Abstract

Purpose: This study investigates how a quality profile can evolve over time and how different interventions can develop and change an existing quality profile.

Methodology/approach: Data was collected over a five-year period, including a literature review, interviews, a document study and observations to capture the quality profile and associated interventions. The study was carried out in a service organisation in the public transportation industry.

Findings: This study shows that the quality profile can change over time due to the use of specific interventions. If a company wants to emphasise a specific quality principle, it must target the quality principle with one or more interventions. However, even if a quality principle is supported by several interventions, there is no guarantee that the quality principle will show improvement in the quality profile. Also, the quality profile becomes more even over time. This can be explained by the internal consistency of the quality principles.

Research limitations/implications: This paper sheds light on the need to study the adoption of individual quality principles and the design and evolution of a quality profile.

Practical implications: The results can provide insights for organisations aiming to embark on a quality programme, specifically how to design and develop a quality profile.

Originality/value: This research implies that the quality profile is a recurring, general phenomenon in all quality management improvement programmes. In other words, successful implementation of quality management requires a cohesive quality profile.

Keywords: Quality management, Quality principles, Quality profile, Service organisations

Paper type: Research paper
Introduction

The growth of the service sector has resulted in an increased focus on the implementation of quality programmes in service organisations that are interested in delivering high-quality service to customers (Schneider and White, 2004). Concepts such as Lean Services (Swank, 2003) and Lean Six Sigma for service (George, 2003) have appeared from the service sector. However, an organisation will only achieve a competitive advantage through a quality programme if there is a match between the importance that the markets assign to the individual quality principles and the organisation’s quality profile.

Some research suggests that successful implementation of quality management requires a radical change (e.g., Dobyns and Crawford-Mason, 1991; Reger et al., 1994). According to this view, a quality profile cannot simply be implemented based on the existing management structures and systems; it may require the redesign of work, the redefinition of managerial roles, the redesign of organisational structures, the learning of new skills by employees and the reorientation of organisational goals (Grant et al., 1994). Some companies have stuck to the same improvement programme throughout the last decade, while others have tried to implement one improvement programme after another in order to change the underlying quality profile of the organisation.

Market turbulence has caused customer requirements to change considerably (Jaworski and Kohli, 1993). This makes it important for an organisation to shift its emphasis from certain quality principles to others over time; that is, to change the quality profile. However, research has shown that it can be difficult for an organisation to change its quality profile. Ahire (1996) showed that the quality profile looks the same for organisations that have worked for a long time with quality management as it is for those that are just embarking the journey. In their investigation of 100 service organisations, Johansson et al. (2010) found that organisations seem to stick to their quality profile and not make any dramatic changes in the quality principles. In addition, their research shows that when an organisation becomes more mature in their quality programme, the quality profile becomes more even, which means that the organisation has widened its focus to emphasise more quality principles. If a quality profile is so difficult to change, the question is what interventions an organisation can use to develop specific quality principles to change their quality profile.

The purpose of the present study is to investigate how a quality profile can evolve over time and, in particular, how different kinds of interventions can further develop or change an existing quality profile. The study focuses on the implementation of a quality programme to develop the quality profile of a service organisation in the public transportation industry. Unlike previous research, the present study shows that it is possible to change the quality profile over time and that it is the interventions that transform the quality profile.

A Conceptual Framework for the Development of a Quality Profile

Dean and Bowen (1994) viewed quality management as a philosophy that is characterised by principles, practices and techniques. The quality principles are a set of underlying assumptions of how to view the organisation and its relation to customers, competitors and suppliers. Following Hackman and Wageman (1995), the principles are a set of core values about people, organisations and change processes. Each principle is implemented through a set of practices, which are activities designed to display and embody the principles. The practices are, in turn, supported by a wide array of techniques to make the practices effective. Hackman and Wageman’s (1995) point was that the values of quality management are supported by interventions. In their view, the interventions are focused on
measurement of customer requirements, supplier relationships, cross-functional teams and methods used to monitor performance.

