CHALLENGES AND BARRIERS TO ISO 9001 IMPLEMENTATION IN TURKISH EDUCATIONAL INSTITUTIONS: EVIDENCE FROM SURVEYS AND INTERVIEWS

Mazhar Çağrı Akar[i]
Yozgat Bozok University,
School of Economics and Administrative Sciences,
Turkey

Abstract:

Quality management has developed into a managerial paradigm that underpins a range of model-based approaches. The literature frequently highlights figures such as Walter Shewhart and W. Edwards Deming, often giving particular weight to Deming's holistic management philosophy. Yet, because "quality" is intrinsically difficult to define, the resulting models differ substantially across contexts. Within this landscape, the ISO 9000 family is often positioned under quality assurance due to its prescriptive orientation. Its implementation is typically time-bounded and strongly shaped by the motivation and engagement of those responsible. By focusing on organizational processes, ISO 9000 prioritizes reducing nonconformities and enabling structured problem-solving. Despite these constraints, the ISO 9000 series has been adopted by a broad spectrum of organizations worldwide, including educational institutions. This study examines the obstacles and implementation challenges encountered by Turkish educational organizations in implementing ISO 9001. The Results section discusses the friction between ISO 9001 requirements and the operational realities of the Turkish education system. An interpretive analysis was conducted using evidence gathered from surveys and interviews. The results indicate that effective leadership and mutually beneficial supplier relationships are central to successful ISO 9001 implementation. Future work could extend this inquiry by comparing ISO 9001-experienced institutions with those applying alternative Total Quality Management (TQM) frameworks, thereby helping to identify and/or design more suitable quality management approaches for educational settings.

JEL: L15, M10, M19, I21

Keywords: quality assurance, ISO 9001, education, leadership, external factors

[i] Correspondence: email m.cagriakar@bozok.edu.tr

1. Introduction

This chapter outlines the conceptual and theoretical foundations of quality management, positions ISO 9001 within that wider field, explains why educational institutions pursue ISO 9001, and briefly introduces the Turkish education system as the context for the analysis section. Despite the conceptual ambiguity surrounding "quality" and related terminology, quality management has been widely adopted globally and covers a broad set of organizational improvement activities. As the notion of Quality Management Systems (QMS) suggests, quality management fundamentally depends on a systems perspective that engages all organizational units in the pursuit of quality. This requirement links QMS directly to management, since management is the only function capable of coordinating the organization as a whole. In some models, the systems perspective is further formalized through mechanisms that define, manage, and monitor procedures, processes, and responsibilities. Consequently, quality management has evolved into a managerial paradigm that enables the development of multiple models. From a management-theory viewpoint, this evolution has been described as a shift from management by objectives toward quality management (Passl, 1993).

Historically, the modern emphasis on quality can be read partly as a response to scientific management (Taylorism) developed in the early twentieth century by Frederic W. Taylor in the United States. Taylor assumed workers were primarily motivated by financial incentives and introduced task-time standards tied to pay, rewarding output over a given period. Over time, however, this approach generated dissatisfaction, especially because it led to dehumanizing consequences, including oversimplification of work (Neary, 2008). In the late 1920s, Elton Mayo and Fritz Roethlisberger's Hawthorne experiments at Western Electric shifted attention toward the socio-psychological dimensions of work: by consulting workers during procedural changes, the studies suggested participation could raise productivity more than monetary incentives alone (McCambridge *et al.*, 2014). Later, in the 1930s and 1940s, scholars such as Walter Shewhart and W. Edwards Deming advanced statistical approaches to quality and control, and "quality" subsequently developed into multiple perspectives and standardized procedural models in industrial settings, increasingly attracting academic attention.

A core difficulty in quality-management research is that "quality" remains elusive and resists precise definition (Sallis, 2002). One practical consequence is that terms such as quality management, QMS, and TQM are often used interchangeably. Although Deming is frequently credited as a key figure in the development of TQM, he is also noted for avoiding, if not rejecting, the term itself (Petersen, 1999). Conceptually, quality management can be treated as a managerial philosophy. Deming's principles, for example, include maintaining constancy of purpose, adopting a new philosophy, reducing reliance on inspection, avoiding "lowest-bid" contracting, continually identifying problems, strengthening on-the-job training and supervision, removing fear, improving cross-functional collaboration, eliminating slogans and numerical targets,

enabling pride in artistry, investing in education, and ensuring top-management commitment (Neave, 1987).

Even though many models reflect aspects of these principles, Deming's approach is distinctive in how it frames improvement: rather than prescribing detailed procedures, it emphasizes the iterative Plan–Do–Check–Act (PDCA) cycle. In contrast, many quality-management models introduce more prescriptive structures. One can argue that increased standardization tends to move a model further away from Deming's non-prescriptive philosophy. Given the inherent ambiguity of "quality," it is unsurprising that models differ considerably; as the next chapter's review indicates, TQM itself is implemented differently across manufacturing and service contexts. Still, it remains useful to distinguish "quality management" from "quality assurance" based on the degree of standardization. Quality assurance generally implies a stricter, more rule-based framework—illustrated by the ISO 9000 series—where "assurance" depends on clearly specified procedural criteria consistent with prescriptive modeling.

Within this distinction, the main differences between TQM and the ISO 9000 series can be summarized as follows. TQM ultimately targets excellence, whereas ISO 9000 relies more heavily on the commitment of involved parties under a contractual logic. TQM is framed more independently of time and fixed procedures—closer to Deming's philosophy and PDCA—while ISO 9000 emphasizes defined procedures implemented within a bounded timeframe and shaped by participants' motivation. Pursuing best practices tends to broaden TQM's scope; ISO 9000 narrows attention to organizational processes, prioritizing the reduction of nonconformities. Put differently, TQM is oriented more toward vision-setting, while ISO 9000 is positioned more as a structured problem-solving system (Reyes & Lozano, 1997). Finally, certification is not inherently required in TQM, whereas ISO 9000 is built around certification—without it, the logic of improvement is considered incomplete.

Importantly, this critique does not imply rejecting ISO 9000 outright. Although it may be more limited than TQM in some respects, its procedure-driven structure supports retrospective evaluation because it generates traceable data throughout implementation. One can even view its procedural and contractual character as an attempt to make "quality" more concrete. Accordingly, evaluation can draw on elements it shares with broader quality models (including TQM), such as quality focus, customer orientation, participation, and management commitment, while also examining what standardized procedures actually mean for the people who apply them.

For this study, "challenges and barriers" are conceptualized as a combination of external, internal, and structural factors. External and internal barriers are formal, referring to conditions outside and inside the organization. Structural barriers refer to cultural mechanisms embedded in both the organization and its environment; incompatibility does not necessarily indicate cultural failure, but may reflect the rigid constraints of ISO 9000 itself. A key assumption here is that ISO 9000's structure enables the researcher to investigate ISO 9001 implementation in Turkish educational institutions through both formal and structural lenses.

Finally, research on quality management in education remains limited. Much of the theoretical framing is borrowed from other industries, and the distinctive challenges of educational settings have often been underexplored. Concepts such as competitiveness, innovation, service quality, and customer focus have largely been imported from non-educational contexts (Todorut, 2013). Yet, due to changing educational environments, the need for quality improvement, measurement, and certification is increasing. The rise in international student mobility and the expansion of e-learning with global reach have intensified pressure on institutions to deliver measurable and/or perceptible value to prospective students (Knight, 2015). As a result, even if quality-management theory has not been fully adapted to education, more institutions have adopted—and continue to adopt—quality management approaches and ISO 9001 certification.

2. Background

The study focuses on Turkish educational institutions that have undergone ISO 9001, so a brief overview of Turkey's education governance is needed. The system is centrally administered through two main authorities: the Ministry of National Education (responsible for primary and secondary schooling) and the Council of Higher Education (responsible for tertiary education) (Okçabol, 2008). In primary and secondary education, curriculum and teaching materials are developed centrally and disseminated to schools in a top-down, standardized structure shaped by government policy. While private schools can add supplementary activities (e.g., languages, arts, sports), the overall system offers limited room for individual schools to pursue competitive differentiation, which is notable given that some still seek formal quality improvement initiatives within this rigid framework.

In higher education, the Council of Higher Education operates under strong central-government influence: its leadership and most board members, as well as university rectors, are appointed through government-linked channels (Okçabol, 2008). The Council exerts tight control over academic autonomy, including authority over staffing decisions and student quotas. Although universities are not required to obtain Council approval for curricula, quality assurance reforms associated with the Bologna Process have progressed mainly through coercive oversight, and a robust external audit mechanism has not been fully established. Nonetheless, some universities have pursued ISO 9001 certification.

Against this background, the study examines how ISO 9001 requirements interact with a centralized education system—especially regarding top management commitment, stakeholder participation, and the meaning of "customer satisfaction" in education (where student success and academic staff roles are central, yet autonomy is constrained).

3. Research Questions

1) What challenges affect the implementation of ISO 9000 standards in Turkish educational institutions?
2) How do these challenges shape ISO 9001 implementation in Turkish educational institutions?
3) How does implementation influence organizational and business performance in Turkish educational institutions?

4. Literature Review

The literature review is organised into three parts: TQM, QMSs, and ISO 9001. The final part also covers studies that address barriers and challenges related to the adoption and implementation of ISO 9001. Each part draws on academic work from manufacturing, service industries, and education. Of these three, TQM denotes a framework with specific dimensions, yet it neither stipulates detailed implementation criteria nor culminates in certification, whereas ISO 9001 is prescriptive and requires the completion of defined steps to obtain certification. "QMSs," by contrast, functions as an umbrella concept encompassing multiple quality assurance methods used across different contexts. The purpose of the review that follows is to examine both similarities and differences in quality management across manufacturing, service industries, and education. Although barriers and challenges are treated explicitly in the third part, the first two parts also point to difficulties identified in empirical studies.

4.1 Total Quality Management
The literature review is organised into three parts: TQM, QMSs, and ISO 9001. The final part also covers studies that address barriers and challenges related to the adoption and implementation of ISO 9001. Each part draws on academic work from the manufacturing, service, and education industries. Of these three, TQM denotes a framework with specific dimensions. Yet, it neither stipulates detailed implementation criteria nor culminates in certification, whereas ISO 9001 is prescriptive and requires the completion of defined steps to obtain certification. "QMSs," by contrast, functions as an umbrella concept encompassing multiple quality assurance methods used across different contexts. The purpose of the following review is to examine both similarities and differences in quality management across manufacturing, service industries, and education. Although barriers and challenges are treated explicitly in the third part, the first two parts also point to difficulties identified in empirical studies.

4.2 Total Quality Management
Built on sustained efforts throughout the twentieth century, TQM became more clearly established during the 1990s. Kasul and Motwani's (1995) study is informative in specifying several TQM components that can be used to analyse practice. Their

comprehensive review of the literature identifies eight TQM components, which they frame as critical factors associated with performance measurement (Kasul & Motwani, 1995, p.60):

- management commitment;
- quality;
- equipment/technology;
- customer service;
- facility control;
- lead time;
- value-added emphasis; and,
- material policy.

