

STRATEGIES FOR EMERGENT QUALITY IMPROVEMENT

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ABSTRACT

This paper explores strategies for emergent quality improvement, which involve managing both efficiency and effectiveness, or the ‘quality dilemma’. An empirical investigation is conducted with seventeen quality managers, representing organisations in ten private companies and one organisation in the public sector. The results indicate five distinct themes of importance to manage the quality dilemma: 1) leadership, 2) the quality organisation, 3) prioritisation, 4) knowledge and competence, and 5) the quality profession. While the dilemmas are categorised into five distinct and critical themes, the second part of the results present tactics regarding how to move positions towards emergent quality management: perspectives, processes, and decision support. The conclusions imply that the current method of organising quality improvement must be revised.

INTRODUCTION

This article examines a new era of quality management in practice, including the closing of a relevance gap between research and practice, and utilising the full potential in quality management. Various research results are applicable on the explorative side of quality management; however, these are seldom used in practice. The advantage in this involves positioning quality management as something that has an unleashed potential for quality improvement in practice, and to

utilise quality management for both explorative and exploitative purposes; in other words, strategies for emergent quality improvement in line with the works of Backström et al. (2017) and Fundin et al. (2017).

Quality management has been developed as a research field for almost 90 years (e.g. Shewhart 1931), and is currently matured. Quality management research essentially focuses not only on low-process variation management, but also embraces the management of variation on a broad scale, from low to high. High variation (exploration) in this context concerns effectiveness, or doing the ‘right thing’ for the customer. This implies that, for example, more customers, product variety, process agility, and future solutions all aim to fulfil or even surpass a variety of customer demands. Alternatively, low variation (exploitation) involves efficiency, or ‘doing things right’, and implies, for example, process stability, zero defects, and the rate of time.

Why, then, is quality management not always used as such in practice? Similar to Abernathy’s (1978) introduction of the ‘productivity dilemma’ (Benner and Tushman 2003; Benner and Tushman 2015), this could be posed as a ‘quality dilemma’ (Fundin et al. 2017). Given this introduction, this paper aims to further explore dilemmas in managing quality in contemporary organisations. Based on this knowledge, the paper intends to elaborate on potential strategies for emergent quality improvement, a strategy to manage quality in both efficiency and effectiveness.

Hence, the paper explores two critical research questions:

- What are dilemmas for emergent quality improvement in contemporary organisations?
- What are tactics in a strategy towards emergent quality improvement?

The paper is based on an empirical investigation of dilemmas and strategic choices as expressed by 17 quality managers, representing 10 private companies and 1 public organisation. The paper is organised in five sections. First, an overview of literature and theory is presented. This is followed by a description of how the

empirical investigation is planned and conducted. The following section notes the findings from the empirical investigation, followed by a discussion of the results. The paper concludes with theoretical and managerial implications, followed by propositions for future research.

LITERATURE AND THEORY

The management of exploration and exploitation has been a research field within organisational management for decades (e.g. Duncan 1976; March 2001), and can connect with quality management in several ways, such as the management of variation through both efficiency and effectiveness (Fundin et al. 2017). The dilemma in combining the two dichotomies has been further elaborated, including the different ways of managing ambidexterity. While structural ambidexterity involves a split in the exploration and exploitation between different organisational units, behavioural ambidexterity is the managing of the conflicting dilemmas of exploitation and exploration within the same organisational unit, but with behavioural support (Raisch et al. 2009). Sequential ambidexterity, as a third option, involves sequentially managing the conflicting demands of exploration and exploitation over time (Raisch et al. 2009). Regarding quality management, structural ambidexterity involves, for example, how variations are managed, with a focus on either low *or* high variation depending on what part of the organisation is managing quality. Sequential ambidexterity, on the other hand, involves managing both low and high variations in a certain sequence of time. From the process management perspective, this implies that to make a sustainable change with processes that demonstrate both stability and agility, such processes developed using sequential ambidexterity, as the process will involve all competences in an organisation to foster a radical new work method. An example of behavioural ambidexterity in terms of quality management, is that a single unit has continuous behavioural support in producing robust, reliable products, while simultaneously fostering a high variation of products to attract more customers.

