Hospital ‘A’ obtained 40% of scores related to the leadership and management construct of SCQM. The hospital president had assumed the role of CEO in late 2004. In his first managerial experience, he realised that the hospital needed a dramatic change. He dismissed the hospital manager with more than 20 years’ managerial experience and appointed a young general practitioner with no managerial experience in his place. The CEO brought a nurse from a public institute and appointed him as the new nursing director despite the proposal of a hospital supervisor by the union. Furthermore, most first line managers and supervisors were changed. As a result, employees, particularly those who lost their managerial positions and related benefits, lost their trust in Top Management Team (TMT).

Table 2  

<table>
<thead>
<tr>
<th>SCQM constructs</th>
<th>Total score</th>
<th>Hospital score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Leadership and management</td>
<td>100</td>
<td>40</td>
</tr>
<tr>
<td>2 Strategic quality planning</td>
<td>80</td>
<td>27</td>
</tr>
<tr>
<td>3 Total continuous learning</td>
<td>70</td>
<td>35</td>
</tr>
<tr>
<td>4 Corporate quality culture</td>
<td>80</td>
<td>22.5</td>
</tr>
<tr>
<td>5 Employees management</td>
<td>90</td>
<td>28.5</td>
</tr>
<tr>
<td>6 Customer management</td>
<td>90</td>
<td>36.5</td>
</tr>
<tr>
<td>7 Resource and partnership</td>
<td>70</td>
<td>25.5</td>
</tr>
<tr>
<td>8 Process management</td>
<td>90</td>
<td>28.5</td>
</tr>
<tr>
<td>9 Employee results</td>
<td>80</td>
<td>34.5</td>
</tr>
<tr>
<td>10 Customer results</td>
<td>80</td>
<td>33.5</td>
</tr>
<tr>
<td>11 Organisation results</td>
<td>70</td>
<td>30.5</td>
</tr>
<tr>
<td>12 Supplier results</td>
<td>50</td>
<td>18</td>
</tr>
<tr>
<td>13 Society results</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td><strong>Overall score</strong></td>
<td><strong>1000</strong></td>
<td><strong>380</strong></td>
</tr>
</tbody>
</table>

TMT realised that personnel expenses comprised a large proportion of hospital expenses. Therefore, they used time and motion studies to calculate the efficient number of staff for each department. They sent a list of reluctant employees to Isfahan Medical University for further action. Some personnel were also rotated among departments that were understaffed. TMT changed the bonus and extra pay policies in order to reduce further personnel expense. As a result, employees’ supplementary pay decreased. The hospital was in debt to suppliers and TMT thought applying these policies could help pay part of the debt to the suppliers. However, employees’ payment was delayed for a few months. Due to these policies, employees were mostly dissatisfied with the management.

Although TMT supported participative management by word, they were uneasy about giving up their authority. Top management was more task-oriented. There was a lack of trust between top management and employees. Managers often placed blame on individuals for low performance. As a result, employees’ participation in the change process was low. Lack of trust, particularly between top management and employees, and the absence of employees’ commitment were responsible for the failure of organisational change at the hospital. Furthermore, TMT lacked experience in how to initiate and manage the change. The recognition that change is required is a necessity but not a sufficient condition for the implementation of the change programme. It is also essential
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to diagnose the context to identify the type of change required and to plan and implement the necessary change in a way that maximises employees’ enthusiasm and minimises resistance.

The hospitals did not have a written formal plan (strategic or operational) and planning took place within managers’ minds. Top management did not pursue long-term organisational success. They focused instead on short-term goals.

Hospital ‘A’ was a relatively old organisation. It was founded more than 85 years ago. The average age of personnel was 38 years. They had in average 15 years working experience in the hospital. This made it difficult to change their habits, particularly for those personnel who had been with the hospital the longest. The hospital had only modest capacity in terms of infrastructure, equipment, supplies, and human resources available to provide high-quality healthcare services.

The hospital had a mechanistic structure with a culture demonstrating lower emphasis on entrepreneurship, risk taking, team working, and cooperation. Employees’ readiness to take the risks for doing their job better, and innovation and creativity among employees scored lowest. The values and norms of the hospital were not based on teamwork and participation. The perceived poor teamwork and cooperation, and higher power distance between managers and employees may inhibit employee involvement which is crucial in SCQM.

Hospital did not form long-term relationships with the suppliers. Purchasing price was the most important factor in selecting suppliers. Hospital preferred to purchase products without immediate payment due to the shortage of capital. In this case, the purchasing price was higher. This also affects the quality of purchased products. Suppliers were also dissatisfied with the hospitals’ payment.

Questionnaire surveys were conducted to measure employees’ job satisfaction, organisational commitment, job stress and quality of working life in the hospital. Approximately one in four employees were dissatisfied with their job (26.3%). Employees were least satisfied with the salaries, benefits, recognition, promotion, working conditions, organisation policies, and job security. Employees’ payment was delayed for several months. Top management policies created a stressful environment for employees. Overall, 44.6% of employees reported their job as being very or extremely stressful. The main job stressors were: inadequate pay, inequity at work, lack of recognition and promotion prospects, lack of job security, time pressure, inadequate equipment, too much work, staff shortages, and lack of management support. As a result, employees’ quality of working life was low. There was a serious conflict between employees and TMT. As a result, employees were moderately committed to their organisation. Sixty-eight percent of employees were happy to leave the hospital if they could find a good job opportunity elsewhere.

The delivery of high-quality healthcare could not be supported with such a demoralised staff. Client satisfaction was low. Findings showed that only 35.6% of inpatients were satisfied; 46.3% of inpatients said that their satisfaction was ‘average’, while 18.1% of inpatients expressed overall dissatisfaction. In talking to patients, they complained mainly about hospital facilities and the behaviour of caregivers. Surveyed outpatients were more dissatisfied with the duration of waiting time for the services. Approximately half of them had to wait more than one hour to receive the services.

The feasibility studies showed that the readiness of the hospital to implement the SCQM model was limited. Hence, the author expected that the introduction of SCQM in the hospital should encounter many difficulties. More work in preparing the hospital
A user-friendly SCQM guidebook was prepared by the author to assist in setting up the SCQM system and guide the change process. The manual contains a general overview of SCQM’s theoretical foundation (i.e. basic principles, benefits, and core elements), training curriculum, and implementation method. One year was considered for implementing the first three phases of SCQM (motivation, introduction, and promotion).