The authors argue that many implementations address some of these factors simultaneously. Their key point, however, is that the greatest effectiveness comes from applying all of the factors together. The study also reflects a movement in the 1990s toward treating TQM as a system within manufacturing industries (Kasul & Motwani, 1995). As a quality-oriented framework, TQM has often been regarded as a source of competitive advantage in manufacturing. Nevertheless, competitive pressure can also produce outcomes that conflict with what TQM proponents would prefer. Nwabueze (2001), for instance, examines TQM management in a U.S. aluminium manufacturing company and investigates why the implementation failed. Seeking quick improvement in a highly competitive setting, the company pursued TQM as a rapid fix. The failure analysis, however, indicates that the company's management adopted TQM without first examining how other organisations had implemented it. Because management lacked a solid grasp of the company's underlying problems, the consultancy effectively delegated TQM management to the quality manager. Ultimately, the company expected TQM to resolve all organisational problems within a short time horizon (Nwabueze, 2001). This account supports Kasul and Motwani's (1995) emphasis that the factors need to be considered jointly, and that TQM requires capable management as well as patience to achieve acceptable outcomes.

From the late 1990s onward, TQM also expanded into service industries. Drawing on a decade of experience with TQM in services, Choppin (1994) outlines five ways in which TQM in service industries differs from its manufacturing roots. First, whereas manufacturing-oriented TQM tends to be strongly process-centred, service organisations rely primarily on people. For this reason, Choppin stresses the importance of defining the target audience at the outset—whether the general public or a local community. Second, unlike manufacturing contexts, public-service employees may set aside organisational objectives when these conflict with personal values, which implies a need for organisational members to interpret and internalise those objectives; this further underscores a people-oriented rather than a process-oriented commitment. Third, TQM can be effective insofar as it cultivates organisational culture, understood as the quality of relationships among members. Fourth, especially in public services, TQM logic can operate in reverse. While manufacturing implementations typically aim to generate

quality as a route to profit, public services often treat financial resources as given and therefore place customer satisfaction as the primary end. Fifth, written procedures may help steer manufacturing employees toward quality, but they may be insufficient to achieve similar effects in service contexts (Choppin, 1994).

Hansson (2001) supports Choppin's (1994) argument through an empirical comparison of nine small manufacturing and service organisations. Although these organisations had received quality awards, interview-based evidence shows that they differed in the core values they emphasised. Some prioritised leadership, member commitment, and customer satisfaction; others highlighted fact-based decision-making, process orientation, and continuous improvement. Across both manufacturing and service settings, the observed differences in outcomes are linked to the particular TQM core values adopted. Hansson (2001) concludes that prioritising people over processes is more likely to yield sustainable results (Hannson, 2001).

Over time, the question of how to emphasise people has developed further. Honarpour *et al.* (2017), for example, argue that TQM and knowledge management reinforce one another. By reviewing empirical studies in both TQM and knowledge management, they suggest that the predictors of the two fields share common variance. Their joint variance analysis indicates that nearly half of the variance overlaps across the two domains. In practice, they propose that knowledge management can provide an informational base for TQM practices and implementation and can be used effectively for internal organisational aspects (i.e., members) as well as external relationships (i.e., customers and suppliers) (Honarpour *et al.*, 2017).

Educators have increasingly engaged with TQM as transnational education has grown, especially within higher education institutions (HEIs). Knight (2015) notes that, alongside the rapid growth in international student numbers at HEIs, distance education and e-learning have made it necessary to concentrate on "*regulatory responsibility, especially related to quality assurance, funding, and accreditation*" (p. 2).

However, the core concepts, principles, and values of TQM also pose challenges in educational contexts. In a critical discussion, Sirvanci (2004) explains how education differs from manufacturing and service industries, particularly with respect to stakeholders. In HEIs, for example, the "customer" may be understood as students or academics in relation to school management. At the same time, students can be construed as the "product," with their post-graduation salaries serving as an analogue to "price" in manufacturing. Sirvanci (2004) further argues that leadership—central within TQM—cannot be exercised unilaterally by managers in higher education. Shared governance distributes authority and responsibility between academics and managers, which limits decision-makers' ability to implement drastic changes that a TQM programme may require. Beyond these internal issues, educational institutions may appear autonomous, but in practice form a sequential system (elementary, secondary, tertiary), which further complicates the construction of a coherent TQM structure in education (Sirvanci, 2004). Accordingly, establishing TQM within education presents substantial challenges.

Despite these challenges, TQM has become increasingly necessary in education due to an emerging competitive environment. Psomas and Antony (2017) argue that competition is intensified largely because government funding has become limited, pushing HEIs to prioritise customer satisfaction. Investigating nongovernmental Greek HEIs, they draw on TQM concepts related to customer and internal stakeholder satisfaction and find active emphasis on students, top management commitment, involvement of teaching staff and employment, continuous improvement processes, and quality planning. They note that the Greek model aligns with the approach applied in the Greek service industry. In their comparative observations, they also argue that Turkish HEIs did not undertake an equivalent implementation because their focus remained primarily on students as the sole driver (Psomas & Antony, 2017).

Even though implementation is difficult, there are instances where TQM has been successfully applied in educational settings, including periods when TQM was still relatively new to educational services. Rowlands (1998) describes the outcomes of a TQM initiative at The Dell Primary School in Chepstow, Monmouthshire. Established in 1989, the school began its TQM work from the outset under the leadership of the founding Headteacher. Stakeholders in high-quality education included teaching and support staff, parents, pupils, local education administrators, governors, inspectors, and the broader local community. Anchored in the school's philosophy that "every child should fulfil his/her potential," The school set out the strategy in a "working together" policy. Rather than leaving this strategy at the level of rhetoric, the policy was embedded across all dimensions of stakeholder involvement. The Staff Handbook explicitly highlighted the roles of parents, governors, advisors, and inspectors. A key difficulty was maintaining coherence across stakeholder-related policies, a process that took five years to reach a satisfactory level. Job clarification sheets helped stakeholders recognise their roles and responsibilities regarding annual targets. Crucially, the school evaluated the policy's operation each year through surveys aligned with the school development plans, then used the findings to set targets for subsequent years (Rowlands, 1998). Rowlands (1998) emphasises two elements in particular: the Headteacher's leadership alongside staff and stakeholders; and the institutionalisation of TQM as a permanent management approach.

4.3 QMSs

Although TQM's basic characteristics may themselves be viewed as a complex system, the expression "quality management systems" is used broadly to refer to multiple quality management structures and, additionally, to emphasise technical dimensions of communicating with employees so they can perform tasks in line with quality specifications (Stralser, 2004, p. 265). This framing implies a prescribed notion of quality, yet not every model within this category is prescriptive. Uygur and Sümerli (2013), for example, argue that the Excellence Model developed by the European Foundation for Quality Management (EFQM) is non-prescriptive because it targets continuous quality improvement across industries and sectors.

They present their dimensions as follows (Uygur & Sümerli, 2013, p. 984):

1. *"Leadership,*
2. *Policy & Strategy,*
3. *People,*
4. *Partnership & Resources,*
5. *Processes as İnput Criteria, and*
6. *Customer Results,*
7. *Employee Results,*
8. *Society Results,*
9. *Key Performance Results"* as output criteria.

The relationship and clustering of these dimensions are illustrated below:
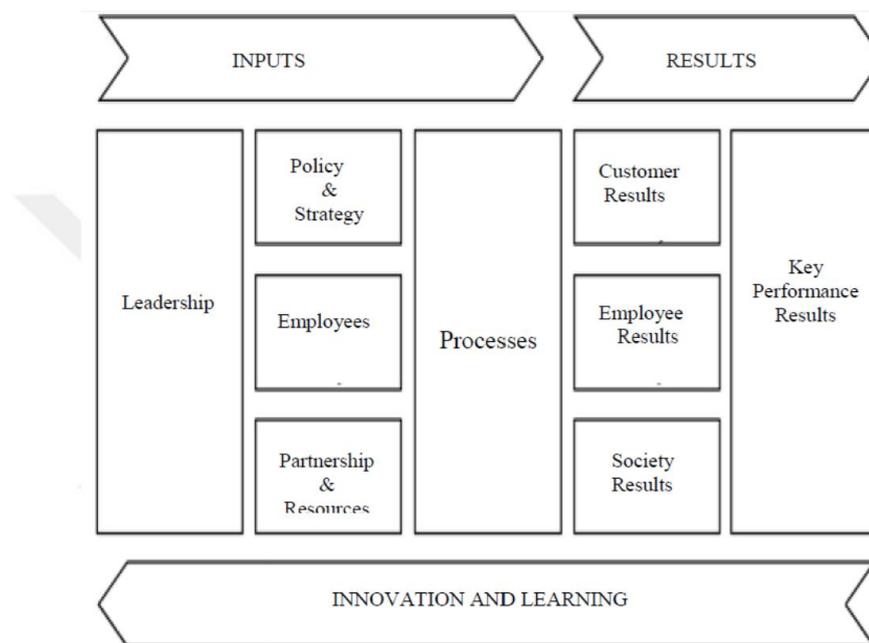
Figure 1: Dimensions of TQM in Relationship (Uygur & Sümerli, 2013, p. 985)

Within this structure, outputs are treated as consequences of inputs, while outputs in turn inform inputs. In discussing EFQM in relation to TQM, Uygur and Sümerli (2013) argue that the two systems operate through different processes that nonetheless complement one another (Uygur & Sümerli, 2013).

EFQM, as a quality management system, was introduced in 1988 by 14 major companies and has since been applied across diverse work environments (Abell & Oxbrow, 2001, p. 22). One particularly notable feature of EFQM is that it distinguishes between financial and non-financial evaluations of processes. EFQM assessment is conducted through the RADAR system—Results, Approach, Deployment, Assessment, and Review (Moeller *et al.*, 2000). The complementarity between TQM and EFQM is illustrated in Moeller *et al.*'s (2000) analysis of quality management in German health care. They examine three health care institutions using the EFQM model. Because EFQM

is not prescriptive, internal stakeholders evaluated the nine criteria using the RADAR system. Although the resulting scores were low, the key value lay in peer evaluation as a mechanism for involving internal stakeholders in continuous improvement. Since this differs from TQM evaluation that depends on external assessment, Moeller *et al.* (2000) argue that EFQM can serve as an initial step in quality improvement on the path toward TQM processes (Moeller *et al.*, 2000).

In education, EFQM was examined by Osseo-Asare & Longbottom (2002) in six higher education institutions in the UK. Using semi-structured interviews, they found that relatively few HEIs adopt self-assessment methodologies. Within those that did, the researchers interviewed deans and assistant deans across six institutions based on their own EFQM self-assessments. The interviews indicated that managers devoted approximately 20 per cent of their efforts to EFQM, while society results and key performance results received much less emphasis. Interview-based self-criticism highlighted perceived strengths and weaknesses in people's satisfaction, particularly in leadership, policy, strategy, and business results. More generally, the discussion suggests that managers do not endorse all nine EFQM dimensions. External pressures—especially those associated with the Higher Education Funding Council for England and the Quality Assurance Agency—are identified as key drivers of managerial engagement in EFQM (Osseo-Asare & Longbottom, 2002). This supports the inference that EFQM implementation can occur in a top-down fashion without ensuring voluntary stakeholder commitment, which aligns with Sirvanci's (2004) earlier analysis.

