ASIAN JOURNAL OF MANAGEMENT STUDIES

Journal homepage: https://www.sab.ac.lk/ajms/
DOI: https://doi.org/10.4038/ajms.v5i1.87
Faculty of Management Studies
Sabaragamuwa University of Sri Lanka

Employee Perceptions on Total Quality Management and Organizational Performance in Sri Lanka's Telecommunication Industry: An Explorative Study

MJP Kulatunge [1,*], RLS Fernando [2] and I Mahakalanda [3]

[1,*] Faculty of Graduate Studies, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

[2] Department of Public Administration, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

[3] Department of Decision Science, Faculty of Business, University of Moratuwa, Sri Lanka.

ABSTRACT

Total Quality Management (TQM) has been successfully applied in telecommunications companies to gain a competitive advantage and remain in the market amid technological change. This paper analyses the effect of TQM practices on the performance of organisations in the Sri Lankan telecom sector. Using a qualitative research methodology, data were gathered from 10 senior specialists from several telecom companies in Sri Lanka through face-to-face interviews. An inductive thematic analysis was applied not only to identify overarching themes but also to extrapolate a sector-specific pathway from employee perspectives. Based on empirical analysis from employees, reveals that TQM is implemented in telecom companies through formalized comprehensive quality management systems and audits, continuous improvement techniques, stakeholder participation, digital technology-enabled customer focussed activities and performance management using key performance indicators, which together contribute towards improvements in operational efficiency, customer care, employee performance, and strategic planning; yet, the implementation of these activities is limited by human capital scarcity, financial and resource limitations, technological obstacles, leadership vacuum, and deeply embedded organisational systems, thereby setting this research study apart from previous studies by capturing both performance results and implementation barriers from the perspective of employees in the context of a digitally evolving service industry like telecom.

Keywords: Employee Perceptions, Inductive Thematic Analysis Organizational Performance, Sri Lanka, Telecommunication Industry, Total Quality Management (TQM),

© Faculty of Management Studies Sabaragamuwa University of Sri Lanka

ARTICLE INFO

Article history:
Received: 26 June 2025
Accepted: 15 October 2025
Published: 31 December 2025

E-mail Address:
1951md2023003@fgs.sjp.lk

INTRODUCTION

Since global liberalisation, the telecommunications sector has undergone a significant transformation, marked by structural changes and the emergence of new business models driven by digitalisation and increasing customer demand. This transformation in the telecommunications sector has substantially contributed to economic growth and the provision of innovative services, influenced by cultural values in many countries, including Sri Lanka. The Sri Lankan telecommunications industry is of great importance to national economic development and digital inclusion, as it serves as the foundation in a volatile technological and regulatory environment. Sri Lanka's telecom sector has seen rapid digitalisation led by national policy-driven programs and infrastructure augmentation (Digital Sri Lanka 2022; TRCSL 2024). Amid rapid digital transformation, the global telecommunications industry has encountered numerous challenges in delivering services such as internet, satellite communication, digital TV, and fixed and mobile telephony within an increasingly competitive market (Schiavone, 2022). Technological advancements have transformed the telecommunications sector from a state-owned monopoly into a competitive free-market industry (Draca, Martin, & Sanchis-Guarner, 2018). Rising consumer demand for smartphones and high-speed data services has fueled market growth, driven by advancements in the Internet, IP technologies, and next-generation networks such as 5G (Market, 2021). Telecom firms in Sri Lanka are increasingly adopting TQM practices—such as customer focus, employee involvement, and continuous improvement—to achieve organisational success while addressing challenges in a saturated market (Pubodhya & Rajapakshe, 2025). Additionally, TQM practices drive organisational performance by positively influencing customer satisfaction, empowering employees, and enhancing the telecom firm's profitability in Sri Lanka. In practice, challenges in implementing TQM practices include low employee involvement, a lack of leadership commitment, resource scarcity, poor communication, and inadequate staff training and development.

Research Problem and Research Gap

TQM practices have been studied primarily in manufacturing industries in developed countries. In contrast, they have not been extensively explored in service industries, particularly the telecom industry, in developing countries such as Sri Lanka. Previous research studies demonstrate that due to ineffective TQM practices contribute to numerous customer complaints, in the Sri Lankan

telecom sector including weak network coverage, slow internet speeds, billing discrepancies, poor customer support, such as long waiting times, and inaccurate data usage metering, all of which contribute to customer dissatisfaction (TRCL, 2025; Silva & Yapa, 2009; Alamutu et al., 2012). Although TQM practices have been empirically explored globally, their operationalisation in the Sri Lankan telecom sector remains under-researched. Consequently, the study seeks to qualitatively examine employee perceptions of how TQM practices are implemented and their impact on organisational performance in Sri Lanka's telecom sector, uncovering relevant mediating and inhibiting factors. Due to this significant research gap, this study addresses it by providing qualitative insights into the implementation of TQM practices and their influence on organisational performance, thereby reducing customer dissatisfaction arising from complaints in Sri Lanka's telecommunications sector.

Building on this background, this study aims to examine how Total Quality Management (TQM) practices are adopted and how they influence organisational performance, and to examine challenges during implementation in Sri Lanka's telecommunications industry, focusing on telecom employee perceptions. The specific research questions are:

RQ1: What are the TQM practices described by employees that are implemented in their company?

RQ2: How do TQM practices influence organisational performance as perceived by employees?

RQ3: What are the challenges faced by employees while implementing TQM practices?

The findings from the above questions provide actionable insights for stakeholders in Sri Lankan telecom companies to support TQM implementation, thereby enhancing company performance.

LITERATURE REVIEW

This study followed a systematic literature review (SLR) approach to establish a solid baseline. Pertinent literature was examined through structured, systematic searches of the main academic databases, including Scopus, Web of Science, and Google Scholar. The search procedure used the following

keywords: “Total Quality Management”, “TQM practices”, “Organisational Performance”, “Telecommunication Industry”, and “Service Sector”. Priority was given to peer-reviewed journal articles (mainly published between 2010 and 2025) with a specific focus on research within the service industry and a developing-economy context. Following initial relevance screening, the included articles were analysed using an integrative thematic synthesis to identify empirically grounded, context-specific constructs relevant to application issues. These integrated understandings then guided the theoretical basis of this qualitative study.

