From perception to practice: quality management in multinational company from a Swedish perspective

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Abstract

Purpose – This study explores the interplay between levels of cultures and aspects of quality management (QM), aiming to develop a conceptual framework and introduce propositions regarding managing quality in a multinational company (MNC).

Design/methodology/approach – A conceptual framework delineating the relationship between the levels of cultures in MNCs and various aspects of QM is proposed. Thereafter, based on a theory elaboration approach, a case study in Swedish facilities of MNCs is used to further illustrate the link between constructs of the framework, contributing to the identification of challenges and possibilities in managing quality in MNCs.

Findings – The research identifies key propositions regarding the intricate relationship between levels of cultures and their influences on aspects of QM in MNC. Proposition 1 emphasises the impact of national cultural differences on perceptions of QM principles. Proposition 2 reveals that diverse QM perceptions affect global consistency in QM practices. However, proposition 3 suggests that emphasising technical aspects in common QM practices fosters shared perceptions and a cohesive organisational culture, leading to Proposition 4, that a QM-centric organisational culture mediates national cultural differences, facilitating the management of quality globally.

Research limitations/implications – This research relies on a case study from a Swedish perspective. There is a need for quantitative or mixed method approaches to validate the proposed framework.

Practical implications – This research yields practical insights into cross-cultural QM challenges and possibilities in MNCs.

Originality/value – By integrating national and organisational culture into the QM framework, this research offers a conceptual model and propositions as a foundation for future cross-cultural QM research in MNCs.

Keywords Cross-cultural, Quality management practices, Sweden, National culture, Organisational culture

Paper type Research paper

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Introduction

In recent years, the cross-cultural quality management (QM) research domain has gained prominence. Existing literature has established the relationship between QM and organisational culture, whereas both have been considered as practices and strategies for harvesting competitive advantages (Schein, 2010; Valmohammadi and Roshanzamir, 2015; Ababneh, 2021). Many studies have indicated that the way in which an organisation perceives QM principles, reflects the perception and performs activities in QM practices depends considerably on organisational culture (Hellsten and Klefsjö, 2000; Prajogo and Sohal, 2006; Zu *et al.*, 2010; Green, 2012; Gimenez-Espin *et al.*, 2013; Gambi *et al.*, 2015; Valmohammadi and Roshanzamir, 2015). At the national level, several studies present different QM principles that tend to be influenced by national culture (Lagrosen, 2003; Flynn and Saladin, 2006). Also, Vecchi and Brennan (2009) suggested that national culture is a valid construct that influences the management of quality, as there are possibly distinctive patterns in the adoption of QM practices across different countries. Mathews *et al.* (2001) studied QM practices in the UK, Finland and Portugal and found some differences that could be related to national culture in the way QM was adopted in each country. In a recent study, Prajogo *et al.* (2022) investigate the relationship between two dimensions of national culture (individualism and indulgence) and the effectiveness of QM practices. Nevertheless, Sousa-Poza *et al.* (2001) suggested that the attributes of organisational culture have diverse effects on the adoption of QM principles, and these effects differ across various national cultures. Precisely, there is the dynamic interplay between adoption of QM principles, organisational culture and national culture.

In the case of a multinational company (MNC) consisting of a group of geographically dispersed facilities (Ghoshal and Bartlett, 1990), the two cultures are intertwined. Subsidiaries are a part of a company's network, that shares the company's organisational culture, but they are as well embedded in local contexts shaped by their local national cultures (Drogendijk *et al.*, 2010; Schotter and Beamish, 2011). Since culture affects how people think, feel and act, employees with different national cultural backgrounds tend to have different expectations and understandings towards the same values (Hofstede *et al.*, 2010). As for QM, there is a tendency that employees in subsidiaries situated in different countries might understand the concept of quality and perceive QM principles differently, resulted in different QM practices that may cause issues in quality – e.g. higher defect rates, uneven product quality and inconsistent processes between the subsidiaries creating challenges for quality managers (Vecchi and Brennan, 2009; Barouch and Kleinhans, 2015). Although MNCs strive to formally managing quality globally, the existing research reveals that cultures and societies perceive and react differently of quality and QM (d'Iribarne, 2012; Bausch *et al.*, 2020), since the cultural traits of individuals and societal norms influence the underlying principles of "good" quality and QM practices (Vecchi and Brennan, 2009).

Therefore, there is a need for research to support MNCs in developing QM strategies and practices that can be implemented and adopted throughout their global organisations, despite the different national cultural backgrounds of their employees. This paper aims to develop a conceptual framework in which aspects of QM and levels of culture in an MNC are outlined, leading to suggestions of challenges and possibilities in managing quality in a cross-cultural setting. Through a theory elaboration approach, a conceptual framework was built based on theoretical backgrounds of the levels of culture model and aspects of QM. To elaborate and contextualise the existing theories, a case study was adopted to exemplify the conceptual framework and introduce propositions.

The remainder of this article outlines methodology and theoretical background in which culture and QM are explained and integrated into a conceptual framework. Thereafter, the framework is elaborated and further discussed using data from the case study to support the

introduction of propositions. Finally, theoretical and practical implications are discussed, and suggestions for future research are outlined.

Methodology

This research is based on *a theory elaboration* approach (Ketokivi and Choi, 2014), which is applicable when the research objective is not primarily seeking to test a general theory nor generate a new one, but rather *to elaborate and contextualise* existing ones. This theory elaboration approach is one of the three modes of conducting case research that is appropriate when introducing new concepts, conducting an investigation of the relationships among constructs of the concepts or examining boundary conditions (Whetten, 1989; Ketokivi and Choi, 2014). Therefore, to reconcile it with contextual idiosyncrasies, iterations between general theory and the empirical data are adopted to clarify, or even modify, a general grounded theory (Ketokivi and Choi, 2014).

This paper seeks to amend an existing framework of QM by using the levels of culture model to examine and clarify challenges and possibilities of managing quality in MNCs. Therefore, in this research, the general theory is adapted and presented as a conceptual framework contributing to *revising and introducing alternative frames of reference* to an extant conceptualisation, as well as *delineating the relationship* between aspects of QM and levels of culture (MacInnis, 2011; Jaakkola, 2020). The case study presented in this research offers an opportunity to further elaborate the conceptual framework and clarify challenges and possibilities of QM in MNCs.

The conceptual framework development

Although cross-cultural QM has been established during the recent decades and the relationship between QM and culture has been well-known, previous research usually takes only one level of culture into consideration – either national (Mathews *et al.*, 2001; Lagrosen, 2003; Flynn and Saladin, 2006; Bouranta *et al.*, 2019; Prajogo *et al.*, 2022) or organisational culture (Sousa-Poza *et al.*, 2001; Prajogo and McDermott, 2005; Ababneh, 2021), and the combination of QM research and different levels of culture in the context of MNCs is less explored. Therefore, following the aim of this research, which is to enhance knowledge based on a combination of different research strands, an integrative literature review approach is adopted (Whittemore and Knafl, 2005; Snyder, 2019).