Calvo-Mora *et al.* (2006) explore stakeholder relationships in the implementation of the EFQM model within higher education. In an empirical study of quality management across 111 Spanish public universities, they hypothesize correlations among "enablers," defined as leadership and the management of human, material, and process resources. The processes examined include educational, research-based, and administrative activities. Their findings indicate that leadership and senior management commitment are central drivers of successful implementation. At the same time, leadership is closely linked to strategy and policy development, which shape people and resource management. Leadership is also vital for engaging people in processes through motivation and training. Calvo-Mora *et al.* (2006) argue that the standard EFQM assessment model does not sufficiently address relationships among enablers and therefore cannot fully explain why certain outcomes occur (Calvo-Mora *et al.*, 2006). Their discussion is consistent with Rowlands' (1998) report, noted above, which highlights that cohesive stakeholder functioning is essential to successful quality management and is closely tied to effective leadership.

4.4 ISO 9001

While EFQM has been widely applied across Europe, the ISO series developed by the International Organization for Standardization is the most prominent set of quality management standards. Within this series, ISO 9001 certifies quality in design, development, production, installation, and services. Relative to TQM and EFQM, ISO

9001 is prescriptive, largely because certification depends on compliance with specified requirements. Standard ISO areas include customer focus, leadership, employee involvement, process approach, system approach to management, continuous improvement, factual decision-making, and mutually beneficial supplier relationships (Levett & Burney, 2011, p. 76).

Although these elements are clearly listed, their relationships to operational and business performance can differ during the ISO 9001 certification process. In manufacturing, Feng *et al.* (2007) conducted a survey-based analysis of 613 manufacturing companies in Australia and New Zealand. They examine ISO 9001's influence on operational performance (internal operational categories such as productivity, product quality, and customer satisfaction) and on business performance (financial and operational outcomes such as sales growth, profitability, and market share). Their results show a strong positive association with operational performance, but only a weak impact on business performance. This matters because framing ISO 9001 primarily as a route to improved business performance may create expectations that go unmet, leading stakeholders to interpret outcomes as a system failure. Accordingly, the authors caution that managers should not expect large gains in business performance from ISO 9001 implementation. They also argue that the strong operational benefits depend on careful planning and the integration of employee training, periodic audits, corrective actions, and commitment across organisational levels. Beyond ISO 9001 itself, the study also indicates that organisational and business performance do not necessarily move together (Feng *et al.*, 2007).

Feng *et al.*'s (2007) findings also suggest that if business performance is not treated as the central target, ISO 9001 may be particularly well suited to public services. Chiarini (2016), for instance, investigates the potential impacts of ISO 9001 on Italian local government organisations. Using a mixed-methods design, Chiarini (2016) first interviewed quality managers to generate hypotheses and develop survey instruments, then surveyed 201 local governments over 5 years. The findings indicate that ISO 9001 can enhance operational performance by increasing satisfaction, reducing complaints and defect claims, and raising staff awareness of citizens' needs. However, the study also reports that ISO 9001 does not necessarily improve internal communication or teamwork. These limitations are linked to hierarchical structures, bureaucratic rules, and roles. Interviews also suggested that ISO 9001 did not contribute positively to cost reduction. The study's contribution lies in its detailed examination of specific ISO 9001 components as implemented in local government settings (Chiarini, 2016).

In education, Gamboa and Melão (2012) assess ISO 9001 implementation in Portuguese vocational schools, an area with relatively limited research. After reviewing the literature, they developed an a priori model of ISO 9001 structured around eight fields, and then applied a case study design to analyse five vocational schools. They identify four internal benefits (Gamboa & Melão, 2012, p.392): "*process standardization and improvements; generation of dynamics of continuous improvement; provision of strategic focus and foundation for planning; increased involvement of people.*" The implementation is also

associated with external recognition, including improved market credibility and stronger competitiveness. Nonetheless, references to the latter two internal benefits and the two external benefits are substantially lower than references to the first two internal benefits (Gamboa & Melão, 2012).

They also note disadvantages expressed by schools: increased bureaucracy, difficulty in interpreting and adapting the standard, and a time-consuming, demanding process. In particular, the first two disadvantages are mentioned more frequently than the last two benefits. Their a priori model also includes success factors—quality team, management commitment and support, communication and involvement of all members, and the prior level of organisational readiness—yet these success factors are the least emphasised parts of the model (Gamboa & Melão, 2012). Overall, the results suggest that despite ISO 9001's clearly specified prerequisites, stakeholder perceptions of the system are far from uniform. Critically, the authors do not explore the contingency issues or the imbalances across references, focusing instead on the model. However, the coexistence of advantages and disadvantages, together with limited emphasis on success factors, can be read as reflecting the tension between prescribed requirements and lived experience in educational settings.

The joint presence of advantages and disadvantages, as well as internal and external elements, also indicates that implementation involves barriers and challenges. Zeng *et al.* (2007) analyse 156 ISO 9001-certified companies in China, roughly one third of which are state-owned, to identify barriers to implementation. Around 80 per cent of these firms had pursued ISO 9001 for more than three years. The most frequently reported achievement concerns customer relations (31 per cent), followed by internal operations (26 per cent). Their questionnaire also assessed perceived barriers. The most prominent barrier was a "short-sighted goal for 'getting certified'" (42 per cent), followed by over-expectations from ISO 9001 (21), mandatory requirements without wholehearted commitment (13), adopting certification because others do (11), lack of adequate certification guidance (8), and other factors (5). They also identify audit-side barriers alongside business-side barriers: limited commitment among some certifying bodies (40), excessive competition between certifying bodies (27), packaged services combining consultancy and certification (18), insufficient supervision of certifying bodies (12), and other issues (3) (Zeng *et al.*, 2007). Zeng *et al.* (2007) emphasise that even when initial adaptation and implementation steps are taken, such barriers can undermine long-term implementation success. They also note—critically—that their study does not compare state-owned firms with others, which could have provided further insight into attitudes and approaches that produce barriers.

In a related vein, Al-Najjar & Jawad (2011) discuss barriers and misconceptions surrounding ISO 9001 implementation in Iraq. Using random sampling, they distributed questionnaires to 27 service companies and 23 manufacturing companies, receiving responses from 84 per cent. The nine barriers, ranked from most to least important, are: lack of top management commitment, employee resistance, difficulty conducting internal audits, absence of consulting boards, unrealistic ISO 9001 requirements, lack of financial

resources, lack of human resources, inadequate employee training, and insufficient knowledge of quality programmes. A key contribution is their separate treatment of misconceptions about ISO 9001. Of ten misconceptions, nine relate to ISO 9001 certification regulations/mechanisms and expected outcomes, while one concerns working conditions and ranks highest: the belief that ISO 9001 threatens job security. Notably, this misconception aligns with the second-ranked barrier, employee resistance (AlNajjar & Jawad, 2011). Although treated as a misconception, the perceived risk to job security can plausibly function as a practical barrier during implementation. From this perspective, examining misconceptions separately is useful for understanding implementation dynamics; employee resistance and perceived job insecurity appear intertwined, suggesting that, beyond limited system knowledge, barriers and misconceptions may reinforce one another.

Rogala (2016) extends the barriers literature by distinguishing individual skills/knowledge from organisational-cultural potential. The study focuses on difficulties faced by management representatives responsible for implementing and maintaining ISO 9001 in 97 Polish organisations. Survey results suggest that representatives largely perceive themselves as aware of weaknesses in their organisations' implementation processes. Only eight respondents agreed with the statement "little or no knowledge of the organization's weaknesses." Yet, responses vary substantially when identifying the sources of implementation problems. The resulting pattern can be grouped into less and more significant barriers: the less significant include little or no knowledge of organisational weaknesses, limited awareness of the underlying causes of such weaknesses, and limited knowledge of effective methods for eliminating weaknesses; the more significant include limited financial/organisational/technical resources, insufficient middle-management involvement, insufficient top-management support, and insufficient staff involvement (Rogala, 2016). Although self-assessments may not perfectly reflect objective conditions, the differentiation between individual-level limitations (first three) and organisational-level constraints (last four) is notable and suggests directions for designing future questionnaires.

Overall, the review underscores the multiple facets of QMSs. Regarding TQM, the literature shows that the approach emerged in manufacturing industries as a way to manage organisational objectives; however, managers and researchers should not treat its implementation as automatic or guaranteed. As the first section indicates, implementing TQM demands competent management and patience to obtain acceptable outcomes. Complexity increases further in service industries, particularly public services, because such organisations are not primarily profit-oriented and therefore lack TQM's original ultimate aim. Nonetheless, successful TQM application in education echoes the manufacturing case: leadership that encourages participation rather than imposes it is critical, and competence depends on personal skills and knowledge.

A range of QMSs are used in practice, including EFQM, which is comparatively flexible regarding profitability. EFQM's distinctive feature is internal assessment, which can facilitate stakeholder involvement. However, the evidence on EFQM in higher

education also emphasises the importance of coherent effort across stakeholders and a holistic approach. Although EFQM uses a different set of criteria, it resembles TQM in the central role played by people who manage the process.

Research on ISO 9001 reiterates that implementation cannot be identical across manufacturing, public services, and education. At the same time, studies converge on the view that ISO 9001—like other systems—does not align well with a purely top-down implementation logic or with the rigidity of hierarchical structures. In general, the review suggests that these systems are not straightforward "recipes" for improvement. Each system's dimensions/criteria interact dynamically; emphasising some while neglecting others is unlikely to yield the desired outcomes. Findings that ISO 9001 may not substantially improve business performance can, in turn, increase its relevance in educational contexts. However, how institutions interpret and reconfigure these criteria across settings remains important. These points inform the proposed research. While this study considers the criteria individually, it also examines their interactions, as these are expected to reveal key managerial aspects of implementation.

With respect to barriers and challenges, Zeng *et al.* (2007) frame organisational culture as the most important barrier, emphasising the "short-sighted goal for 'getting certified'" together with inflated expectations about ISO 9001. Al-Najjar & Jawad (2011) examine misconceptions as obstacles to the expansion of ISO 9001 implementation among Iraqi companies. Rogala (2016) adds an empirical perspective by distinguishing personal skills and knowledge from organisational-cultural constraints in Polish organisations.

Taken together, the literature indicates that adopting, implementing, and improving ISO 9001 are not straightforward processes. In terms of the gap motivating the current research, it is observed that discussions of components and criteria have advanced more rapidly in manufacturing and service industries than in education, leading to more detailed work connecting quality assurance with issues such as supply chains, sustainability, and related themes. In education, however, empirical studies remain fewer—possibly due to the sui generis nature of education—and tend to emphasise system-wide implementations rather than specific dimensions of quality assurance. Within the Turkish education system, particularly in HEIs, the limited empirical research is striking, given that several institutions have obtained ISO 9001 certification; however, the proportion appears to be below 10%. Consequently, challenges associated with implementing ISO 9001 have become a salient, under-examined topic in Turkey, which succinctly outlines the rationale for the present research proposal.