An improvement programme can be defined as a purposeful and explicit set of principles, practices and techniques adopted to generate ongoing, systematic and cumulative improvement in the processes and output of an organisation (Nilsson-Witell et al., 2005). The present paper’s view of improvement programmes emphasises the importance of the principles of quality management as well as the need to put the principles into practice to improve organisational performance. Ahire et al. (1996) proposed a quality improvement programme that contained 12 different principles. Flynn et al. (1994) included seven dimensions in their framework for quality management: top management support, quality information, process management, product design, workforce management, supplier involvement and customer involvement. Although a quality programme is built on a wide range of quality principles, different improvement programmes emphasise different quality principles. As an example, Six Sigma emphasises process orientation, leadership and base decisions on facts, while Lean manufacturing emphasises process orientation, leadership and employee involvement. However, it is important to enclose all principles in the improvement programme because implementing quality principles in isolation can lead to failure in the quality programme (Ahire et al., 1996).

The conceptual framework presented in this paper builds on the concept of a quality improvement programme consisting of principles, practices and techniques (Dean and Bowen, 1994; Nilsson-Witell et al., 2005). The key to implementing a quality programme is to choose what quality principles to emphasise in order to build the quality profile of the organisation. The quality profile is built by performing different interventions to implement different practices and techniques that enhance one or several quality principles, thereby further developing the quality profile of the organisation (see Figure 1).

![Figure 1: A framework for developing and changing a quality profile.](image)

This framework for developing a quality profile is based on a number of assumptions about the fundamental relationship between employees, managers and the organisation. The first assumption is that employees naturally care about the quality of work they do and will take the initiative in order to improve it (Hackman and Wageman, 1995). In addition, senior managers create the organisational systems that determine how products and services are designed and produced; the improvement process starts with management’s own commitment to the improvement programme (Hackman and Wageman, 1995). In addition to management attention, employees need techniques and training in order to participate in quality improvement activities.
What is a Quality Profile?

Previous research has used the term *quality profile* in various ways over a period of 40 years. Zusman and Slawson (1972) used the term in a service context when operationalizing a service quality profile as an agency’s scores on a number of dimensions. In this case, the quality profile was used as guidance to allocate resources in a rational manner (Zusman and Slawson, 1972). Farin et al. (2004) used quality profiles to assure quality in rehabilitation conditions in health care services in Germany. The quality profile consisted of four principles: (i) comprehensive measurement of all relevant quality dimensions, (ii) reporting on three analysis levels and systematic comparisons of centres on the basis of risk adjustment, (iii) agreement and further development of the assessment procedures with the co-operation of clinical experts from the centres involved and (iv) use of generic and disease-specific measurement instruments (Farin et al., 2004). While exploring the relationship between psychosocial work environment and internal service quality, Edvardsson et al. (1997) used the concept of a quality profile. In this study, the quality profile was based on SERVQUAL and included dimensions such as public image, reliability, responsiveness, confidence, sensitivity and empathy. However, the quality principles used in previous research are clearly related to health care services and quality dimensions of the delivered services and are not applicable in the present research.

However, previous research has used the concept of a quality profile in a similar perspective as the present conceptualisation. In one case, the quality profile is a kind of average for the whole organisation, in which the strengths and weaknesses of the various aspects of the organisation are visualised (Dahlgaard et al., 1994). Jochem (2009) presented the quality profile as a result of added quality indexes that were assigned to each process. The profile in this context is used for weak-point analysis and internal or external benchmarking. Motwani et al. (1993) based their quality profile on Deming’s 14 principles and used the quality profile to determine an organisation’s quality position and quality improvements. Their view makes it possible to investigate the quality profile in longitudinal studies of quality, productivity and competitiveness. This approach corresponds rather well to the present perspective on quality profiles. The view of quality profile adopted here also corresponds with that of Johansson et al. (2010), which consists of the principles of leadership, employee management, process orientation and customer orientation.

