Critical success factors of continuous improvement in the public sector
A literature review and some key findings

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Abstract
Purpose – To determine the critical success factors (CSFs) for continuous improvement projects in the public sector.
Design/methodology/approach – Theoretical paper based on a literature review.
Findings – It would appear that there are factors that are important in manufacturing organisations that do not figure in service/public sector organisations and vice versa.
Research limitations/implications – As few papers were identified, further research must be carried out into the CSFs to see if the differences between manufacturing, service and public sector organisations are substantiated.
Practical implications – This work identifies aspects that must be in place for the successful implementation of a continuous improvement project and should be used by those wishing to initiate a project within their organisation.
Originality/value – This paper highlights the similarities and differences between manufacturing, service and public sector organisations.

Keywords Continuous improvement, Critical success factors, Public sector organizations, Quality

Paper type Literature review

Introduction
Quality and quality improvement are words that now are found as frequently in business conversations as turnover or profit and have become just as common in public sector conversations. However, despite all the talk, quality systems are not always as successful as they are made out to be. Leseure et al. (2004) carried out a systematic literature review about the adoption of promising quality improvement practices by organisations. They concluded that there was evidence showing that UK firms lagged behind other countries in the adoption of “promising practices” although there was insufficient evidence to ascertain the reasons.
Traditionally, the public sector has followed the private sector and taken tools developed in the manufacturing sector and adapted and implemented them with varying degrees of success.

Quality improvement is a phrase that is used to encompass a vast array of tools, techniques and methodologies of which continuous improvement is a core methodology. This paper looks at the critical success factors (CSFs) for continuous improvement initiatives, with an emphasis on the public sector. It starts by outlining continuous improvement and CSFs in general and gives a brief outline of the public sector with particular emphasis on the UK, before carrying out a literature review on the CSFs for continuous improvement initiatives followed by discussion and conclusions.

**What is continuous improvement (CI)?**
The Institute of Quality Assurance (www.iqa.org/information/d2-7.shtml), in their Fact sheet No. 7, defined Continuous improvement as a gradual never-ending change which is:

\[\ldots\text{ focussed on increasing the effectiveness and/or efficiency of an organisation to fulfil its policy and objectives. It is not limited to quality initiatives. Improvement in business strategy, business results, customer, employee and supplier relationships can be subject to continual improvement. Put simply, it means ‘getting better all the time’.}\]

Bhuiyan and Bagehel (2005) traced the history of CI and present a range of definitions from leading authors. Their definition of continuous improvement is:

\[\ldots\text{ a culture of sustained improvement targeting the elimination of waste in all systems and processes of an organization. It involves everyone working together to make improvements without necessarily making huge capital investments.}\]

Both of these definitions are more business focussed and mention that continuous improvement is not about expensive projects or particular tools but as Martichenko (2004) stated “continuous improvement is about improving organizational performance”. He also emphasized the ongoing nature of CI like Boer et al. (2000) who described CI as “the planned, organized and systematic process of ongoing, incremental and company-wide change of existing practices aimed at improving company performance”. The drawback of this definition is that it implies that there is an overall co-ordinated change process whereas CI is not just a top down process, but all employees are able to suggest and implement improvements.

Both Hyland et al. (2000) and Bessant et al. (1994) concentrated on the systematic inclusion of all employees in the definition of CI. Caffyn (1999) viewed CI as the organisations ability to beat its competition using innovation and involving a number of employees.

Jha et al. (1996) synthesised a number of definitions of CI and they concluded that some of the key elements of CI were the customer focus and that CI was not about continual change but about evaluating outcomes of change and then taking informed actions to continue to improve the process.

From all these definitions it can be seen that CI is where all members of the organisation work together on an ongoing basis improving processes and reducing errors to improve overall performance for the customer. This definition is true for both public sector and manufacturing.
Public sector – why it is important and how is it different from the private sector

The public sector consists of organisations that deliver the goods and services of the government whether at a local or a national level. The size of the public sector varies from country to country, e.g. in communist countries the entire economy belonged to the public sector.

Although, the exact nature of the public sector varies throughout the world and over time, in modern, developed countries, the public sector usually includes:

- Education;
- Public transportation;
- Electricity and gas;
- Fire services;
- Healthcare;
- Police services;
- Waste management;
- Water services;
- Housing;
- Social Security;
- Welfare and Children.

