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Changing quality initiative – does the quality profile really change?

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A firm working with quality management over time may change from total quality management to Six Sigma to lean production, but does this actually change the firm's quality profile? This paper seeks to identify specific quality profiles in service firms and how these profiles change over time. The empirical investigation is based on self-assessment studies conducted in 138 Swedish service firms. The results show that service firms often build up a specific quality profile, which they retain over time. The paper develops theoretical and managerial implications based on the research.

Keywords: quality management; quality profile; quality principles; change management

Introduction

For several decades now, successful Japanese companies have influenced Western companies to adopt quality management (Liker, Fruin, & Adler, 1999). Quality management was first implemented through Kaizen initiatives. In its second wave, it was labelled total quality management (TQM), while today it is often referred to as Six Sigma or lean production. These quality initiatives have been used to improve organisational performance, firstly on the manufacturing floor, and later in all parts of the organisation, not only in manufacturing firms but also in service firms (Gustafsson, Nilsson, & Johnson, 2003; Lam, Lee, Ooi, & Lin, 2011; Talib, Rahman, & Qureshi, 2011). Although new services launched continually to satisfy existing and future customer needs, customer satisfaction with services does not reach the same levels as it does for products (Fornell, Johnson, Anderson, Cha, & Everitt Bryant, 1996; Johnson & Nilsson, 2003). But, the gap between service firms and manufacturing firms in terms of adopting quality management is decreasing and, generally speaking, service firms now have stronger development in terms of adoption of quality management (Rönnbäck & Witell, 2008).

Most of the research in this area has focused on the influence of quality management on business results (see, for example, Hendricks & Singhal, 1997; Lemak & Reed, 1997). The present paper argues that instead of concentrating on the contribution that each principle makes to business results, a firm should emphasise its quality profile (see, for example, Venkatram, 1989). The present study views the quality profile of an organisation as patterns of performance of a set of quality principles. Accordingly, the prioritised principles of the quality profile have higher performance than other quality principles. In particular, the paper focuses on quality profiles and their development over time in service firms. Ahire's (1996) empirical investigation of 500 firms concluded that neither the quality profile, as such, nor the performance levels of the

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individual quality principles change over time. A key question is what the quality profile of a service firm looks like and how or if it really can change?

This paper seeks to identify specific quality profiles in service firms, and also to understand how (or if) these quality profiles evolve over time. The paper investigates whether there are differences in the quality profiles of service firms that have worked for a long time and those that have only recently started working with quality management. The empirical investigation is based on self-assessment studies conducted in 138 Swedish service firms. Despite the implementation of different quality management initiatives, such as lean production, Six Sigma and TQM, in which every philosophy presents itself as unique, the results of the present study show that service firms often build up a specific quality profile, which they retain over time.

Theoretical framework

A conceptual model

Dean and Bowen (1994) argued that the philosophy of quality management is characterised by principles, practices and techniques. The quality principles are a set of underlying assumptions regarding how to view an organisation and its relationships with customers, competitors and suppliers. Core values, factors and key principles are similar descriptions for what are referred to herein as principles (see, for example, Dahlgaard, Kristensen, & Kanji, 1994; Hackman & Wageman, 1995; Hellsten & Klefsjö, 2000; Van der Wiele & Brown, 2002). The practices are activities that make it possible to implement the principles. In turn, the practices are supported by techniques that make the practices effective (Dean & Bowen, 1994). Furthermore, the present paper argues that each service firm has a quality profile, built by a set of quality principles. What varies are the quality principles that each firm emphasises and adopts and what practices and techniques are used to put the quality principles into practice.

The conceptual model builds on the concept of quality management as consisting of principles, practices and techniques (Dean & Bowen, 1994; Nilsson-Witell, Antoni, & Dahlgaard, 2005). The key to implementing quality management is to choose what quality principles to emphasise in order to build the quality profile of the organisation. In this context, a quality profile refers to the patterns of quality principles (performance levels). This view is consistent with fit as *gestalts* (Venkatram, 1989); that is, there is internal coherence among a set of theoretical attributes. Miller (1981) argued that instead of looking at linear associations between variables, researchers should try to find frequently recurring clusters of attributes or *gestalts*. A major implication of this is that alternative *gestalts* or quality profiles could be equally good. A key question is what the quality profile of a service firm looks like and how it changes over time.