What, then, are dilemmas for quality management, and what are the problems inherent to achieving an ambidextrous way of working? This is often expressed as a challenge for quality managers, in that long-term initiatives are less prioritised due to 'fire-fighting' problems in production, or customer problems that must be solved immediately and without any delay. These demands are also naturally important and require attention. However, it is equally important to allow space for strategic long-term initiatives for quality improvement. What are future potential customers, products, services or solutions in combinations of goods and services? The process perspective is another view on a dilemma in quality management. Current processes that produce goods or services must still be reliable, while future goods and services may require process

agility; in other words, processes must also be able to produce something else (Eriksson et al. 2016). Hence, these dilemmas from a variation management perspective imply a quality management strategy with both low- and high-variation management.

The construction of a learning quality management organisation, such as that noted by Garvin (1993), is based on new knowledge gained from dilemmas. This can be perceived as incredibly difficult to achieve, but a paradox exists in that it will never be finished. Quality management through dilemmas is one way of continuously transferring self-experienced new knowledge into improved work methods: to go back to a standard way of working, improve the standard to a new developed standard, or radically improve and transform the work method to attract customers with new solutions (Fundin et al. 2017).

Organically organising quality management includes the distribution of leadership and everyone's involvement in developing values and principles in a complete system that functions cohesively (Spencer 1994). Self-organising is one way to accomplish this, by designing principles based on experiences with dilemmas when it is difficult to reach both low and high variations in operational processes. The principles in this way of thinking cannot be merely decided as per a mechanically controlled way of organising quality (Spencer 1994). Rather, these principles must be built from individual thoughts and reflections that are continuously communicated as new organisational knowledge.

It is much easier to decide on a low-variation solution, as it implies less risk and short-term, cost-effective solutions, instead of higher-risk, long-term solutions without a knowledge of the expected outcomes. How could a dilemma then be managed and developed into both short- and long- quality management value principles? Adler and Borys (1996) elaborate on this with two different enabling management approaches: either the 'enabling' or 'coercive' types of bureaucracy. Adler et al. (1999) elaborated upon the same dilemma using Toyota as a case study. The company, as a rare example, seems to be able to manage the paradox through training and trust, used in combination with structures, procedures and rules. In line with these ideas, Adler and Cole (1993) also demonstrated many years earlier how the quality dilemma was addressed through the facilitation of innovation and learning. Their study indicated different organisational methods at the New United Motors Manufacturing, Inc. (NUMMI) plant in the company's initiation of lean production methods. Ståhlberg and Fundin (2016) further elaborate upon the initiation of lean production in operations; their research reveals the challenges and needs within a holistic approach that enables the management of both exploration and exploitation in manufacturing contexts, which is traditionally built on a prioritisation towards stability.

All organisational levels must be involved at all times. Self-organising quality management builds a quality culture, with customers and users involved. It focuses more on management through value principles, rather than management through predefined or predetermined principles, which require many years of anchoring in the organisation, yet with questionable results. Conversely, what role do these predefined principles play, if they are so difficult to understand? Sustainable and consistent quality management also requires low-variation thinking. Organisations must deliver what is promised and determined for current customers and to current requirements. Processes must display low-variation management when needed, and products and services must be reliable as expected. One can interpret quality management in itself as a dilemma; how could quality management be organised for both high- and low-variation management? Management through value principles creates no 'best way' of organising; instead, self-organising becomes increasingly important.

Hence, the empirical investigation is designed based on theories proposed by Fundin et al. (2017). The authors propose a theoretical framework regarding the management of the 'quality dilemma' through a taxonomy with strategic enablers and three different modes. The strategic enablers are posed as paradoxes and are difficult to combine, but instead act as a possible source for emergent quality management. The quality management in Mode I is embedded in exploitation for efficiency only, while quality management in Mode II is embedded in exploration for effectiveness only. The emergent way of managing quality in Mode III—both efficiency (do things right) and effectiveness (do the right things)—are accomplished (Fundin et al. 2017). The enablers are designed as pairs that initially seem difficult to manage within the same organisation, but could be an urgent means for emergent quality management after an in-depth analysis. These pairs are: the nature of short-term versus long-term planning decisions, an orientation towards current versus future customer solutions, global versus local principles-oriented, and agility versus stability regarding process management (Fundin et al. 2017). The following section describes the participatory design of the empirical method of investigation and the data collection.

