



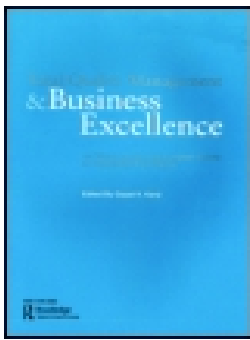
## **The roles of quality departments and their influence on business results**

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## The roles of quality departments and their influence on business results

Ida Gremyr<sup>ab\*</sup>, Mattias Elg<sup>b</sup>, Andreas Hellström<sup>a</sup>, Jason Martin <sup>b</sup> and Lars Witell<sup>c</sup>

<sup>a</sup>Department of Technology Management and Economics, Chalmers University of Technology, Gothenburg, Sweden; <sup>b</sup>Department of Management and Engineering, Linköping University, Linköping, Sweden; <sup>c</sup>Department of Business Administration, Linköping University, Linköping, Sweden

This study explores the various roles of quality departments and investigates whether their roles have different influence on business results. Based on a survey of quality managers in 211 Swedish organisations, the analysis identifies four roles of quality departments: *firefighters*, *auditors*, *process improvers*, and *orchestrators*. The roles vary in their predominant adoption of Quality Management practices ranging from a narrow scope focusing on quality management systems to a broader scope, based on multiple practices. An analysis was performed to identify how each of the identified roles influences business results. The results show that quality departments with a broad focus, combining both explorative and exploitative quality practices, contribute the most to business results.

**Keywords:** quality management; quality department; quality practices; roles; business results

### Introduction

Given the many Quality Management (QM) initiatives advocating certain practices in the face of ever-changing contexts, a critical question to ask is what practices a quality department should pursue and focus on. Previous research on QM largely focuses either on specific initiatives (e.g. Dahlgaard & Dahlgaard-Park, 2006; Poksinska, 2010; Schroeder, Linderman, Liedtke, & Choo, 2008) or individual quality managers (Elg, Gremyr, Hellström, & Witell, 2011; Larson, 1998; Silverman & Propst, 1996), and less on the overall QM organisation and the general execution or outcomes of QM work (Sousa & Voss, 2002), such as the practices within the organisational function responsible for QM.

Contrary to research findings showing that QM is not a critical success factor for business results (e.g. Aquilani, Silvestri, Ruggieri, & Gatti, 2017), QM still very much prospers within organisations (e.g. Elg et al., 2011) and improves firms' performance (O'Neill, Sohal, & Teng, 2016). A problem in previous research is that it does not consider the various forms and applications of QM when evaluating its impact on business results. For instance, does it matter if a company in general, or a QM department in specific, focuses more on exploratory practices such as embracing new approaches, or exploitative practices such as performing regular internal audits? We argue that there is a need to study various ways to organise QM and how its practices affect business results.

We identify various combinations of practices and adopt a role perspective on management. We draw on Mintzberg (1971) in characterising managerial roles as organised sets of

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\*Corresponding author. Email: ida.gremyr@chalmers.se

practices typical for an identifiable position or office. Hellström and Eriksson (2013) adapt this perspective in their study on process orientation in particular professional contexts and use a classification approach describing four typified ‘applications’ of process orientation. By taking a similar perspective in a QM context, we add to our understanding of the roles of QM departments based on their key practices.

The purpose of this paper is to explore the various roles of quality departments and investigate whether these roles have different effects on business results. We present the results of a survey of 211 quality managers in Swedish organisations to address two questions:

- (1) What types of roles can quality departments pursue in terms of practices?
- (2) Do such roles have different effects on business results?

We empirically identify and describe four characteristic roles: *firefighters*, *auditors*, *process improvers*, and *orchestrators*. Further, we show that quality departments with a broad focus combining both quality exploration and exploitation practices contribute most to business results.