5. Material and Methods

This chapter outlines the study's methodological design and analytical approach for examining barriers and challenges to ISO 9001 implementation in Turkish educational organisations. It explains the research orientation, data collection (survey and semi-

structured interviews), sampling logic, and the interpretive procedures used to analyse and triangulate the evidence.

5.1 Study Design and Methodological Orientation

This study investigates barriers and challenges to ISO 9001 implementation in Turkish educational organisations. Methodological choices were made in line with the characteristics of social scientific research, in which the suitability of tools varies across research situations (Schumm, 2012). The study is grounded in an **interpretivist** research philosophy (Saunders *et al.*, 2009) because, although ISO 9001 is prescriptive, implementation outcomes in educational settings are closely linked to stakeholder perceptions and socially constructed realities (Hudson & Ozanne, 1988; Carson *et al.*, 2001). Consistent with this position, quantitative information is treated as requiring interpretation rather than being presented solely as figures.

5.2 Research Approach

An **abductive approach** is employed to move iteratively between theory and empirical data (Van Maanen *et al.*, 2007). This approach is appropriate because the inquiry prioritises stakeholders' perceptions of ISO 9001 implementation, while also drawing on salient aspects of implementation discussed in prior literature. Abductive logic supports integrating survey and interview evidence within a single interpretive frame.

5.3 Data Collection

Wilson and Sappsford (2006) identify three factors for successful data collection through questioning: procedural, structural, and contextual. Two data collection methods were used: an **online survey** and **semi-structured interviews**. The survey questionnaire comprised **29 questions,** organised into **seven sections** aligned with ISO 9001 requirements: customer focus, leadership, involvement of people, continuity, systems approach to management, factual approach to decision-making, and mutually beneficial supplier relations (see Appendix 1). Because the research focuses on barriers and challenges, these themes were not asked explicitly as standalone items; instead, they were inferred from responses. The survey was distributed online via a consent form and questionnaire link shared with targeted stakeholders.

Interviews were conducted with representatives of **top management**, **implementation coordinators**, and **academic staff**. Semi-structured interviewing was selected to elicit in-depth accounts and allow follow-up questions to broaden and clarify experiences and opinions regarding implementation processes and outcomes. Interview questions were tested and revised with input from one education specialist and one ISO 9001 expert.

5.4 Sampling and Participants

The survey population comprised individuals involved in ISO 9001 implementation across **primary**, **secondary**, **high school**, and **university** settings. A total of **74**

participants completed the survey: **13** from primary schools, **21** from secondary schools, **17** from high schools, and **23** from universities. Stakeholder groups targeted included top management, implementation coordinators, and academic staff; adolescents and children were excluded due to the specific design requirements of research with these groups. Higher education students were also excluded to avoid an imbalance in the comparison across educational levels.

The study employed a sampling frame that reflected institutional-level and stakeholder roles. Because reliable national figures on the number of Turkish educational institutions implementing ISO 9001 were not available, the study does not aim at statistical generalisation; rather, it seeks to explore barriers and challenges in their salient aspects and variations (Elliott & Timulak, 2005). For the interview component, a small sample was used due to the qualitative inquiry's contextual and in-depth nature, with representation across educational levels; **five** representatives were interviewed.

5.5 Data Analysis

The study used **interpretive data analysis**. Interview material was analysed following four steps: (1) delineating meaning units, (2) generating categories, (3) abstracting main findings, and (4) interpreting results in relation to existing theory (Elliott & Timulak, 2005). Meaning condensation was applied to summarise longer statements into shorter formulations that preserve the essential meaning (Brinkmann, 2013, p. 63).

Survey findings served as the primary empirical base and were **triangulated** with interview evidence. The survey was used to explore **diversity** rather than frequencies, parameters, or means; therefore, survey evaluation was treated as qualitative rather than quantitative (Jansen, 2010).

6. Results and Discussion

6.1 Survey

The survey has been conducted with 74 participants, including managers and teaching staff. However, one participant answered only customer-focused questions and has therefore been disregarded. Roughly, 63 percent of participants are teaching staff members. The breakdown according to posts is as follows:

Table 2: Breakdown of the participants

	Manager	Teacher
Primary	7	6
Secondary	9	12
High School	5	12
University	7	16

Five managers out of thirteen respondents have 15 or more years of experience in the same organization (M 15+), whilst the rest are teaching staff members (T 15+). The total number of respondents with experience of ten to fifteen years is thirteen, nine of whom

are managers (M 10+). Only three of the 13 respondents have 5 to 10 years of experience in the same organization. The total number of respondents with less than 5 years of experience is 36. The analysis first focuses on the variables of the posts and the experience (see Appendix 3). There are 1 primary school manager, 2 high school managers, and 2 university managers in the M 15+ category. The customer focus questions have been organized in pairs, one for students and one for teaching staff. The responses to the eight questions in the customer focus category are "average" and higher, whilst the majority are "good". The first two questions, which investigate and understand the needs and expectations of students and teaching staff, are unanimously ranked "good". The following two questions, adjusting the organization's objectives to students' / teaching staff members' needs and expectations, were also answered mostly as "good". In the same vein, there are only two "average" responses in the next two questions regarding students'/teaching staff members' satisfaction. The last two questions inquire how the needs and expectations of students/teaching staff members have been incorporated into the requirements of these groups.

Among the leadership questions, encouraging teamwork during implementation (Q5) was rated "excellent" by all. However, the primary school manager rated the rest as "average", including successful orchestration of the process (Q1), setting vision (Q2), providing training, resources, and freedom of discussion (Q3), and creating values and ethical frameworks (Q4). One university manager agrees on "average" for Q1, and one high school manager does the same for Q3. Even though the majority of answers are over "average", when the responses are considered relative to one another, it is significant that the other leadership tasks were not as strong as the encouragement in any of the organizations.

The question group on people's involvement has shifted the focus to "average" and "good", with a majority of "average". Both the primary school manager and the high school manager have rated "average" on all questions. The questions concern people's understanding of ISO 9001 (Q1), their involvement in training activities (Q2), their satisfaction with ISO 9001 (Q3), and the quality management knowledge they acquire (Q4). Taken together with Q5 in the leadership category, the majority of "average" responses and the absence of "very good" responses in people's involvement suggest that the encouragement efforts did not elicit a response from people involved.

The fourth group of questions concerns managerial activities to maintain the ISO 9001 program. Overall results display "average" in the majority. The critical analysis of procedures, methods, and activities of continuous improvement (Q3) has been unanimously ranked "average", whilst the establishment of an approach to continuity (Q1) and the setting of procedures and methods for continuous improvement (Q2) range from "average" to "good". Again, in a relative assessment, responses to Q3 are indicative, suggesting that even Q1 and Q2 returned mostly "average" and "good", the question of critical analysis of the procedures and methods (Q3) is persistently "average" amongst the participants.

The fifth group of questions concerns managerial activities to establish a systems approach to ISO 9001. The survey has returned the majority of "good" in the total of four 32-question surveys concerning optimisation of iSO 9001 activities to achieve organisational objectives (Q1), interrelatedness of the components of ISO 9001 (Q2), identification of roles, autonomies, and responsibilities to avoid barriers (Q3), and analysis of the organization's capabilities (Q4). One high school manager has rated "average" for the last three questions, whilst the other has rated "excellent" for Q2 and "good" for the others. Overall results indicate that managers' satisfaction with the efforts to establish a systems approach is above average.

The questions regarding decision-making regulations constitute another category of managerial activities. One high school manager has rated "average" for all three questions, including accuracy and relevance of the data representing the facts (Q1), meaningful analyses of the objectives of the organization and key factors of ISO 9001 (Q2), and consideration of facts and experience from the previous procedures in strategic decisions (Q3). One high school manager has rated Q2 and Q3 "excellent" and Q1 "good". No meaningful variations in ratings were found.

The last category of questions concerns the organization's relationship with educational government units, including the government's commitment to the supply chain (Q1) and the involvement of governmental agencies in establishing a mutually beneficial structure. The primary school manager found both "average", whilst the high school manager rated both "poor". The majority of participants viewed the relationship as "good."

Managers with 10 to 15 years of experience and 5 to 10 years in the organization, comprising 12 participants, have responded similarly to the customer focus questions, except for one secondary school M 5+, who has significantly rated 7 of 8 questions "excellent". This participant's overall ratings consistently include only "good" and "excellent". No unanimous rating has been found amongst managers in this group. However, there is a correlation between leadership and decision-making. Those managers who rated the leadership "average" to "good" have answered the same decision-making questions. Unlike the managers' 10+, the rating of "fair" is most prominent in the leadership and relations with government agencies categories. Another significant correlation exists between the question "investigating and understanding the needs and expectations of teaching staff" in the customer focus category and "encouraging teamwork to involve" in leadership. Nine of the 33 participants out of a total of 12 have rated these two questions the same. That is, if the needs and expectations of teaching staff are considered, so is the encouragement. This can be seen as an implication of the managerial attitude towards teaching staff in the ISO 9001 process.

It is remarkable that the ratings of "poor" and "fair" are many in the responses of managers with experience of one to five years in the organization, consisting of ten participants, even though their job experiences are over ten years. Together with the group discussed in the previous paragraph, this group differs from the first group of participants in Q5 of leadership. Whilst there is no unanimous rating on this question, Q5

is not found to be correlated with the relations with governmental agencies. The group is similar to the first group, showing the same tendency in rating customer focus questions. 7 of 10 participants have given the same value to students and teaching staff in Q1 and Q2. In Q3 and Q4, the equal pairing tendency is even higher with nine participants, which is the same for Q7 and Q8. An overall evaluation implies that students and teaching staff are treated equally as customers. Yet participants have given varying responses to Q5 and Q6 regarding satisfaction measurement. Managers with 1 to 5 years of experience view the quality management knowledge acquired by people (Q4) as less satisfactory. Six participants have rated "average", three "fair", and one "poor".

Patterns and shared opinions do not yield different results across types of educational organizations. Yet, it should be noted that in the group of high school managers, the customer focus category has been rated "good" or "excellent", except for one "average" rating for Q8 by one participant.

The overall evaluation below includes the results of the value calculation, expressed on a scale of 1 (poor) to 5 (excellent). It demonstrates that, in the customer focus category, values are closer together in the pairs Q1-Q2, Q3-Q4, and Q7-Q8. The survey has returned a significant difference between Q5 and Q6. Q5 (student satisfaction) has a higher value (108) than Q6 (99), suggesting that the measurement of teaching staff satisfaction has been treated more weakly. It should, however, be remembered that the survey does not include students' responses but rather the perceptions of managers and teaching staff. It should also be noted that the difference is particularly significant amongst primary school managers' responses, which implies that primary school teachers 34 are not regarded as customers by managers. In leadership, the overall evaluation shows that Q1 (orchestrating successfully the ISO 9001 process regarding the needs and requirements of all stakeholders) and Q3 (providing people involved with training, resources, freedom to discuss the ISO 9001 process) are valued lower (94 and 96 respectively) than the others, whilst the highest value (112) is Q5 (encouraging teamwork to involve). Regarding people's involvement, moderate values are observed in Q1 (people's understanding of the requirements of ISO 9001) and Q2 (people's involvement in training and motivational activities), with scores of 91 and 93, respectively. However, Q3 (people's overall satisfaction with the ISO 9001 process) and Q4 (people's knowledge of quality management) fell to 89 and 85, respectively. The following three categories range from 98 to 92. In relations with governmental agencies, the managers value governmental involvement lower (88).