Total Quality Management (TQM) in Service Industries: Evolution and Adoption

Total Quality Management (TQM) is a holistic management philosophy that originated in Japan's manufacturing sector after the war and later in the West by quality gurus such as Deming, Juran, and Ishikawa, focusing on statistical process control, supply chain standardisation, and defect reduction. Quality first is the priority given in this production-centric paradigm for tangible outputs. The service sector, in contrast, specified by intangibility and high customer interaction, presents a different environment for quality management. It is required to have a significant conceptual and operational translation of TQM adoption in the service sector to manage experiential, employee-oriented processes.

Migrating TQM from manufacturing to service requires reimagining its core principles. First, Customer focus concerns customer requirements related to product specifications in the manufacturing sector. However, in the case of services, especially the telecom sector, it is often modelled using SERVQUAL, which encompasses dimensions such as reliability, responsiveness, assurance, and empathy (Asubonteng et al., 1996). Real-time quality is necessary during service delivery. Second, in the manufacturing sector, process management has shifted toward dynamic, visible service-delivery blueprints. Process management in the telecommunications sector involves customer support, billing, and digital service provisioning, as well as mapping complex, integrated processes for network maintenance. Third, employee involvement is more critical in the service sector. Frontline employees are involved in delivering quality services. Providing training, empowerment, and motivation of employees is not only supportive but also delivers quality outcomes. Both “Soft” human factors, such as attitude, motivation, skills, culture, and

leadership, and “hard” procedural or formal rules, procedures, and systems are important for achieving effective organisational outcomes.

For better understanding, “soft” and “hard” dimensions of TQM practices play a significant role. The “hard” dimensions, such as process documentation, audit systems, ISO certifications, and statistical measurements, provide a significant procedural backbone (Ueno, 2008; Lakhal et al., 2006). “Hard” dimensions such as network performance KPIs, IT service management frameworks, and ISO 9001/14001 certifications are evident in the telecom sector.

On the other hand, leadership commitment, open communication, employee empowerment and a culture of continuous improvement are called “soft” facets that foster the environment where “hard” elements thrive—for successful adoption of TQM, Talib, Rahman and Qureshi (2012) synthesised both the soft and hard elements integration into a cohesive model for services. Antony et al. (2022) discussed the recently emerging Quality 4.0, which adds a new layer. Based on a similar viewpoint, Sader, Husti, and Daróczi (2022) present an overview of Quality 4.0 by outlining its key characteristics, the technology that enables it, the areas of application, and the challenges related to Quality 4.0 implementation, which in turn positions digitalisation as an essential factor of traditional TQM in modern service organisations. The Quality 4.0 has extended the TQM concept by integrating digital technologies such as AI, big data, cloud computing, IoT, and cyber-physical systems with traditional quality tools, enabling predictive, adaptive, and automated quality systems that enhance innovation, operational excellence, and customer experience in digital service environments (Antony et al., 2022). Recent research also shows that digital transformation serves as an infrastructure enabling service organisations to conduct efficient quality management. Alawag et al. (2023) illustrate that the convergence of digital technologies with traditional TQM approaches strengthens data-driven decision-making, process transparency, and organisational responsiveness – especially for service companies in resource- limited settings.

Although Talib et al.'s (2012) framework offers a significant model for services, a notable gap remains regarding its application in developing countries. Most studies on the successful implementation of soft-hard TQM practices assume the presence of certain educational, infrastructural, and cultural conditions found in developed countries. Factors such as legacy technological infrastructure, fluctuating levels of workforce readiness, resource

constraints, and various organisational cultural norms crucially mediate how TQM practices are implemented, perceived, and effective in the service sector of developing countries, especially in Sri Lanka (Gorondutse & Hilman, 2021; Twaissi et al., 2025). The same studies demonstrate that in developing countries, it is not uncommon to hear that "soft" factors, such as management commitment and cultural fit, are blamed for the failure of technical solutions rather than the technical tools themselves. The death of research can be observed in nuanced, context-sensitive models that demonstrate how TQM is operationalised, challenged, and implemented within the socio-economic and institutional realities of developing service sectors, such as telecommunications. This study, therefore, helps fill this contextual gap.

TQM and Organisational Performance in the Telecom Sector

Implementing TQM in the telecommunications sector is vital and complex. Three significant dimensions characterise it. The network infrastructure in the telecom sector is most important, where quality depends on network uptime, coverage, reliability and data speed. It is also a high-tech, innovation-driven sector, with rapid technological advances, such as 4G to 5G, that require adaptation and skills. Similarly, a customer-driven, service-oriented culture is reflected in the end-user experience, with factors such as call quality, customer support, and billing accuracy that drive market reputation and competitive advantage. Therefore, it is evident that physical networks, digital service platforms, and customer interactions create an excellent, quality-driven ecosystem in the telecom sector.

In other words, organisational performance is one of the most important and widely researched constructs in management, reflecting the extent to which organisations achieve their objectives and mission (Gavrea et al., 2011). It is also a multidimensional construct reflecting the complex role of an organisation. The authors namely Gavrea et al., (2011); Alnuaimi et al., (2021) conceptualised performance into the dimensions, including Operational and Service Quality {Network performance indicators (like dropped call rates, latency), mean time between failures, service reliability}, Customer Centric Outcomes {Net Promoter Scores, Customer satisfaction scores, brand loyalty, and customer churn rates}, Innovative Capacity {Launching new services speedily and successfully (e.g. IoT solutions and digital TV) and process innovation}, Financial & Market Health {Profitability, revenue growth, return on investment in emerging technologies, and market share}(Draca, Martin, & Sanchis-Guarner, 2018). Hence, performance is measured using a balanced

scorecard that integrates customer experience, efficiency, financial outcomes, and future readiness. Organisational performance in the telecommunications industry is particularly complex, as it underpins economic growth, global competitiveness, and sector-wide digitalisation.

Many empirical studies have already demonstrated that TQM practices enhance organisational performance in service-sector industries such as telecom. In fact, newly emerging studies of context in the public sector offer further substantiation of this link. For instance, Al-Dhaafri and Alosani (2020) also demonstrate that the application of TQM practices has a positive impact on organisational performance when integrated with organisational excellence models, highlighting that standardised quality practices result in performance in a resource-scarce situational environment. The studies conducted by Hasan & Kerr (2003) and Rahman & Sohal (2002) demonstrated that leadership commitment, employee involvement, and customer focus are core TQM practices that are directly related to service quality and customer satisfaction. The more the quality, the more the customer satisfaction. Additionally, Kumar et al. (2011) pointed out that TQM in the service sector strengthens employee morale and a culture of continuous improvement by enhancing productivity. More evidence, such as data-driven decision-making and systematic process management, is a core TQM practices that reduce operational waste, improves resource allocation, and reduces service outages, enhancing both service reliability and cost efficiency. TQM implementation is considered an essential aspect for improving operational efficiency (Raj & Attri, 2011). The author further explained that organisations invest resources in TQM implementation to achieve benefits such as profitability, product quality, and customer satisfaction.