Due to pressure from employees, the hospital president was changed in 2006. The new president, a psychiatrist, had enough managerial experience. He was the president of a public hospital for a few years. He had been working at Hospital ‘A’ for a long time. Most importantly, he was popular among employees. The new hospital president appointed an experienced person with a healthcare administration background as the hospital manager. He had previously held several managerial positions within the hospital. Subsequently, the most respected and experienced people were appointed as middle- and front-line managers. They all had enough managerial experience. As a result, the fear of job security was overcome. In the next move, the new TMT clarified the link between quality and hospital productivity for employees.

**Phase 1: motivation**

Prior to the launch of the SCQM model, the author held a meeting with the TMT to explain the study goals and significance. They were briefed about the principles and advantages of SCQM. Top management accepted the model as useful and agreed to implement it at the hospital. They committed to provide sufficient support for the researcher to conduct the action research. The ambition of TMT was to increase hospital efficiency and reduce the increasing trend of costs.

The author also met with front-line managers and employees to discuss the necessity of quality management change in the hospital. Employees’ morale and satisfaction was low. Therefore, it was relatively easy to convince them about the necessity for change. Employees agreed that they have to improve the quality of hospital services for the success of the hospital. Competitive benchmarking was conducted. The benchmark hospitals were an ISO certified and a private hospital. All supervisors and department heads were asked to participate in the benchmarking trip. The author accompanied the team in their visit of benchmark hospitals.

**Phase 2: Preparation**

An infrastructure for the SCQM programme was established comprising of (a) quality management council, (b) quality management department, (c) quality steering committee, (d) functional and Cross-Functional Quality Teams (CFQT), and (e) quality audit team.

A quality management council was formulated to provide strategic direction on SCQM for the hospital. The council was responsible for funding, planning, directing, and overseeing the SCQM programme throughout the hospital. All senior managers, middle managers, and some of front-line managers were members of the council. The council met monthly to review the quality management activities. Initial training was provided by the researcher for members of the council. The training provided an overview of the SCQM model, its philosophy, potential benefits, and implementation process.
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A quality management department was formed and a team of four including quality manager was appointed to work there. The quality management department was responsible for implementing the SCQM model. Following the top management change in March 2006, a new quality manager with a GP background was appointed. He was given the authority and responsibility to coordinate, implement, and monitor the SCQM system.

A Functional Quality Team (FQT) was established in each department of the hospital. Hospital used a variety of committees to formulate policies, coordinate, and monitor hospital-wide activities on specified areas of responsibility such as medical services, nursing care, infection control, and pharmacy and therapeutic committees. It was decided to use these committees as CFQTs instead of having separate teams and making the structure of the hospital more complex.

In order to ensure coordination between functional and cross-functional teams, a steering committee was established within the hospital. The steering committee consisted of the quality manager, an employee union representative, a physician, the director of nursing, a senior nurse, and representatives from paramedical and support departments. The committee was charged with the responsibility of overseeing the SCQM programme, coordinating the quality improvement efforts and acting as a link between quality improvement teams and quality management council. A training session was organised for the committee concentrating on the techniques and skills that would be necessary for SCQM implementation. This group became the team of internal trainers, charged with the responsibility of carrying out further training of staff in the hospital.

A multidisciplinary team was formed in the hospital to act as internal quality audit team. Eighteen employees were trained to undertake quality audits. All auditors were senior staff who showed enthusiasm for quality management. The training lasted for three days.

Phase 3: promotion

The quality management council developed a five-year strategic quality plan that would take them to the year 2010. Environmental analysis was carried out by using SWOT (Strengthens-Weaknesses-Opportunities-Threats) technique. Political, economic, socio-cultural, and technological factors were assessed in order to identify environmental opportunities and threats especially in Iranian health sector.

Hospital mission and vision statement were established clearly in the strategic plan. Guiding principles and main values of the hospital were developed and shared in the organisation.

The strategic quality plan contained specific quality goals and objectives for each of the five dimensions of performance: employee, customer, supplier, organisation, and society. Each goal had a measure (key performance indicator) and each measure had an achievable target. Measures and targets were developed from a bottom-up process. Targets were established based upon organisational capabilities and comparative benchmark data. Policies and strategies were developed and communicated to employees at different levels.

Front-line managers were encouraged to determine departmental objectives in line with organisational goals including targets and activities to be undertaken. An annual plan was prepared, describing actions that will help the hospital meet its operational goals. A person was identified as responsible for implementing each action plan and another was appointed as the inspector. Departmental managers and supervisors actively
participated in the development of strategic, tactical, and operational plans. This left individual departments within the hospital with a clear understanding of how they could contribute to the success of the plan. It also made managers accountable for the success of the plan. The author served as a consultant for the strategic plan process. The planning phase lasted less than two months.

Quality awareness training was offered to all employees. They were acquainted with the philosophy, principles, and values of SCQM. The training was also focused on developing quality-related knowledge and skills, teamwork, and effective communication skills. The objective of the training programme was not only to explain the concept of SCQM, but also to raise morale and soften resistance to change.

Middle- and front-line managers act as mentors and facilitators of quality improvement. Therefore, they require special training at a very early stage in the SCQM process. Training was provided for operational managers and supervisors to equip them with the competence necessary for their managerial tasks. Training was designed to educate them on how to manage employees effectively. Topics like change management, participative management, continuous improvement, leadership, planning, motivation, HRM, controlling, and research methodology were covered. The training highlighted the need for openness, trust, and cooperation within and between functional areas and between managers and their staff.

A motivated nurse was appointed as the hospital education supervisor in 2006. She played a key role in developing an education and research environment in the hospital. She designed a comprehensive annual training plan for employees in partnership with education office in treatment department of Isfahan Medical University.

Unlike an industrial setting, organising a training programme for employees in hospitals is difficult due to its nature of dealing with the delivery of vital services to the people. Due to the fact that the early morning period was always busy, it was decided to have the training and quality management related meetings between 11 AM and 13 PM. At this time, fewer employees were absent.

In developing educational materials, simplicity was emphasised. The author’s background in healthcare management made it easy for employees to understand the concepts. Using healthcare examples was found useful in transferring the concepts to the trainees. In addition, a summary of each topic was prepared in a pamphlet format and provided to the department heads for further use.

