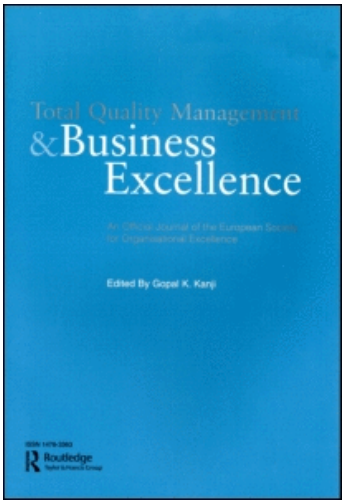

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The rhetoric and reality of 'process control' in organisational environments with a TQM orientation: The managers' view

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This paper offers a defence of total quality management (TQM) initiatives as an integral part of business strategy for maintaining competitive advantage. It takes issue with one argument against it: that there exist ambiguity and contradiction in using 'process control' to exert control over the workforce to bring about the desired outcomes of TQM, and therefore it might be seen as a follow-up to scientific management. The paper adopts a qualitative approach in the form of three case studies. Data from 47 managers representing a variety of managerial levels indicate that the increased control over the workforce is indirect through the increased control over the work process, and that TQM initiatives can be used as the vehicle for achieving what most of the managers search for: higher organisational performance through more effective use of the capabilities and inclinations of their workforce. However, the study further highlights the danger that the promised TQM benefits could be vulnerable to management bias towards control, leading to its failure in the long term.

Keywords: TQM; process control; case study research

Control: a review of the literature

Despite a vast outpouring of books and articles dealing with total quality management (TQM) precepts and assumptions, and over 75 years' TQM education and research (see Shewhart, 1930), the legacy of clarifying the nature of control in the context of TQM has remained elusive. Godfrey et al. (1997, p. 558) portrayed such basic ambiguity in TQM by arguing that, 'while managers seek commitment and co-operation from their employees, increased control over the work process is a cornerstone of TQM'. Other interpretations of the concept of control have also been observed and discussed by Oliver and Wilkinson (1992), Legge (1995), Oakland (1993), Dale and Oakland (1994) and Beer (1966) – to name but a few. A review of their writings indicates that the concept of control has been defined in several different ways. For Oakland (1993, p. 29), 'control is the process by which information or feedback is provided so as to keep all functions on track'. Beer (1966, p. 255) argues that 'control is a question of coaxing a system towards optimal performance'. Godfrey et al. (1997, p. 570) conclude that any 'talk of increased control and reduction in variation [central to TQM] conjures up the image of Taylorism and work intensification to those from the HRM and IR fields'. Godfrey et al. (1997) further recognised that there is little

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differentiation made between control of the process and control over the workforce (p. 570). Finally, while for Oakland (1993) a TQM-type control is a change from an external mechanism to an internal control mechanism, for Legge (1995), 'TQM ... may be seen as resulting in high levels of control over the workforce' (Godfrey et al., 1997, p. 558).

The implication of such fundamental inconsistency in theory and application of control for those from the human resource management (HRM), industrial relations (IR) and operations management fields is clear-cut, however: it might result in TQM being misunderstood, and in consequence, its applications will be mismanaged and misapplied. TQM then might be seen as dysfunctional in that it can then detract from favourable outcomes for both organisation and employees. Thus, the concept of control in the context of TQM would appear to have potentially serious implications for both the workforce and TQM itself.

Since not everyone from different management disciplines – i.e. operations management versus HRM/IR – can be expected to agree upon the meaning of control and its implication for organisational commitment and TQM effectiveness, they often present an incongruent picture of its application based on their own understanding of the concept and organisational context. For HRM/IR specialists control is viewed as a means of monitoring the workforce, whereas those with an operations view see it as a means of monitoring the work process. Despite the large number of studies that have investigated the concept of control in the context of TQM, there exists little agreement regarding its function and implications for the practice of TQM or the workforce. Indeed, for the most part the research findings are inconsistent. For example, Oakland (1993) and Dale and Oakland (1994) talk about control as a means of reducing variation in the work process, while Legge (1995) and Wickens (1993), among others, argue that TQM might result in increased control, over the workforce, rather than the work process *per se*. These findings were further supported by Godfrey et al.'s (1997) study illustrating the possibility that TQM can be (ab)used by management to achieve managerial objectives, thereby employee resistance will not be fully understood or allowed for by quality management professionals (p. 571). Clearly, then, research has seldom linked the existence of various versions of management control and its impact on TQM expected benefits. It is therefore important to explore the types of approaches adopted by management to manage and monitor TQM and its associated practices (see Soltani et al., 2007, 2008c). Furthermore, it is of vital importance to advance our knowledge about the impact of management's approach and attitude to control as organisations pursue continuous improvement and its implications for success or failure of TQM initiatives. Despite the TQM and HRM scholars' call for such work (see Godfrey et al., 1997; Legge, 1995; Wilkinson, 1994), so far little empirical work has been done towards a systematic understanding of control and its implication for success or failure of TQM programmes.