## Theoretical background

### *Development of QM*

Aligned with the classic paper by Dean and Bowen (1994, p. 394), QM is defined as ‘philosophy or an approach to management that can be characterised by its principles, practices, and techniques. Its three principles are customer focus, continuous improvement, and teamwork’. Though the conceptual and definitional foundations of QM has matured (Sousa & Voss, 2002), the dynamic nature of competition, changing markets, and new technology continually challenges the way QM is operationalised. This calls for a the development of the way QM is practiced, so that QM can contribute to organisations’ adaptability to a changing market (Fundin, Bergquist, Eriksson, & Gremyr, 2018) and to changing external environments (McAdam, Miller, & McSorley, 2019). From this perspective, QM should be dynamic and constantly developing. Recent research on QM development (van Kemenade, 2014), identifies and describes four emerging directions of QM: control, improvement, commitment, and context. Further, Weckenmann, Akkasoglu, and Werner (2015) describe that QM is moving from being rather rigid, focusing on technical and internal aspects, to being more sustainable, externally oriented, emergent, and change oriented. In line with this, recent studies address QM with key features such as e.g. QM as an enabler of innovation (e.g. Su, Linderman, Schroeder, & Van de Ven, 2014; Zeng, Phan, & Matsui, 2015), QM that includes CSR (Dahlgaard-Park, 2011; Weckenmann et al., 2015), QM as supportive of sustainable development (Siva et al., 2016), and QM as an enabler of strategic efforts (Antony, 2013; Dahlgaard-Park, 2011; Zeng et al., 2015).

### *QM practices*

The concepts of *exploitation* and *exploration* (March, 1991), have been applied by Zhang, Linderman, and Schroeder (2011) to identify two main groups of QM practices: quality exploitation and quality exploration. While the former describes practices to ensure consistent and efficient outcomes via control, the latter describes practices that aim to explore the unknown and develop new solutions via learning (Zhang et al., 2011). Exploration and exploitation are not to be seen mutually exclusive phenomena, rather they can be complementary.

As advocated by e.g. Sousa and Voss (2002), this study focuses on the level of practices and how they are established as predominant QM department practices. Quality practices are defined as various activities with involvement from members of the QM department (Dean & Bowen, 1994). Table 1 outlines the practices examined and the main reference(s) underlying these practices and linking them to the QM area.

***Quality departments***

Many large enterprises organise QM work into a designated department. However, recent studies also describe a rather diverse and broadly defined range of operational responsibilities and functional tasks related to QM (e.g. Elg et al., 2011; van Kemenade, 2014; Antony, 2013), making general guidelines for the organisation of QM departments difficult. As Stewart and Waddell (2003, p. 37) state, ‘Occupying, as they do, positions of leadership, quality managers require generalist managerial capabilities as well as skills appropriate to their specific responsibilities. [...] Thus their role can be regarded as unique unto each’. Another factor affecting the characteristics of QM departments is the changing nature of QM per se.

Saraph, Benson, and Schroeder (1989) conclude that the general organisational context, including management support and past quality performance influence the execution of QM. Hendricks and Singhal (2001) show how general organisational characteristics such as firm size affect the benefits and outcomes of QM. Zhang et al. (2011) further examine the effect of organisational characteristics on outcomes and find that quality exploitation practices produce the best results in stable organisational environments and that quality exploration practices produce the best results in dynamic organisational environments. In addition, others argue that a quality department supporting individuals in other parts of the organisation in their QM work is likely to positively influence business results (e.g. Moorman & Rust, 1999). This is in accordance with Badri, Davis, and Davis (1995), who identify the lack of co-ordination between the quality department and other departments as an area of organisational weakness.

Some studies adopt an individual role perspective on QM, emphasising role fragmentation and dual individual roles in contemporary QM as common themes (e.g. Antony, 2013,

Table 1. Quality management practice studied.