Dewhurst et al. (1999) defined public organisations as those organisations which were not profit orientated and then further categorised them as governmental and non-governmental organisations.

The boundaries between the public sector and the private sector are blurred and overlap in some areas. This overlap varies not just between countries, but also at a more local level, e.g. London is the only city in the UK that has not privatised the bus services (Whatatis, 2007, web site) and there is a constant flow and ebb as organisations move between the public and the private sector.

Despite, the increase in privatisation and internal markets, the public sector remains quite distinct from the private sector in a number of key areas:

- Whilst there are financial controls and targets, the primary goal is not maximising profit.
- Talbot (2003) identified that most public services have three distinct areas or domains – the policy, the managerial and the professional – each of which had their own mores, working patterns and values and were constantly at odds with each other. The people within the organisations have to switch between the different domains as well as having multiple reporting structures, e.g. a physiotherapist would report on a professional basis to a senior-physiotherapist who may be based at a different site, but report locally to the hospital manager. This presents conflicts and uncertainties.
- Public sector organisations suffer from a lack of clarity about who their customers are – is a local council there to serve the individuals, e.g. a child with learning difficulties that requires a dedicated classroom assistant or all the children who would benefit by a decrease in the staff: pupil ratio or the inspection team looking for value for money? (Ustuner and Coskun, 2004).
- Along with the different needs of customers, the public sector organisations have a diverse range of stakeholders to serve, many of whom are customers as well.
- The public sector is subject to the whims and fancies of government, and usually a new administration results in a reorganisation with new boundaries, partnerships, etc. in at least one area of the public sector. Any reorganisation results in uncertainty and changes take time to settle down, neither factor is conducive to providing a first class service.

Parasuraman et al. (1985) felt that service quality suffered from intangibility, heterogeneity and inseparability. By this they meant that:
services cannot be precisely defined and measured, e.g. a visit by a district nurse (intangibility);

they are not consistent as they depend on the interaction between the individual service provider and the customer, e.g. Social services visiting an elderly person (heterogeneity); and

the delivery and the “consumption” of the service occur simultaneously and the customer may influence the outcome of the service provided, e.g. a police officer asking a group of young people to move on (inseparability).

These characteristics, as shown by the examples above, are common in the public sector and combined with the infinite demand, variability of service provided, high expectations and limited resources differentiate the public from the private sector.

As an indicator of the size and economic importance of the public sector, in the third quarter of 2005, there were 577,300 people employed in the public sector and 1,890,700 people employed in the private sector in Scotland. The public sector accounts for 23.4 percent of employment in Scotland and Figure 1 shows the split between the different organisations. During this quarter, the Gross Domestic Product (GDP) for public administration, education and health increased by 0.6 percent compared with a 1.0 percent decline in production (Scottish Executive, 2006).

These figures are recreated around the world, e.g. the British NHS is the largest public sector employer in Europe. There is some dispute over the order, but the five largest employers in the world are the Chinese Army, Indian Railways, National Health Service (NHS), Wal-Mart and the US Department of Defense.

In organisations of this size, small improvements can make large savings and there are an enormous number of employees who can generate the ideas to make these improvements. Equally, in large organisations, it is very difficult to implement and sustain a quantum improvement initiative without large investment.

Why is continuous improvement required?
Organizations, both public and private sector, are constantly facing the challenge of “doing more with less”. There is increased competitiveness within markets and in many sectors, the regulatory controls have become more stringent ensuring that what was acceptable in the past is not acceptable now. It is not possible for an organisation
Continuous improvement is necessary in all sectors, e.g. the Miami University (2007) web site states “Continuous Improvement helps us focus on what we need to do today to promote success tomorrow” and the Tangram (2007) web site emphasizes that CI is about improving the processes involved. For a manufacturing company like Tangram, improved processes lead through control of the product, to improved cost and reliability. In the private sector, increases in the number of customers leads to increases in profit, in the public sector, more customers results in more work. For the public sector, a big issue is trying to keep up with demand rather than generate more demand. Improved processes lead to more customers being satisfied. They can also help to reduce costs and errors (which generate more work), thus helping to further improve the services offered.