It is said that TQM practices support organisations in enhancing organisational performance; this is not achieved directly, but is mediated by key organisational variables. The first mediator is digital tools and data integration, indicating the importance of technology in an organisation. Technologies such as network monitoring dashboards, Customer Relationship Management (CRM) systems, and predictive analytics are implemented to support TQM, enabling proactive problem-solving, real-time visibility, and personalised customer engagement, collectively enhancing performance. According to Sader, Husti, and Daroczi (2022), the discussion of Quality 4.0 highlighted the same. The second mediator between these relationships is employee empowerment and capability. It is necessary to have skilled, motivated

employees to implement the TQM system effectively. Processes such as employee training, employee commitment, and engagement in quality circles mediate the link between quality practices and customer satisfaction. Thirdly, strategic leadership and cultural alignment play a significant role as mediators, as leadership commitment is accountable for the entire process. Leaders should cultivate a quality culture that aligns with TQM and its outcome (Al-Dhaafri & Alosani, 2020).

Challenges in TQM Implementation in Developing Economies

According to Dilawo & Salimi (2019), contextual and systemic barriers, such as employee resistance and a lack of top management support, hinder TQM adoption. These barriers do not come from global culture itself, but are inherited in infrastructural, local economic, and socio-cultural realities. Raj & Attri (2011) identified two types of barriers to TQM implementation: driving barriers and others, other-influenced barriers. Examples of driving or autonomous obstacles include a lack of top management commitment, poor organisational culture, and resistance to change, inadequate human resource development, insufficient financial resources, and an unclear TQM strategy. Conversely, barriers influenced by others, or dependent barriers, include a lack of empowerment and teamwork, low employee morale, high turnover among the skilled workforce, inadequate training, and ineffective communication. Further to this, the challenges include legacy systems and technological disparity, critical training gaps and brain drain, severe resource scarcity, and deep-seated cultural and structural resistance. Additionally, most telecom entities operate with outdated technology infrastructure, including legacy OSS/BSS systems (Alawag et al., 2023). These platforms are incompatible with modern quality management integrated platforms. The replacement cost is also a severe barrier to the company. The shortage of good trainers for quality methodologies such as Six Sigma and Lean is due to “brain drain. This creates a barrier for successful TQM implementation. Furthermore, financial constraints on technology investment and a shortage of skilled labour pose barriers to long-term, systematic development of a quality culture. Further to this, transitioning from traditional, hierarchical, and informal management styles to a data-driven, process-oriented, and participatory management system would be a barrier for the organisation, hindering the implementation of effective TQM practices (Schiavone et al., 2022).

Empirical studies in the prior literature from other developing economies also underscore these kinds of contextual challenges. Alamutu et al. (2012),

researchers in the Nigerian telecom sector, discovered that challenges such as erratic power supply, inadequate funding, and poor technological infrastructure are core impediments to the effectiveness of TQM implementation. Additionally, the study by Silva & Yapa (2009) identified issues in the Sri Lankan telecommunications sector, including process management failures, low customer retention, and poor service quality, which are deep-rooted challenges listed above. The TQM model by Talib et al. (2012) has been adopted, along with additional theories linking quality to performance.

The review of evidence from previous studies indicates that, although the TQM–performance association is well established in manufacturing and developed-country service contexts, little attention has been paid to how TQM is implemented in the high-technology service industry in an emerging economy. Notably, employee attitudes toward TQM in a hybrid digital–human model and the contextual barriers to system effectiveness in Sri Lanka's telecoms sector have yet to be explored. This qualitative study is expected to fill this gap in the literature.

METHODOLOGY

This study employed qualitative research techniques, primarily through semi-structured interviews, to examine TQM practices and organisational performance within the Sri Lankan telecom industry. This qualitative study focuses on collecting in-depth insights from telecom executive employees through interviews. According to Creswell (2013), interviews are a basic method for gathering qualitative data and provide a deeper understanding of people's thoughts, conduct, and behaviours. As this study is exploratory and descriptive, it primarily examines the implementation of TQM practices and their impact on the organisational performance of telecom companies in Sri Lanka. According to Braun and Clarke (2006), users of thematic analysis acquire fundamental abilities for conducting various types of qualitative analysis. This is the widely accepted thematic analysis framework. Therefore, this can be used to generate rich themes to develop a conceptual model from empirical data.

Purposive sampling was used in this study to select potential participants with known characteristics to obtain the most pertinent data for the investigation (Flick, 2009). It also used qualitative techniques such as Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), and analysis of historical data, annual business reports, key performance indicators (KPIs), and

case studies. Creswell (2013) states that the selection of participants and sites is predicated on the individuals and locations that provide the most insight into our central phenomenon. The samples are drawn from employees across various telecommunication companies within the Sri Lankan telecom industry. Thus, the benefit of interviewing managers and academic specialists is that they are knowledgeable about the topic and the local environment. Ten telecommunications specialists and senior executives were specifically selected for interviews on this topic, including top and middle-level managers. The study's sample size for the qualitative interviews was substantial; according to De Vaus (2013) and Aziz and Kamaludin (2016), a minimum of 3 and a maximum of 10 experts are needed to evaluate the research instrument.

Data Collection Methods

The interview protocol was developed in accordance with Creswell (2013) to obtain in-depth insights into TQM practices in the Sri Lankan telecom sector. A sample of 10 employees from telecommunications companies in Sri Lanka will be selected to get their views on the implementation of TQM within their organisations. The instrument included four open-ended questions, divided into four thematic sections, and was used in a semi-structured interview. Face-to-face interviews were conducted with these selected employees to gather accurate and comprehensive information crucial to the research findings. First, an interview guide with open-ended questions was prepared on TQM practices, customer satisfaction, and organisational performance. Then, semi-structured face-to-face interviews were conducted to collect qualitative data for the study. Accordingly, gathering employee perceptions about their experience with TQM practices towards the company, over their perceived impact on customer satisfaction, and the company's performance. Participants were free to provide detailed information in the open-ended question format, ensuring thorough data collection and adequate answers to the research questions. The interviews were recorded, and notes were taken for further analysis. Additionally, secondary data were also collected from research articles, relevant websites, company annual reports, journals, textbooks, and other pertinent sources related to the research topic.

