Evolvement of Quality Profiles in Swedish Service Organizations

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Introduction

Successful organizations in Japan have, for decades, influenced many western companies to adopt quality management. It has been used to improve organizational performance, first at the manufacturing floor to ensure product quality and later on in all parts of the organization not only in manufacturing firms but also in service organizations (Gustafsson et al., 2003). Dramatic changes take place in the service sector, which influence the way we live and work (Edvardsson, et al., 2006). New services are continually being launched to satisfy our existing and future needs. To be helpful for service organization facing this situation, quality management needs to be flexible to service activities since it influences the customer and their expectations (Lemak and Reed, 2000).

Many organizations try to improve their organizational performance by stepwise implementation of quality management with for instance Statistical Process Control and training programs for employees (Ahire et al., 1996). This has often resulted in failures and standstill improvement projects. A study of 500 organizations working with quality management showed that less than one third were accomplishing anything at all and two thirds of the projects had come to a halt with the implementation (Ahire, 1996). To enable the implementation and sustain the impact of quality management, long term thinking together with management support are important. Otherwise there is not really any specific strategy, especially in service organizations, of how quality management should be implemented.

Most research has focused on the influence of quality management on business result, see e.g. Hendricks and Singhal (1997) and Lemak and Reed (1997). One research stream has put particular emphasis on the contribution of individual quality principles on business result, see e.g. Powell (1995) and Nilsson et al (2001). We argue that instead of concentrating on the contribution to business result of each principle, the emphasis should be on the quality profile of a firm, see e.g. Venkatraman (1989). In particular we focus on patterns of quality principles and their development over time in service organizations.

This paper aims to investigate if there are specific quality profiles in service organizations and how these evolve with the age of quality management in the organization. Are there differences in quality profiles of service organizations that have worked for a long time with
quality management and those organizations just embarked on the quality journey? Our empirical investigation is based on a number of self assessment studies conducted in 138 Swedish service organizations. Some organizations have accomplished the survey several times and others have done it only once. Therefore we perform our empirical investigation of quality profiles in service organization in two separate analyses. In our first analysis, we test our research proposition on firms that have performed one self assessment study; and in our second analysis we verify and extend our analyses on firms that have performed two or more self assessment studies. Our results show that service organizations often build up a specific quality profile and that the quality profile becomes more even over time. Moreover the results indicate a recurring quality profile over the two studies.

Theoretical Framework
Quality management, its definition and application has during some decades bothered many researchers. The different frameworks from researchers such as Deming, Juran and Crosby make the confusion none the less (Dean and Bowen, 1994). Quality is nowadays viewed as a basis for competition and has therefore moved from being a manufacturing-based discipline to be a part of all business functions (Hellsten and Klefsjö, 2000). Research shows that manufacturing firms, to a larger extent, have adopted different principles of quality management (Quazi et al., 1998; Huq and Stolen, 1998). Present research shows that this difference is decreasing and that service organizations in general have a stronger development in quality management (Rönnbäck and Witell, 2008).

Quality principles
Dean and Bowen (1994) view quality management as a philosophy characterized by principles, practices and techniques. The quality principles are a set of underlying assumptions of how to view an organization and its relation to customers, competitors and suppliers. The practices are activities which enables the implementation of the principles. In turn the practices are supported by techniques to make the practices effective (Dean and Bowen, 1994). There are a lot of other definitions and descriptions of the foundation of quality management. Core values, factors and key principles are similar descriptions for what we in this paper choose to call principles (see e.g. Hackman and Wageman, 1995; Hellsten and Klefsjö, 2000; van der Wiele and Brown, 2002; Dahlgaard et al., 1994).

Accepting that there is such a thing as quality management, the next question is what principles is the foundation of quality management (Sousa and Voss, 2002). In Sila and Ebrahimpoors’ (2002) literature review of 347 survey based research articles, 25 principles were investigated. This framework revealed that the seven most frequently occurred principles in quality management were customer orientation and satisfaction, employee management, leadership and top management commitment, teamwork, employee involvement, continuous improvement and innovation, and quality information and performance measurement, respectively. Dahlgaard et al. (1998) include five principles of quality management, (1) management commitment, (2) focus on the customer and the employee, (3) focus on facts, (4) continuous improvement, and (5) everybody’s participation.
As can be seen the suggested principles and amount of principles differ more or less between different authors. The principles we believe build quality management are;

- Leadership
- Employee management
- Process orientation
- Customer orientation

One of the most important principles identified in the implementation and sustaining quality management is leadership and management support (Dahlgaard et al., 1997; Hansson and Klefsjö, 2003; Ahire et al. 1996; van der Wiele and Brown, 2002). The management lack of interest harms the sustainability of quality management, if now the implementation with a non encouraging management has succeeded. Ahire and O’Shaughnessy (1997) found in their empirical analysis that organizations with a supportive management applied the principles more rigorously than organizations with low leadership support. They also found that if the management was supportive, other principles had no significant impact on product quality.