The present empirical investigation views the quality profile of an organisation as patterns of performance of a set of quality principles. Accordingly, the principle/principles of the quality profile on which the organisation focuses have higher performance levels than other quality principles. The principles cannot be directly observed in an organisation, while the quality profile is indirectly observed through the use of different practices and techniques. With the principles visualised in a quality profile, it is easy to observe what principles are emphasised in the organisation and, furthermore, identify the principles that the organisation should focus on next. This simplifies the situation for an organisation that is striving to reduce the gap between actual and ideal quality management (Benson et al., 1991). Furthermore, if an organisation’s departments emphasise different things, this will be seen as different patterns in the quality profile for each department. By studying the pattern of the quality profiles, it becomes more straightforward to find these diverse behaviours or visions within an organisation.

**Developing and Changing a Quality Profile through Interventions**

It can be difficult for an organisation to select a strategy with which to develop and change its quality profile; that is, to know both what to do and how to implement quality management (Sousa and Voss, 2002). There is no united framework for how to implement
quality management or what kind of principles to focus on, either in different kinds of organisations or during different phases of the implementation process. An organisation must find different interventions that can support the development of different principles. The principles put different practices and techniques into work that can be implemented through different sets of interventions. Examples of interventions include education, cross-functional teams, use of external consultants, mentorship and Kaizen teams. Hackman and Wageman (1995) argued that, at least in the early papers on TQM (1989 to 1993), as few as 4 percent of studies took the interventions into account when evaluating the effectiveness of quality programmes. In their view, there are four interventions at the core of quality management: (i) a focus on work processes, (ii) analysis of variability, (iii) management by fact and (iv) learning. Utilising the wrong interventions is perhaps the most frequent reason for failure (Glover, 1993). Ahire (1996) pointed out that only one-third of all companies working with quality management implementation accomplish anything at all, while the other two-thirds ground to a halt.

Furthermore, Ahire (1996) found that organisations at the start of the quality management journey implement quality management more efficiently than organisations that are more mature in their quality management implementation. Ahire concluded that it is easier to root interventions for less experienced quality management organisations and, in so doing, achieve a higher operational performance sooner than those organisations that have longer experience of quality management. On the other hand, Dooley et al. (2001) argued that, together with increased maturity, project results such as project costs decrease and timeliness increases. They also argued that when an organisation is more mature it will have fewer problems in terms of improving its organisational performance.

Even at the start of an improvement programme, it is important to use the correct interventions to support the quality principles the organisation wants to emphasise. This helps managers and employees to be committed, which is a vital part of an improvement programme (Dahlgaard et al., 1998). In a study of 44 leading companies in the United States, the first principles associated with the start of quality management were leadership, training and teams (Easton and Jarrell, 2000). This corresponds with the results of Johansson et al. (2010) study of 100 Swedish service organisations. Ahires’ (1996) study showed that the quality profile looks the same for organisations that have worked for a long time with quality management as it does for those just embarking on the journey. Johansson et al. (2010) found similar results when observing that the quality profile does not change formation. The question is how an organisation needs to work to change its quality profile. The present paper’s framework introduces and improves quality principles through practices and techniques that are supported by interventions. The interventions are basically the strategy for which practices and techniques to use when changing the principles in the quality profile. The following section tests this framework through an empirical investigation in order to try to identify possible interventions that can change the quality profile of an organisation.

**Research Methodology**

**Data Collection and Analysis**

The data was collected over a five-year period, from 2006 to 2010, through interviews, a document study, a literature review and observations. Over this period, the main researcher conducted 28 five-hour sessions with the management team, several cross-functional team meetings, meetings with all employees of the firm, as well as meetings with the CEO and other representatives of the organisation and its partners. Also, an interview study was conducted in 2006/2007 that covered 26 managers and employees of both the case organisation and its largest partner. An additional interview study was conducted in order to
investigate the role of quality in the public procurement process, covering eight participants with different roles in the public procurement process. Parallel to these studies, participant observations and interviews were conducted with the aim of exploring and describing the design and evolvement of the quality profile.