DATA AND METHODS

Data is collected from a case with seventeen quality managers, representing organisations in ten private companies and one organisation in the public sector. Quality managers, as carriers of quality management knowledge in practice, provide a suitable group for this type of research. Except for quality management knowledge, the role also typically has significant experience and knowledge of the business' total operations. Quality managers also experience challenges in how quality management theories meet demands in quality management practice. The quality managers in

this study are a part of a regional network, with previous experience from quality development work, together with the researcher or the organisation that coordinated the workshop with the researcher. The case is designed as a participatory innovation workshop with two distinct phases. The first phase introduces a dialogue about the dilemmas that managers experience with a particularly conflicting nature; these are not only important to solve, but also seem to be impossible to combine, such as a short-term versus long-term planning nature, being current versus future customer solution-oriented, current versus future product- and service-oriented, or a dilemma that is global versus local principle-oriented. Stimulated by these dilemmas, the second phase introduces a dialogue on strategic pathways that could change a future situation. For example, both short- and long-term solutions are managed in a future scenario, both current and future customers are heard, both current and future products and services are continuously developed, and both global and local principles are adopted.

The workshop is designed with quality managers in four teams, with four to five participants in each team. Results from the workshop dialogues are presented to all teams, and data is collected from team presentations and through observations. Therefore, all respondents have participated in the results from the first workshop phase before entering the second phase. This logically allows for the inspiration to think in new innovative, radical ways in managing quality improvement. The dialogues' results from the second phase were presented to all teams.

EVALUATION OF DATA

Data was collected during the same day, with all participants starting and ending the workshops at the same time. Participatory organising compelled respondents to influence each other, which provided information-sharing and learning opportunities. While questions on dilemmas are not new, how to overcome the dilemmas is a challenging task. Sharing experience and inspiration between managers enabled ideas related with the second research question on how to move positions. The weakness is that it is incredibly difficult to trace the collected data back to an original source (the quality manager and member organisation). However, the research design was not developed to evaluate the potential variations between organisations. Conversely, the research design intend to use the expected variation as a means to enhance learning based on different perspectives. Data is compiled on flip charts, which also function as a means for presenting and sharing workshop results between groups. This introduces new perspectives before the next step in the workshop process. A short introduction presents the latest research on quality management to provide a focus for subsequent discussions. This also enabled a focus on dilemmas combining efficiency and effectiveness. The introduction did not provide any potential solutions to

the dilemma, but instead problematised the quality management concept as such. Hence, the construct validity is developed through six distinct steps:

1. An introduction of the concept of emergent quality management
2. Question preparing the first workshop (WS):
What dilemmas do we observe in our current quality processes in working with both stability and development?
3. The presentation and sharing of results
4. An introduction of potential enablers with different positions towards emergent quality management
5. Questions preparing the second WS:
What is our position?
What can we do to shift our positions?
6. The presentation and sharing of results

Data was transcribed and analysed in a category construction, as suggested by Merriam (2009). The aggregated result is presented as critical themes for achieving emergent quality management. The analysis' results were distributed to participants for validation. The next section presents the results derived from the analysis.

RESULTS

The results are presented in two parts. First, the themes derived from the first workshop about dilemmas are presented. Second, the results from the second workshop on potential pathways to move positions are presented.

DILEMMAS MANAGING QUALITY

The results reveal five distinct themes of importance in managing the quality dilemma: 1) leadership, 2) the quality organisation, 3) prioritisation, 4) knowledge and competence, and 5) the quality profession.