Participants in this study's interviews came from a wide range of companies in the Sri Lankan telecom sector. Because of their varied roles and extensive experience, each one offered unique insights. The combination of these employees' roles and years of combined experience provided a deep, thorough, and multifaceted understanding of the Sri Lankan telecom industry.

Data Analysis Procedure

Adopted a methodical approach to thematic analysis, which included familiarising with the data gathered from telecom employees, coding the data initially, identifying themes, evaluating the themes, defining and labelling the themes, and writing the results. Accordingly, the study used content analysis and coding to report findings from conducted interviews, and thematic analysis to analyse the qualitative data, investigating common themes, patterns, and insights appropriate to the study's variables. Microsoft Excel was used for the manual coding and content analysis process, which involved classifying themes, extracting nodes, and codifying each interview question (Saldaña, 2015). Therefore, the expert and senior executive influence serves as the unit of analysis for this qualitative interview. This qualitative interview's primary objectives are to identify industry risks, challenges, and difficulties, and to provide a solid basis of information and facts about the nature of TQM practices in Sri Lanka's telecom sector. By using coding techniques, interview responses are categorised for straightforward interpretation, including employee satisfaction, TQM-related practices, and performance outcomes. As a result, the analysis was partially completed for every question and section. Every question was intended to address a specific problem, fact, or behaviour. Therefore, to address themes and emerging patterns and develop a theoretical concept, the disclosed data for each interviewee were compared for each question to identify differences and similarities. The relationship between TQM practices and perceived customer satisfaction, and its impact on organisational performance, is interpreted.

Participants were assured of confidentiality and provided informed consent. They are identified as Informant 01 and so on to hide their identity. Data were stored securely and used only for academic purposes.

FINDINGS

This section presents the results of the thematic analysis conducted to address the research questions. The analysis incorporates data from 10 employees on their views of the Sri Lankan telecom sector and applies Braun and Clarke’s (2006) six-phase procedure: familiarisation with the data, generation of initial codes, searching for themes, reviewing themes, defining themes, and reporting. I began by immersing myself in the data, familiarising myself with the dataset of employee comments on the impact of TQM implementation, and then proceeded to code, generate themes, review themes,

and define and name themes. Below, we present the themes for each research question; each theme is defined and supported by representative quotes from employees, thereby maintaining the analysis's inductive, data-driven nature.

Thematic Structure

The themes are based on formal, systematic practices in everyday employee activities, reflecting the robust TQM ecosystem as experienced and described by employees in the telecom sector.

Table 01: TQM practices by Employees Perspective

No	Theme	Sub themes
1	Structure Quality Management System & Audits	ISO 9001, ISO 14000 and Information Security Certification; process management, document control, risk analysis, corrective action, non-conforming reports, annual ISO Audits, audit reports, analysis and feedback, cable network quality, network cleaning day, remove unwanted cables, annual tool day, check tools availability and usability.
2	Embedded Continuous Improvement Culture and Tools	5S Practices adoption, Quality Circles for problem solving, TPM, Kizen practices, process automation: ISO 9001:2015: company's overall quality system, processes and standards documentation, best practices adoption, continuous daily improvements,
3	Employee Involvement & Empowerment	Training sessions, new products, soft skills development, employee suggestions and improvements, brainstorming sessions, quality team, employee annual performance evaluations, salary increments, employee recognition, bonuses for motivation, open-door policy, and employee grievances system.
4	Data and Technology-Driven Customer-Centric Culture	Customer first, company culture; use customer survey outcomes for quality improvements, digital dashboards, monitor real-time customer service, the ERP system, effective resource allocation, technology-driven culture, early fault prediction, customer data analysis, CRM system.
5	Strategic Performance Management through KPI's Monitering	KPI Dashboard, monitor daily tasks, mid-year and annual performance evaluation, set and monitor targets of each employee, set objectives from top to bottom along the organisational structure, and prepare Annual Business Plan (ABP).

This theme was found to reflect employees' perceptions of the nature of the quality infrastructure and TQM work processes in Sri Lankan telecom companies, including formal quality systems such as ISO 9001, ISO 14000, and Information Security Management Systems, which underpin TQM processes. TQM is realised through lean application methods such as 5S, Kaizen, TPM, and Quality Circles, as well as through regular audits and review meetings. This theme focuses on "attracting, developing, and rewarding employees and holding them accountable via KPIs with individual goals aligned to the ABP." Within this theme, it was obvious that ICT were integrated into management systems and customer processes, enabling data-driven decision-making through the use of dashboards, balanced scorecards, and analytical tools such as Power BI to analyse the organisation's and its employees' performance.

The "softer" and "harder" forms of TQM are not absolute; hybridity is a more appropriate term, with results indicating that TQM implementation in the Sri Lankan Telecoms industry is a contextually modified model. The structural arrangements and improvement cycles provide a technological basis for overcoming the limitations of infrastructure, while at the same time, employees, information technology, and performance measurement provide a social and organisational medium for overcoming hierarchical and cultural barriers. Answering RQ1, the analysis finds that, in this context, good TQM practice is governed by the Digital-Human Hybrid, in which technology-enabled data empowers personnel through Governance via specific KPIs. Such a policy measure is a step toward a dialogical and service-oriented culture, aligning individual demand indicators with the organisation's overall strategy (Twaissi et al., 2025). The results confirm that, in a growing service-oriented economy, the best TQM encompasses formalised standards, digital monitoring, and human-centredness to close gaps in infrastructure and workforce preparedness (Alawag et al., 2023; Twaissi et al., 2025).

The revealed themes of employee perceptions and experience describe TQM as not a single tool but a complex, interconnected ecosystem, as visualised below, including the TQM practices in the Sri Lankan telecom sector.