Practices	Main reference(s)
(1) embracing new concepts and approaches within quality management	Schroeder et al. (2005)
(2) applying statistical tools on a large scale	Hackman and Wageman (1995)
(3) educating employees on new concepts and approaches	Douglas and Judge (2001)
(4) establishing forums for cross-functional meetings	Flynn et al. (1994), Hackman and Wageman (1995)
(5) performing regular internal audits of the company’s operations	Benner and Veloso (2008)
(6) creating routines and processes for the company’s operations	Benner and Veloso (2008)
(7) reducing variation in the company’s processes	Zu et al. (2008)
(8) potentiating workflows to reduce costs	Liker (2004)
(9) interacting with suppliers on quality management	Dean and Bowen (1994)
(10) leading the quest to eliminate non-contributing costs	Juran (1989)

2015; Elg et al., 2011; Waddell & Stewart, 2004). Waddell and Mallen (2001) extend the role perspective and present four rather different possibilities for how QM could be carried out: (1) continue to work as-is, focusing practices and tools supportive of QM; (2) outsource the quality department, thereby creating a mobile profession of quality consultants; (3) integrate QM as a part of business management; or (4) QM could simply be a fad that will evolve into something similar but under another name (Waddell & Mallen, 2001).

## **Method**

### ***Sample***

We conducted a web-based survey of 800 Swedish quality managers identified through a database (PAR). Of the 800 e-mails sent, 134 did not reach their intended respondents. After two e-mail reminders, 211 respondents (56 women, and 155 men) completed and returned the questionnaire by the end of 2008, i.e. an effective response rate of 32%. A way to evaluate the competence of the interviewees in responding to similar questionnaires is to assess their work experience in the firm (Kumar, Stern, & Anderson, 1993). The respondents had an average of 14 years of work experience from their current employer, which is regarded sufficient compared to other studies reporting about 10 years of experience (see Gebauer, Edvardsson, Gustafsson, & Witell, 2010). To detect possible problems with non-response errors (time trend), we applied t-tests to early and late respondents (Armstrong & Overton, 1977), which did not indicate any statistically significant differences in the variables in the analysis.

The sample included a range of manufacturing industries (mechanical engineering, mechanical equipment, electronic and optical equipment, and plastics). The service firms in the survey included consulting, real estate, and educational services. The firms had an average of 664 employees. Approximately 20% of responding firms were pure service providers, and the remainder were manufacturing companies. Seventy-two percent of the organisations compete in a business-to-business market, 11% in the consumer market, 15% in both markets, and 2% did not indicate any market type.

### ***Research instrument***

We developed the research instrument to capture respondents' practical experiences of QM. We generated the items from a literature review, discussions with experienced professionals and QM scholars, and reviews of previous survey studies. The instrument was divided into three sections: QM practices, organisational characteristics, and effects on business results. The rationale for this division was an assumption that QM practices affect business results and that organisational characteristics influence a quality department's practices. We took precautions to ensure the validity of the research. To assess face validity and to reduce the possibility of non-random error effects, experienced quality managers reviewed the questionnaire. They ensured that the items would not be misinterpreted, and that the survey measured the desired aspects.

After the review, the instrument was adjusted in terms of reformulating some items for clarity. The final questionnaire consisted of 28 items, ten of which were related to QM practices. We measured and examined QM practices through 10 items: (1) embracing new concepts and approaches within QM (Schroeder, Linderman, & Zhang, 2005), (2) applying statistical tools on a large scale (Hackman & Wageman, 1995), (3) educating employees on new concepts and approaches (Douglas & Judge, 2001), (4) establishing forums for cross-functional meetings (Flynn, Schroeder, & Sakakibara, 1994; Hackman &

Wageman, 1995), (5) performing regular internal audits of the company's operations (Benner & Veloso, 2008), (6) creating routines and processes for the company's operations (Benner & Veloso, 2008), (7) reducing variation in the company's processes (Zu, Fredendall, & Douglas, 2008), (8) potentiating workflows to reduce costs (Liker, 2004), (9) interacting with suppliers on QM (Dean & Bowen, 1994), and (10) leading the quest to eliminate non-contributing costs (Juran, 1989). We formulated the practices into items such as 'We are good at embracing new concepts and approaches within Quality Management' and graded responses on a 10-point scale from 1 (do not agree) to 10 (fully agree).