Regarding the research question on barriers and challenges, the key evaluation points are as follows: low government involvement, as an external factor, is likely the main barrier, as perceived by the participants. As for the challenges, people's overall satisfaction with the ISO 9001 process and the quality management knowledge they acquire are the most significant. The controversial values in the customer focus satisfaction category should also be considered a challenge.

Regarding the teaching staff's responses to the survey, eight participants have over 15 years of experience, one from high school, and seven from university (see Appendix

4). Even though the sampling is not proportional, it can be noted that the high school teacher's evaluation is "average" to "excellent", with the majority of "good". In return, the participants from the university have rarely rated "excellent"; and "fair", "average", and "good" are almost evenly distributed. No unanimous ratings are found in the consumer focus category.

In contrast to the managers' unanimous rating of "excellent" in Q5 (encouraging teamwork to be involved in leadership), five academics out of the total seven rated "average" to "fair", whilst two others rated "good". This is consistent with the responses to the other four leadership questions: the distribution of ratings is between "average" and "fair", whilst some 15+ managers rated "excellent". As for the only high school teacher in this group, the participant rated all the leadership questions as "good." 35 As for the questions in the involvement of people category, three academics have rated all the questions "fair" to "poor", whilst three others marked them as "average" to "fair", with the majority of "fair". Again, only one academic has rated "good" and given "excellent" to Q4 (knowledge of quality management acquired by people), which is surprising, as it does not even exist in the group of managers. The high school teacher has marked "excellent" for Q1 (people's understanding of the requirements of ISO 9001 and "good" for the others.

The separation between the two academics with a tendency towards high ratings and the others is observed in three continuity questions. The former rated "average" to "good," whereas the latter rated "average" to "poor." The same tendency of participants can be observed in the rest of the categories. In this group, it is clear that the high school teacher and two academics have successfully implemented ISO 9001. In contrast, five others seem dissatisfied with its implementation, suggesting the role of managerial skills in the process.

In the second group, consisting of teaching staff members with 10 to 15 years of experience, two participants are from the university, one from secondary school, and one from primary school. The data do not show any distinction by type of educational organization. The primary school teacher has given poor ratings to all the questions, suggesting that the organization's ISO 9001 implementation is not satisfactory to them. One of the two academics has rated all the questions as "average" to "poor," except for Q4 (knowledge of quality management acquired by people) in the involvement of people category, which the participant rated "good." The explanation could be that the organization's ISO 9001 implementation was unsuccessful despite strong knowledge of quality management.

The third group is divided into four groups according to the type of organization, with one participant from a primary school, three from secondary school, three from high school, and three from university. The primary school teacher has rated "fair" and "poor", and one high school teacher has marked "average" in all questions. Aside from this, subgroups are observed according to the types of organization. Secondary school teachers tend to rate higher, marking "good" and "excellent". Participants from high school and university, on the other hand, tend to rate lower. One high school teacher has

rated mostly "average" and "good", but given "fair" to Q3 (critical analysis of procedures, methods, and activities 36 of continuous improvement) in continuity and Q2 (involving governmental agencies in the process for a mutual beneficiary structure) in the category of mutually beneficial supplier relations, concerning mainly the involvement of government.

There are four participants from primary school, eight from secondary school, eight from high school, and four from university, totalling twenty-four in the group, with experience of 1 to 5 years. No subgroups can be identified in the rating according to types of educational institutions. However, on the "average" axis, several participants rate it average or higher, and a few rate it average or lower. Two participants from primary school, five from secondary school, two from high school, and one from university tend to rate at or above average. Conversely, three secondary school participants tend to rate below average.

In the overall evaluation of responses from teaching staff members, the values are evenly distributed and steady. In the consumer focus category, the controversy in Q5 and Q6 that appeared amongst managers is not observed among teaching staff. However, there is a difference between the first and second questions in the pairs: the first suggests that students are prioritized as customers. In the leadership category, the value on Q5 is consistent with the results in the manager's group. That is, encouraging teamwork involvement has the highest value, whilst Q1 and Q2 are the lowest. Leadership has focused heavily on encouraging activities, whilst the lowest value lies in the successful orchestration of the ISO 9001 process, taking into account the needs and requirements of all stakeholders and setting a vision based on ISO 9001 undertakings. In general, it can be inferred that the participants do not perceive leadership skills as performed in a well-balanced manner. In the people involvement category, Q2 (people's involvement in training and motivational activities) has the highest value (146). However, questions regarding understanding of ISO 9001 (Q1), satisfaction with the process (Q3), and knowledge about quality management (Q4) are significantly lower. The low values in Q3 and Q4 are consistent with the managers' group's results. Again, consistent with the results in the managers group, in the continuity category, Q3 (critical analysis of procedures, methods, and activities of continuous improvement) has the lowest value (130), not only amongst the three continuity questions but also compared to all previous categories. This means that continuity is taken into account, procedures, methods, and activities for assessing continual improvement are established, but the 37 critical analyses of them are poor, which undermines continuity and improvement. In the systems approach to management, the value of Q3 (identifying roles, autonomy, and responsibilities to avoid barriers) contradicts managers' perceptions. It is the lowest value amongst the three questions in the managers' responses, whilst it is the highest amongst the three questions in the teachers' perceptions. The other three questions concern the optimization of ISO 9001 (Q1), the interrelatedness of components (Q2), and the analysis of the organization's capabilities. Thus, Q3 is the only question regarding the individuals involved in the process. Teachers' perception of Q3, therefore, may have reflected their

stronger emphasis on its content. Apart from this, no meaningful explanation of the phenomenon is found. In the factual approach to decision-making category, no meaningful difference is identified from the managers' group. The category has moderate values in all three questions. In the last category of questions, mutually beneficial supplier relations, both questions have the lowest survey values (130 and 128). In consistency with the managers' survey, the values of the only external factor in the implementation of ISO 9001 suggest that the government's involvement in the process has not been achieved as perceived by the participants.

In the context of the research question, challenges and barriers are evident in participants' perceptions across all types of educational organizations. The analysis of leadership reveals that teaching staff members' perceptions emphasize managers' encouragement to participate in teamwork. However, the values for the other points of inquiry indicate an imbalance among the five leadership skills. As discussed extensively in the Literature Review, knowledge of ISO 9001 and management skills are distinct yet equally significant components of the implementation process. The imbalance, therefore, underscores a major challenge. Note that the survey has also returned to the perception of successful implementations, but the imbalance in leadership skills in the overall evaluation underscores a systemic problem. A reflection of weakness in skills is found in the lack of continuity. The analysis of people's involvement in the category can be interpreted as a failure to transfer ISO 9001 knowledge. Whilst people's involvement in activities is perceived as high, the other three points that can be acquired by participation have been valued low. The transfer, therefore, is another challenge revealed in the survey of teaching staff. Finally, the external agent's involvement as supplier, that is, the government, appears to be a major barrier to the implementation. The main reason for this can be seen in the centrally operated, hierarchical structures of the education system in Turkey, which disrupt the establishment of a horizontal network of teams and the cooperation with stakeholders in the implementation process.

6.2 Interviews

Since the interviews are limited to five representatives (one from primary school, two from secondary school, one from high school, and one from university), evaluation based on variables such as experience within the institution and total job experience is not included. Instead, the mode of participation, i.e., voluntary, assignment, or paid, is considered an underlying factor for perception. Among the interviewees, the primary school representative (PS) and university representative (UN) are from the management teams; the secondary school (SS2) and high school (HS) representatives are from the teaching staff. The last participant (SS1) is an ISO 9000 expert who was hired for the implementation.

The questionnaire includes questions on different aspects of ISO 9001 implementation, such as top management's approach to the system's components and to the organization's different stakeholders, measurement methods, and internal and external resources for implementation. There are also questions to explore perception

through contrasting viewpoints on the successful and failed aspects of implementation and the pros and cons of the system (see Appendix 5).

Regarding the questions of success and failure (Q2 and Q3), the interviewees refer to different aspects of implementation. PM finds the critical review to examine the process in terms of the targets' success. Its contribution to job description, task monitoring, work discipline, and organized working is highlighted by SS2, HS, and UN in different wordings. SS1 emphasizes total success and highlights the role of top management. All the interviewees, except SS1, find resource allocation and people's motivation to be failures. SS1, on the other hand, indicates no failure. Significantly, the formers find procedural aspects successful, but the managerial role and human involvement unsuccessful. The interview data support the average value of people's involvement in the survey. Another meaningful similarity can be found in the failure to allocate resource 39 in the interviews (PS and SS2) and the low value of ISO 9001 orchestration in the survey. There is no grouping based on the mode of participation for Q2 and Q3.

Regarding the pros and cons of ISO 9001 processes (Q4), PM emphasizes the importance of implementing the criteria literally, whilst HS underlines the importance of people's commitment. SS2, on the other hand, focuses on the role of written procedures in building a permanent work memory. SS1 and UN refer to technical aspects of the procedures, as the former mentions quality risk detection and the latter measurement. Of the total, three responses refer to systemic aspects and two to human-driven aspects.

Q5 concerns the managerial aspects of ISO 9001 implementation and asks how managers should handle the different components of the process. Not surprisingly, since the question does not specify any components, interviewees vary greatly in their responses. PS again emphasizes the human factor and stresses that top management should stand by the quality manager, which aligns with the theory, starting with Deming's, and several research findings discussed in the Literature Review. SS1 highlights the role of auditing and assessment of outputs. The discussion of SS2 suggests that top management should reconsider components of ISO 9000 implementation specifically for service industries, for emotional aspects challenge the ISO 9000 criteria. This is extensively discussed in the literature, as presented in the Literature Review. According to HS, top management should focus on job descriptions, integrating strategic planning with ISO 9001, and properly allocating resources for successful implementation. The responses to Q6 surprisingly overlook the distinction between top management and other stakeholders, such as teaching staff and students. No particular aspects of customer focus have been identified as a major field of inquiry in the survey, which consists of eight questions. Comments including "strongly support (ES), "natural communication" (SS2), 'advantages of overlapping' (HS), "positive communication" (UN) represent the ideals of participants rather than facts. It is also significant that SS1 refers to the availability of R&D and internship programs, which imply the prescriptive nature of ISO 9001, as discussed in the Literature Review, since initiatives such as R&D and internship programs are popular templates rather than organisation-specific endeavours.