Another essential principle concerning quality management is employee management. The employees should be recognized and feel that they are a part of the organization (Hing Yee Tsang and Antony, 2001). Employees are more aware of the day to day basis than anyone else in the organization. Therefore their capabilities should be practiced and appreciated to encourage their motivation. It is important for management to trust and support the employees to manage, improve and control the processes within the organization. Employee involvement groups have been found to improve employee commitment to quality (Ahire et al., 1996). Another way of involving the employees is teamwork and to let them make important contributions to the organization (Dean and Bowen, 1994).

To meet customer expectations the organization produces goods and services, almost all of these activities done can be viewed as processes (Kennerfalk and Klefsjö, 1995). To keep the customer loyal and increase their satisfaction it is essential for the service organization to maintain and improve their processes (Nilsson et al., 2001). Another important aspect of having a process oriented view is to make the information stream and services flow efficiently between internal and external suppliers and customers. To make this happen it is important to identify the suppliers of the processes and together develop a working structure to decrease the used resources and satisfy the customer (Bergman and Klefsjö, 2002).

Customer orientation is one of the central principles of quality management (Dean and Bowen, 1994). Central to a firm’s customer orientation is the improvement of those aspects of quality that are most important to customers (Cohen, 1995). The organization should always learn about what the customer wants and what their needs are. If the service organization is not customer oriented it will have problems with the long term survival (Johnson, 1998). To meet customer expectations the organization has to deal with organizational performance, customer relationship management and customer commitment. The customers and their demands are in other words omnipresent in Quality Management (Dean and Bowen, 1999).
Age of Quality initiative
To minimize the negative attitude against quality management, Dooley and Flor (1998) emphasize the importance of an effective implementation of quality management. This is best realized through a clear understanding of what quality management is and a flexible implementation plan to fit the concerned organization (Cullen and Hollingum, 1987). Many organizations do not pass the first predeployment period to quality management implementation, they fail to realize the program before it even has begun (Easton and Jarrell, 2000). According to Dooley and Flor (1998) failures in quality management programs in other organizations influence the own organizations expectations on the outcome of quality management.

Van der Wiele and Brown (2002) found in their longitudinal study of how quality management sustain and develop over time that there were some principles that are critical. One significant principle was the role of leadership, see also Ahire and O’Shaughnessy (1997). In addition, Van der Wiele and Brown (2002) found leadership as the driving force behind the implementation of quality management in the long term. Hansson and Klesfjö (2003) and Dahlgaard et al. (1997) share the view to start with leadership and have a supportive management over time. Otherwise the researchers are inconsistent in which order other principles should be implemented. Other principles of importance, mentioned in the longitudinal study, were employee management and teamwork, customer orientation and a unified information system (van der Wiele and Brown, 2002). A unified approach to implementation of quality management is, however, the non existence of shortcuts (Oakland, 1989).

One key question is how the quality profile of an organization looks and how it develops over time. With quality profile we mean the patterns of quality principles (performance levels) and their development over time in service organizations. This view of organizational studies is consistent with fit as gestalts (Venkatram, 1989), i.e. that there are an internal coherence among a set of theoretical attributes. Miller (1981) argues that instead of looking at linear associations between variables, researchers should try to find frequently recurring clusters of attributes or gestalts. One major implication of this perspective is that there are alternative gestalts that could be equally good.

Ahire (1996) present one such quality profile and shows that there are no significant differences between organizations working for a long time with quality management and organizations in the beginning of the quality implementation (Ahire, 1996). The quality profile in Ahire (1996) builds on customer orientation and top management support during the implementation of quality management and then employee management and process orientation are added. In their study, the quality profile does not change over time either in pattern or regarding performance levels.
Methodology
In our empirical investigation of quality profiles in service organizations, we draw on fit as gestalts and try to identify alternative quality profiles. We use two alternative datasets to identify alternative quality profiles and investigate their development over time.

Sample
The data is based on a number of self assessment studies conducted in 138 Swedish service organizations. Each self assessment study is based on a questionnaire covering both managers and employees throughout the organization. For each organization there is between 10 and 300 responses, summing up to more than 3000 participants in our empirical investigation.