Business results were measured through five variables: (1) customer satisfaction, (2) customer loyalty, (3) profitability, (4) cost, and (5) contribution to results. We adapted the variables for business results from Moorman and Rust (1999) and formulated them as performance compared to competitors during the last three years on a scale of 1 (much worse) to 7 (much better). We adapted the variables for the quality department's contribution to results from Verhoef and Leeflang (2009) and asked questions such as, 'To what extent did the quality department contribute to the firm's operations in the following year?' For two different years, respondents provided an answer on a scale ranging from 1 (no contribution) to 7 (large contribution). The inclusion of two different points in time (last year and three years ago) aligned to the time perspectives used in the original sources of the variables, and allow for an assessment of the robustness of the measurements over time. Subjective measures of performance are common in research on companies and the business units of large companies (Powell, 1995).

### ***Analysis***

A factor analysis was adopted to identify the various core practices of the quality department, followed by a cluster analysis that showed how these practices created different quality department roles. The final step involved ANOVAs to identify possible differences in quality practices between the various quality department roles. Here, we investigated whether an organisation that gives the quality department a specific role has better business results.

### **Results**

#### ***Quality practices within quality departments***

To identify the various quality department roles, we subjected the ten quality practices to a principal component analysis (PCA) using orthogonal rotation (VARIMAX) (Hair, Anderson, Black, & Tatham, 1998). There was a large test result for sphericity of 538.995, and the associated significance level was below 0.001. The Kaiser–Meyer–Olkin (KMO) measure result was 0.78, which provided further support for the factor analysis. The final factor solution for the quality department roles contained three core practices: development, process, and cost focus practices, which together accounted for 60.6% of the common and unique variance. The Cronbach's alpha values were 0.77, 0.72, and 0.67, respectively, which are acceptable levels for exploratory research (Nunnally & Bernstein, 1984). The overall degree of confidence of the factor solutions was permissible.

We categorise three of the four practices constituting 'development focused practices' as quality exploration practices. All of the process-focused practices are grouped as quality exploitation practices. The cost focus practices consist of two quality exploitation practices and one quality exploration practice (see Table 2). Of the three factors in Table 2, the factor denoted 'development focused practices' explains the largest portion of the variance.

Table 2. Factor loadings for the items describing quality practices.

Work practices of a quality department	Identified components			Core practice label
	1	2	3	
Embracing new concepts and approaches within QM	0.72			Development-focused practices
Applying statistical tools on a large scale	0.70			
Educating employees on new concepts and approaches	0.68			
Establishing forums for cross-functional meetings	0.68			
Performing regular internal audits of business operations			0.86	Process-focused practices
Creating routines and processes for business operations			0.79	
Reducing variation in business processes			0.56	
Potentiating workflows to reduce costs		0.81		Cost focused practices
Interacting with suppliers on QM		0.62		
Leading the quest to eliminate non-contributing costs		0.81		
<b>Eigenvalues</b>	<b>3.51</b>	<b>1.4</b>	<b>1.1</b>	
<b>Variance explained</b>	<b>35.5</b>	<b>14.2</b>	<b>10.9</b>	

We used the results of the factor analysis as the input for cluster analysis. The K-means cluster analysis required specification of the desired number of clusters in advance. We overcame the potential bias in choosing the number of clusters by adopting guiding criteria from Ketchen and Shook (1996). We limited the number of clusters to between  $n/30$  and  $n/60$ , where  $n$  is the sample size (Lehmann, 1979). Thus, we considered only models with three to seven clusters. We investigated the interpretability of the clusters using ANOVAs (Miller & Roth, 1994), which show significant statistical differences between the different types of quality departments ( $p < .01$ ).

The chosen solution had four clusters, containing 28 (13%), 65 (31%), 60 (29%) and 55 (26%) cases. We interpreted and described the nature of the four clusters based on Hair et al. (1998), who state that when using factor scores as a basis for clustering, the researcher must use raw scores for the original variables and compute average profiles. The ANOVA table suggests that all ten quality practices discriminated between the four clusters (see Table 3). Based on the data in Table 3, we term the quality departments in the different clusters 'Firefighters', 'Auditors', 'Process Improvers', and 'Orchestrators', which represent the different quality department roles.