It was found that educational programmes are more effective, when the top or middle managers attend the sessions, when conducted by persons whom the audience respects, and when they are conducted in a practical way with examples and encourage discussions. In addition to the employees, clients and suppliers were also included in the education programmes. Employees, clients, and suppliers were regularly surveyed by the education supervisor to define additional training needs. New training programmes were implemented based on these surveys.

**Phase 4: implementation**

A quality management programme would only survive if it could provide tangible benefits for the employees and customers. It was decided to start SCQM introduction to hospital with structural and cultural changes in order to foster acceptance and implementation of the model. The mechanistic structure of the hospital was changed by initiating functional and cross-functional teams, increasing employee responsibility and authority and decreasing vertical coordination and control. In addition, personnel policies dealing with promotion, performance appraisal, and rewards were changed.
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As part of structural changes, Angiography, Endoscopy, Peritoneal dialysis, Spirometry, ICU for poisoned patients, Isolation room for A & E patients and Echocardiography wards or units were added to the hospital. Furthermore, A & E, Internal medicine wards, CCU, Dialysis, Operation Theatre, Radiology, Colonoscopy, Sonography, ICU, Central sterilisation, Main kitchen, Restaurant, Stores, Switch board room and Cash office were renovated and equipped with new equipment. There was an old building in the centre of the hospital which accommodated pharmacy and medical records departments. The building was destroyed and a pleasant garden was built in its place for patients and their relatives to enjoy their time during their stay in the hospital. A bank branch and a medical equipment and supply shop were established in the hospital for employees and clients. Planned structural change improved customers (both internal and external) satisfaction. Provision of new facilities and resources encouraged employees’ motivation for doing their jobs.

Effective SCQM implementation requires a major cultural change. Cultural change needs to be wrought alongside structural change to bring about a culture in which quality management can flourish. In order to develop a participative culture, the suggestion scheme was launched in early 2006. After providing education and training, employees were asked to send their suggestions to quality management department by using standard suggestion forms. Suggestion boxes were also installed in different places of the hospital for patients and visitors to suggest comments and ideas for improving the quality of services. Management had seriously considered suggestions and recommendations.

In accordance with the strategic plan, hospital ‘A’ attempted to initiate TPM practice in mid 2006. Therefore, an equipment engineering office was established and staffed with three motivated and competent personnel to improve the overall utilisation of equipment. The equipment engineering office was responsible for setting up the basic TPM policies, promoting TPM activities, and training employees to be skilled and motivated regarding their equipment maintenance.

A preventive maintenance system was designed and necessary education and training were provided for employees. Equipment ID cards were designed and installed. Regular servicing and calibration of equipment were carried out and relevant equipment information was provided to the operators. The equipment engineering office was capable of repairing more than 90% of faulty equipment. They used to be sent outside of the hospital for repairing which was costly and time consuming. TPM improved effective equipment management as well as the technical skills and morale of hospital employees. A positive attitude, ownership, and concern were developed among employees.

Hospital ‘A’ has been using the 5S system as part of a ‘Total Productive Maintenance’ system in order to develop a culture of order, safety, and responsibility. The hospital earned 90 million RLS (US$ 10,000) through selling some unwanted equipment in 2006.

Due to the massive structural change, it was decided to extend the timescale for structural and cultural changes from twelve (12) months to eighteen (18) months in order to better prepare the staff for process improvement activities. Employees were under pressure of more work due to the refurbishment of departments. For instance, some nursing wards had to accommodate patients from other wards that were closed for refurbishment purpose.

The next phase of SCQM programme – the procedural changes – commenced formally in September 2007. The hospital’s processes are inter-related and the maximum benefit could only be gained if they are all improved concurrently. Hence, quality
improvement was started simultaneously in all departments and units across the entire hospital. Overall, 36 FQTs and 17 CFQTs at departmental and divisional levels have been established to implement and manage the quality improvement activities at these levels.

Due to the difficulty of engaging all physicians in SCQM programme, it was decided to engage just influential physicians who were the directors of medical groups and had power over the other physicians. At least a physician was involved directly and participated in quality improvement teams. Head nurses played a critical role in encouraging physicians to take part in quality improvement teams. Young and less busy doctors were particularly keen to participate in quality improvement activities. Top management support and having seen the tangible benefits of quality improvement projects for them and their patients were the main reasons for physicians’ cooperation in SCQM implementation.

The author and quality manager provided quality training for FQTs and CFQTs. These involved quality management concepts and techniques such as suggestion scheme, Five S, six sigma and Kaizen. The training also included a ten-step quality improvement process. Tools such as process flow analysis, cause-and-effect analysis, and brainstorming were also included. Training sessions continued every other week in the hospital for the period of model implementation. A quality management folder was prepared for each department for keeping a record of quality management documentation. These include statements of the organisation’s mission and vision, quality policy, quality objectives, the work instruction manuals and the guide for implementing SCQM programme.

Each department was asked to prepare the department activity manual describing the department main activities, core, and sub-processes, working procedures including working protocols, guidelines, instructions, and standards. The importance of zero defects was emphasised in preparing the standards to assist practitioners about appropriate care for specific clinical conditions. Necessary forms and instruments were designed for monitoring performance of the processes and detecting the gaps between expected and observed performance.

FQTs and CFQTs were encouraged to identify, flowchart, optimise, and stabilise the core and the sub-processes. They were further asked to define goals and objectives for the processes, determine key performance indicators and achievable targets for each process; measure processes according to established indicators; determine the gap between the expected and the actual performance; identify the problems; find the roots of the problems; build solutions; plan how to implement them; execute solutions; and evaluate the effectiveness of the improvements using the ten-step quality improvement approach. Involving the teams in all stages of the action research motivated them to plan and implement changes for better quality of care.

All FQTs and CFQTs’ heads were asked to prepare monthly quality management reports, including a discussion of their findings and future plans to improve quality and productivity in their units. The quality steering committee gathered data from the FQTs and CFQTs and presented them to the quality council of the hospital at their monthly meeting. By means of these reports, the senior managers were able to evaluate developments in the hospital quality management journey.

Phase 5: evaluation

The trained quality auditors used SCQM assessment tools to measure how well the hospital had implemented SCQM programme and achieved the required results. Their task was to ensure that every department had achieved predetermined objectives. The
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Internal auditing was carried out on a yearly basis with notice to the departments in order to encourage continuous improvement. Audit results have been reported to FQTs and CFQTs to formulate improvement plans and overcome the identified problems.

