

From Compliance to Integration: A Knowledge Management-based Maturity Model for Quality Culture in Portuguese Higher Education

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Abstract: Higher Education Institutions (HEIs) are increasingly required to move beyond formal compliance with Quality Management Systems (QMS) towards the development of genuine Quality Cultures — organisational environments in which improvement is collectively owned, evidence-based, and knowledge-driven. Yet, despite growing theoretical interest in the intersection of Knowledge Management (KM) and Quality Culture (QC), empirical investigation of this relationship remains notably scarce, particularly within the European context, where quality assurance research has historically prioritised structural and regulatory dimensions over the cultural and knowledge processes that sustain them. This paper presents the conceptual framework and preliminary empirical findings of an ongoing doctoral research project. The study makes two contributions: it empirically investigates the mediating role of KM processes — namely knowledge creation, acquisition, sharing, sensemaking, retrieval, and utilisation — in the relationship between TQM frameworks and QC within Portuguese HEIs; and it introduces the Quality Culture Maturity Model (QCMM), an inductively derived four-stage developmental framework grounded in the qualitative analysis of all 97 Portuguese HEIs' institutional evaluation reports. The study is grounded in Organisational Psychology, anchored in ISO 30401:2018 as a practical implementation reference, and addresses four core research questions concerning the extent to which KM processes are integrated into Portuguese HEIs' QMS, and how they shape QC. A sequential mixed-methods design is employed, comprising: (a) a Systematic Literature Review (SLR), registered in PROSPERO and following PRISMA protocol; (b) quantitative data collection via validated psychometric instruments administered to quality managers across all 97 Portuguese HEIs; and (c) qualitative triangulation through semi-structured interviews with institutional leadership, focus group with quality teams, and documentary analysis of strategic plans and institutional evaluation reports. Two sets of preliminary findings are reported. First, the SLR confirms that empirical research on the KM-QM relationship in HEIs remains geographically concentrated in non-European contexts, validating the relevance of this study. Second, documentary analysis of all 97 institutional evaluation reports from the Agency for Evaluation and Accreditation of Higher Education (A3ES) reveals a consistent pattern: institutions rated 'Good' or 'Very Good' by A3ES demonstrate a greater capacity for evidence-based decision-making, underpinned by more sophisticated — though often unrecognised — KM practices. From this analysis, a four-stage Quality Culture Maturity Model (QCMM) is inductively proposed, tracing institutional progression from *Compliance-Driven* through *Structural* and *Aligned* to *Integrated* Quality Cultures. A particularly distinctive finding is the prevalence of what we term 'unlabelled KM' — knowledge-sharing and sensemaking practices structurally embedded in institutional routines but neither formally recognised nor strategically leveraged. These findings suggest that the transition toward an integrated QC is fundamentally a knowledge challenge: institutions must develop the organisational capacity to transform raw data into actionable knowledge that informs strategic decision-making. This research contributes an original empirical and conceptual framework to a field marked by theoretical abundance but empirical scarcity, with direct practical implications for institutional leadership, quality managers, and European quality assurance policy.

Keywords: Knowledge management, Quality culture, Total quality management, Higher education institutions, Quality culture maturity model

1. Introduction

1.1 Conceptual Background: KM, TQM, and Quality Culture in Higher Education

Knowledge Management (KM) has multidisciplinary origins and a long-standing practice before its formal naming yet still lacks a universally accepted definition. At its core, KM treats organisational knowledge as a strategic asset — one that, unlike physical resources, is neither consumed by use nor depleted by sharing, yet remains vulnerable to loss through staff attrition and institutional forgetting (Dalkir, 2023).

KM is a central area of both academic study and professional practice, in which organisational knowledge is regarded as a strategic asset that enhances improvement, innovation, and competitiveness (Davenport & Prusak, 1998). A foundational contribution to this field is Nonaka and Takeuchi's (1995) SECI model, which explores the dynamic interplay between tacit and explicit knowledge through the processes of Socialisation, Externalisation, Combination, and Internalisation (Cardoso et al., 2005). This model has underpinned extensive theoretical development and empirical research (Von Krogh et al., 2000). Subsequent work has investigated the conditions for knowledge sharing (Wiig, 1993; Davenport & Prusak, 1998; Boisot, 1998), and the complexity of knowledge flows within uncertain environments (Snowden, 2002).

There is a broad recognition of the contextual nature of KM, highlighting the interaction between organisational culture, leadership, and motivation as critical factors that may either facilitate or inhibit its success (Zheng *et al.*,

2010; Shams & Belyaeva, 2019). Recent studies further demonstrate that the effectiveness of KM within HEIs is intrinsically linked to an organisational culture that values knowledge sharing and innovation. This requires effective leadership, appropriate incentives, and robust technological infrastructure (Herminingsih & Ratnasari, 2024). Consequently, KM constitutes a robust and dynamic research field with increasing scholarly attention directed towards its contribution to Quality Management (QM), particularly within the context of Higher Education (HE) (Manatos *et al.*, 2017).