### *The roles of quality departments*

The first role, 'Firefighters', consists of 28 quality departments and appears to struggle to adopt its QM practices. It had relatively low performance in all core quality practices, regardless of its exploitation or exploration orientation, and showed no clear focus within any of the three identified core practices. It worked less than other quality departments did with internal audits and creating routines and processes for business operations, and did not potentiate workflows and cost reductions. Firefighters worked, to some extent, on activities such as establishing forums for cross-functional meetings and embracing new concepts and approaches to QM.

Table 3. ANOVA tests associated with the four clusters of quality department practices.

Quality department work practices	Cluster 1	Cluster 2	Cluster 3	Cluster 4	F	Sig.
	Firefighters <i>n</i> = 28	Auditors <i>n</i> = 65	Process improvers <i>n</i> = 60	Orchestrators <i>n</i> = 55		
Embracing new concepts and approaches within QM	5.75	5.85	6.13	8.13	17.3	<i>p</i> < .001
Applying statistical tools on a large scale	3.75	3.31	3.33	6.51	31.6	<i>p</i> < .001
Educating employees on new concepts and approaches	3.89	4.29	4.28	6.98	28.1	<i>p</i> < .001
Establishing forums for cross-functional meetings	5.32	4.66	5.38	7.65	17.0	<i>p</i> < .001
Performing regular internal audits of business' operations	4.07	9.26	8.43	9.18	51.8	<i>p</i> < .001
Creating routines and processes for business operations	4.86	8.52	8.65	9.22	62.8	<i>p</i> < .001
Reducing variation in business processes	3.61	6.18	6.40	7.98	21.8	<i>p</i> < .001
Potentiating workflows to reduce costs	4.39	5.23	8.52	7.53	40.2	<i>p</i> < .001
Interacting with suppliers on QM	5.07	3.85	6.80	7.69	34.2	<i>p</i> < .001
Leading the quest to eliminate non-contributing costs	3.79	3.37	7.10	6.76	56.3	<i>p</i> < .001

The second role, 'Auditors', has 65 quality departments. Auditors score relatively high on process-focused practices with the highest score of all quality departments in performing internal business operation audits. This group worked extensively with internal audits and also spent considerable time creating routines and processes. Since they performed poorly on other practices, these quality departments worked mostly on QM systems, creating routines, and performing regular internal audits of operations.

The third role, 'Process Improvers', consists of 60 quality departments. Like Auditors, Process Improvers worked with activities related to QM systems. However, their high score in internal auditing and creating routines was also combined with a strong focus on cost reduction by potentiating workflows and eliminating non-value-added activities, which differs from Auditors, which had lower scores on these practices. The quality departments in this group actually had the highest performance of all roles in these two practices. Process improvers also scored relatively high on the quality explorative work of interacting with suppliers on QM, which adds a quality exploration aspect to this role, further differentiating it from Auditors.

The fourth role, 'Orchestrators', had 55 quality departments that generally had a high performance within all three core practices. Together with high scores on quality exploration practices, Orchestrators differ from the other roles by excelling in quality exploration practices by embracing new concepts and approaches within QM, coaching the rest of the organisation by educating employees, establishing forums for cross-functional meetings, and interacting with suppliers on QM.

We investigated whether any organisational characteristics such as size, product/service, or market (business-to-business/customer), could provide an alternative explanation for the different types of quality departments. We found no statistically significant results for the organisational characteristics that could explain our identified quality department roles.

### *The quality department's influence*

We next investigated whether the quality department's role affects its own performance and that of the organisation in general. We performed ANOVAs to determine whether any differences exist between organisations by type of quality department in terms of its contribution to business results (Verhoef & Leeftang, 2009), customer satisfaction, profitability, and cost (Moorman & Rust, 1999). Table 4 shows the different contributions for 2005 and 2007 ( $p < .01$ ), customer satisfaction ( $p < .05$ ), and cost ( $p < .10$ ). We find no difference for customer loyalty and profitability, however, *Post-hoc* analyses revealed that Process Improvers and Orchestrators have a higher contribution to business results than Firefighters and Auditors do in both 2005 and 2007. In addition, Auditors belong to organisations with higher cost structures, and Orchestrators belong to organisations with higher customer satisfaction compared to those with quality departments acting as Firefighters or Process Improvers.