Our position in this paper is vitally pertinent to all the aforementioned concerns and it primarily aims at performing a qualitative study of management approaches to control and the implications for effective implementation of TQM programmes. The paper tries to achieve this by empirically investigating the approaches adopted by management towards controlling work process or the workforce; and finally, by deriving from this the implications for practice of TQM, thereby making it possible to appropriately apply control which brings about enhanced organisational commitment, performance and favourable TQM outcomes.

Research method

General design, sample, measures and analysis

The data for the present study draw on part of larger research project which aims to explore the application of TQM initiatives in practice in a sample of quality-driven organisations in the UK. This paper tries to provide an in-depth understanding of 'control' (which rests with senior leadership and is always in their hands) as 'a contested concept in TQM research' (Godfrey et al., 1997) not least because of its critical implications for workforce commitment as well as overall effectiveness of TQM programmes. In contrast to the majority of previous studies on the practice of TQM which investigated TQM practices through, as Choi and Behling (1997) put it, testing a few preconceived propositions in large samples, we adopted a qualitative methodology as an appropriate research philosophy for studying 'control' in the context of TQM. The adoption of qualitative research also has a close affinity with Choi and Behling's (1997) suggestion that a qualitative approach provides an in-depth understanding of an unexplored area (see also Bryman et al., 1988; Trevino et al., 2003).

To qualitatively explore the main research question: 'what approach/attitude is adopted by senior management to "control" in quality-oriented organisation?' a multiple case study was adopted not least because the evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust (Herriott and Firestone, 1983 cited in Yin, 1994, p. 45). Of a sample of nearly 19 manufacturing organisations in our initial large-scale survey, some eight agreed to take part in further study of their quality programmes. Of these, a sample of three manufacturing cases was chosen for further investigation of their managerial control mechanisms with regard to TQM programmes (Table 1). The selection of cases was based on several criteria, namely, there has been a belief that TQM has its root in manufacturing settings – as opposed to service-oriented organisations; they were recipients of various quality prizes at both national and international levels (see Hendricks & Singhal, 2001); and they had long experience in adopting TQM initiatives and its implementation (see Garvin, 1988; Oakland, 2003). It should be noted that all participants in the three cases preferred to remain anonymous, and hence their identifying information had not been disclosed.

The primary data sources were semi-structured interviews and collection of documentary evidence with respect to quality policies and involvement of management in planning and implementing quality-related initiatives. In total, 47 interviews were carried out during a two-year time period (2004–2006). To elicit the views and opinions of various managerial levels at the three case study organisations on applications of control and their implications for employees, customers and effectiveness of TQM programmes, the interviews involved open-ended questions and covered topics such as the nature of control, the variation in control prior to and after adoption of TQM initiatives, the consistency between senior management control with that of middle and first line managers, the relationship between control and effectiveness of TQM programmes.

Table 1. Profiles of the three case studies.

	Manufacturing 1	Manufacturing 2	Manufacturing 3
Size	1000–4999	5000–9999	5000–9999
Economic sector	Private	Private	Private
Experience with TQM initiatives	16 years	19 years	24 years

Each interview lasted between one and a half hours to two hours. Following the procedures outlined by Strauss and Corbin (1990) *content analysis* was conducted on the interview transcripts. The primary purpose here was to make valid inferences from text through classifying many words of text into much fewer content categories (Weber, 1990, p. 253). In order to facilitate the conceptualisation, categorising and labelling of the managers' views about control and its implications for their workforce, customers and the overall effectiveness of TQM programmes, we started the content analysis with 'open coding' through the four procedures outlined by Strauss and Corbin (1990, pp. 61–65). After open coding, 'axial coding' was used to make connections between categories, thereby revealing the linkages among various managerial approaches to control and their implications for the workforce, customers and TQM itself.