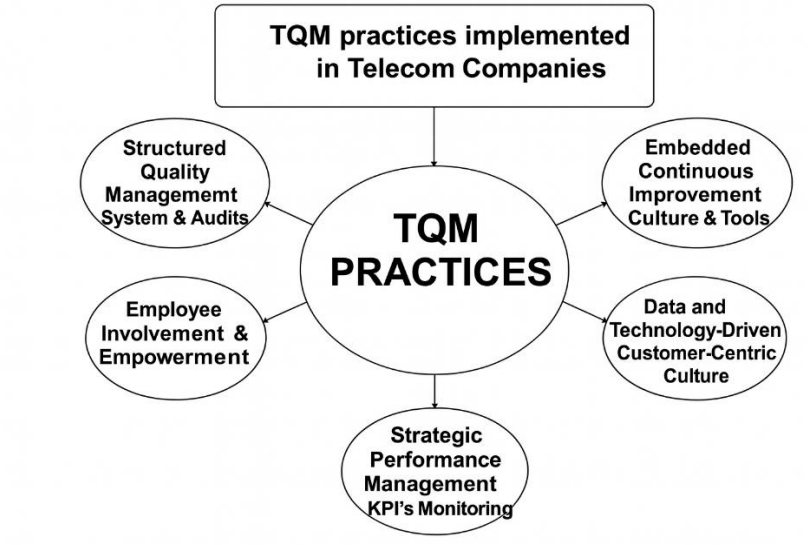

Figure 01: TQM practices in the telecom sector

Table 02: How TQM Practices Influence Organisational Performance

No	Theme	Sub themes
1	Enhanced Operational and Financial Efficiency	No waste, save time, save money, improve productivity; fewer faults and repetition, reduced failure rate, cost savings; improve environment and productivity; process definition improves performance.
2	Strengthened Customer Satisfaction and Market Position	Meet customer needs, improved customer satisfaction survey scores, higher customer loyalty and retention, decreased customer churn, competitive advantage, company reputation, strengthened market position, customer satisfaction scores, and quality improvements.
3	Enhanced Employee Commitment, Motivation and Work Performance	Employee performance appraisals motivate with salary increments and bonuses; employees are committed to work, achieve targets effectively, work becomes easier, an improved work system, and employee incentives.
4	Improved Strategic, Financial and Competitive Performance	Revenue growth, maximum utilisation of revenue, effective decision-making, sustainable high performance, high customer experience, massive cost savings; our company outperforms

		competitors, reduces waste, and improves customer image.
5	Data-Driven Management and Strategic Clarity	Continuously monitor to set targets, analyse PEST analysis, risk analysis, employee targets monitoring outcome, KPI monitoring – performance; no guessing, use data for decision making.

With regard to the thematic analysis undertaken to answer RQ2, employees in the Sri Lankan telecom industry perceive Total Quality Management as an all-encompassing, system-level approach to strategy. Rather than being seen as an approach to quality control, Total Quality Management is also perceived as a holistic understanding of organisational performance, embracing efficiency, market performance, and sustainability.

From an internal performance perspective, employees see TQM as an approach that improves performance and efficiency by reducing waste and minimising rework. This view aligns with the Resource-Based View, which views quality resources and capabilities as an approach that enables cost leadership in resource-constrained environments (Alawag et al., 2023). There is also an emphasis on reducing failure and improving processes, which fits well with the quality management cycle, which improves processes and eventually results in financial gains.

The role of human capital as an important mediating variable in the TQM-performance nexus becomes evident. Employees have shown enhanced levels of motivation and commitment to their jobs in relation to soft aspects of TQM, such as performance appraisal, incentives, and recognition programmes, which are more directly focused on quality. The importance of TQM as a social system, in which employee motivation and commitment are paramount in determining organisational performance, is thus confirmed (Twaissi et al., 2025). In the service-oriented, people-intensive telecommunications industry, the role of the workforce in understanding the importance of teamwork to unlock the potential of TQM for organisational performance is confirmed, consistent with previous research on commitment as a mediating variable in organisational performance.

From a strategic and market-focused perspective, workers believe that TQM can lead to increased customer satisfaction, reduced customer attrition, and a strengthened corporate reputation. This can be ensured by data-informed

management approaches, such as dashboard analytics, key performance indicator measurement, and formalised analysis tools such as PEST and Risk analysis. This can be viewed from a Total Quality Service (TQS) perspective, in which service excellence and a clear understanding of a company's strategic direction are ensured through data-informed decision-making. This can be viewed in conjunction with research that suggests data-informed competencies can be a source of a company's sustainable competitive advantage in an emerging market setting (Gorondutse et al., 2021). Additionally, Balanced Scorecard techniques can be viewed in terms of their application within a telecom company's strategic planning process (Perera, 2013). From the synthesis, it appears that the virtuous cycle of performance generated by TQM ensures that decision-making through data analysis improves operational efficiency, increased efficiency reinforces customer satisfaction and market positioning, while organised reward schemes maintain worker motivation. Therefore, workers in the telecommunication sector in Sri Lanka view TQM not only as a quality management program but also as a tool that improves organisational resilience and worker engagement.

Challenges in Implementing TQM Practices

Based on the qualitative data gathered from telecom employees, a thematic analysis was conducted, including thorough familiarisation with the data, coding, generating themes from codes, reviewing the themes, and finally defining and naming the themes.

Table 03: Challenges in Implementing TQM Practices

No	Theme	Sub themes
1	Human Resource Challenges	Old staff, limited awareness of new technology, staff resistance to new knowledge, employee turnover, traditional work methods, complex to change culture and attitudes, staff arguing, more old staff, and gaps in new technology adoption.
2	Resource and Financial Constraints	Staff shortages; lack of staff for quality improvement activities; financial constraints; no funds for new projects; new staff are not competent enough; insufficient knowledge of the new system.
3	Technological and System Barriers	Difficulties in IT systems integration – OSS, BSS, CRM, IPTV; legacy systems and old network infrastructure; massive operational costs;

		new technologies and existing business standards not matching, unable to integrate.
4	Leadership and Strategic Gaps	Top management does not prioritise quality-related activities; there is no leadership commitment; there is a lack of communication and coordination between sections; management decisions are not properly implemented at the ground level; no action, and a blaming culture.
5	Cultural and Structural Barriers	Resistance to change among older staff, negative attitudes among employees, negative mentality among some employees, and a lack of flexibility.

The findings of the thematic analysis reveal that the implementation of TQM in the Sri Lankan telecommunication industry is hindered by the complex interplay of human, structural, and technological factors. The findings align with the existing literature, which points to the incompatibility between standardised TQM frameworks and the realities of developing countries. The employees feel that TQM frameworks have been adopted in the industry, but their implementation is often hindered by contextual issues that make it difficult to translate them into improved performance.