The first strand of research takes a starting point from QM as a sociotechnical system, leading to the identification of different aspects of QM by using a snowball approach to identify relevant literature (Wohlin *et al.*, 2022). In contrast to a systematic literature review, the aim of an integrative literature review is not to cover the whole existing research, but rather to synthesise literature to lay the foundation for a new theoretical or conceptual framework (Snyder, 2019). Also, since this research focuses on the QM discipline and seeks to use cultural research to further explain the phenomenon in the cross-cultural QM research field. The focus is on the two cultures – national and organisational. A variety of search strings in Scopus databases have been constructed based on keywords "cross-cultural" and "quality management" and other relevant terms – i.e. "national culture" and "organisational culture". The second strand of cultural research has been focused on the common theories or models in used in organisational and management research field, which was confirmed through the literature review, leading to the choice of cultural models used in this study – i.e. Hofstede *et al.* (2010), Schein (2010), Trompenaars and Hampden-Turner (2012) and Schein (2020).

Due to the general purpose of data analysis in an integrative review which is to examine the literature and the relationship of an issue (Snyder, 2019), the synthetisation of literature has been taken a narrative approach by trying to map, conceptualise and build a framework in a combination of the two research strands using the principles of open, axial and selective coding

(Wolfswinkel *et al.*, 2013). Within the strand of cultural research, the cultural models are integrated and put into the settings of MNCs. Within the strand of cross-cultural QM research, the coding revealed several aspects of QM that are related to different levels in an organisation. Finally, the coding from two research strands were synthesised to illustrate the relationship between various aspects of QM at different levels of culture within the setting of an MNC. The developed conceptual framework aims to lay out the key factors or constructs and presumes relationships among them (Miles and Huberman, 1994), offering an interpretative approach to social reality but not enabling a predictive outcome (Jabareen, 2009).

The case study

In line with the aim of the research, which is not to produce theories but to contribute to the extension of the theories based on the earlier research, a case study approach was adopted (Ketokivi and Choi, 2014). To further elaborate the conceptual model, empirical data from a case study of MNCs in the Swedish manufacturing sector was applied. As per a theory elaboration approach, the main objective of the case study has not been to test or validate the conceptual framework proposed but to enable a more detailed explanation and illustrate the link between the constructs of the model being the aspects of QM and the levels of culture, and how they contribute to "challenges" and "possibilities" in managing quality in MNCs.

The case companies were carefully selected based on the following criteria:

- MNCs with manufacturing subsidiaries in several countries;
- MNCs with a global quality strategy and high focus on the quality of products and/or services; and
- MNCs with considerably long experiences on the market (at least 30 years).

The case selection strategy was a mix of convenience, snowball, and confirming and disconfirming cases (Miles and Huberman, 1994). This resulted in seven case companies that varied in terms of products, size and time on the market, as shown in Table 1, representing a diverse group of samples yet a homogeneous group of MNCs with facilities in Sweden. The Swedish manufacturing sector is well-known for high-quality products, global competitiveness,

Table 1. Descriptions of the case MNCs

MNCs	Product	Size	No. of countries with manufacturing subsidiaries	Approx. years on the market	No. of interviews
Alpha	Cooling solutions to the commercial vehicle industry	Small	5	120	1
Beta	Farm machinery	Small	2	60	1
Gamma	Fabrics for hygiene, medical and industrial sector	Medium	10	50	1
Delta	Contract manufacturer for the electronics industry	Medium	7	40	1
Mu	Highly complex products in the defence and security sector	Large	5	80	1
Phi	Outdoor power products and innovative solutions	Large	5	Over 300	1
Omega	Transport solutions	Very large	13	130	4

Source: Author's own creation

innovation and research excellence and sustainable focus (e.g. Jonsson *et al.*, 2015; Södergren, 2017; Production2030, 2018). Also, the manufacturing sector is an important pillar in the Swedish economy, represented by the highest global manufacturing companies per capita in the world (Production2030, 2018). Therefore, the case companies represent a valuable, information-rich case with respect to managing quality in the cross-cultural setting of MNCs. Besides, this study is taken from a Swedish perspective by collecting data from Swedish interviewees to ensure cultural homogeneity of the samples and their reflection towards cross-cultural QM in MNCs, strengthening the validity of the results.

The data were collected through semi-structured interviews with quality managers in MNCs' facilities situated in Sweden and related document study – e.g. company annual reports, quality strategy documents and meeting presentations. Focusing on interviewees' experiences of working and managing quality in MNCs, the interview questions were designed based on various QM principles and examined QM values, techniques and tools within each dimension. Then, they were validated via expert review by consulting two experienced researchers in the QM research field. This expert review was beneficial in assessing the fitness and comprehensiveness of the interview questions related to the aims of this research and allowed the discussion regarding the relevance of the questions (Barriball and While, 1994; Kallio *et al.*, 2016), thus enhancing content and construct validity of this research. The interview guide is presented in the Appendix.

The interview was conducted with one quality manager per MNC, except for *Omega*, which was a very large MNC. Due to the size of the company, the interviews were conducted with one quality manager per department, resulting in four interviews at *Omega*. Each of these departments has different subsidiaries situated in different countries and can be seen as their own organisational unit, which is comparable to the other case MNCs due to the size and organisational complexity. All interviews were approximately 1 hour long, recorded and later transcribed. The data from the related document study – e.g. organisation structure, global quality strategies, process maps, were used both to better understand the setting of the case MNCs and as a compliment to confirm the interview results. The collected data were then analysed using qualitative content analysis (Corbin and Strauss, 2014) in NVivo. The first step was to identify differences and similarities in perceptions of quality and QM principles, as well as how employees in different subsidiaries of the same MNC work with quality and use QM in practices. Then, the challenges and possibilities of cross-cultural QM were determined. The findings from the case study have been coded in a pattern matching manner against the theoretically derived conceptual framework (Bouncken *et al.*, 2021). In a subsequent step, differences and similarities of QM practices in connection to technical and social aspects were summarised as a means to further elaborate the link between different aspects of QM corresponding to levels of culture in the framework. Following the case-oriented analysis strategy, the studied MNCs were grouped into clusters (Miles and Huberman, 1994) based on their international experience (IE), enabling further suggestions on challenges and possibilities of globally managing quality in relation to aspects of QM and levels of culture in the MNCs.

Theoretical background and conceptual framework

The conceptual framework developed in this research is in the setting of an MNC and based on an integration of the levels of culture and various aspects of QM at strategic and operational levels.

