A context dependent approach to quality management

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The quality management discipline is strongly rooted in business practice. This link with practice has resulted in quality models (like the Business Excellence Models) that appeal to managers and, as a result, have been used widely. Since these quality models make common sense, most people will not question their benefits for improving organisations. However, the quality management discipline has not developed any theories about how different organisational contexts may influence the way in which quality models are used. Recent research has shown that a universalistic approach is inappropriate because quality management is in fact context dependent. The management control discipline has acknowledged the importance of the business context already more than a decade ago, and can provide important insights for quality management. In this article we will discuss these insights and argue why they can benefit quality managers.

A small group of quality experts (most notably Deming, Juran, Feigenbaum, Crosby and Ishikawa) substantially influenced the early development of quality management (Kruger, 2001; Sousa and Voss, 2002). Although these experts developed implementation plans for quality management they did not develop scientific theories (Bryce, 1991; Dean and Bowen, 1994; Dale et al., 2001). However, the approach of the experts made some use of existing management theory. Elements of scientific management theory (Taylor, 1911; Rogers and McIntire, 1983; Shafritz and Ott, 2001) can be found in their thinking about quality (Wilkinson et al., 1998; Bryce, 1991).

Following on from the early thinking of the experts, which focussed on problem solving and improvement of products and processes, quality management systems have been developed that have a broader view on quality management and that have a more preventive focus. Quality management thinking has evolved from a narrow focus on statistical process control to a variety of technical and behavioural methods for preventing problems to occur and improving organisational performance. The ISO 9000 series and the Business Excellence Models have proven to be very popular in business practice. These models prescribe certain actions and behaviours that should lead to excellent quality and performance (Dean and Bowen, 1994). However, these models do so without explicitly stating a theory that underlies these prescriptions. If management models are prescriptive, they tend to be contingent (i.e. sensitive to variation in the organisational context). However, it is generally assumed that quality management recommendations are context independent and therefore implicitly universal (Spencer, 1994). The quality management discipline pays little attention to the boundary conditions for the applicability of quality models, nor does it pay attention to how variation in organisational settings might be reflected in quality management implementation (Sitkin et al., 1994). Therefore, it seems that a contingency approach is necessary in quality management. Contingency thinking is based on the proposition that an organisation’s relationships with other organisations, as well as its relationship with its total environment, depend on the specifics of the situation (Hodge and Anthony, 1988).
Recent research by Sousa and Voss (2001) has shown that quality management is in fact context dependent. Therefore, the quality management discipline is in need of a model that explicitly takes the business context into account when providing directions for the use of quality management. Sitkin et al. argued already in 1994 that it is necessary to search for an appropriate model outside the quality field.

It can be argued that quality management can be seen as a management control system since it is aiming to control an organisation’s processes and to improve these processes in response to changes and developments. This view of quality management as a management control system is further strengthened by the conclusion of Merchant and Simons (1986) that definitions of management control generally contain two key concepts: “A focus on the behaviour of organizational participants and a concern with the effect of this behaviour on organizational outcomes”. Therefore, a logical place to look for a model is in the field of management control.

Although there currently is a large amount of literature on management control, it has only received serious research attention since the second half of the twentieth century (e.g. Arrow, 1964; Anthony, 1965). However, the concept of control has been around for much longer than that. Control is seen as the central idea of Taylor’s scientific management (Giglioni and Bedeian, 1974; Otley et al., 1995). The strong link between management control and scientific management indicates that the roots of management control and quality management are closely related, since the early thinking on quality management was also similar to many of the scientific management ideas (Wilkinson et al., 1998; Bryce, 1991). The focus of the early management control research is similar to quality management research as well. Both dealt with real problems, and were aimed at understanding and solving these problems (see Otley et al., 1995; Dean and Bowen, 1994). However, there is also a major difference between management control and quality management. Research on management control has been contingency-based for a relatively long time, while research on quality management has been dominated by a universalistic approach.

One of the most important themes in management control research is the explanation of differences in management control systems between organisations operating in different environments (Chenhall, 2003; Speklé, 2001). Extensive research has been done on the effects of differences in the nature of the environment, technology, firm size, structure, strategy and national culture on the effectiveness of management control systems (see Chenhall, 2003). Most of this research has focused on the effects of the external environment and corporate strategy on management control systems. It is believed that certain management control systems are more suited to certain environments and strategies than others (Chenhall, 2003). Simons (1987; 1990; 1991; 1994) has conducted important research in this area and developed his ‘Four Levers of Control Model’ (Simons, 1995) on the basis of this research. We aim to make use of the long experience with contingency-based research in the management control discipline, by introducing this leading management control model to the field of quality management. The model is accepted in the management control field, however, it has not been used before in the field of quality management. Still, Feldman (2004) claims that the model’s adequacy for analysing important real world phenomena means that it is appropriate to use it outside its original field. Simons’ Four Levers of Control Model is displayed in figure 1.
Simons’ Four Levers of Control Model is used to balance control mechanisms in an organization in order to realize the business strategy. The model distinguishes four different types of control mechanisms: (1) beliefs systems, (2) boundary systems, (3) diagnostic control systems, and (4) interactive controls systems. Two of these four levers increase individual freedom (i.e. beliefs systems and interactive control systems), and two restrict individual freedom (i.e. boundary systems and diagnostic control systems). The four levers are explained below.