The conceptual model includes three main theoretical concepts: the quality profile, quality principles and the age of the quality initiative (Figure 1). The quality profile is built by performing interventions in order to implement different practices and techniques that enhance one or several quality principles, thereby developing the quality profile of the organisation with the age of the quality initiative. By emphasising a specific quality principle or by implementing a new quality initiative, a service firm should be able to change its quality profile. The following section discusses the theoretical concepts included in the conceptual model.

Figure 1. A conceptual model of the evolution of quality profiles in service firms.

What is a quality profile?

Research from the last 40 years has used the term *quality profile* in various ways. Zusman and Slawson (1972) used the term in a service context when they created a quality profile based on an agency's scores as a guide for allocating resources. Farin, Follert, Gerdes, Jäckel, and Thalau (2004) used quality profiles to ensure quality in rehabilitation conditions in healthcare services. Their 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. However, because the quality principles used in that study are clearly related to healthcare services, they are not applicable to the present study. While exploring the relationship between psychosocial work environment and internal service quality, Edvardsson, Larsson, and Setterlind (1997) used the concept of a quality profile. The quality profile in their study was based on SERVQUAL (see, for example, Zeithaml, Parasuraman, & Berry, 1996) and included dimensions such as public image, reliability, responsiveness, confidence, sensitivity and empathy. The concept of a maintained quality profile was applied in the food engineering area (see, for example, Martins & Silva, 2003), where the shelf-life of frozen green beans relied on a quality profile considering factors influencing quality retention. In these cases, the quality profile of the firm was based either on the quality dimensions of the delivered

services or on quality principles that are closely related to the context of healthcare services. These views of a quality profile do not correspond to the quality profile referred to herein, where principles build the existing quality profile of the firm.

However, Dahlgaard et al. (1994) viewed quality profiles as a kind of average for the entire organisation, which visualises the strengths and weaknesses of the various aspects of the firm (Dahlgaard et al., 1994). Jochem (2009) presented the quality profile as a result of added quality indexes assigned to each process. The profile in this context was used for weak-point analysis and benchmarking. Motwani, Sower, and Roosenfeldt (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 has made it possible to investigate quality profiles in longitudinal studies of quality, productivity and competitiveness. These views, where the focus on output has been replaced with a focus on process, correspond quite closely to the view of quality profiles in the present paper.

The empirical investigation in this paper views quality profiles as patterns of performance of a set of quality principles. Accordingly, the principle(s) of the quality profile upon which the organisation focuses have higher performance levels than other quality principles. The principles cannot be directly observed in an organisation because the quality profile is observed indirectly through the use of various practices and techniques. Using the principles visualised in a quality profile, it is easy to observe which principles the firm emphasises and, subsequently, identify those that the firm should focus on next. This simplifies the situation for an organisation striving to reduce the gap between actual and ideal quality management (Benson, Saraph, & Schroeder, 1991). Furthermore, with the use of a quality profile, an organisation can tell whether its departments emphasise different aspects; this will reveal itself in the form of different patterns in the quality profile for each department. Studying the pattern of the quality profiles makes it easier to identify these diverse behaviours or visions within a firm. These diversities can hinder the successful implementation of quality management.

Quality principles

The key is to find out the principles that form the foundation of the quality profile (Sousa & Voss, 2002). Sila and Ebrahimpour (2002) conducted a literature review of 347 survey-based research articles and identified 25 principles. This framework revealed that seven principles occurred most frequently in quality management: customer orientation and satisfaction, employee orientation, leadership and senior management commitment, teamwork, employee involvement, continuous improvement and innovation, and quality information and performance measurement. Dahlgaard, Kristensen, and Gopal (1998) included five principles of quality management: management commitment, focus on the customer and the employee, focus on facts, continuous improvement and everybody's participation. Different conceptualisations of quality management vary in terms of both the number and content of quality principles.

Based on the literature review, the present study used four quality principles to build a quality profile of a service firm:

- leadership,
- employee orientation,
- process orientation,
- customer orientation.

These four quality principles build most of the foundation of quality management, and other principles mentioned by other authors are clearly or completely based on these four principles. One could argue that continuous improvement should be added as a quality principle. However, continuous improvement is integrated into the different practices and techniques that support all quality principles; this makes it impossible to separate continuous improvement as a principle on its own.