From a socio-cultural and leadership perspective, HR challenges, leadership deficiencies, and cultural resistance are key barriers to the application of TQM in the organisation. Cultural resistance, in the form of senior-level or senior employee resistance, work practices, and risk aversion, indicates a deep-seated organisational culture. These findings align with Kaluarachchi's (2010) observations on resistance to change in Sri Lankan institutions. Additionally, a lack of leadership commitment and organisational bureaucratic behaviour are considered key barriers in participatory decision-making and the spread of quality practices in the organisation. This aligns with Wickramasinghe & Hopper's (2005) view that traditional administrative patterns in Sri Lanka do not encourage the flexibility needed to apply quality management within the organisation; thus, management decisions are not fully embraced at the organisational level.

Structural/resource-related constraints also add to these challenges. Employees cite staffing shortages and financial constraints as major hurdles to improving quality initiatives. The lack of adequate financial outlays for training, system development, and improvement projects limits the organisation's potential to go beyond superficial adoption of TQM. The above

findings support those from the emerging economy setting, where a lack of financial and human resources is known to be a major hindrance to TQM sustainability (Alawag et al., 2023).

Technological barriers are also found to be important in reducing TQM efficiency. Employees experience problems with legacy systems, a lack of system integration, and incompatibility between new technology and existing business processes. In the telecommunications industry, where service delivery is highly contingent on efficient information technology systems, incompatibility between technology and business processes impedes operational efficiency. This supports Perera's (2013) argument that incompatibility between business processes and legacy infrastructure is one of the most important factors inhibiting the implementation of contemporary quality management practices in the telecommunications industry in Sri Lanka. Cumulatively, these factors create a bottleneck, hindering the implementation of best practices and adversely impacting organisational performance. It appears that, based on this synthesis, effective TQM implementation within this scenario would need to transcend mere technical tools and hard practice considerations and address more fundamental socio-cultural mindsets, management support, and organisational rigidity. Failure to do so would mean that TQM would remain process-driven rather than change-driven in the Sri Lankan telecommunications industry. TQM practices and its effect on organisational performance and challenges in Sri Lanka's telecom sector are visualised in the Figure 2 below.

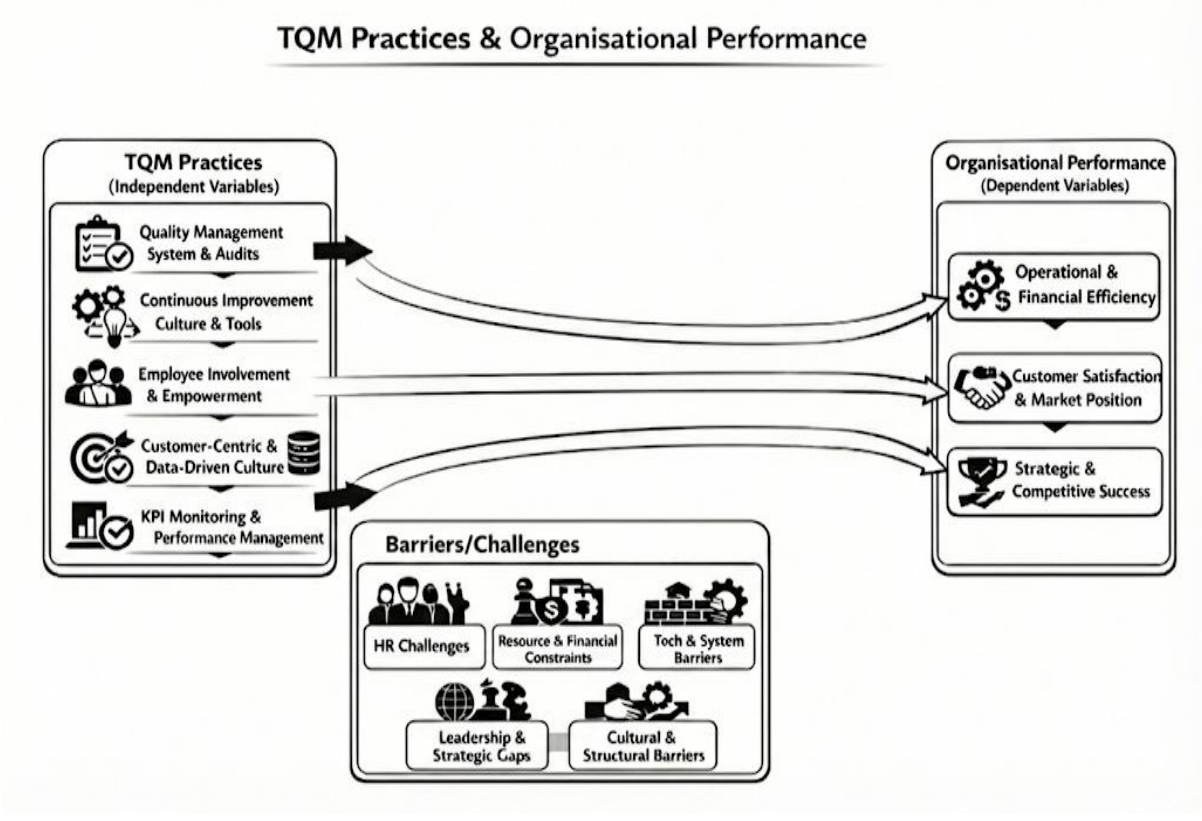

Figure 02: Theoretical Framework based on findings -TQM Practices and their effect on Organisational Performance and Challenges in Sri Lanka's Telecom Sector

DISCUSSIONS

The findings of this study demonstrate the key role of Total Quality Management (TQM) practices in enhancing the organisational performance of telecommunication companies in Sri Lanka. This study adopted an inductive thematic analysis approach to investigate how TQM practices impact organisational performance. Using an inductive thematic analysis approach, precise insights were derived from the industrial experiences and perspectives of managers, Engineers, and DGMs in the telecom sector regarding the relationship between quality management initiatives and organisational performance. Thematic analysis identified ten key themes and highlighted core aspects of how TQM addressed performance, customer satisfaction, and organisational behaviour. The following key themes were identified from the data on the practical application of TQM practices in the telecom industry, along with perceived outcomes: employee engagement and empowerment; customer orientation; a continuous improvement culture; quality management outcomes; financial and operational efficiencies; and organisational

performance. Employee engagement and empowerment have been derived from concepts like employee involvement and employee satisfaction. Many participants share insights into TQM as a bottom-up and top-down decision-making process in their companies, where employees play a crucial role through their commitment. Initiatives such as employee commitment and benefits contribute to employee motivation and accountability. Therefore, these TQM practices directly enhance effective service delivery and indirectly affect customer satisfaction.