Furthermore, the author and colleagues in quality management department measured employees’, clients’ and suppliers’ satisfaction and organisational performance on a yearly basis and reported the findings to FQTs and CFQTs. The teams discussed the feedback they had received, identified problem areas, and decided what changes should be made.

Finally, a management review set out following self-assessment to verify that the quality management system is actually effective in meeting the requirements and achieving the desired results. The management review helped the quality management council and the author to reveal defects in the quality management system and develop strategies for resolving the problems in quality management design.

In the post-intervention assessment, the total points scored of Hospital ‘A’ were 737 out of 1000. This score indicates that Hospital ‘A’ would be classified in the ‘Experimentation’ category. The overall SCQM score for the experimental hospital increased by 93.9% from 2005 to 2008. SCQM implementation practices and performance scores were improved by 108% and 68.8%, respectively. However among all the 13 criteria, Hospital ‘A’ has more opportunity to improve the quality in criteria numbers 4 to 7, i.e. corporate quality culture, employee management, customer management, and resource and partnership management.

Table 3 The results of SCQM assessments in study hospital

<table>
<thead>
<tr>
<th>SCQM Constructs</th>
<th>Total Score</th>
<th>2005</th>
<th>2008</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Leadership and management</td>
<td>100</td>
<td>40</td>
<td>75.5</td>
<td>+88.7</td>
</tr>
<tr>
<td>2 Strategic quality planning</td>
<td>80</td>
<td>27</td>
<td>66.5</td>
<td>+146.3</td>
</tr>
<tr>
<td>3 Total continuous learning</td>
<td>70</td>
<td>35</td>
<td>56.5</td>
<td>+61.4</td>
</tr>
<tr>
<td>4 Corporate quality culture</td>
<td>80</td>
<td>22.5</td>
<td>56</td>
<td>+148.9</td>
</tr>
<tr>
<td>5 Employees management</td>
<td>90</td>
<td>28.5</td>
<td>63.5</td>
<td>+122.8</td>
</tr>
<tr>
<td>6 Customer management</td>
<td>90</td>
<td>36.5</td>
<td>66</td>
<td>+80.8</td>
</tr>
<tr>
<td>7 Resource and partnership management</td>
<td>70</td>
<td>25.5</td>
<td>49</td>
<td>+92.2</td>
</tr>
<tr>
<td>8 Process management</td>
<td>90</td>
<td>28.5</td>
<td>73.5</td>
<td>+157.9</td>
</tr>
<tr>
<td>9 Employee results</td>
<td>80</td>
<td>34.5</td>
<td>55.5</td>
<td>+60.9</td>
</tr>
<tr>
<td>10 Customer results</td>
<td>80</td>
<td>33.5</td>
<td>56</td>
<td>+67.2</td>
</tr>
<tr>
<td>11 Organisation results</td>
<td>70</td>
<td>30.5</td>
<td>49.5</td>
<td>+62.3</td>
</tr>
<tr>
<td>12 Supplier results</td>
<td>50</td>
<td>18</td>
<td>35.5</td>
<td>+97.2</td>
</tr>
<tr>
<td>13 Society results</td>
<td>50</td>
<td>20</td>
<td>34</td>
<td>+70</td>
</tr>
<tr>
<td>Overall score</td>
<td>1000</td>
<td>380</td>
<td>737</td>
<td>+93.9</td>
</tr>
<tr>
<td>SCQM practices score</td>
<td>670</td>
<td>243.5</td>
<td>506.5</td>
<td>+108</td>
</tr>
<tr>
<td>SCQM performance score</td>
<td>330</td>
<td>136.5</td>
<td>230.5</td>
<td>+68.8</td>
</tr>
</tbody>
</table>

The hospital’s leadership and management approaches had a significant improvement of 88.7%, which was clear in the visionary leadership, pursuit of long-term success, management commitment and involvement and management by fact. The hospital experienced a change in TMT in 2006. Although both senior managers applied
participative management, their approach to employee involvement in decision-making was different. While the senior manager was more task-oriented in 2005, his successor was more employee-oriented. The new TMT demonstrated directive and supportive behaviour in the hospital. They assigned the most qualified and motivated people as the heads of the departments. This helped them to reduce the amount of tension among employees in the departments and increase productivity. Equipping front-line managers with management skills was also useful to improve the departments’ productivity.

The results showed an improvement of 146.3% in the strategic quality planning construct of SCQM in the hospital. The hospital is now using an integrated approach to strategic planning by incorporating quality requirements into strategies and action plans. The hospital had a clear understanding of the key stakeholders’ needs and requirements. A realistic strategic plan was formulated scientifically including tactical and operational plans. Policies, strategies, and action plans were developed for deployment of goals and objectives. Continuous quality improvement was incorporated in the organisational goals, policies, strategies, and action plans.

The TMT was involved in establishing the vision and mission statements. Employees from different levels were involved in making policies, strategies, and action plans. The hospital’s vision and mission were communicated not only through the organisation, but also to the organisation’s suppliers and customers. Top management reviewed strategic goals every year. The hospital defined performance measures to monitor progress towards reaching goals and objectives. Employees were involved in defining key performance measures. Resources were committed for implementing policies, strategies, and actions plans as much as possible. Hospital ‘A’ had made further progress in developing and implementing plans. As middle- and front-line managers were involved in determining operational goals and objectives, they were more committed to achieving them.

The hospital was demonstrating greater concentration on educational activities. Top management was committed to employees’ training and supported a learning environment where employees were encouraged to share their ideas and information to enhance their knowledge and skills. Managers and skilful employees were involved in training programmes and giving training lectures to other employees. Top management promoted the concept of organisational learning by developing educational goals, benchmarking best practices, encouraging continuous improvement of processes, and emphasising evidence-based management and practice.

A comprehensive training programme was launched in the hospital for all managers and employees at all levels to build awareness of the SCQM process. All the hospital employees were introduced to the concept of quality and quality management. From the training course, they learnt about the benefits of implementing quality management in general and SCQM in particular in the hospital. Education and training were deemed to be the biggest facilitator in SCQM implementation.