### **Discussion**

The results clearly show that quality departments have a wide range of roles, from those that struggle with QM practices with superficial use of many different tools and techniques (Firefighters) representing neither quality exploration nor quality exploitation practices, to more comprehensive applications of QM (Orchestrators) representing both quality exploration and quality exploitation practices to a large extent. In our study, organisational characteristics (size, service or product offering, or market type) do not explain the varying quality department roles, but other explanations for the different quality department roles may exist.

Table 4. ANOVA results: Differences in business results by quality department role.

Quality department work practices	Cluster 1 Fire fighters n = 28	Cluster 2 Auditors n = 65	Cluster 3 Process Improvers n = 60	Cluster 4 Orchestrators n = 55	F	Sig.
<b>Contribution to results</b>						
Quality departments' contribution to results ...						
last year	4.32 <sup>b</sup>	4.37 <sup>b</sup>	4.97 <sup>a</sup>	5.04 <sup>a</sup>	4.29	$p < .01$
three years ago	4.75 <sup>b</sup>	4.72 <sup>b</sup>	5.42 <sup>a</sup>	5.57 <sup>a</sup>	5.67	$p < .01$
<b>Relative position during the last three years in ...</b>						
Customer satisfaction	4.62 <sup>b</sup>	4.97 <sup>a,b</sup>	4.66 <sup>b</sup>	5.09 <sup>a</sup>	2.92	$p < .05$
Loyalty	4.85	5.10	4.90	5.17	0.94	$p = .42$
Profitability	4.46	4.59	4.85	5.04	1.81	$p = .15$
Cost	4.46 <sup>b</sup>	3.97 <sup>a</sup>	4.37 <sup>b</sup>	4.39 <sup>b</sup>	2.62	$p < .10$

Note: Values that share a superscript letter are not significantly different.

Pokinska (2010) finds that the underlying approaches to quality improvement are often standards such as ISO 9000 and ISO 14000; our study supports this finding in that some main practices are linked to internal audits and creating routines and processes, aspects that are central in certified QM systems such as ISO 9000. This type of internal focus and auditing, however, is not exclusive to the role of Auditors. Process Improvers and Orchestrators also show high levels of auditing, but combine it with a wide range of quality practices consisting of both quality exploitation and exploration. This dual role combining quality exploitation and exploration practices further reinforces Zhang et al.'s (2011) findings, and provides insight into the diversity and complexity of practices in contemporary QM departments. QM departments predominantly adopting roles of Process Improvers and Orchestrators seem to support QM practices that combine quality exploitation and exploration in creating organisational integration (e.g. Fundin et al., 2018; Antony, 2013; Dahlgaard-Park, 2011; Elg et al., 2011), enabling innovation (e.g. Su et al., 2014; Zeng et al., 2015), enabling learning (Dahlgaard-Park, 2011; Su et al., 2014), including CSR in QM (Dahlgaard-Park, 2011; Weckenmann et al., 2015), and enabling strategic efforts (Antony, 2013; Dahlgaard-Park, 2011; Elg et al., 2011; Zeng et al., 2015). Our results indicate that various directions of QM, in terms of main practices, are not sequentially replaced; rather, they tend to coexist to certain degrees, making the nature and content of QM quite diverse and complex.

Regarding costs and customer satisfaction, one role tends to have better or worse performance than the other alternatives. As to costs, Auditors perform worse than the other roles. It seems that a focus on internal audits and the establishment of routines and processes might drive costs without increasing sales. Orchestrators score higher than both Firefighters and Process Improvers for customer satisfaction. This suggests that roles with a higher degree of quality exploration better serve customer satisfaction and that different roles in QM departments exist due to diverse purposes, and there is no definite answer for which role a quality department should adopt. It depends on the particular results the organisation aims to achieve. A possible explanation for the better or worse performance could be weak alignment between the basic principles of QM as defined by Dean and Bowen (1994) (i.e. customer focus, continuous improvement, and teamwork) and the desired results, which underlines the importance of having a properly analysed purpose, design, and business alignment for QM.