Q7 inquires opinions on the measurement of ISO 9001 output. PS, SS2, and HS agree that measurement tools and methods do not fit the educational environment; SS1, however, is confident that the available tools and methods can be improved and processed with software, and UN highlights "an objective system based on data". The opinions underline a disagreement between the former and the latter.

Q8 is likely the only one that all participants agree on, which regards the importance of resources. Resources allocated to the process are found to be insufficient. The impact of the ISO 9001 process on curriculum and teaching techniques (Q9) did not really return useful data. Only PS specified "exemplification and presentation of subject"; the other participants provided more abstract comments. Arguably, this can be a consequence of the centrally organized curriculum-building in the Turkish educational system (p. 6). Teaching staff members are unable to make curricular modifications to meet students' needs. From a different perspective, constraints on satisfying students, as one stakeholder, are explicit in responses to Q8 and Q6.

Q10 inquired about challenges and barriers, and the responses were unanimous, focusing on internal factors, i.e., top management and the people involved. Management's failure of orchestrating the process as challenge and barrier is stressed by PS, SS2, and HS focusing on issues like overload assignment instead of having positions specifically for implementation and sustention of ISO 9001 (PS), lack of will and time management skills (SS2), frequent replacement of people during the process, and lack of pay for motivation (HS). SS1, on the other hand, sees resistance of blue collars as the only challenge; and for UN, the main challenge is the establishment of written culture. PS also mentions the lack of support from all of the employees as a challenge or barrier.

The interview data reveal that the participants favor the ISO 9001 process as a problem-solving system, both in theory (Q4) and in their own experiences (Q2), and they refer to different aspects of the process. The implications of the problem-solving approach align with the discussion of the differences between TQM and ISO 9001 in the Introduction (p. 4). It is also significant that participants mostly emphasize the importance of people's commitment wherever it is relevant. Participants commonly share the idea that failure is rooted in human factors, namely top management's orchestration and involvement of people, and that measurement tools and methods should be adjusted to the service sector and, by extension, education.

There is no significant difference among assigned, voluntary, and paid participation, or between managers and teaching staff, in favor of the system. However, there is a proximity between SS1 and UN on the one hand, and amongst the rest on the other. SS1, as a professional quality manager, is more confident that the system works well in educational settings, whilst UN has a strong belief in the system and only sees people's involvement as the main challenge. From the difference between the two groups, it can be inferred that hiring an expert may imply that top management allocates the resources required for the process, and that the higher education setting differs from others in this respect. The others seem to have experienced formal challenges and barriers in measurement, orchestration, people's involvement, and resource allocation.

The analysis reveals two dimensions of people's involvement as a challenge and/or a barrier. One is assigning employees overload tasks without incentives, and the other is difficulties in establishing documentation as a core asset of ISO 9001. The former is both formal and structural, as it contradicts the essence of ISO 9001 regarding job descriptions, and it implies an embedded cultural construct in the workplace that loosely defines jobs. The findings are consistent with the survey data. The difficulty with documentation, however, is predominantly structural: resistance to documenting every activity.

This study has explored the Turkish educational context by employing an interpretivist approach to data collected with both surveys and interviews. In line with the literature review, the survey found that the gap between ISO 9001 knowledge and leadership skills has affected participants' perceptions of implementation, as leaders or managers are perceived as not fully capable of orchestrating the process in many institutions. This is partly due to a lack of managerial skills and partly because participation in implementation activities is not complemented by belief in the system or satisfaction with motivational incentives among the people involved. In addition to these challenges, the resources allocated to the implementation are generally insufficient. This is particularly significant in the context of Turkey, where the institutions are centrally organized in both academic and budgetary issues. Concerns about the effectiveness of measurement tools and methods also exist in the survey. These challenges and barriers have likely led to dissatisfaction among participants with the process and its outcomes. These results generally overlap with data collected through interviews. What is significant in interviews is that, by organizing their statements, the participants expressed their positive thoughts about the system rather than their experiences with the process. Typically, the participants have employed these rhetorical statements where results of effective measurement are needed. Despite the challenges and barriers, this implies potential pursuits for quality management. However, the overall results suggest a substantial need to adapt ISO 9001 to the educational context, where concepts of leadership and stakeholder differ from those in service industries. Regarding the third research question, the ambiguity of measurement tools and methods seemingly makes it difficult to assess the impact of the process on the organizational and business performance. The current research has revealed that Turkish educational institutions face challenges and barriers similar to those examined in the Literature Review.

7. Conclusion and Recommendation

This study aimed to explore the challenges and barriers to ISO 9001 implementation in Turkish educational organizations. The introduction presents the discussion of the theoretical and conceptual framework of quality management in different forms, with a particular focus on the difference between quality management and quality assurance. The Literature Review examines academic essays under the sections of total quality management, QMSs, and ISO 9001 in the fields of manufacturing industries, service

industries, and educational institutions. The chapter illustrates that the ISO 9000 series has developed less in the educational context. It also underscores that implementing ISO 9001 is complex and varies greatly from one institution to another, depending on needs, expectations, and challenges. The results suggest that further empirical research is needed to examine how the ISO 9001 framework can be adapted to the educational environment. Both the survey and the interviews have revealed that the existing criteria do not fully fit the educational context. The majority of participants also agree that there is a lack of resources for implementation. This study is limited to the survey and interviews conducted with participant managers and teaching staff at Turkish educational institutions. The survey and the interviews do not yield contrasting results. Both emphasize certain aspects of managerial skills, people's involvement, and measurement tools and methods as the sources of challenges and barriers. Further research is needed to reach a more in-depth analysis of the implementation of ISO 9001 in the Turkish educational institutions. Since measurement tools and methods are inherently ambiguous to some extent, it would be useful to compare institutions with ISO 9001 experience with those that have undergone other TQM procedures to understand how ISO 9001 has affected educational institutions in Turkey. The study identified no total rejection of the system. However, it reveals that the main sources of dissatisfaction are motivational rewards for participating in the implementation, systemic incompatibility with ISO 9001 criteria, and resource constraints. In the future, it should be recommended that more resources, including personnel, be made available to cover a reasonable geographic area to support conclusive research findings.

Conflict of Interest Statement
The author declares no conflicts of interest.

About the Author(s)
Mazhar Çağrı Akar is a lecturer. He is working at Yozgat Bozok University, School of Economics and Administrative Sciences.

References

Abell, A., & Oxbrow, N. (2001). *Competing with knowledge*. Facet Publishing.

Al-Najjar, S. M. & Jawad, M. K., 2011. ISO 9001 Implementation Barriers and Misconceptions: An empirical study. *International Journal of Business Administration*, *2*(3), pp.118-131. https://www.researchgate.net/publication/216891150_ISO_9001_Implementation_Barriers_and_Misconceptions_An_Empirical_Study

Stralser, S. (2004). Quality management systems. In MBA in a day: What you would learn at top-tier business schools (if you only had the time!) (pp. 264–287). Wiley

Brinkmann, S. (2013). *Qualitative interviewing*. Oxford University Press. https://doi.org/10.1093/acprof:osobl/9780199861392.001.0001

Calvo-Mora, A., Leal, A., & Roldán, J. L. (2006). Using enablers of the EFQM model to manage institutions of higher education. *Quality Assurance in Education, 14*(2), 99–122. https://doi.org/10.1108/09684880610662006

Carson, D. J., Perry, C., & Gilmore, A. (2001). Qualitative marketing research. https://doi.org/10.4135/9781849209625

Charantimath, P. M. (2006). *Total quality management* (2nd ed.). Pearson. https://books.google.ro/books/about/Total_Quality_Management.html?id=h7US1hlgV_IC&redir_esc=y

Chiarini, A. (2016). Strategies for improving performance in the Italian local government organizations Can ISO 9001 really help? *International Journal of Quality & Reliability Management, 33*(1), 344–360. https://doi.org/10.1108/IJQRM-03-2014-0038

Choppin, J. (1994). Total quality service. *Managing Service Quality: An International Journal, 4*(3), 49–52. https://doi.org/10.1108/09604529410057792

Elliott, R., & Timulak, L. (2005). Descriptive and interpretive approaches to qualitative research. In J. Miles & P. Gilbert (Eds.), *A handbook of research methods for clinical and health psychology* (pp. 147–159). Oxford University Press. https://nideffer.net/classes/GCT_RPI_S14/readings/interpretive.pdf

Feng, M., Terziovski, M., & Samson, D. (2007). Relationship of ISO 9001:2000 quality system certification with operational and business performance: A survey in Australia and New Zealand-based manufacturing and service companies. *Journal of Manufacturing Technology Management, 19*(1), 22–37. https://doi.org/10.1108/17410380810843435

Gamboa, A. J., & Melão, N. F. (2012). The impacts and success factors of ISO 9001 in education: Experiences from Portuguese vocational schools. *International Journal of Quality & Reliability Management, 29*(4), 384-401. https://doi.org/10.1108/02656711211224848

Hansson, J. (2001). Implementation of total quality management in small organizations: A case study in Sweden. *Total Quality Management, 12*(7–8), 988–994. https://doi.org/10.1080/09544120100000025

Honarpour, A., Jusoh, A., & Long, C. S. (2017). Knowledge management and total quality management: A reciprocal relationship. *International Journal of Quality & Reliability Management, 34*(1), 91–102. https://doi.org/10.1108/IJQRM-03-2014-0040

Hudson, L., & Ozanne, J. L. (1988). Alternative ways of seeking knowledge in consumer research. *Journal of Consumer Research, 14*(4), 508–521. https://www.jstor.org/stable/2489157

Jansen, H. (2010). The logic of qualitative survey research and its position in the field of social research methods. *Forum: Qualitative Social Research, 11*(2). https://www.researchgate.net/publication/45194054_The_Logic_of_Qualitative_Survey_Research_and_its_Position_in_the_Field_of_Social_Research_Methods

Kasul, R. A., & Motwani, J. G. (1995). Total quality management in manufacturing: Thematic factor assessment. *International Journal of Quality & Reliability Management, 12*(3), 57–76. https://doi.org/10.1108/02656719510084781

Knight, J. (2003). Updated definition of internationalization. *International higher education*, (33). https://doi.org/10.6017/ihe.2003.33.7391

Levett, J. M., & Burney, R. G. (2011). *Using ISO 9001 in healthcare: Applications for quality systems, performance improvement, clinical integration, and accreditation*. ASQ Quality Press. https://asq.org/quality-press/display-item?item=E1465

McCambridge, J., Witton, J., & Elbourne, D. R. (2014). Systematic review of the Hawthorne effect: New concepts are needed to study research participation effects. *Journal of Clinical Epidemiology, 67*, 267–277. https://doi.org/10.1016/j.jclinepi.2013.08.015

Moeller, J., Breinlinger, J., & O'Reilly, J. (2000). Quality management in German health care - the EFQM Excellence Model. *International Journal of Health Care Quality Assurance, 13*(6), 254–258. https://doi.org/10.1108/09526860010373226

Neary, B. U. (2008). Taylorism. In W. A. Darity (Ed.), *International encyclopedia of the social sciences* (2nd ed., pp. 287–288). Macmillan Reference USA. http://philosociology.com/UPLOADS/_PHILOSOCIOLOGY.ir_INTERNATIONAL%20ENCYCLOPEDIA%20OF%20THE%20SOCIAL%20SCIENCES_Second%20Edition_%20Darity_5760%20pgs.pdf

Neave, H. R. (1987). Deming's 14 points for management: Framework for success. The Statistician, 36(5), 561–570. https://doi.org/10.2307/2348667

Nwabueze, U. (2001). An industry betrayed: The case of total quality management in manufacturing. *The TQM Magazine, 13*(6), 400–409. https://doi.org/10.1108/EUM0000000006177

Okçabol, R. (2008). Secondary education in Turkey. *Education in Turkey, 26*, 83-105.