The qualitative examination of the specified characteristics of the interviewees' responses in terms of with-in case and cross-case analyses is outlined below.

Findings

The rationale for control

The view was expressed by many managers that TQM initiatives would not achieve their intended objectives without an appropriate level of control over both processes and individual employees. Indeed, across top and senior management levels, there was an extremely high incidence of control over the workforce being mentioned as a means of fulfilling TQM's promises of continuous improvement of overall organisational performance.

> We have been implementing TQM for over two decades. Based on TQM initiatives, we established a variety of working standards. Now it is responsibility of our first line managers and to a great extent shopfloor employees to follow those procedures and standards to make sure that TQM achieves what it is planned for. (Top Executive – Manufacturing 3)

> TQM is a complex concept and difficult to implement. To overcome such complexity and benefit from its advantages, it leaves us no way but to have a tight control over the TQM implementers. (Senior Manager – Manufacturing 2)

Such views were also expressed by respondents in middle managerial levels as well as supervisory positions:

> I have been closely engaged in TQM implementation mainly because of my position as a first line manager and my responsibility as a quality manager. Despite the existence of different operational techniques and tools pertinent to TQM for monitoring the work-related processes, we have to establish control over workforce to guarantee those TQM-associated techniques and tools are being used as planned. (First line Manager – Manufacturing 1)

Indeed the above quotes reveal the increased control over the workforce – as opposed to work processes – as a means of achieving TQM favourable results. These findings have some obvious affinities with Delbridge et al.'s (1992) view that regards TQM as a control system and a means of increasing managerial power at the expense of employees' influence. Clearly, problems with an appropriate understanding of control in the context of TQM have undermined major efforts by the case study organisations to improve liaison between higher TQM effectiveness and organisational commitment. The analysis of the interviewees' responses indicates a lack of understanding of the concept of control in the context of TQM. In more elaborate language, the evidence shows that those managers who felt they had adopted an appropriate rationale for using control to comply with the TQM requirements have focused only on the more obvious and ordinary type of control: external control – i.e. control over the workforce. Similarly, some managers at middle and first line levels considered such approach to control to be sufficient for

desirable TQM outcomes, despite the subsequent negative implications for the workforce, about which a large number of managers are still ill-informed.

Despite a strong emphasis on control as a means of achieving TQM objectives, there were no mentions, in particular at middle and first line levels, of control as a means of reducing variation through increased feedback and self-regulation (see Beer, 1966). Such rationale for using control is, however, inconsistent with TQM in that control is regarded as 'the process by which information or feedback is provided so as to keep all functions on track' (Oakland, 1993, p. 29). Surprisingly, although TQM seems to be vulnerable to a lack of organisational commitment due to the adoption of such an approach to control, as our evidence shows, in practice the risk appears minimal. Indeed, the majority of respondents at senior levels attributed such approach to control as a major contributor to their TQM success. Although TQM requires control of the process, the analysis of the interviewees' responses shows that such relationship is indirect through control of the workforce. This is, however, in sharp contrast to the advocates, both academic and professionals, of TQM's view that 'attempting to control performance through systems, procedures or techniques external to the individuals is not an effective approach since it relies on "controlling" others' (Oakland, 1993, p. 29).

The linkage between control and workforce

Despite having TQM initiatives in place for nearly two decades, and the claim that increased control over the workforce is not an aim of TQM (see Deming, 1986; Oakland, 2003), the majority of managers highlighted a close link between continuous monitoring of individual employees' performance and the uptake of TQM initiatives. Much of the interviewees' argument for the existence of a close tie between adoption of TQM and exerting control over the workforce was based on the notion that 'quality management is a systematic way of guaranteeing that all activities within an organisation happen as planned' (Collard, 1993, p. 3). To guarantee the expected TQM outcomes, organisations take different perspectives. A review of the literature pertinent to TQM reveals two quite different views on TQM: the 'hard' statistical approach, and the 'soft' people-based approach (Torrington & Hall, 1998, p. 300; Wilkinson *et al.*, 1998). While the former reflects the production orientation of the quality 'gurus', the latter focuses on the management of human resources in the organisation and lays particular emphasis on the need to change culture (Wilkinson et al., 1998).