The training programme was a ‘top-down’ process. It began with senior and middle managers and moved systematically through the organisation until all employees were trained. Training was designed and delivered in three stages. In the first stage, senior and middle managers were trained in quality management concepts, skills, and techniques. The aim was to increase their commitment to SCQM implementation. In the second stage, managerial and leadership skills training are given to managers. In the third stage, sufficient quality awareness training was delivered to employees.
The training programmes concentrated initially on quality awareness, followed by training sessions in problem-solving and continuous improvement skills. Training helped to clarify the role and responsibility of employees in the quality management programme. Consequently, employees’ perceptions of quality have improved. A culture of learning was thus created in this hospital. The education department supported a variety of opportunities including patient and family education, continuing employee professional development, non-clinical English language, and computer training for employees.

Corporate quality culture showed good results after the implementation of the SCQM model. The culture survey in Hospital ‘A’ showed significant improvement in most dimensions of hospital culture since the original survey in 2005. SCQM substantially altered the culture of the hospital. The largest perceived improvement was related to teamwork, power distance, entrepreneurship, and risk taking. The least perceived improvement has occurred in uncertainty avoidance and attention to detail. Applications of SCQM values and principles were positively correlated with developing a participatory, cooperative, innovative, and risk-taking organisational culture. Leadership behaviour of top management, education and training, employee relationship management, suggestion scheme, revision of organisational policies, employee involvement in quality management, and modification of evaluation, and reward system all influenced the culture of the hospital. Improving mutual trust between top management and employees facilitated effective communication, teamwork, and cooperation among employees. Teamwork fostered cooperation and collaboration among employees. However, there is still work to be done to integrate continuous learning, teamwork and innovation in the hospital organisational culture.

Employees’ involvement in quality management enhanced cooperation. There was a clearly established team attitude in the hospital departments. More emphasis was now placed on teamwork as a result of the SCQM programme. The establishment of FQTs and CFQTs and the interaction of everyone in the hospital had removed the barriers between departments and increased teamwork and cooperation among employees. Internal communication was open and transparent; and coordination and cooperation between and within different departments were increased.

This experiment suggests that continuous quality improvement can develop a quality culture in the organisation. Continuous improvement was included in the daily activities of employees. Creativity and creative thinking was actively encouraged and rewarded. Importance was attached to research by the top management for the purpose of innovation. Department heads and supervisors made doing things right the first time of top priority. Employees were empowered to participate in decisions related to their work. Management encouraged employees to submit suggestions and implemented them after evaluation.

Hospital ‘A’ demonstrated an improvement of 122.8% in the employee management construct 30 months after SCQM implementation. The impact of the SCQM introduction on employee management was demonstrated in improvement in employee competency, top management, and employees’ good relationships, employees’ commitment to and involvement in quality improvement activities. Employees’ roles and responsibilities were clarified. They were given the ability, motivation, and authority to improve the quality of their work. The SCQM programme brought the management and employees closer together. Since the second year of SCQM introduction in the hospital, middle managers organised regular meetings with employees at their work places to discuss their problems. Top management paid sufficient attention to employee satisfaction, morale,
development, and well-being. Employees’ working stress was decreased by providing suitable resources and more facilities. The hospital provided a supplementary medical insurance programme for employees. Recreational tours and trips were also organised for employees.

Participation in the SCQM programme enhanced employees’ involvement in their work. Employees at all levels assumed responsibility for quality improvement performance and the outcome of their work. Top management pushed decision-making to the frontline managers and employees. Empowered and motivated employees contributed to improvement by actively participating in the Suggestions Scheme. Employees were encouraged to submit their ideas and opinions. The submitted ideas were evaluated by the quality management department and the selected ideas were applied. Managers provided necessary support for employees to achieve their objectives. Education and training, teamwork, management support, and recognition were found to motivate employees to participate in quality management activities. This resulted in high employee motivation, high job satisfaction and low absenteeism and turnover.

The employee evaluation system was changed. Employees’ productivity and teamwork were emphasised. Quality improvement criteria were included in the performance appraisals of employees. Employees were recognised for superior quality performance. Feedback was provided to employees on their quality performance. Since the introduction of SCQM, employee satisfaction surveys have been conducted annually to identify common causes of employee dissatisfaction. Hospital management made it a priority to focus on the internal customer and to drive out any threats and feelings of fear to improve the feeling of dissatisfaction that employees exhibited in the past. Feedback from the surveys was then given to the supervisors and line managers to develop potential solutions and implement the selected changes to improve motivation and satisfaction of employees.

There was a noticeable increase in staff awareness of the importance of the external customer. Hospital departments identified their internal and external customers and their needs and expectations. Commitment to customers was included in the hospital’s mission statement. The hospital used customer requirements as the basis for quality improvement. Employees highly valued customer satisfaction. Customer satisfaction surveys were conducted using telephone surveys, customer feedback forms, questionnaires, and interviews to understand customers’ views on the quality of services and obtain the data on customer needs and requirements. The hospital used customer input in the planning, delivery, monitoring, and evaluation of healthcare services. Education and training improved patients and families’ involvement in care decisions.

The hospital used data from clients to improve healthcare services. Many facilities have been provided for clients after analysing patient satisfaction questionnaires. A booklet was developed and published for clients. It contained general information about the hospital, available services, patients’ rights and responsibilities. Further educational pamphlets were also developed and published for patients and their relatives. The hospital manager empowered the social workers to help patients with their personal problems. In fact, an employee was appointed to help patients with their legal problems for instance, supporting a patient’s claim in a trial.

The experimental hospital’s poor pre-intervention performance on resource and partnership management showed remarkable improvement post-intervention. In 2008, the TMT in Hospital ‘A’ considered quality as the most important criteria in choosing suppliers. The hospital established a good relationship with suppliers. As a result, overall
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suppliers’ satisfaction has increased 42% in 2008 as compared to 2005. The hospital had a supplier performance evaluation system for measuring suppliers’ performance and their ability to meet the quality requirement. The productivity department had a crucial role in searching for the best available suppliers and developing quality standards to be followed by the supplier. Audit and regular meetings were carried out by the productivity department to review suppliers’ quality status. Mutual benefit was considered as a principle in dealing with suppliers.