The analysis of the theme of customer orientation revealed that telecom companies prioritise customer focus and customer needs and expectations. Participants noted that service quality, customer feedback, restoration, and the speedy resolution of customer complaints directly impacted customer satisfaction. The adoption of CRM, a customer feedback system, customer service excellence, and customer benefits also contributed to customer satisfaction. The quality improvement of products and services delivered to customers is mediated by customer satisfaction. Participants consistently emphasise a culture of continuous improvement as a norm within their company. They highlighted that innovation and productivity arise from benchmarking good practices, cross-functional quality control circles, worker skill development, and the implementation of the 5S concept, resulting in the minimisation of inefficiencies and enhanced productivity. This theme of a continuous improvement culture is a crucial element of TQM, leading to improved customer satisfaction and serving as a mediating factor in organisational outcomes. Process management systems are themes that stem from quality systems such as ISO standards, quality audits, quality improvement teams, and process transparency. Process management is one of the TQM practices that impacts the mediating role of customer satisfaction. Organisational performance outcomes originate from operational and financial performance. Systematic resource allocation drives operational performance, while a balanced scorecard drives economic performance. Financial and operational performance is a collection of organisational performance that stems from balanced scorecard implementation and effective resource allocation. These outcomes are the direct impact of TQM on organisational performance. These emergent themes relate to available theories in quality management.

It has been demonstrated that TQM is a comprehensive philosophy that emphasises customer focus, continuous improvement, and process integration

to guarantee high-quality goods and services that boost productivity, customer satisfaction, and improve business performance. According to Talib et al. (2012), the framework of TQM stresses key practices such as customer focus, top management commitment, employee involvement, continuous improvement, and process management, for the successful implementation of TQM in service industries, especially in the telecommunication industry. This is grounded in empirical research that emphasises quality improvement and customer satisfaction, which, in turn, are identified as core practices that significantly enhance organisational performance.

It has been found that telecom companies promote a continuous improvement culture by using structured quality tools, methodologies, and practices, such as process improvement techniques, quality control measures, and customer engagement through employee- and data-driven approaches. This aligns with the research by Alsaqer, Katar, and Abdelhadi (2024), which confirms that customer focus, employee engagement, process management, and continuous improvement techniques positively impact customer satisfaction. By empowering telecom companies to implement customer-centric strategies for sustainable growth and long-term success, the study highlights the importance of TQM in promoting customer satisfaction. The subsequent finding also supports the idea that, due to low downtime, shorter wait times, customer focus, and meeting expectations, TQM improves customer satisfaction.

The findings demonstrated that TQM helps telecommunications companies increase long-term organisational performance by improving product quality, customer loyalty, employee productivity, revenue growth, and competitiveness. The study by Owusu & Duah (2018) concludes that Ghana's mobile telecommunications service sector views total quality management as a tool for competitive advantage.

The study by Ming (2023) also confirms the connection between TQM and employee outcomes. Significant contributors to employee satisfaction and performance include things like training and development, teamwork, supportive leadership, effective communication, and employee involvement. Other components include empowerment, rewards and recognition, work-life balance, continuous improvement, and employee feedback and participation. This also aligns with the findings that TQM initiatives in telecos are supported by employee commitment, employee recognition, teamwork, flexibility, open communication, quality circles, and team-based approaches.

CONCLUSION & RECOMMENDATIONS

The study demonstrates the importance of implementing TQM as a strategic tool for driving organisational excellence, especially in Sri Lanka's telecommunications sector. The telecom organisations demonstrate a theoretically robust and structurally advanced implementation and understanding of Total Quality Management (TQM). According to the results of the thematic analysis of TQM practices in the telecom sector, Total Quality Management is firmly established as a customer-oriented, strategic, and continuously improving management philosophy that directly contributes to enhancing organisational performance. The operationalisation of TQM in telecom entities is driven through digital dashboards, ISO standards, and KPI systems to achieve competitive performance. However, significant challenges remain, particularly in workforce alignment, technology integration, and resource allocation. The findings were derived from an inductive thematic analysis process, informed by insights from industry experts, within the conceptual framework. These findings are valuable for policymakers and practitioners in the telecom industry, who can leverage TQM practices within their companies to enhance long-term organisational performance, with customer satisfaction mediating this effect. Adopting state-of-the-art technologies, meeting customer expectations, and leveraging quality management practices are essential for the telecom company to enhance its competitive edge in the sector.

Limitations and Future Research Directions

This research acknowledges several limitations. The findings were not as applicable to other industries and nations because the primary focus was on Sri Lanka's telecom sector alone. Since the total population of telecom sector executive employees is limited to 10 employees, this limits the generalizability of the research findings. The employee explanations are subjective, as this is a qualitative study. The study's methodology, which depended on qualitative interviews with a small number of experts, might have limited its ability to represent the viewpoints of the whole industry. Further influencing the results could be respondent biases and the subjective nature of qualitative data. Focusing on TQM practices in the telecom industry may limit broader insights by drawing less attention to closely related domains such as communication and information technology.

TQM practices are crucial for business differentiation, cost-effectiveness, and gaining a sustainable competitive edge in today's dynamic telecommunications sector, characterised by fierce globalisation and trade wars. Although previous research has examined the elements that influence TQM adoption and implementation, little is known about its long-term effects on businesses and sustainable growth. Research on the impact of digital transformation on the telecom industry could shed light on new business opportunities, risks, and difficulties in this era. The research model proposed in this study could yield interesting results when applied to comparative studies across various industries. The authors emphasise the importance of conducting empirical, quantitative research in the future to demonstrate how Industry 4.0 affects quality management procedures and the overall performance of the business. Future research must focus on analytical studies, business excellence models, and systematic management techniques that facilitate ongoing development in the service sectors.

REFERENCES

Alamutu, S. A., Hotepo, O. M., Oyeobu, A. J., & Nwatulegwu, B. I. (2012). An evaluation of total quality management practices on business performance of the Nigerian telecommunication sector: a case study of MTN Nigeria Limited. *Proceedings of ICCEM*, 155–166.