> We use a wide range of manufacturing techniques and TQM tools from the design to the point that the product is delivered. It is obvious that the control of employees who apply such techniques and tools constitutes a huge proportion of our organisational control system. (Senior Manager – Manufacturing 2)

> It took us some five years to have an acceptable quality culture in our organisation. What I personally observed during the course of TQM implementation was a clear variation in individual employee's performance followed by negative implication for TQM success. (Middle Manager – Manufacturing 1)

> We have established a sound foundation for our quality programmes. To ensure minimum variation of output, all relevant techniques and tools have been established. What we need to do now is to make sure that our workforce achieves the planned outcomes. Obviously this necessitates introducing various control strategies and exerting control over our workforce. (Senior Manager – Manufacturing 3)

There is no doubt that the TQM techniques and tools exemplify the power of TQM (see Black, 1993; Shewhart, 1930). However, it appears that they are being regarded as a

control mechanism to achieve long-term objectives of TQM – as opposed to being viewed as tactics (Pegels, 1993) to help individual employees in carrying out their jobs. The analysis of the interviewees' responses highlights the tendency of all managerial levels to attribute poor quality to poor performance on the part of individual employees. Obviously, when TQM is seen from a hard perspective, the concentration is on technical quality of the product and the process. Therefore, it is not reasonable to expect management to attribute poor quality to poor management or any deficiency in system. Clearly, it appears to be a fact that in all three cases TQM has been applied just to the technical manufacturing function. Indeed, this is in sharp contrast to TQM philosophy. These findings have some obvious affinity with Crosby's (1979) discussion of erroneous assumptions that are held by most management individuals and cause most of the communication problems between those who want quality and those who are supposed to effect it. As Crosby put it, there exists a belief that 'the problems of quality are originated by the workers, particularly those in the manufacturing area' (p. 19). However, quality gurus such as Crosby (1979), Juran (1964) and Deming (1986) attribute the poor quality to faulty systems and faulty management practices.

Perspectives on control across managerial levels

The analysis of the interviewees' responses to the concept of control reveals that the main area of controversy is the notion that control appears to be synonymous with exerting more power to achieve TQM objectives, and that quality control is a developed version of the monitoring role of management (see Mintzberg, 1973). Indeed, the findings highlighted two main, but different, conceptions of control: in the first, control is viewed as a means of monitoring employees' behaviour at work through immediate supervisors and work-related standards and procedures; in the second, control is understood in terms of both quality control and control as a management function. According to the first view, quality control has been embedded in the overall organisational control. Indeed, this view has very close affinity with management-by-objective in that it evaluates workers by attainment of pre-determined specific objectives.

> For me, control is control. No matter what organisational context we are in. We set goals and we monitor whether it has been achieved or not. (Middle Manager – Manufacturing 1)

> Since adoption of TQM, our knowledge of various control mechanisms has been improved both in terms of TQM-related control and much more importantly of monitoring employee's performance. [First Line Manager – Manufacturing 2]

> My own view to control, at least for those under my supervision, is twofold: first, to see the effectiveness of TQM initiatives, and second, to identify the poor implementers. (Senior Manager – Manufacturing 3)

> My impression of the current control mechanisms in our organisation is that it has originated from our traditional bureaucratic control which is still in place. Clearly, this is bureaucratic control that shapes our approach to quality control, followed by blaming people for any inefficiency in the system. (Senior HR Manager – Manufacturing 3)

In contrast, some managers mainly at middle and first line levels were clearly aware of the unhealthy emphasis on controlling employees' behaviour as the main cause of variation in TQM expected outcomes. In their view, the current approach to control systems in their organisations provides pressure on the workforce to follow TQM procedures and standards but, as they clearly mentioned, it is managerial pressure and power that determines whether or not TQM achieves what it has been planned for.

Also, some interviewees at both middle and first line levels were inclined towards beliefs about TQM that can be regarded as a top management-led philosophy, leading to high levels of managerial control. According to the interviewees, there exists a pervading influence of TQM's means of quality control to achieve business excellence. Such quality control, as the interviewees mentioned, had created a quantitative approach to continuously identifying job-related problems, followed by holding employees accountable for any deficiency observed in the system. As a result of such heavy emphasis on quantitative objectives, one interviewee at senior level called quality control in particular and TQM generally as 'quality control approach to performance appraisal'.