Levels of culture

Culture is defined as "the collective programming of the mind which distinguishes the member of one group or category of people from another" (Hofstede *et al.*, 2010). It influences

individual behaviour and the interpretation of other people's behaviour (Spencer-Oatey, 2004). Schein (2010) defines three levels of culture: underlying assumptions, espoused values and artefacts. The underlying assumptions are common beliefs and values that are essentially the same within a social unit, guiding behaviour and how the group members perceive things. They are imprinted deep in people's minds and are non-negotiable within the group. Espoused values can be seen as a result of group learning. They are shared beliefs and values that have proved to be accepted by the group members – e.g. strategies, goals or philosophies (Schein, 2010). For example, if a manager successfully convinces a group to act according to a strategy, and it works well in reality, so the group has a shared perception of this succeeded strategy, then this strategy starts transforming into the group's espoused value. Finally, the artefacts are at the surface level and can be seen, heard and felt (Schein, 2010). They are, for example, language, organisational structure, processes, technology, myths and stories.

According to Schein (2010), these three levels of culture are mutually dependent. The underlying assumption is that the essence of a group's culture influences espoused values and reflects into the observable artifact on the surface. On the contrary, artefacts can gradually affect the espoused values, which might finally transform into the underlying assumption in some cases. However, this transformation is not common and usually takes a long time.

Trompenaars and Hampden-Turner (2012) presented a similar model that delineates culture into three distinct layers: the core, middle and outer layers. The outer layer encompasses the visible aspects of culture, including norms, attitudes, and beliefs manifested in systems, institutions and behavioural patterns which are observable. The middle layer reflects the accepted norms and values within a group, with norms serving as expressions of the group's values in stable cultures. These norms and values are influenced by the core layer, which is deeply ingrained and learned early in life. The core layer comprises basic assumptions and values that are challenging to change, having evolved in distinct ways for different groups based on their geographical origins.

In both models of culture, the foundational layer of culture is deeply ingrained within individuals' cognition and proves resistant to substantial change. This core layer, shaped predominantly by early-life experiences, particularly within the family context (Hofstede *et al.*, 2010; Trompenaars and Hampden-Turner, 2012). Notably, national culture assumes a pivotal role in moulding these fundamental assumptions, reflecting the collective beliefs of individuals within a specific nation (Hofstede *et al.*, 2010; Trompenaars and Hampden-Turner, 2012). On the other hand, additional cultural dimensions, such as organisational culture, come into play at a later developmental stage, predominantly surfacing at the level of declared values and observable artefacts (Gupta and Gupta, 2019). As for an organisation culture, a cultural programme, is crafted and sustained within an organisation, gaining strength through the promotion of shared values and norms (Alvesson, 2012). Organisational culture typically emanates from three primary sources:

(1) the beliefs, values and assumptions of the organisation's founders;

(2) the collective learning experiences of its members; and

(3) the infusion of new beliefs, values and assumptions brought in by fresh group members and leaders (Schein, 2010).

In the case of MNCs, organisational culture can be referred to as the shared culture within the corporation, which is usually predominately shaped by the headquarters together with visions, strategies and objectives of the whole global corporate (Ghoshal and Bartlett, 1990;

Antunes *et al.*, 2019). However, at subsidiary levels, employees and their behaviours are deeply rooted in the local context, which may diverge from the culture established at the headquarters. Additionally, subsidiaries are integral parts of their company networks, differentiating them from locally embedded counterparts that are influenced by the national cultures (Drogendijk *et al.*, 2010).

Nevertheless, such diverse cultural contexts may give rise to differences among individuals or groups who do not share the same social norms (van Maanen and Laurent, 1993). Therefore, together with the levels of culture model based on Schein (2010), Schein (2020) and Trompenaars and Hampden-Turner (2012), national and organisational cultures intertwined in an MNC can be seen in different levels as shown in Figure 1. Artifacts are connected to observable objects – e.g. processes, documents, reports and working manuals.

Quality management

QM is known as a strategy to establish, improve and sustain the quality of products and services (e.g. Flynn *et al.*, 1995; Weckenmann *et al.*, 2015). It has become a key strategy commonly embraced by companies in both the manufacturing and service sectors to improve efficiency (e.g. Chiarini, 2012; Al Khamisi *et al.*, 2019; Bishop and Reeves, 2022). At the strategic level, QM is based on various principles that are the basis for QM practices at the operational level (Dean and Bowen, 1994; Hellsten and Klefsjö, 2000; Sousa and Voss, 2002; Kim *et al.*, 2012).

QM as a strategy consists of technical and social aspects (Sousa and Voss, 2002; Vecchi *et al.*, 2011; Ababneh, 2021). The technical aspects consist of techniques and tools focusing directly on product and process quality – e.g. process management tools, measurement method and statistical process control (Flynn *et al.*, 1995; Fotopoulos and Psomas, 2009; Vecchi *et al.*, 2011). Techniques and tools are distinguished in that tools are simple stand-alone devices, while techniques are collections of tools used in an integrated approach for

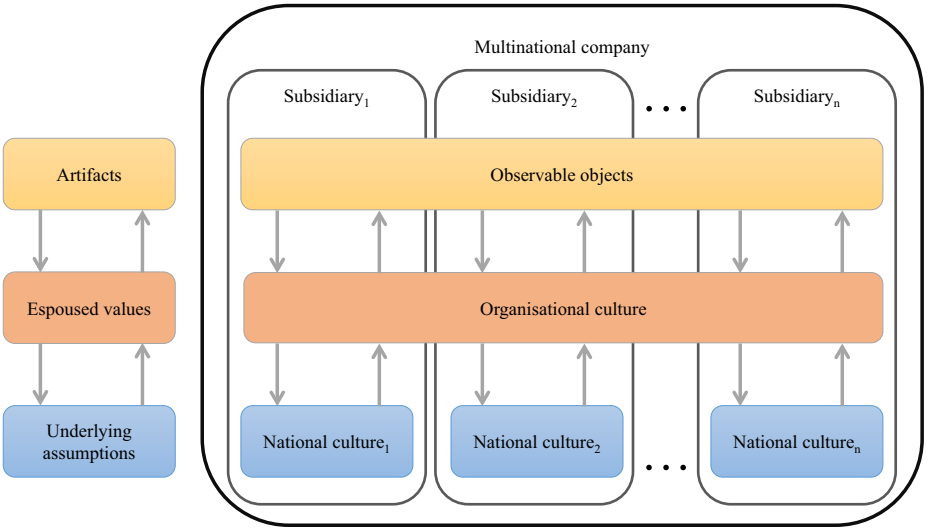

Figure 1.
Levels of culture in an MNC

Sources: Adapted from schein (2010), schein (2020) and trompenaars and hampden-turner (2012)

specific purposes – e.g. problem-solving and product development (Dale and McQuater, 1998; Hellsten and Klefsjö, 2000; Bamford and Greatbanks, 2005). On the other hand, the social aspects are related to people and organisation as a set of values creating an environment to support effective use of the technical ones (Flynn *et al.*, 1995; Fotopoulos and Psomas, 2009; Vecchi *et al.*, 2011). These social and technical aspects of QM cannot be performed separately as they are interrelated and mutually support each other, and they are intertwined within each of the QM principles (Anwar and Jabnoun, 2006). However, the general issues of QM implementation in organisations are those related to the social aspects (Fotopoulos and Psomas, 2009).