Leadership involves developing skills for emergence. Adaptability is experienced as a challenge, but it also includes the resistance or a willingness to change. This way of leading organisations requires not only the ability to manage pathways that indicate both stability and development, but also the ability to communicate about these pathways.

The quality organisation involves moving from a stable way of organising towards an emergent way of organising. This includes building a culture that fosters both stability and development, and deciding how to integrate new work methods in daily work. A new way of organising quality would better prepare a company to cope with economic conflicts grounded in organisational designs.

Prioritisation examines a shift from a stabilisation-driven prioritisation toward a prioritisation that also prioritises development—an emergent method of prioritisation. Time is a concern that is obviously a result of that development not being perceived as

equally important to stability. This is also experienced as a dilemma to gain resources for innovation, while stability is still the priority of focus. Current management decision models also seem to most highly prioritise stability, at the cost of innovation. Moreover, internal politics and the stock market seem to drive priorities towards stability and low-variation thinking. This is also supported by market needs, which are expressed within organisations as stability-driven customer needs, such as environmental requirements, legal requirements, and performance. From a value-proposition perspective, it seems difficult to prioritise and secure resources from all members of the organisation.

Knowledge and competence are necessary to move from stability towards an emergent way of working. Managers and team leaders need new ways to manage, and this obviously needs organisational support. Some branches seem to be better prepared, but knowledge and competence are isolated, and the transformation of existing knowledge and competence is not obvious.

The last theme is about the future for *the quality profession*, which has an unclear vision for the future. Currently, the quality profession is not always perceived as a potential attractive career path in an organisation; in practice, the quality profession is sometimes not interpreted as an area of competence.

TACTICS TO MOVE POSITIONS

While the dilemmas are categorised into five distinct and critical themes, this second part of the results presents tactics with ideas on how to move from positions towards emergent quality management. These tactics also indicate the first step in a transformation towards emergent quality improvement. The results from the empirical investigation reveal three categories of tactics: perspectives, processes, and decision support.

Perspectives include exploring new ways of thinking and acting. For example, the quality profession should clearly be integrated in business operations. Obviously, one can interpret that the quality profession is a separate function that needs better integration into work processes. However, this theme is also about the development of a life cycle perspective, as a long-term perspective that drives customer loyalty through rapid customer feedback is a critical driver in moving positions towards emergent quality improvement. This could foster customer relationships, and even long-term customer loyalty. Another new perspective is the development of a more encouraging attitude towards work with quality. This perspective seems to be a hygiene factor to make the quality profession into an attractive career path and role in organisations. The last prominent perspective is the formulating of a new reasoning about the costs of poor quality. While the cost of poor quality is nothing new, it seems that the reasoning behind this idea must be better integrated as a perspective in work processes. This implies that quality does not relate to any costs, but in contrast, quality is

free as long as one can interpret the evident or potential losses as a result of poor quality.

Processes, as the second tactic in a strategy towards emergent quality improvement, better integrate customers and employees in their current work methods. This also includes the recruitment processes for those with a holistic view on quality improvement and improvement work. Hence, internal processes for the development of quality improvement through customers and current employees are insufficient, and the need also exists for new external knowledge and competence in a transformation. Another source of data and information to build knowledge in this tactic is deviations, as better processes for managing deviations could also provide knowledge development to avoid the reoccurrence of previous problems. Nonetheless, even if this might be perceived as a paradox, this source of data and information could also imply even further new work processes to develop new, attractive solutions for customers. Therefore, this tactic could be one way to transfer isolated data and information into new knowledge and competencies as a new paradigm for quality improvement.

The third tactic, *decision support*, enables a more holistic decision support system for management teams. Current decision support systems seem to drive decisions towards stability only at the cost of decisions for development. It is noteworthy that this also regards, for example, manufacturing management teams that traditionally focus only on stability and low variation. From an employee perspective, management support is clearly needed to foster a culture that also accomplishes development activities in environments built on low-variation thinking and stability. Management's role certainly cannot be underestimated in this regard. This tactic also enables transformation as an appropriate example of how to combine stability and development. Good examples of such are few, but vital for emergent quality improvement. Table 1 presents an overview of the five themes of dilemmas and the three tactics, as important elements in a strategy for emergent quality improvement.