One of the most important principles identified when implementing and sustaining quality management is leadership and management support (Ahire, Golhar, & Waller, 1996; Dahlgaard, Larsen, & Nørggard, 1997; Hansson & Klefsjö, 2003; Van der Wiele & Brown, 2002). Ahire and O'Shaughnessy's (1998) empirical analysis found that organisations with supportive management applied the principles more rigorously than those with low leadership support. They also found that if management was supportive, other principles had no significant impact on product quality.

This study includes another essential principle concerning quality management – employee orientation. The employees should be recognised and feel as though they are part of the organisation (Hing Yee Tsang & Antony, 2001). Employees are more aware of the day-to-day operations than anyone else in the organisation, which means that their capabilities should be practised and appreciated in order to encourage their motivation. Management must trust and support the ability of their employees to manage, improve and control the processes within the organisation. Employee involvement groups have been found to improve employee commitment to quality initiatives (Ahire et al., 1996).

Almost all of the activities an organisation undertakes in order to meet customer expectations can be viewed as processes (Kennerfalk & Klefsjö, 1995). To keep customers loyal and increase their satisfaction, a service firm must maintain and improve its processes (Nilsson, Johnson, & Gustafsson, 2001). Another important aspect of having a process-oriented view is ensuring that the information stream and services flow efficiently between internal and external suppliers and customers.

Customer orientation is one of the central principles of quality management (Dean & Bowen, 1994). Improving those aspects of quality that are most important to customers is central to a firm's customer orientation (Cohen, 1995). An organisation should always learn about its customers' wants and needs. A service firm that is not customer-oriented will experience problems with long-term survival (Johnson, 1998). In order to meet customer expectations, the organisation must deal with organisational performance, customer relationship management and customer commitment.

Age of quality initiative

Dooley and Flor (1998) emphasised the importance of effectively implementing quality management in order to minimise negative attitudes towards the quality initiative. This is best realised through a clear understanding of what quality management is and a flexible implementation plan to fit the organisational context (Cullen & Hollingum, 1987). Many organisations do not pass the first pre-deployment period to quality management and fail to realise the quality initiative before it has even reached the whole organisation (Easton & Jarrell, 2000). In their longitudinal study of how quality management sustains and develops over time, Van der Wiele and Brown (2002) found that certain principles are critical, such as the role of leadership (see also Ahire & O'Shaughnessy, 1998). In addition, Van der Wiele and Brown (2002) found that leadership was the driving force behind the long-term implementation of quality management. Hansson and Klefsjö (2003) and Dahlgaard

et al. (1997) agreed about the importance of starting with leadership and having supportive management over time. Researchers have disagreed, however, about the order in which the other principles should be implemented. Other important principles that the longitudinal study identified were employee orientation and teamwork, customer orientation and a unified information system (Van der Wiele & Brown, 2002). However, there is general agreement that it is important to avoid taking shortcuts when implementing quality management (Oakland, 1989).

Ahire (1996) presented one quality profile and showed that there are no significant differences between those firms that have worked for a long time with quality management and those have just started implementation of quality management. Ahire's (1996) quality profile builds on customer orientation and senior management support during the implementation of quality management, and then adds employee orientation and process orientation. In Ahire's study, neither the profile, as such, nor the performance levels of the individual quality principles change over time. This raises the question of whether service firms generally retain their quality profile over time.

Methodology

The empirical investigation of quality profiles in service firms drew on fit as gestalts, which means that it focused on the structure or 'quality profiles' of organisations instead of looking at the relationship between individual quality principles and business performance (Venkatram, 1989). Two datasets were used to identify quality profiles and investigate their development over time.

Sample

The data are based on a number of self-assessment studies conducted in 138 Swedish service firms. Each self-assessment study used a questionnaire for managers and employees throughout the organisation. Between 10 and 300 responses were received in each service firm, leading to a total of more than 4000 participants. The main industries in the sample are educational firms, real estate and consulting firms. Eleven firms had conducted several self-assessment studies over a 5-year period. This made it possible to divide the sample into two parts: (1) firms that have performed one self-assessment study and (2) firms that have performed two or more self-assessment studies.