QM — defined as a set of interrelated principles and processes designed to promote continuous improvement and enable organisations to meet stakeholder needs and expectations (International Organization for Standardization [ISO], 2015) — has been a cornerstone in the development and modernisation of Higher Education Institutions (HEIs), fostering accountability and excellence (Rosa & Amaral, 2007). Heightened public scrutiny, the expansion of the HE sector, and stringent regulatory requirements have bolstered the implementation of Quality Management Systems (QMS) (EUA, 2006; ENQA, 2015). However, despite QMS being mandatory, uncertainties persist regarding their applicability within HEIs. The literature identifies significant challenges associated with excessively bureaucratic systems focused on formalisms, which often fail to align QM with strategic management (Manatos *et al.*, 2017; Hildesheim & Sonntag, 2020; Ansmann & Seyfried, 2022).

Rather than relying solely on control mechanisms, the sustainability of QM in HE depends upon participation, self-evaluation, and a profound commitment to improvement (Sursock, 2011). This necessitates the development of a Quality Culture, described as an organisational culture dedicated to the continuous enhancement of quality. This concept is characterised by two distinct elements: 1) a cultural/psychological dimension (shared values, beliefs, expectations, and commitments regarding quality); and 2) a structural/managerial dimension (processes designed for quality improvement and the coordination of individual efforts) (EUA, 2006; Hildesheim & Sonntag, 2020). The concept of QC is inherently linked to Total Quality Management (TQM), a management philosophy that promotes continuous improvement by encompassing behavioural aspects, procedures, and techniques (Moura e Sá, 2022). Although KM and TQM are often treated as autonomous disciplines, they share common objectives and are mutually reinforcing (Akdere, 2009; Honarpour *et al.*, 2017; Abbas & Kumari, 2023).

To support the design and implementation of a knowledge management system, an international standard has been established — ISO 30401:2018. This standard determines requirements for KM systems within organisations — including HEIs — and mandates that organisations create, use, and maintain knowledge as an organisational asset (Carlucci *et al.*, 2022). The current standard augments the requirements set forth in ISO 9001:2015, particularly concerning the management of organisational knowledge (Clause 7.1.6). It mandates that entities identify, maintain, and protect the knowledge assets required for process conformity and mission-critical objectives (ISO, 2015). Despite the relevance of ISO 30401, its uptake in European HEIs remains unexplored.

The present research project was designed to explore the relationship between KM, TQM, and QC in HE, while contributing to the implementation of ISO 30401 in HEIs in the European context, specifically in Portugal.

The Portuguese HE system is a binary network comprising 97 autonomous institutions, including public universities, polytechnics, and private entities. This structure accommodates over 450,000 students and is governed by the Legal Regime of Higher Education Institutions, ensuring a quality management framework aligned with the European Higher Education Area (EHEA) (Agency for Evaluation and Accreditation of Higher Education [A3ES], n.d.).

HEIs, in Portugal and across the world, are instrumental to economic and social development; however, they can only fulfil their mission if equipped with appropriate management models. This study is based on the premise that the effective synergy between KM and QM can enhance performance, foster continuous improvement, and support the strategic objectives of HEIs (Shehabat, 2017).

1.2 Research Gaps, Aims, and Contributions

Despite the growing theoretical literature at this intersection, critical empirical and practical gaps persist. Empirical investigation of the KM — QC relationship in HEIs has been notably limited and geographically skewed: most studies originate outside Europe, leaving the regulatory and cultural specificities of the European Higher Education Area unexamined. Although the concept of QC has attracted considerable theoretical interest, its operationalisation and systematic empirical investigation remain underdeveloped (Hildesheim & Sonntag, 2020). Existing research on KM and QM within HE tends to centre on academic staff perspectives, frequently overlooking the complementary roles of quality managers, institutional leadership, and technical teams — precisely those actors most responsible for QMS implementation. Finally, while institutions are formally

mandated to implement QMS underpinned by knowledge practices, structured implementation guidelines aligned with relevant standards — notably ISO 30401:2018 — remain absent from the European quality assurance landscape.

Against this backdrop, the primary aim of this research is to describe, analyse, and understand the relationship between KM and QC in the Portuguese HE sector, with the dual purpose of contributing to the KM–QM literature and producing actionable guidelines for institutional practice. The project unfolds across five sequential phases described in detail in section 2. The study is structured around four core research questions, each derived from the gaps identified above:

RQ1: What is the relationship between KM processes, TQM, and QC dimensions within Portuguese HEIs?

RQ2: Do Portuguese HEIs have KM processes integrated into their QMS?

RQ3: What are the primary dimensions of QC in Portuguese HEIs that have implemented KM and TQM processes?

RQ4: How do KM processes influence QC in Portuguese HE from the perspective of quality managers and institutional leadership?