Osseo-Asare, A. E., & Longbottom, D. (2002). The need for education and training in the use of the EFQM model for quality management in UK higher education institutions. *Quality Assurance in Education, 10*(1), 26–36. https://doi.org/10.1108/09684880210416085

Passl, W. J. (1993). Can management by objectives and total quality management be reconciled? *Total Quality Management, 4*(2), 135–142. https://doi.org/10.1080/09544129300000023

Petersen, P. B. (1999). Total quality management and the Deming approach to quality management. *Journal of Management History, 5*(8), 468–488. https://doi.org/10.1108/13552529910290520

Psomas, E., & Antony, J. (2017). Total quality management elements and results in higher education institutions: The Greek case. *Quality Assurance in Education, 25*(2), 206–223. https://doi.org/10.1108/QAE-08-2015-0033

Reyes, A., & Lozano, P. (1997). ISO 9000 and the total quality management models. *Library Management, 18*(3), 148–150. https://doi.org/10.1108/01435129710166464

Rogala, P. (2016). Identification of barriers to improving quality management systems: The management representatives' perspective. *The TQM Journal, 28*(1), 79–88. https://doi.org/10.1108/TQM-05-2014-0047

Rowlands, K. (1998). Total quality management at the Dell primary school. *Total Quality Management*, 9(4-5), 203-209. https://doi.org/10.1080/0954412988910

Sallis, E. (2002). *Total quality management in education* (3rd ed.). Kogan Page. https://herearmenia.wordpress.com/wp-content/uploads/2011/09/ebooksclub-org__total_quality_management_in_education.pdf

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Pearson Education Limited. https://www.researchgate.net/publication/240218229_Research_Methods_for_Business_Students

Schofield, W. (2006). Survey sampling. In R. Sapsford & V. Jupp (Eds.), *Data collection and analysis* (2nd ed., pp. 26–54). Sage.

Schumm, W. R. (2012). Methodological decisions and the evaluation of possible effects of different family structures on children: The new family structures survey. *Social Science Research, 41*(6), 1357–1366. https://doi.org/10.1016/j.ssresearch.2012.08.011

Sirvanci, M. B. (2004). Critical issues for TQM implementation in higher education. *The TQM Magazine, 16*(6), 382–386. https://doi.org/10.1108/09544780410563293

Todorut, A. V. (2013). The need of total quality management in higher education. *Procedia - Social and Behavioral Sciences, 83*, 1105–1110. https://doi.org/10.1016/j.sbspro.2013.06.207

Uygur, A., & Sümerli, S. (2013). EFQM excellence model. *International Review of Management and Business Research, 2*(4), 980–993. https://www.researchgate.net/publication/326040340_EFQM_EXCELLENCE_MODEL

Van Maanen, J., Sørensen, J. B., & Mitchell, T. R. (2007). Introduction to Special Topic Forum: The interplay between theory and method. *The Academy of Management Review, 32*(4), 1145–1154. https://www.jstor.org/stable/20159360

Wilson, M., & Sapsford, R. (2006). Asking questions. In R. Sapsford & V. Jupp (Eds.), *Data collection and analysis* (pp. 93–123). Sage. https://methods.sagepub.com/book/edvol/data-collection-and-analysis/chpt/asking-questions#

Zeng, S., Tian, P., & Tam, C. (2007). Overcoming barriers to sustainable implementation of the ISO 9001 system. *Managerial Auditing Journal, 22*(3), 244–254. https://doi.org/10.1108/02686900710733125

Appendix 1: Survey Questionnaire

Customer Focus
Investigating and understanding the needs and expectations of teaching staff
Adjusting the organisation's objectives to students' needs and expectations
Adjusting the organisation's objectives to needs and expectations of teaching staff
Measurement of the satisfaction of students
Measurement of the satisfaction of teaching staff
Incorporating the needs and expectations of students into the requirements of students
Incorporating the needs and expectations of students into the requirements of academics
Leadership
Orchestrating successfully the ISO 9001 process in regard to the needs and requirements of all stakeholders
Setting vision based on ISO 9001 undertakings
Providing people involved with training, resources, freedom to discuss the ISO 9001 process
Creating values and ethical frameworks shared and carried out by all the members of organisation
Encouraging teamwork to involve
Involvement of people
People's understanding of the requirements of ISO 9001
People's involvement in training and motivational activities
People's overall satisfaction with the process of ISO 9001
Knowledge of quality management acquired by people
Continuity
Establishing an approach to continual improvement of ISO 9001
Setting procedures, methods, and activities of assessing continual improvement
Critical analysis of procedures, methods and activities of continuous improvement
Systems Approach to Management
Optimisation of ISO 9001 activities by building a system to achieve organisational objectives
Interrelatedness of the components of the quality management system
Identifying roles, autonomies, and responsibilities in order to avoid barriers
Analysis of the organisation 's capabilities to achieve the quality management system
Factual Approach to Decision Making
Making sure that data representing the facts are accurate and relevant to the context of education
Performing analyses meaningfully in terms of the organisation's objectives as well as the key factors of ISO 9001 in the context of education
Making strategic decisions based on facts as well as the experience gained though the previous procedures
Mutually Beneficial Supplier Relations
Ensuring that national system and governmental resources as external, but determinant agents, are intact to complement supply chain in the context of education
Involving governmental agencies in the process for a mutual beneficiary structure

Appendix 2: Interview Questions

1) How did you get personally involved in the process of implementation? Voluntary or assignment? Please explain.
2) What aspects of ISO 9001 framework have been achieved in your organization, if any? (If none, skip the question 4)
3) What aspects of ISO 9001 framework have been failed in your organization, if any?
4) What aspects of the implementation do you most agree with, if any, and why?
5) How do you think top management's concerting should be in different components of ISO 9001 requirements?
6) How do you think the interaction of the top management with academics and students during the processes?
7) What is your opinion about the measurement system?
8) What are the internal and external supports for the implementation? Training, sources?
9) Even though ISO 9001 is a system of quality management, do you think it made an impact on your curriculum and teaching techniques? (for academics) How did you take into account the curriculum and teaching methods and techniques in designing ISO 9001 process? (for administrative staff)
10) What are the most significant barriers and challenges that you encountered?

Appendix 3: Survey Results of Managers

School Type	Position	SP...	SP..	GE..	CFI	CF2	CE	CF4	CF5	CF6	CF	CF8	L1	L2	L3	L4	L5	IOP1	IOP2	IOP3	IOP4	C1	C2	C3	SAMI	SAM2	SAL43	SAM4	DM1	DM2	DM3	SR1	SR2
High School	Manager	5+	15+	M	4	4	4	4	4	4	4	4	2	2	2	4	4	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4
High School	Manager	15+	15+	M	4	4	5	4	4	4	5	4	4	4	4	4	5	4	3	4	4	4	3	3	4	5	4	4	4	5	5	4	4
High School	Manager	15+	15+	M	4	4	4	4	4	4	4	4	4	4	3	4	5	3	3	3	3	4	3	3	4	3	3	3	3	3	3	2	2
High School	Manager	10+	15+	M	4	5	4	4	5	4	4	4	5	5	4	5	4	4	4	3	4	5	5	5	4	4	4	4	4	4	4	4	4
High School	Manager	1+	15+	F	4	4	4	4	5	4	4	3	4	4	4	4	4	3	3	3	3	4	3	3	3	3	3	3	3	4	4	4	3
Primary School	Manager	10+	15+	M	4	4	5	5	4	4	5	4	5	5	5	4	4	4	4	4	3	5	5	5	4	5	4	4	4	5	5	2	4

School	Role	Exp1	Exp2	Gender																															
Primary School	Manager	15+	15+	M	4		4	4	4	3		3	3	3	3	3	5	3	3	3	3	3	4	3	3	4	4	3	3	4	3	3	3
Primary School	Manager	10+	15+	M	4	4	4	3	4	4	4	3	4	5	3	4	4	4	3	4	3	4	3	3	3	3	4	4	4	3	3	4	4
Primary School	Manager	5+	15+	M	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	3
Primary School	Manager	1+	10+	F	3	3	2	2	4	1	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Primary School	Manager	10+	15+	M	4	5	4	4	5	5	4	4	4	5	5	4	5	4	5	4	3	5	5	4	4	4	4	5	4	5	4	3	2
Primary School	Manager	1+	15+	M	3	3	4	3	4	3	4	3	3	3	2	4	4	3	3	3	2	3	3	3	3	2	3	3	3	3	3	3	2
Secondary School	Manager	1+	15+	M	1	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	3	2	3	2	1	2	2	2	2	2	2	2

Secondary School	Manager	10+	10+	M	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4		4	4	4	4	4	4	4	4	4	4	3	3	3
Secondary School	Manager	10+	15+	M	3	4	3	3	3	3	3	4	3	4	3	4	4	3	4	3	4	4	3	3	3	4	3	2	2	3	4	4	3
Secondary School	Manager	1+	15+	M	4	4	4	4	3	4	4	4	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	2	2	2	1	2
Secondary School	Manager	10+	15+	M	4	2	4	4	4	4	4	4	2	2	2	3	2	2	2	2	2	4	4	3	2	2	2	3	2	2	2	2	2
Secondary School	Manager	1+	10+	F	4	4	4	4	4	3	3	3	3	4	3	3	4	5	3	5	3	2	4	4	4	5	5	5	4	5	4	5	5
Secondary School	Manager	10+	15+	M	4	4	4	4	4	3	3	3	3	3	3	3	4	3	3	3	3	4	3	3	3	3	3	4	3	3	4	2	2
Secondary School	Manager	5+	10+	M	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	4	4	4	5	4	5	5	4	5	4	5	5	4	5

Institution	Role			Gender																														
Secondary School	Manager	1+	15+	M	4	4	4	4	4	4	4	5	4	4	4	4	4	3	5	3	3	3	4	4	4	4	4	4	4	4	5	4	4
University	Manager	15+	15+	M	4	4	4	4	4	4	4	4	4	5	4	4	5	4	4	4	3	4	4	3	4	4	3	4	4	3	3	4	3
University	Manager	1+	15+	M	4	4	4	4	4	3	3	3		4	4	4	4	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	4
University	Manager	15+	15+	M	4	4	3	4	3	4	3	4	3	4	4	5	5	3	3	4	3	4	3	3	4	4	4	4	3	4	5	4	4
University	Manager	10+	15+	M	3	3	3	3	4	4	4	4	4	4	4	4	4	3	4	3	4	4	5	5	4	3	3	3	4	4	4	3	3
University	Manager	1+	15+	F	1	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
University	Manager	1+	15+	M	4	3	3	3	3	3	3	3	3	4	4	4	4	3	3	4	3	4	3	3	4	4	3	3	4	3	3	4	4