Measures

The self-assessment instrument was developed following the Swedish institute for quality model (the Swedish alternative to Malcolm Balridge) and included over 100 items. Each item was scored on a six-point scale ranging from '0' to '100'; a 'don't know' alternative was also included. The individual items (which are not provided here for the sake of brevity) all followed a similar structure, such as 'We have modes of operation and methods, that make our decisions based on facts'. The study used 65 items to operationalise the constructs of leadership, employee orientation, process orientation and customer orientation. The concept on leadership contained 19 items, employee orientation contained 12 items, process orientation contained 11 items and customer orientation contained 14 items. All concepts showed sufficient reliability levels using Cronbach's alpha (leadership alpha = 0.94; employee orientation alpha = 0.95; process orientation alpha = 0.96; customer orientation alpha = 0.95). (A list of the survey items can be provided on request

from the authors.) In addition, the concept of business performance used contained four items with a Cronbach's alpha of 0.87. Questionnaires that were missing more than 20% of all answers within one organisation were excluded; this is because those companies either have a low-quality maturity or the participants experienced fatigue when completing the questionnaire.

Analysis

The analysis was performed in two stages. In both stages, the analysis included four quality principles: leadership, employee orientation, process orientation and customer orientation.

The data used in the first stage came from firms that had performed one self-assessment. A cluster analysis was performed in order to identify different quality profiles. A *K*-means cluster analysis was used that requires advance specification of the desired number of clusters. Certain guiding criteria were used to reduce the potential bias in choosing the number of clusters (Ketchen & Shook, 1996). The number of clusters was limited to between $n/30$ and $n/60$, where n is the sample size. Thus, only models with two to three clusters were considered and the interpretability of the clusters was investigated using ANOVA tables (Miller & Roth, 1994). ANOVAs were then conducted to identify possible differences in quality principles and results between the different clusters. In addition, business performance was used as an output measure to further verify the results and improve the external validity.

In the second stage, an analysis was performed of the 11 companies that had two or more self-assessment studies. The data were analysed using a mixed-design ANOVA in order to identify possible differences in quality principles over time (Field, 2009). This method also made it possible to include an interaction effect that captured the changes in the quality profile of service firms.

Results

The analysis in the first stage was initiated by a cluster analysis. The selected solution contained three clusters, which contained 28, 49 and 22 cases, respectively. The clusters represent companies that have different performances on the individual quality principles in the quality profile. The three groups were categorised as 'Low', 'Medium' and 'High', based on their performance of the quality profile. The ANOVAs show that there is a difference between the three groups concerning leadership ($F = 167$; $p < 0.01$), employee orientation ($F = 202$; $p < 0.01$), process orientation ($F = 202$; $p < 0.01$) and customer orientation ($F = 189$; $p < 0.01$) (Table 1). Although the level of quality management is

Table 1. An overview of the quality profiles of service firms.

	High	Medium	Low	<i>F</i>	Sig.
Quality principles					
Leadership	85.7	63.4	47.9	167	$p < 0.01$
Employee orientation	79.8	54.3	38.1	202	$p < 0.01$
Process orientation	80.4	56.9	37.5	202	$p < 0.01$
Customer orientation	85.3	64.0	41.3	189	$p < 0.01$
Results					
Business performance	76.8	50.9	29.7	135	$p < 0.01$

different between the three groups, they all display the same quality profile. All three groups have higher values for leadership and customer orientation and lower values for employee orientation and process orientation. In order to verify the division into three groups, the study investigated how the overall results of quality management differed between the three groups. As expected, the High group also received the best results in terms of its quality management efforts ($F = 135$; $p < 0.01$) (Table 1).

The second stage of the analysis dealt with the companies that had performed several rounds of self-assessment studies. This analysis was performed in order to verify and extend the results of the first analysis. The two variables included in the mixed-design ANOVA were quality management (four dimensions) and time (two dimensions). Both effects were reported as significant: quality management ($F = 22.39$; $p < 0.01$) and time ($F = 10.23$; $p < 0.01$). There was also a marginally significant interaction effect ($F = 4.83$; $p < 0.10$). In summary, this means that (a) there are differences in the level of quality management between the different quality principles, (b) the level of quality management improves over time, and (c) the level of employee orientation and process orientation improves over time to a greater degree than leadership and customer orientation does.

Discussion

The reason for analysing the pattern and strategic fit of quality management, rather than the causal relationship between quality principles and business performance, was to demonstrate how the quality profile of service firms change over time. The quality principles, such as leadership, employee orientation, process orientation and customer orientation, all showed improvements over time. The service firms improved their performance on these quality principles over time, which contradicts the results of Ahire (1996), who found no significant difference between experienced and less experienced TQM organisations. Our two separate analyses also show similar results, which strengthen the validity of the study.