Although advances had been made in supplier partnership management, there were several issues, which had slowed progress at Hospital ‘A’. The major one was the public sector rules and regulations. Hospital ‘A’ as a public hospital affiliated to Isfahan University of medical sciences needs university’s authorisation for choosing major suppliers, purchasing major medical equipment, subcontracting and outsourcing. Attaining authorities’ approval needs more time and energy. For instance, Hospital ‘A’ was interested in purchasing new lithotripsy equipment. However, this decision was not approved by the university. The same happened with regard to outsourcing some support and logistic departments.

Hospital ‘A’ established a quality management system for quality improvement purposes. A quality management council was established. Functional and cross-functional quality improvement teams were formed to encourage continuous quality improvement. Team members were trained for their roles. The implementation of the SCQM proved to have a major impact on different aspects of process management. Critical and core processes were defined and standardised. Clinical guidelines, procedures, and protocols were developed and applied within the hospital. Processes became more customer-focused and developed to meet high standards of quality care.

Employees identified quality improvement opportunities through process analysis, customer satisfaction surveys, and competitive benchmarking. The teams were able to determine the sources of a problem by using root-cause analysis, to build solutions to improve the processes, to plan how to implement them, to deploy the plan, and to evaluate the results to achieve continuous improvement.

Employees were encouraged to put forward suggestions for improvements. FQTs and CFQTs used quality improvement tools (e.g. benchmarking, brainstorming, flowcharting, surveys, and fishbone diagrams) to address and improve quality issues. Employees considered customer needs and requirements in process improvement activities. Work processes were constantly reviewed to minimise the causes of customer dissatisfaction.

Benchmarking was used in Hospital ‘A’ as part of the management of processes. The hospital used quality management techniques and tools extensively for process control and improvement. The application of the scientific problem-solving methods enabled employees responsible for quality management to manage processes with facts rather than intuition. Employees documented various work instructions referring to procedures to maintain a consistent quality of service delivery. Work procedures and manuals were periodically reviewed and updated to cope with the changing environment.

All the staff members interviewed in Hospital ‘A’ perceived the SCQM process positively and judged it to be useful for them and their department. They saw it as a way to solve the problems of the department that certain groups had experienced over a long period of time and to improve the quality of the healthcare provided as well as their working conditions. The hospital conducted quality audits regularly to ensure quality services. Employees were recognised for superior quality improvement performance. In
addition, internal audits were carried out every year using an evaluation and accreditation assessment tool of the Ministry of Health. Customer and supplier feedbacks were used to inform employees’ improvement initiatives.

SCQM did seem to have a positive effect on employee results. Employees felt more satisfied with their job. Hospital ‘A’ reported a statistically significant improvement in some dimensions of job satisfaction like management and supervision, organisational policies, task requirement, and working conditions. The lowest scores still fall into the same categories as the 2005 assessment (salaries and benefits, and recognition and promotion). Although public managers do not have enough power as regards changing policies related to employees’ salaries and promotion, work has been done to improve employees’ satisfaction with the benefits and recognition schemes.

In 2008 assessment, most employees expressed high levels of satisfaction, motivation, and accountability. Management change and consequently a change in employee relationship management improved employees’ satisfaction significantly. The SCQM programme had a great impact on personnel attitudes towards their jobs. Many employees felt that their jobs had become more challenging and enjoyed the additional responsibilities. The introduction of the SCQM programme gave employees more control over their daily activities. Employees rated their quality of working life more positively than they did 2.5 years earlier. They were more likely to experience job satisfaction and job security and to feel supported and informed. SCQM programme improved employees’ participation in decision-making. As a result, the employees’ pride in their jobs and motivation to work were improved.

The SCQM intervention significantly reduced conflict within the hospital departments. Procedural change reduced role-related stress (role ambiguity and role conflict) in the experimental hospital. It could be because of forming quality teams and defining personnel roles, functions, and responsibilities. Structural changes had the most impact on the stress related to physical environment and organisational policies. As a result, employees reported less job stress-related health problems in 2008.

Two and half years after the introduction of SCQM, scores on patient satisfaction rose slightly, but significantly \( (p = 0.06) \). Patient satisfaction improved by 8.5% from 2005 through 2008. Patient satisfaction has been improved especially due to the structural changes. Patient satisfaction was associated with the willingness to recommend the hospital. In 2008 48.3% of patients indicated that they would recommend Hospital ‘A’ to family or friends, whilst the figure was 26.1% in 2005.

In terms of operational performance, indicators like average length of stay (for a patient), bed occupancy rate (total hospitalisation days divided by the number of beds times the number of days in the year) and bed turnover (average number of patients treated per bed per year) ratio were analysed. Hospital ‘A’ was a much more productive organisation in 2008 than 2005. All operational performance indicators improved due to SCQM implementation. From 2005 to 2008, the patient’s average length of stay for the entire experimental hospital registered a decline from 4.50 to 3.36 days and the overall bed occupancy rate increased from 65.7% to 70.3%. As a result, the bed turnover increased from 54 to 71 times and the bed turnover interval declined from 2.30 to 1.60 days.

Improving both clinical and non-clinical hospital processes had contributed to a significantly shorter length of stay for patients. The overall average of length of stay was reduced by 1.14 days compared with 2005. The length of stay was reduced by 25.3% over the three years. This length of stay was 2.6% lower than the average patient length of stay in Isfahan province hospitals in 2008. By shortening the length of stay, Hospital
‘A’ was able to dramatically increase efficiency in bed turnover. While bed turnover increased by 31.5% in Hospital ‘A’ between 2005 and 2008, it decreased by about 10.7% in province hospitals. While bed turnover in Hospital ‘A’ was 38.9% lower than the average for Isfahan hospitals in 2005, it was 6% higher in 2008.

Concerning financial performance, the overall revenue of Hospital ‘A’ has steadily increased in the past years. This is a result of a patient-centred focus that has led to growing overall customer satisfaction, which has increased from 65.6% in 2005 to 74% in the fiscal year of 2008. As a result, an increase in the hospital bed turnover rate led to added revenues of about 23.94 billion RLS (70.43%). The overall costs of the hospital declined by 8.04% between the years 2004 and 2005 due to the cost saving policy of the former hospital management. Hospital costs rose by 28.6% between 2005 and 2007 due to the SCQM implementation. However, after consolidation, the hospital cut their operating costs by 5%.