In the public sector, the motivation for improvement is not increased profit but that public sector organisations are being faced with ever greater demands, (due to demographic and societal changes outwith their control), on their (relatively) diminishing funds. They are being charged with providing “Best value” with the monies that they have, along with calls for increased accountability and transparency. There is also the political drive for quality in the public sector as successive governments have been pushing for “quality”, e.g. by producing league tables, compulsive competitive tendering and market testing.

Thus, for public sector organisations, external stakeholders such as governments, regulatory bodies, e.g. the Audit Commission, and customers, unlike the private sector where the drive is internal, have largely driven the drive for improvement. However, in both sectors, very few organisations have the resources (time, money, people, technology) to rely on a few large, quantum changes, but instead need to continually make smaller improvements.

The benefits of continuous improvement

Bessant et al. (1994) felt that CI had huge benefits due to the low-levels of financial investment required, and its ability to utilise the ideas of all the employees. Woods (1997) stated that CI benefited employees (by providing a healthy workplace), satisfied customers and increased financial returns for the company. Martichenko (2004) stated “organizations that do not embrace continuous improvement will follow destructive patterns of re-organization, re-structuring, layoffs and other reactionary management techniques that make executives feel they are doing what’s right.” Cole (2001) felt the CI was about “organizational renewal and efforts to prevent organizational ossification”. These statements were all based on research in the private sector, but there is also evidence that long-term, incremental improvement aids the public sector, e.g. Alexander et al. (2006) found that the longer a hospital was involved with quality improvement, the higher the cash flow and the lower the cost per case. Cole (2001) lists the benefits of CI as:

- It mobilises large numbers of employees which improves employee commitment and increases the sources of ideas.
- A number of small wins can occur simultaneously leading to a magnification of results.
- Small wins can make large change possible.
- Revolutions can be based on a series of small wins.
Small wins encourage learning that is based in practice and is more likely to be accepted when it is implemented by the same people who proposed the changes. Small wins spread throughout the organisation, taken together, can provide useful knowledge about the whole system and promote learning. Small process wins are often based on tacit knowledge that is harder for other organisations to copy.

All of these benefits apply as much to the public sector as to the private sector, especially the last one. Many public sector organisations rely on long serving staff that have consummate knowledge about the organisation and its mores. Continuous improvement taps into this tacit knowledge and makes use of it, whereas a top down programme relies more on explicit, codified knowledge.

Temponi (2005) cited a number of benefits of CI within academia. In the USA, academic institutions are run more like private sector operations, but the positive outcomes they listed (more motivated graduates, better community relations, increased academic reputation and the institution on an organisational culture) are equally appropriate to the UK.

There are many benefits to CI, including, inter alia:

- low capital investment – continually making small improvements not large, dramatic changes (Jha et al., 1996);
- ideas and suggestions come from those who are actually doing the job, there is no monopoly on good ideas (Jha et al., 1996; Goh, 2000; Taylor and Hirst, 2001);
- increased employee commitment (Temponi, 2005);
- improved performance/quality (Chassin, 1997; Goh, 2000);
- reduction of waste (Gallagher et al., 1997);
- reduced costs (Gallagher et al., 1997); and
- improved customer satisfaction (Gallagher et al., 1997; Taylor and Hirst, 2001).

The benefits of CI are available to organisations of all sizes, across all sectors, if they chose to take them – see for example case study evidence reported by Oakland (2003), De Jager et al. (2004), Fraser (1995), Taylor and Hirst (2001) and Gallagher et al. (1997).

What are critical success factors
Rockart (1979) defines CSFs as “the limited numbers of areas in which results, if they are satisfactory, will ensure competitive performance for the organisation.” He used CSFs to design information systems and this definition is rooted in the private sector.

Brotherton and Shaw (1996) define CSFs as the essential things that must be achieved by the company or which areas will produce the greatest “competitive leverage”. They emphasize that CSFs are not objectives, but are the actions and processes that can be controlled/affected by management to achieve the organisation’s goals. They also state that the CSFs are not static, but depend on a combination of where the organisation is and where it wants to be. This definition again comes from the private (service) sector and is more a way of managing rather than an assessment of a project’s success. Both definitions emphasise gaining a competitive edge, which is not a feature of public sector organisations.
Boynton and Zmud (1984) defined CSFs as “those few things that must go well to ensure success.” This is a more universal definition which is equally applicable to both the public and private sectors and not restricted to a particular type of project.