The data analysis was performed in two stages. Firstly, the documentation from the observations and interviews was studied in order to design the quality profile. This included (1) the selected principles, (2) the order in which they had been adopted, (3) how the quality profile had developed over time and (4) the role of different interventions. Secondly, in order to capture the shape of the quality profile and how it has evolved over time, the analysis was divided into two parts, where the first period included 2006–2008 and the second period represented 2008–2010. Hence, the analysis focuses on the structure of the quality profile, how it has evolved over time and also how different kinds of interventions have influenced the quality profile. We identified a number of interventions used at Värmlandstrafik AB and tried to describe the intervention, the period for which it was applied, the principles that were targeted and other principles that created a secondary effect through a specific intervention.

The Case: Värmlandstrafik AB

The starting point

Värmlandstrafik AB appointed a new CEO in 2003 who decided to focus on quality improvements. Each employee was given a work description, something they had not had before. This was deemed necessary as the managers’ and employees’ roles and responsibilities had been unclear. In 2004, a change management consultant was engaged to work together with the management team and all employees. The first step was to decide on the organisation’s business idea, vision, values and main tasks for the organisation. All employees were also involved in a ‘SWOT analysis’ to identify strengths, weaknesses, opportunities and threats. This work continued for one and a half years. As seen above, the PTA’s history of working with quality management is not extensive, which meant that the organisation’s starting quality profile was low on all quality principles.

The principles that were followed throughout the period at Värmlandstrafik AB were leadership, process orientation, customer orientation, employee management and continuous improvement. These principles have been adopted and developed in a stepwise approach at Värmlandstrafik AB. The rationale for using a stepwise approach rather than a full improvement programme was threefold. The first reason was the PTA’s low quality maturity, not having had any previous experiences of working with quality management, which made it necessary to begin with the basics of quality management and develop from there. Secondly, it corresponded with the action research approach; that is, not having a predetermined view of the following stages in the improvement programme. Thirdly, previous research has shown that full total quality management programmes have a high failure rate (see, e.g., Harari, 1993; Brown et al., 1994; Senge, 1999). One of the researchers has been involved in the development of the quality profile together with the managers and employees at the PTA and the operator.

The first period (2006–2008)

Commitment by management is of decisive importance in the implementation and sustaining quality management (Ahire et al. 1996; Dahlgaard et al., 1997; van der Wiele and Brown, 2002; Hansson and Klerfjö, 2003). Accordingly, the first step in the quality programme in October 2006 was to work with the management team. The managers’ knowledge of quality management was relatively low. As Beer (2003) noted, if the understanding of quality management by senior management is low, commitment will also be
low and will lead to early abandonment. For this reason, it was important that management increased its understanding of quality management in general and how it could benefit their organisation.

Shortly after starting to work with management’s commitment to quality, the next step involved focusing on the processes of the organisation (Nilsson et al., 2001; Rönnbäck and Witell, 2008). As each process derives from the needs and expectations of a customer, the principle customer orientation was developed parallel to process orientation. A consultant assisted the main researcher between October 2006 and January 2007 in the work of process orientation. Also, from early 2006 onwards, the PTA and operator held yearly seminars that focused on improving their common processes.

In the first run, in June 2007, in order to make all employees involved in the development project according to the principle of employee management (Nilsson et al., 2001; Rönnbäck and Witell, 2008), 10 employees were trained in process management, particularly in process mapping. These employees came from different departments within the PTA’s organisation. The role of these cross-functional process teams (see, e.g., Lee and Dale, 1998) was to map and document the processes, assess performance and analyse deficiencies. The next step was to select an improvement strategy together with management, propose design changes, implement fixes and assess results. Another important role of the process teams was to support employee empowerment (DeToro and McCabe, 1997).

The second period (2008–2010)

The second run of the training programme of employees was carried out in March 2008. All employees at the PTA were educated in process orientation and process mapping. Every employee at the PTA had the opportunity to map the processes they were working on and suggest areas of improvement related to each process. This was the start of the process improvement work according to the principle of continuous improvement. Also, a group was arranged in 2008 to establish Key Performance Indicators (KPIs) (Kaplan and Norton, 2001; 2005) related to the common processes between the PTA and operator. In order to generate more improvement ideas, an IT module for process improvement was implemented and launched in 2009. The management team administered all of the submitted improvement ideas on a weekly basis and made implementation decisions. Also, in 2010 the PTA engaged a consultant who designs a customer satisfaction measurement system in order to increase the focus on customers. The consultant works with members from both the PTA and the largest operators in bus and train traffic.