4 Discussion

The introduction of SCQM in Hospital ‘A’ was fundamental, gradual, and evolutionary. The hospital began gradually and cautiously the implementation of the SCQM programme by structural, cultural, and procedural changes. The physical structure was changed to suit the needs of both internal and external customers in order to improve processes. Quality structures were established and employees’ roles and responsibilities were clearly defined. The quality management council created a strategic quality plan, defined quality goals, and promoted the SCQM practices. A quality management department was established and staffed with motivated and trained personnel. Functional and cross-functional teams were formed to identify and solve quality problems. A quality steering committee was created to support functional and cross-functional teams. Extensive education and training were provided to develop managers’ and employees’ capabilities on a continuous basis. Employees were motivated to monitor performance, identify deficiencies, and devise and implement solutions.

The impact of the intervention was measured by comparing the pre-intervention and post-intervention measures in the hospital. The results indicated that the SCQM model had an effect on all five types of organisational performance measures (results related to employees, customers, suppliers, society, and organisation). The introduction of SCQM as a continuous learning and improvement effort was associated with significant benefits such as increased employee, customer and supplier satisfaction, and improved productivity and profitability.

A pre-test/post-test study showed 68.8% improvements in the performance of the hospital. These improvements can be primarily attributed to the application of the SCQM practices. No other major programmes were implemented at the time of the SCQM programme implementation. These benefits resulted from the change of organisational structure, context, and processes due to the implementation of the SCQM initiative. These improvements were associated with top management commitment, employee involvement, training, customer focus, supplier relations, and use of quality management methods.

Several factors were identified in this study as essential for sustaining the benefits of SCQM. These factors include careful planning, supportive leadership, competent, and committed employees, education and training, cultural change and sufficient resources.
Using SCQM in the health sector has benefits but does not come without difficulties. Lack of leadership skills, poor change management, resistance to empowering employees, changing the organisational culture, and communication problems were major barriers to SCQM advancement at its initial stages of implementation. The findings complement previously reported difficulties in the application of quality management in healthcare (Shortell et al., 1995; Boerstler et al., 1996; Zabada et al., 1998; Øvretveit, 2000).

Employees’ resistance to change was the main barrier encountered in the implementation of the SCQM programme. For an organisation to succeed in SCQM programme change, it must have the support of its personnel. New model implementation sometimes becomes a source of fear and anxiety for employees, as change is frequently threatening. Change challenges individuals, cultures, systems, and existing power relations. It can be perceived as a threat to the status quo (Williamson and Prosser, 2002). Pressure to resist change in Hospital ‘A’ came initially from middle managers who lost their managerial positions and perceived the change as a threat. Lack of middle managers’ involvement in change programme made them resist the change and react with suspicion and uncertainty. Other studies also reported middle management as the biggest obstacle to successful quality management implementation (Manz and Sims, 1993; Wacker, 1993).

Top management should involve middle managers in designing and promoting change. Middle managers, due to their position, can contribute greatly to quality management implementation by converting organisational goals, objectives and strategies into detailed departmental objectives and operational activities, explaining the principles of quality management to the front-line employees, and ensuring their commitment (Oakland, 2000; Wimalasir and Kouzmin, 2000; Baidoun, 2003).

Lack of considering employees’ benefits in the change programme forced them to work against the implementation of organisational change. Radical change and downsizing led to changes in the personal work situation and generated resistance. Employees were dissatisfied with the way their organisation was being run. Sometimes, employees do not resist the idea itself (SCQM), but they resist the people who initiating the change programme. The perceived credibility of those leading the change leads to resistance (Mink, 1992; Self and Schraeder, 2009). Employees at Hospital ‘A’ had a bad experience with TMT due to their hostile and unsupportive behaviour and radical changes. An organisation’s history related to change also leads to resistance. Employees’ past experiences in working with managers are likely to shape their opinions about future organisational changes that may require even more collaboration (Jones and George, 1998; Self and Schraeder, 2009). If organisations have successfully implemented changes in the past, individuals might have more confidence in the probability of success for current changes, and, thus, be less likely to demonstrate resistance (Armenakis and Harris, 2002).

For SCQM to have a significant impact on an organisation, managers must recognise that the theory of bad apples frightens and alienates the employees. Managers should remove feelings of fear by assuring job security, developing a common vision, and motivating employees by utilising various monetary and non-monetary incentives to reward superior performance. Tension between management and employees increases the risk of failure of SCQM implementation. All stakeholders need to understand and accept the main features of the proposed change programme and this requires effective communication. Effective communication is crucial for successful collaboration among those who will be affected by the change programme.
The change agent also has an important role in the successful implementation of the SCQM programme. Having a quality agent with appropriate background, knowledge and experience increases the chances of successful implementation of SCQM. Experienced quality management facilitators dedicated to quality improvement also make it easier for employees to start the quality management journey.

Trust in managers (change agents) is a critical factor in an employee’s tendency to adopt the change programme. A feeling of trust between employees and managers reinforces employees’ commitment (Gallear and Ghobadian, 2004). Employees prefer leaders who are more considerate and supportive. Therefore, the level of top management support for the SCQM implementation process and continuous visible leadership are vital factors in the sustainability of the change programme. Supportive managerial and clinical leadership facilitates the implementation of SCQM in healthcare organisations by providing direction and resources for continuous quality improvement.

This study has demonstrated that quality management programmes can be structured in a way that overcomes the frequently observed resistance to imposed change programmes and motivates employees to participate in the change process. The experiences in this study indicate that top management visible support helps achieve the desired outcome of change acceptance. Furthermore, employees’ involvement in setting objectives and targets increases their participation in the change process.

For SCQM to truly have an impact, change agents should begin with the areas where such efforts result in immediate tangible results for employees to enhance their morale and motivation for continuous quality management activities. Iranian healthcare employees are motivated more by fair salaries, financial rewards, on-time payment, promotion, improved working conditions, and supportive leadership (Mosadeghrad and Yarmohammadian, 2006; Oshvandi et al., 2008; Hamidi and Eivazi, 2010). Employees will become more involved if they see the tangible benefits of the quality management programme. Appropriate recognition and reward systems are important tools to influence employees’ attitudes towards improving the quality of their work. Short-term tangible results and financial incentives increase the probability of sustained success. Recognition and non-monetary reward systems are also critical to the long-term success of quality management initiatives.