University	Manager	1+	1+	F	3	3	3	3	3	3	3	3	4	4	4	4	4	3	3	3	3	4	4	4	4	3	3	3	3	3	3	3	3

Appendix 4: Survey Results of Teaching Staff

School Type	Position	IMEI	NG TI	CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	L1	L2	L3	L4	L5	IOP1	IOP2	IOP3	IOP4	C1	C2	C3	SAM1	SAM2	SAM3	SAM4	DM1	DM2	DM3	SR1	SR2
High School	Teacher	15+	15+	4	3	4	3	4	4	4	3	4	4	4	4	4	5	4	4	4	4	4	4	4	4	3	4	5	4	4	3	3
High School	Teacher	1+	15+	4	4	4	4	3	3	3	4	3	3	3	3	5	3	3	3	3	3	2	3	3	2	3	3	3	3	3	2	2
High School	Teacher	1+	5+	4	3	3	3	4	3	4	2	3	3	3	3	3	4	4	3	3	3	3	2	3	3	3	3	3	4	3	3	4
High School	Teacher	1+	15+	4	3	3	4	2	2	1	1	1	1	1	2	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	
High School	Teacher	5+	15+	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

High School	Teacher	1+	1+	4	3	5	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
High School	Teacher	1+	5+	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	3	4	3	3	4	3	4	3	
High School	Teacher	1+	5+	4	4	4	3	4	4	4	4	3	2	3	4	4	3	2	2	2	4	2	2	2	4	3	4	2	3	4	3	2
High School	Teacher	5+	10+	3	4	4	4	3	3	4	4	4	4	4	3	4	3	4	4	4	3	3	2	4	3	3	3	3	3	3	4	2
High School	Teacher	5+	5+	4	3	4	5	4	3	4	3	4	4	4	4	4	5	5	5	5	4	4	4	5	4	4	4	4	3	4	5	4
High School	Teacher	1+	5+	4	4	3	3	2	2	3	3	3	3	3	3	4	3	2	3	3	3	2	3	4	4	3	3	2	2	3	4	3
High School	Teacher	1+	1+	3	2	3	3	4	4	3	3	4	3	4	4	5	4	3	3	4	4	4	5	3	3	4	5		3	3	3	2

Primary School	Teacher	5+	5+	2	2	2	2	2	1	1	1	1	2	1	2	2	2	2	2	2				2	2	2	2	2	2	2	1	1
Primary School	Teacher	10+	10+	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Primary School	Teacher	1+	5+	4	4	4	4	4	4	4	4	4	4	4	4	3	5	3	3	4	5	4	4	4	4	3	4	3	3	3	3	
Primary School	Teacher	1+	1+	5	4	3	3	5	3	5	3	4	4	4	5	5	3	5	4	4	4	4	4	4	4	4	4	5	5	5	4	5
Primary School	Teacher	1+	1+	4	4	4	4	4	3	4	3	3	3	3	3	4	2	5	2	2	2	2	3	2	3	3	3	3	3	3	3	3
Primary School	Teacher	1+	1+	2	2	2	2	4	4	3	2	2	3	2	2	4	3	3	2	2	3	2	2	3	3	3	3	2	2	2	2	2
Secondary School	Teacher	1+	15+	3	3	3	3	3	2	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Secondary School	Teacher	1+	1+	2	2	2	2	2	2	2	2	2	2	3	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Secondary School	Teacher	1+	15+	3	3	2	2	2	2	2	2	2	1	3	2	2	3	2	2	2	4	2	2	2	2	3	2	3	3	2	2	
Secondary School	Teacher	1+	10+	2	2	2	3	1	2	3	3	3	2	2	3	3	2	3	2	3	3	2	2	3	3	3	3	3	3	3	3	3
Secondary School	Teacher	1+	5+	4	5	5	5	5	4	4	5	4	4	4	4	5	4	5	4	5	4	4	5	4	4	4	4	4	5	4	4	4
Secondary School	Teacher	5+	10+	5	5	5	4	4	4	4	5	4	4	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Secondary +School	Teacher	5+	5+	5	5	5	5	5	5	4	4	4	4	5	5	4	5	5	5	4	4	4	5	5	4	5	4	4	5	5	4	4
Secondary School	Teacher	1+	1+	5	5	5	5	5	5	4	5	4	4	5	5	5	5	4	4	4	5	5	4	5	5	5	4	5	4	5	5	5

Secondary School	Teacher	1+	5+	4	4	4	4	4	3	3	3	3	4	5	4		3	3	3	3	3	3	3	3	3	3	3	3	3	2	2
Secondary School	Teacher	5+	5+	5	5	4	5	4	4	5	4	4	4	5	4	5	4	4	4	4	5	4	5	4	4	5	5	4	4	5	4
Secondary School	Teacher	10+	10+	4	3	5	4	4	3	4	3	3	2	2	4	4	3	2	3	2	3	4	3	3	3	4	4	5	3	4	2	1
Secondary School	Teacher	1+	1+	4	3	3	3	3	3	4	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3
University	Teacher	15+	15+	4	2	3	2	3	2	3	2	2	2	2	3	2	3	3	3	3	2	2	2	2	3	4	2	2	2		
University	Teacher	15+	15+	3	3	3	3	2	2	3	3	2	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	2	3	3	3	3
University	Teacher	5+	15+	2	3	2	3	3	3	1	3	3	4	4	4	2	2	1	2	1	4	4	3	3	2	3	2	1	3	2	3	3

University	Teacher	15+	15+	3	3	4	4	5	5	4	4			4	4	4		4	4	5		4		4	3	4	5	5	4	4	4	5
University	Teacher	10+	10+	3	3	3	2	5	3	2	3	3	2	1	3	2	2	3	3	4	3	2	2	3	2	3	2	2	3	2	2	3
University	Teacher	10+	15+	4	4	4	4	4	4	3	3	3	4	3	4	3	2	3	3	3	4	4	3	4	4	3	3	4	3	3	3	2
University	Teacher	15+	15+	3	2	3	2	2	2	2	2	2	2	2	3	2	1	2	1	1	2	1	1	1	2	2	2	2	2	2	2	3
University	Teacher	15+	15+	4	4	4	4		4	4	3	3	4	4	4	4	3	3	3	3	4	3	4	4	4	4	4	4	4	4	4	4
University	Teacher	1+	1+	3	3	4	2	3	2	2	2	4	3	3	3	4	3	2	3	3	4	4	3	3	4	2	3	3	4	3	2	3
University	Teacher	15+	15+	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2	2	5	2	3	2	2	2	2	2	2

Mazhar Çağrı Akar
CHALLENGES AND BARRIERS TO ISO 9001 IMPLEMENTATION IN TURKISH
EDUCATIONAL INSTITUTIONS: EVIDENCE FROM SURVEYS AND INTERVIEWS

University	Teacher	15+	15+	2	3	3	3	2	2	2	2	2	2	2	2	2	1	1	2	1	2	1	1	1	2	2	1	2	1	2	2	1
University	Teacher	5+	5+	3	2	3	3	4	3	3	3	4	4	3	4	2	2	2	2	3	3	3	4	3	3	4	4	3	4	3	3	4
University	Teacher	5+	15+	3	1	2	4	3	2	2	2	1	1	1	2	2	2	2	2	1	1	1	1	1	1	2	1	2	1	1	1	2
University	Teacher	1+	10+	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	4	5	4	4	4	4	4	5	5	4	4	4	4	4
University	Teacher	1+	1+	4	3	4	3	3	4	3	3	5	3	3	3	4	2	3	2	2	2	2	2	3	2	3	1	2	2	2	2	2
University	Teacher	1+	1+	2	3	3	3	3	2	2	2	4	4	4	4	4	5	4	3	3	4	4	4	5	4	3	5	4	4	3	2	2

Appendix 5: Condensed Meaning Units of Interviews

Q	Primary school	Secondary school 1	Secondary school 2	High school	University
1	Assigned as quality manager	Hired for implementation	Voluntary	Assignment	Assignment
2	In terms of questioning whether total targets are achieved, it is successful	Planning and auditing have been successful thanks to top management.	Job description, task monitoring, work discipline, getting organised	Regulates strategic planning; meetings held on a regular basis; parental satisfaction	Standardisation of processes and procedures, measurement, and continuous improvement
3	Failure of filling maintenance forms of busy schedules and lack of personnel	No failure thanks to top management	Due to weakening of the management will; training of newcomers. Everyone should believe in the process.	Weakness in employees' motivation	It took time to develop quality culture in service industries
4	When the criteria are implemented, it certainly works with business organisations.	I agree with quality risk detection in the version 2015. It is important in taking precautions	All the processes are written down so that a permanent work memory is built. This helps to measure the frequency of problems and avoid unnecessary generalisations	Pros: Employee motivation leads to gather around the same target Cons: delegation is not backed by motivations like extra payment	I very much agree with measurement
5	The quality manager should be backed by white collars	Review of the efficiency of outputs	If the components are quality management, system documentation, and understanding of quality, They should be reconsidered for the service industries. Emotional relations with customers and perceptions challenge ISO 9001 in essence	Job description, authorisation, integration of strategic planning and ISO 9001, and identifying resources accordingly	The process should be handled as a whole
6	I strongly support, because they can change your mind as the external agent	Abundance of R&D projects, job analysts, and internships	I found very enthusiastic. In quality management, communication should be natural between all the parties	Higher output when they overlap	Interaction should be in a positive way. This is a must
7	Insufficient	We can make improvements at process checkpoints.	Methods of measurement different from surveying would be developed.	Education needs distinctive measurement methods.	An objective system based on data

		SAP software is helpful.			
8	No financial support unfortunately	Top management and all employees must engage. Incentives must be granted	Internal: training, motivation, employee satisfaction, tools and material; External: customer satisfaction, perception of the organisation in the environment, financial resources, the organisation's social responsibility	Apart from training, resources (internal and external) are insufficient	Main resources are legislations. Training for problem solving are secondary, but significant resources
9	Through exemplification and presentation	Brain storming with personnel who received management system training	Curriculum and teaching methods were taken according to the vision statement	Once understood clearly, it increases productivity in the fields concerned	Expectations should be satisfied quickly and with short procedures in the field of health; employees should be satisfied; and, methods should be based on measurement
10	There should be positions allocated to implementation and continuity. Lack of support from all employees makes difficult to continue	Blue collars can be resistant at the beginning, but, they come along after training.	Disbelief in the system, reluctance to fill the forms, failure of time management in the evaluation of documents, long evaluation meetings, late response to low motivation, insufficiency of the management will	Frequent replacement of managers and officials affect negatively; unpaid assignments cause demotivation.	Building written culture: participation of every individual