At operational levels, QM practices involve various activities with the involvement of employees that are expected to lead, directly or indirectly, to improved quality performance and competitive advantage (Flynn *et al.*, 1995; Kim *et al.*, 2012; Gremyr *et al.*, 2021). In this study, QM practices are observable facets (Dean and Bowen, 1994; Sousa and Voss, 2002; Prajogo and McDermott, 2005; Zu, 2009) that employees undertake to meet the objectives of the organisation. Previous studies show that the foundation of common QM practices based on a shared understanding of QM principles will facilitate successful QM implementation in an organisation (Vecchi *et al.*, 2011). Figure 2 presents the conceptual model of aspects of QM principles and QM practices in an organisation according to strategic and operational levels.

Based on a literature review, these are the QM principles adopted in this research:

- *Management commitment and leadership* aim for managers to have a value of supporting QM. They should emphasise on managing quality to set up strategies and to promote them throughout the whole organisation (Flynn *et al.*, 1995; Lagrosen, 2002). Management is expected to provide support and resources for activities – e.g. employee training and continuous improvement (Flynn *et al.*, 1995).

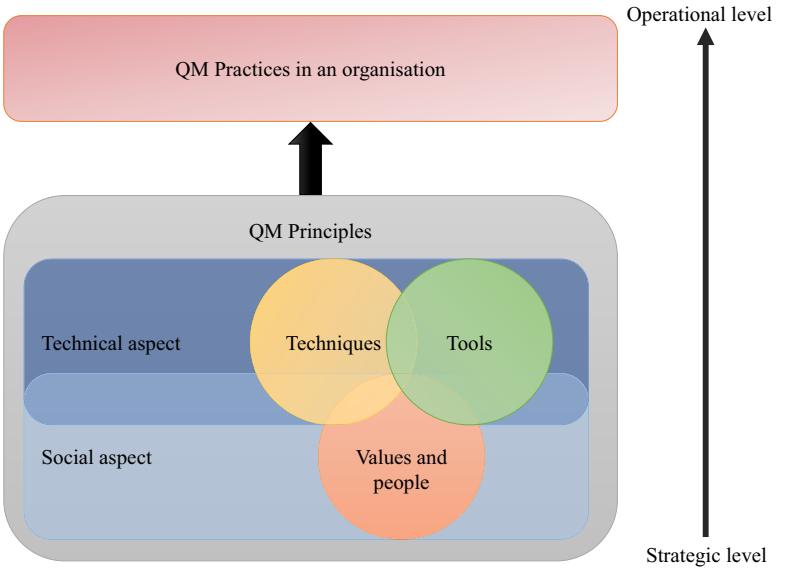

Figure 2.
Aspects of QM principles and QM practices in relation to the strategic and operational level of an organisation

Source: Author's own creation

Leadership, as an important element for QM, is essential for personnel matters to encourage employees in quality and improvement work (Prestiadi *et al.*, 2019; Khalfan *et al.*, 2022).

- *Customer focus* as a value implies that organisations always try to fulfil or exceed customer needs (Dean and Bowen, 1994; Lagrosen, 2002). Customers can be viewed as two different kinds: external and internal. The external customer usually means the end customer outside the organisational boundary, while the internal customer refers to the next process step down the line of work (Bergman and Klefsjö, 2010). Through successively development of operations, an organisational can achieve excellence over the competitors through customer focus, leading to customer satisfaction (Ooi *et al.*, 2011; Sheikholeslam and Emamian, 2016; Lepistö *et al.*, 2022).
- *Employee engagement and empowerment* promote the idea of giving quality responsibility to the employees, not just to the quality department (Lagrosen, 2002). Employees can design and make decisions about their own tasks (Dean and Bowen, 1994) and supervisors function more as coaches than controllers (Anderson *et al.*, 1994). Employee engagement with quality initiatives positively influence QM implementation in an organisation, leading to successful in managing quality (Ababneh, 2021; Lepistö *et al.*, 2022).
- *Continuous improvement* is a value, meaning everybody improves everywhere and every day (Imai, 2012). The organisation should always strive to improve products, services or processes for better performance (Bessant *et al.*, 1994; Lagrosen, 2002). It needs to be managed strategically as a continuous process with a clear framework and supportive infrastructure – e.g. flatter organisational structure, employee involvement and empowerment and a scientific approach to decision-making (Bessant *et al.*, 1994). Continuous improvement must be emphasised to efficiently manage quality (McLean *et al.*, 2017; Jimoh *et al.*, 2019).
- *Process management* as a value refers to how the company organizes and develops its structure based on a chain of activities creating values for customers (Lagrosen, 2002; Bergman and Klefsjö, 2010). Improving one process step would impact the other, leading to higher performance of the whole organisation (Dean and Bowen, 1994). Process management has been extended beyond the primary production process to include support and management processes, as well as taken a comprehensive approach integrating technical and social aspects. All employees should actively participate in the continuous analysis and improvement of processes within the organisation (Cronemyr and Danielsson, 2013; Harmon, 2019).
- *Decisions based on fact* indicate that decisions should be made based on systematically gathered and analysed information (Dean and Bowen, 1994). Several QM methods and tools can be used to support the data collection and analysis, e.g. checklists and statistical process control (Bergman and Klefsjö, 2010).