The main industries in our sample are educational firms, real estate companies and consulting firms. Some of the firms had conducted several self assessment studies over a period of 5 years. There were 11 firms, where there were two or more measurements. This enables us to divide our sample in 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 SIQ model and included over 100 items. Each item was scored on a 6-point scale ranging from ‘0’ to ‘100’ there was also one “don’t know” alternative included. For the sake of brevity, the individual items are not given here. But all items followed a similar structure such as “We have modes of operation and methods, which make our decisions based on facts.” For the purpose of this study, 65 items were used to operationalize the constructs of leadership, employee management, process orientation and customer orientation. The questionnaires with missing data larger than twenty percent of all answers within one organization were excluded. Our argumentation for excluding these organizations is that either these companies have a low quality maturity or the participants experienced fatigue when filling out the questionnaire.

Analysis
The analysis was performed in two stages. First, we analyzed the data from organizations that had performed one self assessment. Then, in a verification stage we analyzed the data from the organizations that had performed two or more self assessment studies. In both stages we included four quality principles in our analysis, leadership, employee management, process orientation and customer orientation. In addition, we used results as an output measure to further verify our results. In our analysis we draw upon fit as gestalt, which means that we focus on the structure or “quality profiles” of organizations instead of looking at the relationship between individual quality principles and business performance (Venkatram, 1989).

In the first stage, we performed a cluster analysis to identify different profiles of quality management. We used a K-means cluster analysis that requires a specification in advance of the desired number of clusters. The potential bias in choosing number of clusters was handled by taking some guiding criteria into account (Ketchen and 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 we investigated the interpretability of the clusters using ANOVA-tables (Miller and Roth, 1994). Then we conducted ANOVAs to identify possible differences in quality principles and results between the different clusters.

In the second stage, we performed an analysis of the 11 companies that had two or more self assessment studies. We analyzed the data using a mixed design ANOVA to identify possible differences in quality principles over time (Field, 2009).

**Results**

In the first stage, we initiated our analysis by a cluster analysis. We chose a solution with three clusters, where the clusters contain 28, 49 and 22 cases respectively. The three groups were labeled Low, Medium and High indicating their displayed level of quality management. The ANOVAs show that there is a difference between the three groups concerning leadership (F=167; p < 0.01), employee management (F=202; p < 0.01), process orientation (F=202; p < 0.01) and customer orientation (F=189; p < 0.01). Although the level of quality management is different between the three groups, they all display the same quality profile. All three groups have higher values on leadership and customer orientation, while they display lower values on employee management and process orientation. As a verification of the division we investigated how the overall results of quality management differed between the three groups. As expected, the High group also has received the best results of their quality management efforts (F=135; p<0.01), see Table I.

Table I: The results of the first stage of our analysis

<table>
<thead>
<tr>
<th>Quality principles</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>85.7</td>
<td>63.4</td>
<td>47.9</td>
<td>167</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Employee management</td>
<td>79.8</td>
<td>54.3</td>
<td>38.1</td>
<td>202</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Process orientation</td>
<td>80.4</td>
<td>56.9</td>
<td>37.5</td>
<td>202</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Customer orientation</td>
<td>85.3</td>
<td>64</td>
<td>41.3</td>
<td>189</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Overall results</td>
<td>76.8</td>
<td>50.9</td>
<td>29.7</td>
<td>135</td>
<td>p&lt;0.01</td>
</tr>
</tbody>
</table>

In the second stage of our analysis, we performed an analysis of the companies that had performed several rounds of self assessment studies. This analysis was performed to verify and extend the results of our first analysis. We included two variables in our mixed design ANOVA, quality management (four dimensions) and time (two dimensions). The two main effects are reported as significant, quality management (F=22.39; p<0.01) and time (F=10.23; p<0.01). In addition, our results show a marginally significant interaction effect (F=4.83; p<0.10). To summarize, 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 management and process orientation improves more over time than leadership and customer orientation. To display these results more comprehensible, the results of a paired t-test on the four quality principles are displayed in Table II.
Discussion

The idea of analyzing the pattern and strategic fit of quality management instead of the causal relationship between quality principles and business performance is to visualize how the profile of quality principles changes over time. The quality principles, such as leadership, employee management, process orientation and customer orientation examined in our empirical investigation shows improvements over time, there were improvements in all principles between the first and second measurement. In addition, our two analyses show similar result, which strengthens the validity of our research. Our results contradict the results of Ahire (1996), since he found no significant difference between experienced and less experienced TQM organizations.