The importance of defining the CSF for implementation is to increase the success rate, reduce costs and prevent disillusionment with continuous improvement programmes.

**CSFs of CI initiatives in public sector**

A thorough literature review was carried out using combinations of CSFs and continuous improvement (CI), six sigma, kaizen, total quality management (TQM), and manufacturing, private sector, public sector, health, NHS, education, police, and fire service. The majority of papers discussed projects carried out in the manufacturing sector. As Huq (2005) says, there are very few empirical papers on quality management in the service sector. During the literature search, it became apparent that there was an abundance of papers about different aspects of the public sector including papers describing quality projects, but there were very few that looked at the CSFs for the implementation of a project. The databases searched included Proquest, SwetsWise, Science Direct, Wiley Interscience, Ingenta Connect, Meta Press, Springer Link, Inderscience and Google Scholar.

The Appendix shows a summary of 29 papers that looked at CSFs. The key CSFs were:

1. Management commitment.
2. Customer management.
3. Supplier management.
4. Quality data, measurement and reporting.
5. Teamwork.
6. Communication.
7. Process management.
8. Ongoing evaluation, monitoring and assessment.
10. Employee empowerment.
11. Having aims and objectives that are communicated to the workforce and used to prioritise individual’s actions – a corporate quality culture.
12. Product design.
13. Organisational structure.

The numbers above are used to show where these factors relate to the factors suggested by the different authors throughout the rest of this paper.

Other factors suggested by the different authors included:

- recognition and reward systems;
- effective use of technology and;
- cultural change;
- honesty of the organisation, i.e. trust of and by all employees;
- project selection and prioritisation – look for quick wins or “low hanging fruit”;
- fast response to change, e.g. environmental or technological;
- project management skills;
- top management stability;
- use of pilot study;
- role of Quality department;
- identification of critical quality characteristics;
- human Resources;
- bottom up as well as top down approach;
- structured idea management system;
- strategic Planning;
- social responsibility; and
- understanding TQM guidelines and philosophy.

Rather than look at the CSFs, Longenecker and Scazzero (1996) carried out a survey of 137 managers from practising TQM organisations and asked for the five main causes of quality problems. The results from this question were separated into different categories and shown in Table I. Whilst it is TQM managers who are reporting these problems, the emphasis of these causes seems to be counter to the philosophy of TQM and that blame cultures still exist. From this work, it would appear that training, communication and process management are the CSFs.

Hyland et al. (2000) carried out a survey and case study of manufacturing firms in Australia as part of a multinational research project. Their main focus was a comparison of the tools used by firms, but they also concluded that management support across all levels of the organisation was required.

Terziovski et al. (1996) carried out a series of case studies in Australian manufacturing and service organisations. They concluded that, irrespective of the size

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals not effectively performing their jobs (9)</td>
<td>62</td>
</tr>
<tr>
<td>Communication breakdowns (6)</td>
<td>52</td>
</tr>
<tr>
<td>Ineffective supervision (9)</td>
<td>49</td>
</tr>
<tr>
<td>Ineffective corrective action procedures (7)</td>
<td>46</td>
</tr>
<tr>
<td>Lack of teamwork/conflict (5)</td>
<td>43</td>
</tr>
<tr>
<td>Poorly trained workers (9)</td>
<td>38</td>
</tr>
<tr>
<td>Conflicting/unrealistic goals</td>
<td>35</td>
</tr>
<tr>
<td>People not aware quality problems exist (9)</td>
<td>32</td>
</tr>
<tr>
<td>Poor planning/organising</td>
<td>29</td>
</tr>
<tr>
<td>Lack of resources/tools/equipment</td>
<td>27</td>
</tr>
<tr>
<td>Technology/equipment problems</td>
<td>25</td>
</tr>
<tr>
<td>Ineffective management procedures (7)</td>
<td>24</td>
</tr>
<tr>
<td>Lack of top management support (1)</td>
<td>21</td>
</tr>
<tr>
<td>Unrealistic quality standards</td>
<td>19</td>
</tr>
<tr>
<td>Lack of worker input/involvement (10)</td>
<td>18</td>
</tr>
</tbody>
</table>

**Table I.**

TQM managers’ causes of ongoing “quality” problems

**Note:** NB – the bracketed numbers refer to CSFs listed previously
or sector of the organisations, there are certain characteristics that will recur in an organisation after “several years of practising best practice in TQM”, i.e. these are the long-term results of TQM:

- customer focus, both internal and external (2);
- strategic alliances with suppliers (3);
- leadership (1);
- innovative human resources practices;
- competitive benchmarking and performance measurement system (8);
- (Trade) union commitment;
- flatter organizational structure; and
- the pursuit of new technology for strategic advantage.