A lack of financial resources was also an obstacle to SCQM successful implementation. Making structural and organisational changes requires financial investments for recruiting and retaining the right people, and equipping them with the right technologies, tools and support they need to provide high-quality services. The lack of resources (human resources, equipment) constituted another critical problem in successful SCQM institutionalisation. SCQM places great emphasis on recruiting and retaining high-quality employees. However, managers in Iranian public hospitals do not have the power to attract and employ employees or pay competitive salaries.

Although SCQM can be effective in developing countries such as Iran, the outcome may not be similar to those of the developed countries. Developing countries’ conditions that may impede such quality management programmes include hierarchy, bureaucracy, centralisation, authoritarian leadership, management turnover, lack of management expertise, unplanned decision-making, lack of timely and appropriate information for decision-making, lack of customer focus, lower consumer expectation, the absence of competition, and the government public sector rules. The working environment of
developing countries is characterised by high uncertainty avoidance, high power distance, relatively lower employee income, morale and motivation, overwhelming working conditions, staff shortage, and lower training. This finding is in agreement with other studies (Woon, 2000; Smits et al., 2002; Clark, 2003; Øvretveit, 2004).

SCQM implementation could be resisted by people in cultures characterised by a high uncertainty avoidance and power distance like Iran (Hofstede, 2003; House et al., 2004). A culture of high power distance and uncertainty avoidance promotes mechanistic and hierarchical structures, centralised decision-making, dependency on superiors and a preference for clear rules and regulations for every situation. Therefore, rules and regulations are required to provide structure and certainty in the changing conditions created by SCQM programme. This assures that the employees are not overwhelmed with anxiety.

Introduction and implementation of SCQM programme requires greater employees’ participation and involvement in the decision-making. This may pose difficulties in countries where there is a greater power distance and separation of management and employee roles. Accordingly, such a culture is slow in the adoption of change and is very risk averse. Furthermore, Iranians are more short-term thinkers. They emphasise more on quick results and benefits (Kabasakal and Dastmalchian, 2001).

Teamwork is a crucial element of SCQM. However, in nations high on individualism such as Iran (Nasiri Pour et al., 2008; Rahimnia et al., 2009), individual decisions are thought to be better than group decisions and as a result individual initiatives are encouraged. Iranians are more ‘feminine’ according to Hofstede (2003) masculinity/femininity index. People in such a society are more emotional and less tolerant of opinions different from what they are used to. Relationships with co-workers, employment security, and a friendly atmosphere are relatively more important than recognition, advancement, and challenge in such a society.

Transforming such a culture to a genuine quality culture requires visionary leadership, strategic planning, training, commitment, and explicit focus on internal and external customers. SCQM soft factors (basic principles and values) and hard factors (techniques and tools) help managers to change organisational culture to a corporate quality culture. Radical changes are not very useful for such a culture. SCQM as an incremental change gives enough time to managers and employees to adopt and adapt basic principles of quality management. The SCQM approach to change (the sequence of structural, cultural and procedural changes) helps organisations make a gradual transition to a total quality organisation. Structural changes encourage employees to participate more in quality improvement activities as they see the improvement in their own working environment.

Since SCQM cannot be initiated into an organisation in a vacuum, its implementation will be affected by many internal and external factors. Internal environment factors (i.e. people attitudes, interpersonal relationships, organisational culture, and availability of resources) influence the effectiveness of the SCQM change programme. However, external environment factors (i.e. national culture, economic and political factors) modify that effect by encouraging or discouraging employees’ effective participation in the change process. Figure 2 shows the internal and external environments that should be taken into account when an organisation implements SCQM.
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Figure 2  Factors affecting the successful implementation of SCQM

5 Conclusion and implications for management

The purpose of this study was to explore the practical feasibility of adopting the concepts and philosophy of the SCQM model in Iranian healthcare organisations and to identify factors influencing its implementation. This study used a Participatory Action Research (PAR) approach to facilitate the implementation of SCQM in a public hospital.

The results of the study supported using the SCQM model for improving the quality of healthcare services. The findings provided empirical support to the quality management literature and the notion that effective implementation of quality management initiatives based on sound principles and practices together with a systems perspective can lead to improvement in organisational performance. This study supported other studies that promote the implementation of quality management initiatives.

This study presented a solid methodology for implementing SCQM and validated its use in the healthcare sector. In this, it encourages healthcare organisations to adopt a systematic and reliable means of measuring their performance, identifying opportunities for improvement, and checking their progress, which eventually leads to continuous quality improvement in the healthcare services. SCQM can overcome many of the pitfalls
encountered in the implementation of TQM. It establishes a link between strategic management, quality management, and project management, which is considered helpful for any organisation to keep an edge over other organisations in this competitive environment. This study provides empirical evidence that strategic management, quality management, and project management are complementary management approaches for improving organisational performance.

Strategic management is essential to overall organisational success. Integrating quality management principles into the organisation’s strategies (strategic management) and project plans (project management) is the best way to ensure that quality management will be a way of life and an ongoing process. SCQM applies strategic change with an incremental approach that is suitable for healthcare organisations with complex processes and structures, and powerful political sub-cultures. The evolutionary nature of the change gives organisations enough time to adopt and adapt the SCQM model and improve processes gradually and continuously. It nurtures a quality culture by changing the dominant cultural variables and power relations within the organisation. SCQM as a viable solution for sustainable continuous quality improvement can be considered as a fundamental change in the culture and organisation of healthcare organisations.

The quality management implementation experience in this research provides a number of valuable insights for healthcare managers that may improve the effectiveness of future quality management efforts. From a practical standpoint, the experiences from this study are useful for healthcare managers and practitioners who would like to implement a quality management system. They could use the findings to make better decisions in implementing, managing, and evaluating a quality management programme and solving implementation challenges. The research contributes to a better understanding of the difficulties in implementing quality management in healthcare organisations. Successful change programmes require a clear need for change, commitment by the management at all levels of the organisation, good planning and organisation, and experienced, motivated and committed employees.

6 Limitations and implications for further research

The focus of this study was a single general teaching hospital that has implemented SCQM. Although this single case study allowed testing a model of quality management in practice, it does limit the generalisability and credibility of the findings. Future research studies are needed to explore the SCQM model in multiple cases and in other cultures, and in different structures and types of healthcare organisations to externally validate the findings of this research. Comparing the differences and outcomes of results and identifying the major factors in determining those results improve our understanding of SCQM implementation.

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