The left part of Figure 1 shows the first analysis with profiles from Low, Medium and High level quality management. Low level organizations have a more uneven profile than Medium and High level organizations. The main emphasis in companies that are immature in their quality initiative is on leadership, and then in medium level organizations the emphasis turns to customer orientation. When it comes to employee management and process orientation both principles display low levels compared to the other two principles. The relative emphasis on customer orientation is low in an early initiative of quality management, and then it increases for Medium level organizations to finally decrease for High level organizations. 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 organizations, especially for employee management and customer orientation.

Table II: The results of the second stage of our analysis

<table>
<thead>
<tr>
<th>Quality principles</th>
<th>Time 0</th>
<th>Time 1</th>
<th>T-test</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>68,5</td>
<td>74,5</td>
<td>-3,2</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Employee management</td>
<td>57,7</td>
<td>66,3</td>
<td>-3,6</td>
<td>p&lt;0.01</td>
</tr>
<tr>
<td>Process orientation</td>
<td>60,2</td>
<td>67,6</td>
<td>-2,4</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Customer orientation</td>
<td>65,5</td>
<td>70,3</td>
<td>-2,3</td>
<td>p&lt;0.05</td>
</tr>
</tbody>
</table>
The right part of Figure 1 shows the quality profile for the companies included in our 2nd analysis. As can be seen the quality profile is similar to the ones coming from our first study. In Time 0, the quality profile is more uneven than in Time 1. As above, companies seem to put more emphasis on leadership and customer orientation in comparison to employee management and process orientation. The relative emphasis on employee management increases in the second self assessment study, Time 1, while customer orientation decreases. At both times, the principle leadership is at the core of the quality initiative. In relation to other quality principles, process orientation has a rather low performance, which was unexpected concerning that many researchers are not late to point the importance of knowing the organizational processes and the occurrence of lean manufacturing in service organizations.

Conclusions
This paper makes several contributions to quality theory and practice. Instead of focusing on the relationship between individual quality principles and business results, we investigate the quality profiles of service organizations. In line with previous research, we show that quality management pays for service organizations and it is the adoption of quality principles that is beneficial (see also Rönnbäck and Witell, 2008).

There are three main theoretical implications of our research. First, we have identified a recurring quality profile in our two studies of quality management in service organizations. Our expectation was to find several alternative quality profiles and changes in quality profiles over time, but our empirical material shows that one specific profile is dominant. In this profile, there is more emphasis on leadership and customer orientation than on employee management and process orientation. For a service organization, where the service is produced and consumed at the same time, both process and customer orientation are important because of their direct effect on customer satisfaction (Nilsson et al., 2001). Therefore, in today’s highly competitive market, the survival of service organizations depends on their process and customer orientation. Overall we can see that the service organizations should shift their focus more to employee management and process orientation, especially due to the positive impact internal quality principles have on customer orientation and customer satisfaction (Nilsson et al., 2001).
Second, the unevenness of the principles quality profile decrease over time working with quality management. When an organization becomes more mature in their quality initiative, the quality profile becomes more even. This interpretation is strengthened by the significant interaction effect between quality and time in our analysis of service organizations over time. This contradicts the research by Ahire (1996) who concludes that the profile does not change at all, no changes regarding level and no change in quality profile (Ahire, 1996). The reasoning why the profile of quality principles, in our analysis, levels off over time can be that the service organization starts with one principle at a time, e.g. leadership, and then focuses on the next. When the service organization has worked with quality management for quite a while the other principles catches up, which is consistent with Ettlie and Johnson (1994) since when an organization focuses on benchmarking and internal aspects customer orientation may come at the expense. When changing the focus from customer orientation to employee management and process orientation, customer orientation might improve but not as much as the improvements in the internal quality principles.

Third, we can see that all quality profiles are “high” on the principle leadership. Our analysis of the service organizations shows that organizations in the beginning and in the middle of the quality initiative focus on leadership. This is along with what many researchers claim is the key to succeed in implementing and sustaining quality management (Ahire et al, 1996; Dahlggaard et al, 1998; Hansson and Klefsjö). Ahires’ (1996) study opposes this statement by putting customer orientation as the most important principle. We cannot see any particular order of how the principles evolve over time. This is in line with our belief that the principles implementation order is up to each organization to decide what is best for them.

References


Hellsten, U. and Klefsjö, B., (2000), "TQM as management system consisting of values techniques and tools”, *The TQM Magazine*, Vol. 2, No. 4, pp. 238-244

Quality awards”, *Management Science*, Vol. 43 No. 9, pp. 1258-1274