Youssef and Zairi (1995) took a list of 22 generic critical factors (Table II), surveyed different types of organisations throughout the world and carried out a benchmarking exercise. They concluded:

<table>
<thead>
<tr>
<th>Critical success factor</th>
<th>USA</th>
<th>NHS (GP practices) in UK</th>
<th>Mixed sector in Middle East</th>
<th>Mixed sectors in Malaysia and Singapore</th>
<th>Overall ranking for all the organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management commitment</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Clear mission statement</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cultural change</td>
<td>4</td>
<td>11</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Education</td>
<td>5</td>
<td>19</td>
<td>3</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Participative management</td>
<td>6</td>
<td>18</td>
<td>8</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Strategic quality plan</td>
<td>7</td>
<td>14</td>
<td>7</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Goal clarity</td>
<td>8</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Error prevention</td>
<td>9</td>
<td>6</td>
<td>17</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Top management steering committee</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Problem solving</td>
<td>11</td>
<td>17</td>
<td>14</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Measurement</td>
<td>12</td>
<td>16</td>
<td>11</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Problem identification</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>Goal setting</td>
<td>14</td>
<td>9</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Recognition programme</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Quality circles/improvement</td>
<td>16</td>
<td>2</td>
<td>16</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Vendor partnerships</td>
<td>17</td>
<td>4</td>
<td>22</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Project improvement procedures</td>
<td>18</td>
<td>5</td>
<td>21</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>Publicized success</td>
<td>19</td>
<td>8</td>
<td>18</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>SPC</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>19</td>
<td>21</td>
</tr>
<tr>
<td>Cost of quality</td>
<td>21</td>
<td>21</td>
<td>15</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>Zero defect attitude</td>
<td>22</td>
<td>22</td>
<td>19</td>
<td>10</td>
<td>22</td>
</tr>
</tbody>
</table>

**Source:** Youssef and Zairi (1995)
Not all of the 22 factors were relevant to all the organizations.

There were a few factors, e.g. top management commitment, clear mission statement and a clear commitment towards customer satisfaction, that were critical across all organizations.

There is a need for a strategic planning process with clearly identifiable goals and targets.

Radical change of the culture of an organisation is required.

Quality management is a long-term process.

Continuous learning is vital.

TQM is not about tools, techniques and doing the bare minimum.

Education, goal clarity and participative management were in the top 10 for all the organisations except the UK NHS. In comparison, quality circles/improvement, vendor partnerships, project improvement procedures and publicized success were in the top 10 for the NHS in the UK, but near the bottom for all the other organisations/countries. Zero defect attitude was important in Malaysia and Singapore, but of low/least importance in the other countries. Goal setting was ranked 14 in the USA, but in the top 10 for all the other countries. Unfortunately, it was not possible to determine if the variations were due to the countries or the sectors, especially in the UK.

Dayton's (2007) survey compared US and European firms and confirmed that the CSF’s were the same throughout the Western world. He also felt that the most important TQM Critical Factor was Strategic Quality Management (visible support from top management).

Khoo and Tan (2002) found 34 critical factors for the implementation of total quality within Russian manufacturing. These fell into five broad categories – leadership, quality planning, employee development and satisfaction, resources, technology and processes and customer satisfaction. They felt that the old, historic autocratic and bureaucratic ways of working were counter to the modern flatter more flexible structures required for a quality organisation and hence there was a national culture that needed to be changed before CI could be successful in Russia.

Badri et al. (1995) surveyed a mix of companies in the United Arab Emirates to establish their practice with regards quality. They found that service sector organisations consistently had a lower level (of practice) compared with manufacturing organisations. Both service and manufacturing organisations agreed on the importance of training, product/service design, supplier quality management and employee relations but there was a strong negative correlation with their levels of practice regarding quality departments and quality data and reporting.