It is also important to discuss the link between quality departments' different roles and two improvement concepts closely connected to QM, namely Six Sigma (Zu et al., 2008) and Lean Production (Dahlgaard & Dahlgaard-Park, 2006). Process Improvers had several practices arguably central to a Lean Production approach (Pettersen, 2009). This role performed well in interaction with suppliers and in eliminating non-contributing costs. One big difference from the Orchestrators is that Process Improvers have low use of statistical tools, educating employees, and cross-functional coordination. These are important aspects of a Six Sigma strategy (Schroeder et al., 2008; Zu et al., 2008), which supports the combination of quality exploitation and quality exploration practices. It is possible that a broader role, that includes both quality and quality exploration practices (as for Orchestrators and Process Improvers), enables a suitable balance between QM practices aimed at control and continuity and those aimed at learning and development, a balance required to achieve results with both Six Sigma and Lean Production.

Our observations of the practices in QM departments indicate that new practices come, but old ones rarely seem to entirely go. The role of duality and diversity in QM practices between all organisations indicate the existence of different ways of working in terms of focused practices. Though this study could not show that organisational characteristics

explain the different quality department roles, there might be reasons to further study such relations, not least due to the prevalence of studies supporting context dependency for QM practices (e.g. Benson, Saraph, & Schroeder, 1991; Reed, Lemak, & Montgomery, 1996; Sitkin, Sutcliffe, & Schroeder, 1994; Sousa & Voss, 2002).

Since the organisational characteristics (size, service or product offering, or market type) did not explain the varying quality department roles in this study, further studies to identify other potentially explanatory characteristics would be of interest. Another area of interest for future research would be to elaborate on the identified roles in terms of their work in relation to concepts such as Lean Production or Six Sigma, and how other departments view and value the quality department. As the study is limited to a Swedish context, it would also be of interest to perform a similar study with a sample representing more than one national context. A final suggestion for future research would be to adopt a competence theory to analyse and describe the particular competencies needed to organise QM departments that are truly fit for purpose.

## **Conclusions**

This empirical investigation contributes to the sparse research on the roles of quality departments in contemporary organisations, which can vary from a narrow scope focusing on auditing and routines to one that incorporates a wide variety of practices. We identified four quality department roles: Firefighters, Auditors, Process Improvers, and Orchestrators. One way for a quality department to increase their influence on business results would be to adopt a wider range of quality practices and taking responsibility for more of the practices and concepts applied in an organisation. The results show that no role takes a strict quality exploitation or exploration orientation, but that they adopt more or less of the two orientations.

Schroeder et al. (2005, p. 474) review several studies on QM and its effect on performance and find a range of contradictory results. They conclude that ‘various QM practices affect performance differently’. Our results support the statement that organisations that conduct exploration practices tend to perform better. Orchestrators outperform all other roles and have the highest impact on customer satisfaction, one of the basic QM principles. Both Orchestrators and Process Improvers adopt QM exploration practices to a higher degree in organisations that view quality work as contributing the most to results. Hence, quality exploration practices are instrumental. Auditors and Firefighters predominantly scored lower and almost equally on results. It seems to prove the adage that one should do the right things rather than merely do things right.

Process Improvers and Orchestrators share views covering a much wider array of issues than the other roles; however, they still include auditing and creating routines (predominantly a quality exploitation practice). These roles also mastered issues such as embracing new concepts and approaches within QM (predominantly a quality exploration practice). This suggests that Orchestrators, with their broad view of QM work, play an important role in the business and its operations, thereby implying that quality departments should adopt quality exploration practices to enhance their effects on business results. This is also the case for Process Improvers. We argue that the future may still lie with QM practices organised in quality departments after all, provided they do the right things.

## **Disclosure statement**

No potential conflict of interest was reported by the authors.

## ORCID

Jason Martin  <http://orcid.org/0000-0002-5702-4885>

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