Conceptual framework

Based on the levels of culture in an MNC (Figure 1) and the aspects of QM at strategic and operational levels (Figure 2), the conceptual framework of this paper is presented in Figure 3. At the deepest underlying assumption level of culture lies the national culture of subsidiaries, and in this framework, the differences stemming from national cultures of subsidiaries are assumed to persist in an MNC. Previous research on cross-cultural QM at the national level indicating that national culture is a valid construct in adoption and implementation of QM

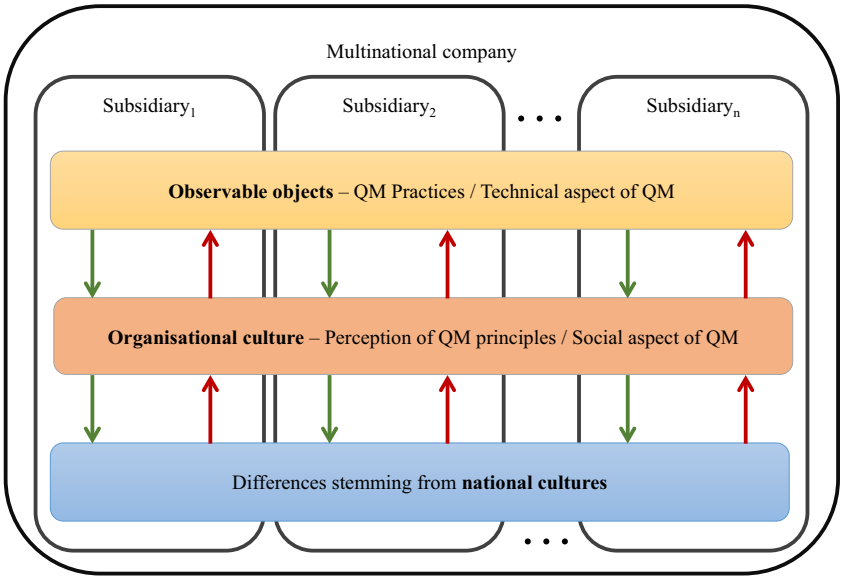

Figure 3.
Conceptual framework of QM and different levels of culture in MNCs

Source: Author's own creation

principles (Vecchi and Brennan, 2009), effectiveness of QM practices (Mathews *et al.*, 2001; Prajogo *et al.*, 2022) and perception of quality and problems concerning managing quality (Lagrosen, 2002). Strongly supported by the levels of culture models in MNCs (Drogendijk *et al.*, 2010; Schein, 2010; Schein, 2020), national culture of subsidiaries at the underlying assumptions level influences how employees of the MNCs perceived organisational culture at the espoused values level. Since employees' perception of QM principles and the social aspects of QM are highly related to people and organisational value, they are placed at the espouse level corresponding to organisational culture represented the shared culture of the MNC as one organisation. This is also supported by previous QM research underlining the interplay between social aspects of QM and organisational culture (e.g. Sousa and Voss, 2002; Anwar and Jabnoun, 2006; Vecchi *et al.*, 2011; Ababneh, 2021). At the highest level of artifact lie the observable objects, which in this context are related to the operational QM practices and the technical aspect of QM through the use of QM technique and tools.

Due to differences stemming from the national culture, employees at different countries might perceive and understand QM principles differently. Also, there might be a discrepancy in adopting the social aspect of QM highly associated with people and organisational value among subsidiaries embedded in different national culture. Accordingly, the differences at the organisational culture level would be reflected in the observable objects of QM practices, the adoption of technical aspect. The red pillars showing influences of differences stemming from national culture on organisational culture level and observable objects represent *challenges* an MNC faces in managing quality across the global organisation.

Nevertheless, as artefacts can slowly influence espoused values that might finally transform into underlying assumptions (Schein, 2010), there is a chance that common QM practices based on expertise in technical aspect of QM at subsidiaries might induce a shared perception of QM principles, foster the social aspect of QM and create a unified

organisational culture focusing on quality in the whole MNC. Finally, this organisational culture might help overcome the differences stemming from national culture of subsidiaries. These *possibilities* are presented in the green pillar in Figure 3.

Quality management in multinational company – findings from a case study

Based on the interviews, all MNCs claimed to have a strong focus on quality and substantial experiences with QM. They have established the foundation for managing quality in their global companies, but, they have different degrees of IE, as shown in their global quality strategies, both reflected in the interviews and companies' documents. As a result, the studied MNCs were categorised into four groups, as shown in Table 2.

In Group 1, *Alpha* and *Beta* are the MNCs that do not have extensive experiences in working globally. Both MNCs have no official standardised global quality strategy. While *Alpha* shows some common improvement systems and understanding about customer focus, *Beta* operates more independently relying on internal tacit knowledge of each subsidiary. They have not yet established a close collaboration between subsidiaries and their global organisational cultures can be considered rather weak. In Group 2, *Gamma* and *Delta* are the MNCs with moderate degrees of IE. They have general global quality strategies which might be different in details at *Gamma*, while *Delta* uses a common management system and the same enterprise resource planning platform across subsidiaries. In Group 3, *Mu* and *Phi* have more experience in internationalisation, and their

Group	Degrees of IE	Company	Global quality strategies
1	Low	Alpha	• No standardised global quality strategy • Common understanding about importance of customer satisfaction and requirement • Have some common systems for improvement work between subsidiaries
		Beta	• No standardised global quality strategy • Subsidiaries are operated rather separately • Rely much on tacit knowledge within subsidiaries • Recently initiated a global approach on quality
2	Moderate	Gamma	• General global quality strategy • A worldwide quality policy, but different in details
		Delta	• General global quality strategy • Common management system for all subsidiaries
3	High	Mu	• General global quality strategy focusing on customer needs and satisfaction • Each subsidiary has flexibility in working to achieve customer satisfaction • Decentralised approach to improvement work
		Phi	• General global quality strategy and policy • Unique quality policy used in discussion within each subsidiary • Always go back to quality policy and make decisions from the customer's perspective
4	Very high	Omega	• Global quality strategy and policy with its own model of the quality house for the whole MNC • Core value of "customer first" and "right from me" • Annual quality conference to announce an updated policy that all quality managers from all subsidiaries participate

Source: Author's own creation

Table 2. Groups of the case MNCs based degrees of IE reflected from global quality strategies

organisational cultures are considered stronger. Both MNCs have general global quality strategies and policies. *Mu* prioritises customer satisfaction with subsidiary flexibility. *Phi* emphasises a customer-centric approach with strong focus and use quality policy in their operative discussions. Finally, Group 4 with very high degree of IE represents by *Omega* which showcases a unique quality house model for the whole MNC and organises annual conference for global quality policy updates that quality managers from all subsidiaries participate. Then, the managers are responsible for broken down the updated global quality policy to properly suit their business units or departments.

Following the grouping of the case MNCs, Table 3 presents a comprehensive analysis of differences and similarities regarding QM based on their degrees of IE, with distinct focus of the two levels of culture and QM (see conceptual framework) – i.e. perception of QM principles and the social aspect of QM at the organisational culture level, and QM practices and the technical aspect of QM as the observable objects.

For the deepest level of culture in the conceptual framework, the differences stemming from national culture of subsidiaries are assumed to persist in this study. This study relies on previous national cultural research (e.g. Hofstede *et al.*, 2010; Chhokar *et al.*, 2013), and cross-cultural QM research at national level (e.g. Mathews *et al.*, 2001; Lagrosen, 2002; Flynn and Saladin, 2006; Prajogo *et al.*, 2022) that show threats of cultural differences at national level and the influences on QM. This was also confirmed from the interviewees that they experienced cultural differences among employees between various subsidiaries situated in different countries.