The use of interventions at Värmlandstrafik AB

Värmlandstrafik AB started from a position of having very low experience of quality management. From this position, it adopted and developed the following quality principles: leadership, process orientation, customer orientation, employee management and continuous improvement. Different kinds of interventions have been used for each principle, which have influenced the quality profile of the organisation. Table I describes the interventions and how the target and supported principles are related to each intervention. In this context, target principle refers to the principle that was intended to be developed by the intervention. Supported principles are those principles that, in addition to the target principle, were also influenced by the specific intervention.
Table I. The interventions used in the five-year development project.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Period</th>
<th>Target Principles</th>
<th>Also supported principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education of management team in quality management.</td>
<td>2006–2010</td>
<td>Leadership</td>
<td>Customer orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process orientation</td>
<td>Employee management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Continuous improvement</td>
</tr>
<tr>
<td>An external consultant participates in the education of mangers in process orientation.</td>
<td>2006–2007</td>
<td>Process orientation</td>
<td>Customer orientation</td>
</tr>
<tr>
<td>Inter-organisational seminars</td>
<td>2006–2010</td>
<td>Process orientation</td>
<td>Continuous improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer orientation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leadership</td>
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<tr>
<td></td>
<td></td>
<td>Employee management</td>
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<td></td>
<td></td>
<td>Continuous improvement</td>
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<tr>
<td></td>
<td></td>
<td>Customer orientation</td>
<td></td>
</tr>
<tr>
<td>Education of employees</td>
<td>2007–2008</td>
<td>Employee management</td>
<td>Customer orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process orientation</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Continuous improvement</td>
<td></td>
</tr>
<tr>
<td>Education of operator’s managers and employees</td>
<td>2008</td>
<td>Process orientation</td>
<td>Customer orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Employee management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Continuous improvement</td>
<td></td>
</tr>
<tr>
<td>‘KPI group’</td>
<td>2008–2010</td>
<td>Continuous improvement</td>
<td>Customer orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process orientation</td>
<td>Employee management</td>
</tr>
<tr>
<td>Implementation of IT support</td>
<td>2009</td>
<td>Continuous improvement</td>
<td>Employee management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process orientation</td>
<td></td>
</tr>
<tr>
<td>Setting up a customer satisfaction measurement system</td>
<td>2010</td>
<td>Customer orientation</td>
<td>Continuous improvement</td>
</tr>
</tbody>
</table>

As Table I shows, the nine interventions support several quality principles, all of which showed improvements over time. Figure 2 visualises how the quality profile has developed and includes three measurements: the starting point (T0), the first period (2006–2008 (T1)) and the second period (2008–2010 (T2)). Following Lascelles and Dale (1991), the development rate of quality management is described on three levels: low, medium and high. In T2, the PTA reached a medium level in the majority of quality principles. At the starting point of the project, the principles of leadership, employee management and customer orientation all displayed low levels. In T1, leadership, process orientation and employee
management showed improvements and rose from a low to a medium level. Also, customer orientation showed minor improvements. Furthermore, systematic routines for working with continuous improvement were introduced in T1. In T2, leadership, process orientation, customer orientation and continuous improvement all improved but the principle of employee management dropped compared to T1. The greatest improvements from T1 to T2 can be seen in the principles of leadership and continuous improvement.

These results can be explained by the types of interventions that were used during this five-year period. As Table I shows, process orientation is the most commonly targeted principle, included in eight of the nine interventions. Like the cross-functional teams, all employees had the opportunity to map the processes they worked in and to suggest process improvements. Also, six managers and employees at the largest operator were educated in process orientation and process mapping in 2008, with the aim of improving the common processes between the PTA and operator. As shown, a number of practices and techniques were used during this project, all of which embodied the principle of process orientation, which showed positive development throughout the improvement programme (see Figure 2).