Critical Themes that Involve Dilemmas	Tactics
Leadership	Achieve new perspectives
The quality organisation	
Prioritisation	Initiate new processes
Knowledge and competence	
The quality profession	Develop holistic decision support

Table 1: Critical themes and tactics in a strategy for emergent quality improvement

Based on the five distinct themes for dilemmas and the three tactics on changing positions in a strategy for

emergent quality improvement, the next section discusses and compares this with theory.

DISCUSSION

The themes of dilemmas and tactics to move positions seem to be important elements in a strategy formulation process for emergent quality improvement. The results indicate a need to move from a focus only on stability. Clearly, one dilemma involves maintaining stability while increasing developmental elements in a quality management context, similar to the quality dilemma as discussed by Cole and Matsumiya (2007). The results also indicate the importance of integrating quality management with business operations. Two critical questions remain: 'What is the quality management profession's future role?', and 'What are the boundaries of the quality management department?' Knowledge and competence in an emergent quality management strategy involve all employees, but this still seems to be insufficient. Transferring knowledge and expertise between branches and recruitment in this transformation seems to be of equal importance.

As per Spencer's (1994) theories of models for organising, the themes of dilemmas and tactics merely support organisations' organic development. Hence, an awareness of the themes and the use of tactics could support a transformation away from mechanistic organising. These ideas also support an integrative way of managing quality; in other words, the quality department has no boundaries. Emergent quality improvement is continuously developed through the users' and customers' needs, which are continuously and rapidly transferred to operations as per the works of Cole (2001), Cole and Scott (2001), Lee and Cole (2003), Fundin and Elg (2006), and Fundin and Elg (2010). An increase in failures, in other words, enhances development through increased variation, learning and innovation.

At an initial glance, combining stability and development could be interpreted as a paradox; however, a closer look into the resulting dilemmas and tactics reveals they are potential means to move positions. Thus, many implications can be made.

First, the quality profession must be redefined as a means to develop current quality management methods. Attractive career pathways should also be developed in this new definition as a means for competence and knowledge development. This result verifies some extant research on quality managers' roles in contemporary organisations, as explored by Elg et al. (2011).

Second, as only stability is prioritised, strategies for emergent quality improvement imply new management decision support systems. As long as stability is granted, stability-related priorities will remain. With tactics that bring in new perspectives on how quality can be differently managed, this implies a better business integration of future quality management.

Finally, managing an emergent quality management strategy through an awareness of the dilemmas and tactics to move positions requires a new type of leadership. As proposed by Backström (2017), this type of leadership is more distributed, and incredibly dependent on the context and current employee situation, opposite to a top-down method of organisational management. This also requires the flow of information to be managed more horizontally than vertically; this is also verified by current empirical investigations in terms of a need for fast feedback processes from users and customers.

In summary, and in line with the work of Backström et al. (2017), theories on ambidexterity might be insufficient, as managing emergent quality improvement requires an adaptability beyond ordinary organisational structures. This also parallels what Adler et al. (2009) expressed as ‘managing through opposing forces’. Future research should focus on how these strategies could be better operationalised in organisations to embrace quality improvement for both stability and development.

Finally, the method of investigation was designed with the purpose to facilitate participatory innovation. The method seems to be fruitful in terms of facilitating an idea generation for new ways to manage quality: emergent quality improvement. The current approach is an inter-organisational research design, as a first step to explore the dilemmas and tactics among quality management experts. Future research would benefit from both inter- and intra-organisational research designs as a means to initiate and integrate new strategies into operations.

Initially, a combination of stability and development could be interpreted as a paradox; however, a closer look into the resulting dilemmas and tactics reveals these as potential means to move positions. Thus, future research should also focus more on how organisations could better operationalise these strategies to embrace quality improvement for both stability and development. This implies that future research would benefit by exploring quality readiness as a first step to foster cultures for emergent quality improvement.

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