A study in six Norwegian hospitals listed the CSFs as being management and physician involvement at all levels, good data systems, the right training and effective project team management. (Ovretveit and Aslaksen, 1999).

Nwabueze and Kanji (1997) used two cases studies of NHS organisations within the UK to look at the implementation of TQM and assess why neither implementation had been successful. They identified that one of the causes of failure was the lack of a model specific to the public sector, however some of their suggestions would require a major culture change, e.g. “fire uncooperative clinicians”. Owlia and Aspinwell (1997) looked at TQM in higher education and highlighted the issues of defining the customer
and effective leadership versus academic freedom as being problematic. They produced a shorter list of critical factors (10, see Table III) and looked at higher education establishments in the US and the UK. Although, they found that TQM was more widespread in US than UK academia, they did not mention if this was the cause of the variations in the CSFs. Only one of the 14 US universities and none of the six UK universities felt that supplier quality management was a factor.

Challenges and barriers in implementing CI programmes in the public sector

Bessant et al. (1994) state “But despite its apparent simplicity, CI is not always successful and is particularly hard to sustain in the long-term.” They go on to say that CI can produce innovation, but only if there is a conducive environment or culture within the organisation.

These sentiments are echoed by Gallagher et al. (1997), i.e. CI initiatives often fail to produce the improvements expected, but there is no single cause for these failures nor is there a single solution. The successful implementation of a CI initiative is affected by factors such as the company culture, structure and background. Discussing barriers to CI implementation, Gallagher et al. (1997) provided a list of issues which are not barriers, but problems with the implementation process such as not using effective measurement mechanisms or attempting a superficial implementation without considering the underlying behaviours that need changed.

In 1989, the NHS set up 23 TQM demonstration sites, in 1997 the local government quality group carried out its final survey on quality initiatives in local government. Public sector organisations have been trying to improve quality for over 25 years and still there are very few success stories. The factors that differentiate the public and the private sectors are the same factors that have hindered the introduction of continuous improvement.

Dewhurst et al. (1999) looked at the issues of implementing TQM in public sector organisations. They found the main barriers to be:

- Lack of definition of the customer – does the organisation serve society as a whole or the individuals who use the services. (Swiss, 1992).

<table>
<thead>
<tr>
<th>Critical success factor</th>
<th>USA</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training for quality</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Employee involvement and team working</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Customer focus and satisfaction</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Management commitment</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Organization for quality</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Process management</td>
<td>6</td>
<td>5</td>
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<tr>
<td>Strategic Planning</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Design management</td>
<td>8</td>
<td>8</td>
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<tr>
<td>Information and analysis</td>
<td>9</td>
<td>9</td>
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<tr>
<td>Supplier quality management</td>
<td>10</td>
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</tbody>
</table>

Source: Owlia and Aspinwell (1997)
Rigidity of the organisation – the historic nature of the organisations, and the systems in place to ensure parity and safety can make it difficult to change.

Little incentive to improve the satisfaction of customer’s needs when it is a monopoly situation.

This list did not include the “individualised, professional-led” approach to quality management that Nwabueze and Kanji (1997) felt to be the main reason for the failure and neither author mentioned barriers such as:

- The multiple stakeholders with diverse requirements.
- The lack of clarity about the purpose of the organisation which is related to numerous customers with diverse or even contradictory demands.
- The constantly changing goalposts imposed by external (political) factors.
- Quality initiatives are frequently imposed on the public sector and seen as a desire to score political points rather than a genuine desire to improve services. This can lead to resentment and resistance in staff.
- The funding mechanisms that work on the “stick” approach, i.e. overspending is likely to result in future budget cuts and an associated emphasis on inputs rather than outputs.

All of these factors listed above contribute to the “avalanche of pitfalls” that has beset managers in the public sector. The very nature of the organisation is actively working against attempts to implement a continuous improvement or quality culture, in the same way that an organ transplant can be rejected by the very body it is intended to save.

Discussion and further work

Table IV shows the factors listed as critical by different authors. It can be seen that there are marked differences between manufacturing, service and public sector.