**Beliefs systems**
Beliefs systems are used to inspire and direct the search for new opportunities. “A beliefs system is the explicit set of organizational definitions that senior managers communicate formally and reinforce systematically to provide basic values, purpose, and direction for the organization” (Simons, 1995). Managers use beliefs systems to indicate to subordinates in what direction they want the organization to go. A beliefs system is created and communicated through such documents as credos, mission statements, and statements of purpose.

**Boundary systems**
Boundary systems are used to set limits on opportunity-seeking behavior. “Boundary systems delineate the acceptable domain of activity for organizational participants” (Simons, 1995). Boundary systems define the limits within which the management wants employees to operate. These limits are based on defined business risks and strategic choices. Boundary systems are communicated through rules, codes of conduct, limitations, and minimum standards.

**Diagnostic control systems**
Diagnostic control systems are used to motivate, monitor, and reward achievement of specified goals. “Diagnostic control systems are the formal information systems that managers use to monitor organizational outcomes and correct deviations from preset standards of performance” (Simons, 1995).
Diagnostic control systems are essentially feedback systems, which are fundamental to traditional management control. Diagnostic control systems have three distinguishing features: (1) the outputs of a process can be measured, (2) the existence of predetermined standards against which actual results can be compared, and (3) any deviations from these standards can be corrected. Because of these three features, they are designed to ensure predictable goal achievement. Diagnostic control systems are communicated through profit plans, budgets, targets, and quotas.

Interactive control systems
Interactive control systems are used to stimulate organizational learning and the emergence of new ideas and strategies (Simons, 1995). Based on the unique strategic uncertainties they perceive, managers use these systems to activate search. Interactive control systems focus attention of employees and force dialogue throughout the organization. They provide frameworks, or agendas, for debate, and motivate information gathering outside of routine channels. These control systems stimulate search and learning, allowing new strategies to emerge as employees throughout the organization respond to perceived opportunities and threats.

The four different control levers in the model of Simons and their relation to strategy are summarized in table 1.

Table 1: Relating the four levers of control to strategy

<table>
<thead>
<tr>
<th>Control system</th>
<th>Purpose</th>
<th>Communicates</th>
<th>Control of strategy as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beliefs systems</td>
<td>Empower and expand search activity</td>
<td>Vision</td>
<td>Perspective</td>
</tr>
<tr>
<td>Boundary systems</td>
<td>Provide limits of freedom</td>
<td>Strategic domain</td>
<td>Competitive position</td>
</tr>
<tr>
<td>Diagnostic control systems</td>
<td>Coordinate and monitor the implementation of intended strategies</td>
<td>Plans and goals</td>
<td>Plan</td>
</tr>
<tr>
<td>Interactive control systems</td>
<td>Stimulate and guide emergent strategies</td>
<td>Strategic uncertainties</td>
<td>Pattern of actions</td>
</tr>
</tbody>
</table>

Source: Simons, 2000, p. 304

Any control system in an organization can be classified according to the types that the model distinguishes (Simons, 1995). The four different types of control systems should cooperate in order to realize the strategy. To be able to do this successfully, there should be a balance between, on the one hand, the strategy and the environment of the organization and, on the other hand, the different types of control systems. If there is too much focus on just one or two types of control systems, the organization may have difficulties in realizing its strategy. However, putting equal emphasis on each of the four levers may also not be successful because the strategy and the environment in which the organization operates may demand that one or more levers receive more attention than the others (Simons, 1995).

The right mix of control systems depends partly on environmental factors like the predictability and complexity of the market in which the organization is operating. If the environment is predictable and not
complex, an organization can put more emphasis on the diagnostic control systems. However, if the environment is unpredictable and complex, a stronger focus on interactive control systems is necessary (Simons, 1995). Diagnostic control systems set order, and order needs predictability, therefore, these control systems are believed to be less effective in situations that are unpredictable and complex.

An analysis of an organisation’s quality systems by means of Simons’ control model enables managers to look at quality from a different perspective. The model makes it possible to take strategic aspects and characteristics of the business environment into account when assessing an organisation’s quality management systems. As such, it helps managers to make the switch from a universalistic approach, towards a context dependent approach to quality management. By determining in which of the four levers each of the existing quality systems fits, an overview of the dominant levers emerges. Management can then assess whether their use of each of the levers fits the environmental uncertainty and complexity. Given the fact that the business environment evolves over time, the dominant focus in terms of the control levers may be out of sync with the business environment. Simons’ control model then makes clear which type of quality systems is overrepresented in the quality strategy, and which type of quality systems is underrepresented, and therefore needed for future business success.

We have successfully applied this approach in research projects at major European car manufacturers and their suppliers. The space constraints of this article do not allow for us to describe our approach and results in greater detail. For more information or interest in research cooperation, do not hesitate to contact us.

Reference list


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