The second most common targeted principle is continuous improvement, which was influenced in four out of the nine interventions. However, the emphasis on continuous improvement came relatively late in the development of the quality profile (see Figure 2). This can be explained by the focus in the early phases on educating managers and employees, mapping processes and building a process structure. When the processes were in place, an intranet application was launched in order to generate more ideas for process improvement. The training of managers was given a high priority throughout the project in order to increase management’s commitment to quality management (see, e.g., Beer, 2003). This included 28 five-hour seminars with the members of the management team. The practices and techniques that have been used during these sessions included quality management systems and ISO 9001, self-assessment and the ‘Springboard’ model (Hellsten, 1997).

The reduced level of employee management in the quality profile during the last period is noteworthy. This can be explained by the fact that the key person was absent during 2009 and did not work with the employees as they continued their training programme during that year. The fact that the intervention of employee training was taken away during 2009 led to the employees not being involved in the development and improvements to the same extent as they had in previous years.

**Figure 2.** Quality profile evolution at Värmlandstrafik AB.

![Quality Profile evolution graph](image-url)
Conclusion

This empirical investigation of quality profiles in service organisations has highlighted how specific interventions can be used to change and further develop a quality profile. In general, the findings contribute to the discussions of quality management in service organisations (Rönnbäck and Witell, 2008), the role of interventions in the development of quality management (Hackman and Wageman, 1995) and quality profiles (Johansson et al., 2010). The present empirical investigation has several implications.

Firstly, the study changes the emphasis from the specific quality programme, such as TQM, Six Sigma or Lean, towards the quality profile of the organisation. The reason for this is that companies often adopt one or more improvement programmes simultaneously and, after failing with one improvement programme, try another type of improvement programme. Nilsson-Witell et al. (2005) conducted a case study of Volvo in which the company works with three improvement programmes simultaneously in the same organisational unit. Each improvement programme emphasised specific quality principles that, together, built up the quality profile of the organisation. Therefore, regardless of whether an organisation chooses TQM, Six Sigma or Lean, the quality profile is a recurring, general phenomenon in all programmes.

Secondly, the investigation of how a quality profile develops over time in a service organisation shows that the quality profile can change over time. This contradicts previous survey research, which claimed that companies stick to the same quality profile over time (see, e.g., Ahire, 1996; Johansson et al., 2010). The present research highlights the fact that the interventions a company chooses in its quality programme can help the company change its quality profile. If a company wants to emphasise a specific quality principle, it must target the quality principle with one or more interventions. However, even if a quality principle is supported by many interventions, there is no guarantee that the quality principle will show improvement in the quality profile. At Värmlandstrafik AB, the principle of customer orientation was targeted by two interventions and supported by several interventions; despite this, it has only shown a modest improvement over time. This suggests that a quality profile must include appropriate interventions that are customised to fit the organisation’s quality maturity, culture, the overall management process and whether the production process considers services or goods (see also Glover, 1993; Povey, 1996).

Thirdly, with regard to what quality principles to emphasise in the quality profile, the present case follows a specific pattern. Leadership shows a higher level than the other quality principles over all time periods covered in the study. This concurs with previous research that organisations that are immature in their quality initiative tend to emphasise leadership (Johansson et al., 2010). The focus then turned to internal aspects such as process orientation and employee management (Rönnbäck and Witell, 2008). Ettlie and Johnson (1994) found that internal aspects, such as processes and employees, have a negative impact on customer orientation in low and medium-level organisations. Also, Johansson et al. (2010) found that the relative emphasis on customer orientation is low in early initiatives of quality management, although it increases for medium level organisations. This concurs with the results of the present study.

Fourthly, the research supports the findings of previous research that the quality profile often starts out uneven and then becomes more even over time (see, e.g., Johansson et al., 2010). However, the present study extends the previous research by identifying the mechanisms that make the quality profile more even. The main explanation is that most interventions, in addition to improving the targeted quality principle, also support the improvement of several other quality principles. As an example, when Värmlandstrafik AB wanted to improve process orientation by educating operator’s managers and employees, they also achieved improvements in customer orientation, employee management and continuous
improvement. This internal consistency of the quality profile is a strength of quality management and partly explains the success of quality management throughout different industries and countries.
References