Observable objects level – quality management practices and technical aspect of quality management

At the observable objects level in the conceptual framework, QM practices and technical aspect of QM can be elaborated based on the data collected from both interviews and document study.

MNCs with low degree of IE face differences in QM practices, for example, employees not respecting specifications. Varied types of processes and signs for different quality levels highlight the challenges of standardisation. Nonetheless, common systems for improvement work and standardised quality control criteria reflect efforts towards technical consistency.

MNCs with moderate degree of IE have established standardised process map, quality training programmes and regularly quality meetings of all subsidiaries. However, they still face differences in degree of quality problems, especially on complex products that are highly rely on employee's skills. Moreover, subsidiaries in different countries have different focus on process management, in terms of results vs processes oriented, which also reflected in different practices of quality control and responsibilities. They also have different approaches to organising continuous improvement work – e.g. rewarding systemand degrees of employee empowerment in improvement project.

In MNCs with high and very high IE, differences in frequency of quality problems exists rather insignificantly in some subsidiaries. The approaches to continuous improvement are also subject to subtle divergences as different subsidiaries may use distinct strategies for attracting employees to involve in improvement work. Also, different focuses on process management exist in these groups of MNCs, same as the moderate degree of IE. Despite these differences, consistent product quality across subsidiaries indicates successful standardisation in the technical aspect of QM in MNCs with high and very high IE. Especially in very high IE MNC, it can be observed that they use the possibilities of the technical aspect of QM – e.g. structural QM tools, process management key performance indexes (KPIs), quality training worldwide, to ease the globalisation of their quality strategies.

Differences/ similarities	Degrees of IE	Observable objects – QM practices/technical aspect of QM	Organisational culture – perceptions of QM principles/social aspect of QM
Similarities	Low	• Some common system for improvement work – e.g. monthly improvement competition • Collect and analyse data in a cross-functional team • Same quality control criteria and measurement to ensure product quality	• Show the same proximity of commitment, mostly at the management level • Employees at subsidiaries know about customer requirements and satisfaction • Initiation of a global quality approach
	Moderate	• Standardised quality training programme and weekly quality meetings of all subsidiaries • Working on promoting a standardised process map in all subsidiaries	• Perception of quality among employees in subsidiaries • Promoting continuous improvement throughout the whole MNC • Empowering local quality managers to locally adapt how they manage quality at subsidiaries
	High	• Same product quality from various subsidiaries as reflected on durability measurement, through some minor differences in specifications	• Common perception of quality among employees in subsidiaries through strong organisational culture • Promoting continuous improvement through the whole MNC
	Very high	• Excellent product quality from all subsidiaries • Structural QM tools that are easy to globalise, supported by a lot of training and education programmes worldwide • Customer focus in the production line - e.g., treating each deviation from customer's perspective • Using KPIs to follow up on methods based on the belief that "good processes lead to good results"	• Perception of quality among employees in subsidiaries through strong organisational culture and unified global quality policy • Promoting strong organisational culture through rotation of managers between facilities in different countries • Creating an organisational culture of employee empowerment through delegating, involving and giving quality responsibilities to production line employees • Allowing flexibility for managers to deal with national culture at subsidiaries – e.g. hierarchical structure, power distance, to use the right priority and give positive feedback to quality problem-solving • Promoting continuous improvement throughout the whole MNC

(*continued*)

Table 3.
Differences and similarities of QM at observable objects and organisational culture level of the case MNCs based on degrees of IE

Table 3.

Differences/ similarities	Degrees of IE	Observable objects – QM practices/technical aspect of QM	Organisational culture – perceptions of QM principles/social aspect of QM
Differences	Low	• Employees from some countries do not respect specifications and take them for granted for customers • Types of process and signs for different quality levels between subsidiaries	• Difficulties in understanding the concept of quality and QM principles from employees with some national culture • Leadership style and hierarchy in different subsidiaries • Levels of employee empowerment – e.g. to what extent can they make decision by themselves • Miscommunication issues between subsidiaries in different countries
	Moderate	• Degree of quality problems, especially on complex products, highly rely on employee's skill • Ways of organising continuous improvement work and how to achieve the goal of continuous improvement – e.g. rewarding system, employee empowerment • Practices of quality control • Focus on process management – i.e. results vs processes	• Ways to communicate about quality and how subsidiaries work with quality among subsidiaries • Leadership style and hierarchy in different subsidiaries • Varied quality responsible teams among subsidiaries – e.g. production team in Europe, quality department in Asia • Levels of empowerment and engagement – e.g. operators are not involved in the same way in the production line of different countries • Levels of loyalty among employees
	High	• Frequency of quality problems in subsidiaries – i.e. some plants have quality problems more often than the other • Ways of organising continuous improvement work • Focus on process management – i.e. results vs processes	• Leadership style influenced by the national culture of subsidiaries • Small differences in the level of employee engagement and empowerment • Different decision-making practices among employees from different subsidiaries and countries • Experiences and attitude of management and employees towards continuous improvement
	Very high	• Approaches to organise and attract employees to work with continuous improvement• Focus on process management – i.e. results vs processes• Risk of hiding deviations in some subsidiaries with high power distance national culture	• Leadership style to fit with the national cultural background of subsidiaries • Ways of engaging and empowering employees in different subsidiaries • Decision-making process – i.e. centralised vs decentralised

Source: Author's own creation

Organisational culture level – perception of quality management principles and social aspect of quality management

At the organisational culture level of the conceptual framework, perception of QM principles and social aspect of QM can be elaborated in connection to various degrees of IE of the case MNCs. However, the data collected at this level was mainly from the interviews since the organisation culture is hardly reflected in documents. There might be some threads of attempts to establish a shared organisational culture in the document, but no hard evidence can be confirmed at this cultural level based on this research design.

MNCs with low IE face significant challenges in fostering a common understanding of quality and perception of QM principles among employees that might be stemming from diverse national cultures at subsidiaries. Although, there has been a notable common commitment to quality at the management level and the initiation of a global quality approach might lay a basis for a shared foundation, there are incident of miscommunication issues between subsidiaries and mismatch levels of employee engagement and empowerment – e.g. to what extent can they make decision by themselves.

In MNCs with a moderate degree of IE, despite claiming to have a common perception of quality among employees and promoting continuous improvement worldwide, the disparities in communication about quality persist among different subsidiaries. Although they try to empower quality managers to locally adapt how they manage quality at subsidiaries, levels of employee engagement, empowerment and loyalty vary among different subsidiaries. These distinctions illustrate the ongoing challenges of managing quality in the diverse national cultural backgrounds of MNCs.