The first analysis displayed in Table 1 shows that low-level organisations have a more uneven quality profile than medium- and high-level organisations. Companies that are immature in their quality initiative put their main emphasis on leadership, while medium-level organisations emphasise customer orientation. Employee orientation and process orientation both display low levels compared with the other two principles. The relative emphasis on customer orientation is low in an early initiative of quality management, and then increases for medium-level organisations, before decreasing for high-level organisations. Ettlie and Johnson (1994) observed that internal aspects, such as employees and processes, have a negative impact on customer orientation, which can be observed in the quality profiles of low- and medium-level organisations, especially for employee orientation and customer orientation.

Figure 2 shows the quality profiles of the companies included in the second analysis, which are similar to those from the first analysis. The quality profile is more uneven at Time 0 than at Time 1. As in the previous case, companies seem to put greater emphasis on leadership and customer orientation than on employee orientation and process orientation. The relative emphasis on employee orientation increases in the second self-assessment study (Time 1), while customer orientation decreases. In both instances, the principle leadership is at the core of the quality initiative. Process orientation has a relatively low performance compared with other quality principles. This was unexpected considering that many researchers

Figure 2. The quality profiles of the service firms displayed at Time 0 and Time 1.

are quick to point out the importance of knowing the organisational processes and the occurrence of lean manufacturing in service organisations.

Conclusions

This paper has several theoretical and managerial implications. Instead of focusing on the relationship between individual quality principles and business results, the study investigated the quality profiles of service firms. In line with previous research, quality management was shown to pay off for service firms and the further development of the quality profile is beneficial (see also Rönnbäck & Witell, 2008).

The research has three main theoretical implications. Firstly, the two studies of quality management in service firms have identified a recurring quality profile. The studies were expected to reveal several alternative quality profiles and changes in quality profiles over time; instead, the empirical data show the recurrence of one specific profile, which places greater emphasis on leadership and customer orientation than on employee orientation and process orientation. The theoretical implication is that it is difficult for a service firm to change its quality profile. A firm may implement a new quality initiative, such as lean production or Six Sigma; after an initial period of success, however, its quality profile will revert to its old status. In the absence of significant efforts to improve the performance of a specific quality principle and sustain the improvement over time, a service firm will appear to remain stuck in its existing quality profile.

Secondly, the unevenness of the quality principles in the quality profiles decreases over time when working with quality management. When an organisation becomes more mature in its quality initiative, the quality profile becomes more even. This interpretation is strengthened by the significant interaction between quality and time found in the second analysis. This finding contradicts Ahire (1996), who concluded that the quality profile does not change at all, in terms of either performance or content. The profile of quality principles could have levelled off over time in our analysis because the service firms start with one principle at a time (for example, leadership), and then focus on the next principle. When the service organisation has worked with quality management for some time, the other principles catch up. This finding is consistent with Ettlie and Johnson (1994), given that an organisation's focus on benchmarking and internal aspects may come at

the expense of customer orientation. Customer orientation might improve when the focus changes from customer orientation to employee orientation and process orientation, but not to the same extent as the internal quality principles. For a service firm in which the service is produced and consumed at the same time, process and customer orientation are both important because of their direct effect on customer satisfaction (Nilsson et al., 2001). Therefore, in today's highly competitive market, the survival of service organisations depends on their process and customer orientation. Overall, the service firms should shift their focus more towards employee orientation and process orientation, especially because of the positive impact that internal quality principles have on customer orientation and customer satisfaction (Nilsson et al., 2001).

From a managerial perspective, all quality profiles are 'high' on the principle leadership. The analysis of the service firms reveals that firms focus on in the first stages of the quality initiative; this is in line with what many researchers claim is the key to successfully implementing and sustaining quality management (Ahire et al., 1996; Dahlgaard et al., 1998). The present study found that the principles evolve over time in no particular order. This is in line with our belief that it is up to each organisation to decide the order in which they wish to implement the principles, based on what is best for them. Based on our empirical investigation, it is not possible to conclude that service firms cannot change their quality profile, we can only conclude that most firms do not. As researchers, we must identify the practices and techniques that can be used to influence different quality principles and the practices that have a long-term effect on the employees in a service firm.

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