Control and commitment (turnover rate of employees)

An important issue that has run through the whole history of TQM is the place of workforce commitment to the process of TQM implementation. It has been argued by Legge (1995) and Wickens (1993, p. 86) that a combination of both workforce commitment and control of the process could form the basis for achieving long-term high quality (see Godfrey et al., 1997; Wilkinson, 1994). However, as the analysis of the interviewees' responses indicates, it is extremely difficult to disentangle these two objectives in practice. Indeed, as the majority of middle and first line managers mentioned, the problems arise when these twin issues cannot be given equal weight by senior management. On the one hand, senior management require quality control and any associated tools and standards to achieve the TQM expected outcomes, whereas individual employees require absolutely equally empowerment and participation in any quality-related initiatives. What is known from the previous research is that in the presence of commitment TQM will succeed (see Soltani et al., 2008a, 2008b). Surprisingly, as noted by the majority of middle and first line managers, the findings indicate that it is not commitment *per se* that led to TQM success, rather various external control mechanisms over the workforce in the name of quality control and control over the work process resulted in their reasonably high TQM effectiveness.

> There is no doubt that we [management] seek higher commitment from our employees for the purpose of higher TQM effectiveness. But we do this through increased employee control – rather than employee commitment. (Middle Manager – Manufacturing 1)

> We have a variety of quality control tools in place. But when something goes wrong we look for the wrong doer [i.e. the employee]. No mater how committed he or she is. (First Line Manager – Manufacturing 2)

> That is true that we [managers] seek our employees' commitment not least because of the complexity of TQM itself, but in reality when it comes to its implementation it leaves us no way but to divert our attention to employee control and to a lesser extent employee commitment. (Senior Manager – Manufacturing 3)

The above quotes from the interviewees appear generally to have three common denominators that may be said to characterise the phenomenon of commitment in their TQM-driven organisation. First, commitment to TQM is indirect through quality control tools and associated standards and procedures; second, the nature of quality control seems to be the main source of commitment to TQM activities; and third, how this commitment is maintained and sustained is still questionable. This, in turn, might imply that it is not the management commitment *per se* which determines the ultimate success of TQM programmes; rather it is the exercise of power via quality control tools which determines the effectiveness of TQM initiatives. To facilitate this relationship employees then are empowered and involved in some specific TQM-related activities within the framework of the quality control regime.

Furthermore, in the majority of interviewees' responses at various organisational levels one common theme stands out: there exists a close association between, on the one hand, quality control, and on the other hand, power and knowledge. As interviewees highlighted, the adoption of TQM has influenced organisational learning not least because it has increased employees' knowledge of using tools, saving costs and performing efficiently. The key point here is that, in the words of a first line manager,

> The increase of knowledge of our employees over their work might be mistakenly taken as their high commitment. My point is: when you are expert in doing something you do it better and better, no matter how committed you are. This is mainly because you feel confident that you would not be blamed for wrong doing. (Senior HR Manager – Manufacturing 3)

As expected, the majority of interviewees at middle and first line levels claim that their organisations tend to believe that an increase in employees' knowledge is synonymous with employee commitment. However, they cited examples of a clearly high staff turnover in their assembly and production lines.

Control and its implications for TQM

Finally, the respondents were asked to comment on the implications of their approach to control for effective implementation of TQM programmes. Surprisingly, the majority of managers, in particular at senior and middle managerial levels, talked about control over the workforce as a means of achieving control over the work process, thereby reducing variation in overall performance. Indeed, some interviewees argued that control over the workforce in the context of TQM was made through process control. This, in turn, as one interviewee mentioned, had resulted in highly satisfactory TQM outcomes.

> My senior management team and I initially though that we lost control over the workforce. But we then realised that all TQM-related control mechanisms were a means of comparison of the workforce performance with established standards and procedures in place. This, in turn, facilitated the achievement of TQM objectives. (Top Executive – Manufacturing 1)

> The uptake of TQM initiatives has resulted in changes in our approach to controlling both work processes and the workforce. Since then, the overall productivity has improved a lot. (Senior Manager – Manufacturing 2)

> We were recipient of several quality awards. This was mainly due to the existence of a wide range of standards and tools which could deliver the TQM message to employees clearly. What I want to reiterate is that the essence of using TQM tools and techniques has helped our organisations to identify and avoid the variation in work processes and overall performance through the workforce performance. (Middle Manager – Manufacturing 3)

Consistent with the above interviewees' quotes, other managers, in particular at middle and first line levels talked about the inseparable nature of work-related process control and workforce control. Indeed, those managers dealing with human resource issues believed that TQM would not be regarded as having been effective until the work process control is accompanied by increased control over the workforce (see Legge, 1995).