Minor differences in levels of employee engagement and empowerment, different decision-making practices are pointed out in the case of MNCs with high and very high IE. In MNCs with high IE, there is nuance of experiences and attitude of managers and employees towards continuous improvement, leading to different ways of organising improvement work at subsidiaries. However, MNCs with high and very high IE claim to have common perception of quality and QM principles among employees in all subsidiaries through strong global organisational culture. For the MNC with very high IE, they promote unify global quality policy and strong organisational culture through rotation of managers between facilities in different countries, as well as create culture of employee empowerment through delegating, involving and giving quality responsibilities to production line employees.

Nevertheless, no matter which degrees of IE the MNCs possess, different in leadership style persists in all cases. For MNCs with low and moderate IE, different leadership style is more related to the hierarchical level of organisational structure at subsidiaries. Whereas, for MNCs with high and very high IE, they tend to adapt leadership style and allow flexibility for managers to deal with differences stemming from national culture at subsidiaries.

Elaboration of the conceptual framework using the case study

Based on the case study, all MNCs realise differences stemming from national cultural backgrounds of subsidiaries, especially MNCs with low degree of IE that face challenges in fostering a common understanding of quality and QM principles among employees. This implies that national cultural differences contribute to how employees perceive quality and QM principles, as elaborated in the conceptual framework. Given that organisational culture plays a crucial role in shaping employees' perception it follows that the national and organisational cultures of subsidiaries within MNCs would impact employees' perception of

QM principles which reflected on how they work with social aspect of QM within the global organisation:

P1. The national culture of subsidiaries in MNCs influence employees' perception of QM principles.

At the organisational culture level, differences in perceptions of QM principles and the social aspect within MNCs can create discrepancies at the observable objects level. In MNCs with low IE, issues – e.g. miscommunication and varying levels of employee empowerment, hinder the development of a common understanding of quality. This reflects the impact of diverse national cultures, leading to difficulties in standardisation and employee adherence to specifications at the observable objects level. For MNCs with moderate IE, despite a claim of a shared perception of quality, disparities still exist in communication and employee engagement. Standardisation processes are in place, yet challenges persist in managing differences in quality problems and maintaining a consistent focus on process management at the observable objects level. On the other hand, MNCs with higher IE exhibit subtle divergences in continuous improvement approaches. Despite this, there is evidence of consistent product quality, indicating successful technical standardisation at the observable objects level. Especially in very high IE MNCs, by leveraging tools and global training, they emphasise the importance of using nuanced strategies to achieve global QM consistency at the observable objects level:

P2. Differences in perception of QM principles pose challenges to the consistent implementation of QM practices across the MNC.

As shown in the case study, the challenges outlined in MNCs with lower degrees of IE highlight the difficulties in aligning organisational culture, communication and employee engagement across diverse national cultural backgrounds of subsidiaries. However, the consistent success in achieving technical standardisation, especially in MNCs with higher IE, indicates the efficacy of a unified approach to the technical aspect of QM. Despite diverse national cultural backgrounds, a common ground can be established through a mutual QM practices with focus on technical aspect of QM. By implementing standardised processes, quality training programmes and using QM techniques and tools, MNCs can bridge social and cultural gaps, contributing to the development of a cohesive organisational culture with a base from QM principles. This approach not only enhances then technical aspect but also aligns the social aspect of QM, fostering a shared perception and contributing to the development of a unified and cohesive organisational culture across the MNC. This findings from the case study is in line with the levels of culture model suggesting that artefacts can gradually affect the espoused values (Schein, 2010; Schein, 2020), as shown in the case of MNCs with high and very high IE:

P3. The implementation of common QM practices fosters a shared perception of QM principles and contribute to the development of an organisational culture across the MNC.

Previous research in cross-cultural QM has shown the dynamic interplay between the adoption of QM principles, organisational culture and national culture (Sousa-Poza *et al.*, 2001). The case study provides insights into how MNCs with varying degrees of IE face challenges in fostering a shared perception of QM principles across diverse national culture of subsidiaries. Despites the challenges (see *P1* and *P2*), the findings from high and very high IE MNCs suggests possibilities to mediate differences stemming from national cultures

of subsidiaries through a strong cohesive organisational culture centred on QM. They maintain consistent product quality showcasing the success of standardisation efforts despite subtle differences in quality practices – e.g. decision-making process, how to engage and empower employees. Based on the levels of culture model, suggesting that influences of artefacts over the espoused values (organisational culture) that might finally affect the underlying assumption (stemming from national culture) in some cases but this transformation usually takes a long time (Schein, 2010; Schein, 2020), This is also in line with Flynn and Saladin (2006) suggestion that fundamental values that underlie the QM practices can be changed with great difficulty:

P4. A shared perception of QM principles and strong organisational culture across the MNC can potentially mitigate the influences of national cultural differences between subsidiaries.

Implications and future research

The research explores the intricacy of managing quality in MNCs where national and organisational cultures intertwined and proposes the conceptual framework, rooted in Schein's and Trompenaars's cultural models. The study proposes that national cultural differences influence employees' perceptions of QM principles, creating challenges, especially in MNCs with low degree of IE. However, it also suggests that implementing common QM practices focusing on the technical aspect can foster a shared perception of QM principles and strengthen the social aspect of QM, leading to mediation of national cultural differences and facilitating MNCs to manage quality globally. However, it is needed to emphasise that this research is elaborated based on the "Swedish perspective" of QM in MNCs as presented by the case study, resulted in the limitation of this study.

Research implications

The conceptual framework and propositions elaborated by the case study provide a framework to address the cultural challenges in managing quality in MNCs where national and organisational cultures are intertwined. The suggested conceptual framework built upon Schein's and Trompenaars's levels of culture models is translated into cross-cultural QM in MNCs context, in which the *perception of QM principles and the social aspect of QM* represent the organisational culture of MNC, whereas *QM practices and the technical aspect of QM* represent observable objects at the artefact level. Proposition 1 asserts that national cultural differences affect how employees perceive QM principles, particularly challenging for MNCs with low IE. Proposition 2 highlights that diverse QM perceptions manifest in observable artefacts, posing challenges to the global consistency of QM practices. However, Proposition 3 suggests that implementing common QM practices, emphasising on technical aspect of QM, can foster a shared perception and contribute to cohesive organisational culture. Finally, Proposition 4 builds on this, proposing that a cohesive organisational culture focusing on QM can effectively mediate differences arising from national cultures within the MNC. This emphasises the potential of a unified QM approach to bridge social and cultural gaps globally.

According to Gupta and Gupta (2019), a strong conceptual and empirical relationship between national and organisational culture have been established in an operational management research field, yet possible effects and interaction between the two are still inadequate. Therefore, from a theoretical point of view, this research provides scientific utility by integrating national and organisational culture in the cross-cultural QM

framework and suggests possible effects of the interaction between the two in managing quality in MNCs. Although cross-cultural QM research has previously explored relationship of QM and national culture (e.g. Lagrosen, 2003; Flynn and Saladin, 2006; Vecchi and Brennan, 2009; Prajogo *et al.*, 2022), and more extensively in QM and organisational culture (e.g. Prajogo and McDermott, 2005; Uluskan *et al.*, 2018; Ababneh, 2021), this current research further explores the interplay between national culture, organisational culture and various aspects of QM. This integration offers a fruitful conceptual framework and a knowledge base for cross-cultural QM scholars, as well as operational management scholars interested in MNC.