<table>
<thead>
<tr>
<th>Success factor</th>
<th>Mixed sectors (15 papers)</th>
<th>Manufacturing (7 papers)</th>
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<td>1</td>
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Table IV. CSF for different sectors
For manufacturing organisations, there is a definitive list of CSFs which are consistent throughout the sector:

- strong and committed leadership from senior management team;
- communication;
- training and learning;
- quality culture;
- customer management; and
- quality data.

However, teamwork and organisational structure were only mentioned by one author each.

From those papers that looked at organisations from a range of sectors, only two papers listed product design as a CSF. The key factors were management commitment, customer management, supplier management and training and learning.

From the papers that dealt solely with the service sector, the key factors were the same as the manufacturing sectors with the addition of supplier management. Process management, ongoing evaluation, organisational structure and product design were not regarded as CSFs.

Within the public sector, management commitment was universally cited as being critical. Customer management, process management and employee empowerment were key in 75 percent of the papers. Product design was listed in one paper. All the other factors were listed in half of the papers. The public sector is prone to reorganisations as ministers and governments change which frequently results in changing management structures, responsibilities and roles. Management stability was listed as one of the CSFs for public sector organisations along with an improvement focus and a fast response to change.

Of the 29 papers reviewed, only one paper did not regard management commitment as a CSF, regardless of the sector or geographic location. Without the visible and active support of senior officers a continuous improvement programme is unlikely to succeed.

Taking as the key factors, those listed in over half of the papers, only customer management and management commitment were key for all three sectors. The public sector was different from both manufacturing and service sectors in that employee empowerment and process management were at the top of the list. Only one service sector and manufacturing paper mentioned employee empowerment and two manufacturing papers mentioned process management. This could be the result of the traditional bureaucratic nature of the public sector and the recognition that this needs to change in order to reap the benefits of continuous improvement. Teamwork and organisational structure were also more important in the public sector than in the manufacturing or service sectors.

Organisational structure, ongoing evaluation and product design were consistently at the bottom of all the lists. Process management was at the bottom for the manufacturing, service sector and mixed sector papers. The CSFs for the service sector appeared to be closer to those of manufacturing than to the public sector.

More research needs to be carried out to ascertain what continuous improvement projects have been carried out in the public sector using a self-completion questionnaire. This needs to be followed up by more in-depth interviews and
questionnaires to determine a definitive list of CSFs for the public sector which can be used as a basis to develop a CI model for the public sector that meets the needs of public sector organisations.

Conclusions

There are many benefits to CI, including:

- Low capital investment – it is about continually making small improvements not large, dramatic changes.
- Ideas and suggestions come from those who are actually doing the job, there is no monopoly on good ideas.
- Increased employee commitment.
- Improved performance/quality.
- Reduction of waste.
- Reduced costs.
- Improved customer satisfaction.

Whilst almost every public sector organisation is involved with a quality programme, few public sector organisations appear to be reaping the benefits to the same extent as manufacturing organisations.

This paper examined work by leading authors to ascertain the differences and similarities between the CSF for the successful implementation of a CI programme. The caveat to this work is that there has been insufficient published work produced to draw any statistically significant conclusions about the differences and similarities in CSF’s between the different sectors. There are differences between the sectors, with public sector organisations concentrating on CSFs about processes and employee empowerment, service sector organisations on a quality culture and manufacturing organisations concentrating on training and learning. Uniformly across all the sectors, management commitment is listed as the top CSF with customer management close behind.

The CSFs for the public sector follow quite a different pattern from the manufacturing, service and mixed sectors. With the exception of Russia, the differences between sectors seems to be more marked than any differences between countries.

References


Miami University (2007), available at: www.miami.edu/UMH/CDA/UMH_Main/0,1770,3281-1;3275-3,00.html (accessed March 5).


Whatis (2007), available at: whatis.techtarget.com/definition/0,289893,sid9_gci1154572,00.html (accessed March 5).


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**Appendix**

See Table A1 on following pages.

**Corresponding author**

Jiju Antony can be contacted at: Jiju.antony@strath.ac.uk

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<td>Longenecker and Scannell (1998)</td>
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<td>Motwani (2001)</td>
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Table AI. Continuous improvement in the public sector
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**Table A1.** Continuous improvement in the public sector.