Alawag, A. M., Hilman, H., & Gorondutse, A. H. (2023). Digital transformation and quality management integration in service firms. *The TQM Journal*, 35(4), 987–1005.

Al-Dhaafri, H. S., & Alosani, M. S. (2020). Impact of total quality management, organisational excellence and entrepreneurial orientation on organizational performance. *Benchmarking: An International Journal*, *27*(9), 2497–2519. https://doi.org/10.1108/BIJ-03-2020-0094

Alnuaimi, M., Alzoubi, H. M., Ajelat, D., & Alzoubi, A. A. (2021). Towards intelligent organisations: Learning orientation and technical innovation. *International Journal of Innovation and Learning*, 29(2), 207–221. https://doi.org/10.1504/IJIL.2021.112996

Alsaqer, M. G., Katar, A., & Abdelhadi, A. (2024). The impact of total quality management on customer satisfaction in the Saudi telecommunications industry. International Journal of Quality & Reliability Management, 41(4), 1085–1106. https://doi.org/10.1108/IJQRM-01-2023-0015

Antony, J., McDermott, O., & Sony, M. (2022). Quality 4.0 conceptualisation and theoretical understanding: a global exploratory qualitative study. *The TQM Journal, 34(5),* 1169–1188.

Asubonteng, P., McCleary, K. J., & Swan, J. E. (1996). SERVQUAL revisited: A critical review. Journal of Services Marketing, 10(6), 62–81

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(2),* 77–101, *https://doi.org/10.1191/1478088706qp063oa*.

Creswell, J. W. (2013). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches, *3rd edn (Sage, Los Angeles, 2013)*.

DIGITAL SRI LANKA. (2022). Telecommunication Industry in Sri Lanka. *https://www.digitalsrilanka.lk/tel-co/*.

Draca, M., Martin, R., & Sanchis-Guarner, R. (2018). The Evolving Role of ICT in the Economy. *LSE Consulting. https://www.lse.ac.uk/business/consulting/assets/documents/the-evolving-role-of-lctin-the-economy.pdf*, 109.

Gavrea, C., Stegerean, R., & Ilies, L. (2011). Determinants of Organisational Performance. *The Case of Romania Challenges for the Knowledge Society, 6(2),* 285–300.

Gorondutse, A. H., & Hilman, H. (2021). Quality management practices and firm performance in developing economies. Benchmarking: An International Journal, 28(6), 1895–1914.

Hasan, M. & Kerr, R.M. (2003). The relationship between TQM practices and organisational performance in a service organisation. *The TQM Magazine, 15(4),* 286–291.

Kaluarachchi, K. (2010). Organisational culture and resistance to change in Sri Lankan institutions. Journal of Management Development, 29(4), 307–321

Kumar, R., Garg, D., & Garg, T. K. (2011). "Total quality management success factors in North Indian manufacturing and services industries". *The TQM Journal, 23(1*), 36–46.

Lakhal, L. P. (2006). Quality management practices and their impact on performance. *International Journal of Quality & Reliability Management, 23(6),* 625–646.

Market, G. T. (2021). Telecom Service Market Size, Share & Trends Analysis Report. *Global telecom services market size report 2021-2028*, Grand View Research.

Ming, F. (2023). Exploring the impact of Total Quality Management (TQM) on employee satisfaction and performance in manufacturing industries. Journal of Digitainability, Realism & Mastery (DREAM), 2(2), 45–50. https://doi.org/10.56982/dream.v2i02.88.

Owusu, P. A., & Duah, H. K. (2018). Evaluating total quality management as a competitive advantage tool in mobile telecommunication services in Ghana. European Journal of Research and Reflection in Management Sciences, 6(1), 9–19.

Perera, K. S. T. (2013). The impact of Balanced Scorecard (BSC) on the strategic planning process: A case study of a telecommunication company in Sri Lanka. [Master's thesis, University of Kelaniya].

Pubodhya, S. H. N., & Rajapakshe, W. (2025). Enhancing mergers and acquisitions (M&A) performance: Analysing the role of human resource practices in Sri Lanka's telecommunication industry through Lewin's change management model. PLOS ONE, 20(1), e0317117. https://doi.org/10.1371/journal.pone.0317117

Raj, S., & Attri, R. (2011). Identification of barriers to TQM implementation. International Journal of Productivity and Quality Management, 7(2), 153–175.

Rahman, S., & Sohal, A. S. (2002). A review and classification of total quality management research in Australia and an agenda for future research. *Quality and Reliability Management, 19(1) 1*, 46–66.

Sader, S., Husti, I., & Daroczi, M. (2022). A review of quality 4.0: Definitions, features, technologies, applications, and challenges. *Total Quality Management & Business Excellence, 33(9-10),* 1164-1182.https://doi.org/10.1080/14783363.2021.1937962

Saldaña, J. (2015). The Coding Manual for Qualitative Researchers. *Sage, 2015*.

Schiavone, F., Pietronudo, M. C., Sabetta, A., Ferretti, M., . (2022). Total quality service in the digital era. *The TQM Journal.* 34(4), 879–897.

Silva, K. A., & Yapa. (2009). Customer Retention: With Special Reference to the Telecommunication Talib, F. and Rahman, Z. (2010). Critical success factors of total quality management in service organisations: A proposed model. *Service Marketing Quarterly, Vol. 31 No. 3,* pp. 363-80.

Talib, F., Rahman, Z., & Qureshi, M. N. (2012). Total quality management in the service sector: a literature review. *International Journal of Business Innovation and Research*.6(3), 259–301.

TRCSL (2024). *Annual report*. The Telecommunication Regulatory Commission of Sri Lanka. *https://www.trc.gov.lk*,.

Twaissi, N. M., Al-Zoubi, M. O., Masa'deh, R., Al Zoubi, J. Z., & Alhelalat, J. A. (2025). The mediating role of TQM interventions and benchmarking in the impact of organizational culture on organizational performance. *Journal of Industrial Engineering and Management*, *18*(1), 10–32. https://doi.org/10.3926/jiem.7899

Ueno, A. (2008). Which managerial practices contribute to service quality? *International Journal of Quality & Reliability Management, 25(6),* 585–603.

Wickramasinghe, D., & Hopper, T. (2005). A cultural political economy of management accounting controls. *Accounting, Auditing & Accountability Journal*, 18(4), 473–508.