For cross-cultural QM scholars, this research provides theoretical contribution in cross-cultural QM in MNC focusing on the interplay of cultures and aspects of QM. The propositions provided serve as a foundation for future research for a deeper understanding of the intricacies, challenges associated with cross-cultural QM context. For operational management scholars interested in MNCs, this research sheds light on strategic alignment with national and organisational cultures critical for optimising operational efficiency and effectiveness within the contexts of MNCs, as well as highlights the challenges and benefits associated with standardisation efforts in MNCs with varying degrees of IE. The findings offer a foundation for developing more effective and culturally sensitive operational management practices in the global context.

Practical implications

Several practical implications emerge from this research in cross-cultural challenges in QM within MNCs. Firstly, organisations must recognise the impact of national culture on employees' perceptions of QM principles. To address this, tailored training programmes and effective communication strategies that consider diverse cultural perspectives are essential. Particularly in MNCs with low degrees of IE, investing in fostering a shared understanding of QM principles among employees becomes crucial. Acknowledging the observable objects resulting from diverse QM perceptions is equally vital. MNCs should focus on standardisation efforts and clear communication channels to minimise disparities in QM practices. This strategic approach aims to address challenges related to standardisation and employee adherence to specifications.

Implementing common QM practices rooted in technical QM expertise emerges as a practical solution. MNCs should invest in standardised processes, quality training programmes and structural QM tools. This not only enhances technical aspects but also serves as a bridge to align the social aspect of QM, fostering a shared perception across the global organisation.

Finally, cultivating a cohesive organisational culture centred on QM is essential. MNCs should adopt leadership models that effectively navigate cross-cultural challenges and promote an organisational culture centred on QM principle. By doing so, they can mediate differences arising from national cultures of subsidiaries and achieve success in managing quality globally. In practical terms, MNCs should invest in culturally sensitive training, enhance communication channels, standardise processes and foster a strong organisational culture focused on QM. These steps collectively contribute to overcoming cross-cultural challenges and developing a unified and effective QM framework across the global organisation.

Future research

This research offers several future research opportunities in the field of cross-cultural QM and operational management, especially in MNC setting. Firstly, the data extracted from the

single case study of Swedish manufacturing facilities is limited and there is a need for further elaboration of the conceptual framework of QM and levels of culture in MNC from other countries's perspective, as well as other sector – i.e. service industry and public sector. Also, the unit of analysis in this research is the Swedish facilities of MNCs. There is a need for a single in-depth case study of an MNC in which the unit of analysis being various subsidiaries. Such a case study would offer opportunities to explore deeper into the complex system of a single MNC with the intertwined organisational culture and different national culture of the subsidiaries.

Secondly, this research can be seen as a pre-study as exploratory and qualitative research are the best options to establish constructs, products and objects for conceptual and functionally equivalent of the future quantitative research (Prince, 2008; Buil *et al.*, 2012). Therefore, there is a need to further investigate the suggested framework using quantitative or a mixed method approach. The conceptual framework suggested in this research can be used as a basis for construct and survey development in quantitative research. Besides, from a methodological point of view, incorporating a mixed method approach would be beneficial for understanding the impact of national culture on QM performance of MNCs (Gupta and Gupta, 2019).

Thirdly, this research only considers two types of culture – national and organisational culture. There is a need, especially from cross-cultural research perspective, to consider other types of culture – e.g. professional, industry culture. Last but not least, there is a need to further explore strategies and practical viabilities to overcome the challenges in managing quality in MNCs stemming from diverse cultural backgrounds within the organisation. Organisational theories – e.g. dynamic capabilities, loosely coupled systems, and group dynamics might serve as a good theoretical lens in exploration of this research string.

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Appendix

First, I hope that it is fine with you that this interview is recorded. This interview is confidential and if I were to quote you directly in any way I would ask for your agreement before publish it.

Name:

Date:

Place:

Job position (What is your role and responsibility?):

Company Overview

(Discuss shortly about production facilities abroad)

Quality Overview

1. What is the company strategy towards quality?
2. How do you work with a global strategy for quality management?
3. Do you work with any specific quality improvement program as for example Lean or Six Sigma? Is it company-wide or plant specific?
4. Do you see any differences in the perception of quality in your different plants internationally? What are the differences about?
5. Is there any plants that have quality problems more often that the others? Are these differences culture dependent?

Leadership

1. Do you experience different level of commitment to quality and quality management from top management from different country?
2. How do the management support the quality management in different countries? Do they have different style in each country?
3. Are there any differences in the involvement of management at different levels? Differences in top management role/involvement? Differences in middle management role/involvement? Differences in first-line managers/involvement?

Customer focus

1. Does each plant serve specific region of external customers? If so, why?
2. Do you see any differences in customer focus between plants? For example, some plants might focus only a few important customers or some plants tend to focus on customers with whom they have good relations.
3. Do you see any differences in the attitude toward customer focus?
   - Customer service?
   - Customer relationship?
   - Handling of complaints?
4. If yes, how do these differences influence quality management or product quality or customer satisfaction?

(*continued*)

Employee engagement and empowerment

1. Do employees (from different countries) aware or act differently towards quality problems?
2. Do you see any differences in the way employees are engaged in and empowered for quality work?
    - Differences in taking responsibility for problem solving?
    - Taking initiative for improvement?
    - Possibility to influence decisions?
3. When employees need to make decisions about their jobs, is there difference among people from different country? For example, can they make decision right away or need to consult supervisors.

Continuous improvement

1. How does your company work with continuous improvement? Is it promoted company-wide or plant specific? How do each plant work to with improvement?
2. Do you see any differences in the way continues improvement is managed? What are the differences about? Do you achieve different results in different countries?
3. Is there any specific plant that is more active in continuous improvement? Difference in number of improvements? How? Why?
4. Is there any plants that are more difficult to work with continuous improvement? How? Why?
5. Continuous improvement usually require many changes all the time. Do you see any differences how employees resist change in different country?

Process management

1. Do you experience that some plants focus more on process than results?
2. How do employees collaborate in working process? Do they try to facilitate the work for each other? What are differences you see between the plants?

Final questions

1. To summarize the interview. What challenges do you see in quality management from the cross-cultural perspective?
2. What are the cultural aspects that influence quality management in your company / plants?
3. Can you give any example of quality management practices that work in one of your plants, but does not work in other?

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