> Based on my work experience with large organisations, the concept of control or process control in TQM aims at luring hardworking and determined employees back to a culture of scientific management. Indeed, TQM success can be attributed to the increased control over the workforce through the use of various process control tools. (Senior HR Manager – Manufacturing 1)

> I personally do not see anything wrong with the control over the work process. The problem, however, lies in the way we appraise our workforce performance. Whatever happens, we

> attribute any inefficiency in our working processes to our employees, rather than any flaw in other systems or sub-systems of the organisation. (Senior HR Manager – Manufacturing 3)

It is, of course, true that the benefits of TQM will be realised through control over the process and that increased control over the workforce is not an aim of TQM (see Oakland, 1993). In practice, however, as the above evidence shows, control over the workforce is clearly part of the process control (see Godfrey et al., 1997). Despite the above positive correlation between the effectiveness of TQM programmes and the exercise of control, if this trend continues it will result in a high turnover of the real implementers – i.e. shop-floor employees – of TQM programmes. Some of the interviewees summarised the position by arguing that they have had the highest rate of employee turnover in assembly and production lines. Indeed, this was the position taken by those managers with a high concern for employee commitment. Such managers argued that if TQM is meant to control the work process, the focus of the organisation's performance appraisal should be on systems-level factors – as opposed to individual employees. However, as the above evidence indicates, it appears that the uptake of TQM has not changed performance appraisal practices over the last two decades (see Soltani, 2005; Soltani et al., 2004, 2005, 2006). Such findings were further supported by Randell's (1994, p. 235) discussion illustrating the current approach to monitoring the workforce performance as 'performance control approach'.

Conclusion and implications

The primary aims of this paper were twofold: first, to extol the potential virtues of work process control for effective implementation of TQM programmes, and second, to examine whether such control over the work process – regarded as a cornerstone of TQM – had been (ab)used by the TQM-driven organisations. Despite the attention paid by the advocates of TQM in using control over the work process, it is certainly the case that managers at various organisational levels in quality-driven organisations do seek to tighten their managerial control in the name of TQM and follow the steps proposed by earlier management schools. As yet, as the evidence indicates, there may be relatively little achievement in shifting the blame on to individual employees or as Wilkinson et al. put it, 'largely ignore it in practice' (1998, p. 4). Consistent with previous findings on the subject (Godfrey et al., 1997), the current evidence gives the impression of a widening rift in the publications on TQM between the academic and business-led research, with little awareness of the vital role of control and its application, and the academics who endlessly dissect the minutiae of the soft factors but who display little interest in the practical issues and desired TQM outcomes. Unfortunately, the present findings highlight that managers appeared to find no difference between TQM and quality control and viewed TQM as, in the words of one middle manager, 'a way to get around the problems of low productivity'. Although most managers at various organisational levels recognise the need for higher productivity through a well-trained and quality workforce, they seem reluctant to start from the premise that it is the quality workforce (the real implementers of TQM initiatives) that are major determinants of TQM success, and therefore all systems in place should be designed in support. The findings further suggest that not only have the difficulties of taking a control approach to managing TQM been underestimated, so too have the benefits.

In evaluating the findings of the present study, two limitations should be kept in mind: one is related to the 'sample selection bias' (Berk, 1983), and the other concerns the inclusiveness of the research participants (Mottaz, 1988, p. 480). In respect of the former,

although we excluded those organisations which did not match the selection criteria as our case studies, these organisations were investigated in our initial large-scale survey. This, in turn, implies that the researchers had enough knowledge of their control-related practices, meaning that the three case study organisations were reasonably representative enough to draw valid conclusions. With regard to the latter, the workforce – who are meant to be the primary subjects of any managerial control mechanisms – were excluded from our interviewees list not least because of the difficulty in getting permission to interview. Such exclusion of the workforce provides a rich opportunity for TQM researchers who are prepared to take the issue seriously for the purpose of comparison between those who exert control and those who are subject to control. Such a follow-up study, however, appears to be a formidable and challenging one.

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