This study makes two interrelated theoretical contributions. First, it moves beyond the established conceptual assertion that KM and TQM are mutually reinforcing (Akdere, 2009; Honarpour et al., 2017; Abbas & Kumari, 2023) to empirically examine the mechanisms through which KM processes mediate the translation of TQM frameworks into QC outcomes within a European HE context — a gap the SLR confirms has not been bridged. Second, the study introduces the Quality Culture Maturity Model (QCMM): an inductively derived four-stage framework (Compliance-Driven, Structural, Aligned, Integrated) that identifies, at each stage, the depth of KM integration required for progression. Unlike prior maturity models centred on procedural compliance, the QCMM positions KM capacity — specifically, the institutional ability to transform raw performance data into actionable knowledge — as the decisive variable in advancing QC, providing both an analytical lens and a practical diagnostic for institutional quality managers.

Figure 1 presents the study’s conceptual framework, positioning KM processes as the mediating mechanism through which TQM frameworks are translated into QC outcomes. This mediation relationship — theorised by Honarpour et al. (2017) and Akdere (2009) but not yet empirically examined in the European HE context — is the central proposition this research is designed to test. The QCMM (right panel) operationalises QC as a developmental continuum rather than a binary state, providing the outcome variable against which KM integration is assessed across the full empirical programme.

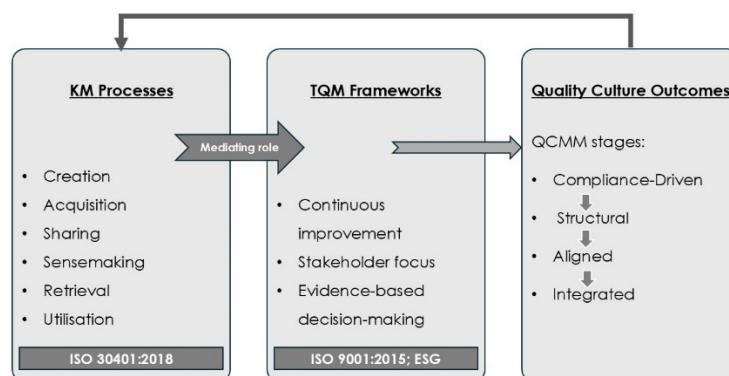


Figure 1: Study's conceptual framework — KM processes as the mediating mechanism between TQM frameworks (ISO 9001:2015, ESG) and the four-stage Quality Culture Maturity Model (QCMM)

2. Research Method

To address the research questions, this project employs a mixed-methods approach, combining the robustness of empirical data with contextual depth, to expand the understanding of the complex phenomena surrounding KM, QM, and QC in HE. By leveraging the complementary advantages of different research methods, the study aims to produce more robust, comprehensive, and reliable results.

To ensure transparency regarding the research timeline, Table 1 summarises the completion status of each phase at the time of submission.

Table 1: Completion status of each phase of the research project, at the time of submission:

Phase	Activity	Status
Phase 1	Systematic Literature Review (PROSPERO-registered; PRISMA protocol)	Near completion ¹
Phase 2	a) Documentary Analysis — 97 A3ES institutional evaluation reports	Completed
	b) Quantitative questionnaire administration to all 97 HEI quality managers	Planned (June 2026)
	c) Semi-structured interviews with institutional leadership	Planned
	d) Focus group with quality management technical teams	Planned
Phase 3	Multivariate statistical analysis and qualitative content analysis	Planned
Phase 4	Cross-method interpretation and critical discussion	Planned
Phase 5	Dissemination (publications, workshops)	Ongoing

2.1 Data Collection

Two data sources have already been collected and partially analysed at the time of this submission. The SLR (Phase 1) is nearing completion, and the documentary analysis of all 97 A3ES institutional evaluation reports (Phase 2a) has been completed, and its preliminary findings are reported in Section 3.

The remaining empirical phases are planned for 2026. Three online questionnaires will be administered simultaneously to quality managers across all 97 Portuguese HEIs via the LimeSurvey platform: the Knowledge Management scale (Cardoso & Peralta, 2011); the Quality Culture in Higher Education scale (Ali & Musah, 2012), adapted and validated for the European Portuguese context; and a sociodemographic instrument. These instruments have received a favourable opinion from the Data Protection Officer at the host institution and aim to capture quality managers' perceptions of KM and QC within their institutions, enabling the identification of patterns, trends, and statistical correlations.

The qualitative component comprises three complementary methods. Semi-structured interviews will be conducted with top and middle management — including Vice-Rectors and Directors — to explore leadership perceptions of strategic alignment. A non-probability purposive sampling strategy, based on explicit inclusion criteria (institutional role, scope of QMS responsibility, sub-sector representation), will be employed until thematic saturation is reached, encompassing both public and private institutions. Documentary analysis will involve an ongoing review of publicly available strategic plans and institutional evaluation reports, with the aim of identifying existing policy frameworks and guidelines within the scope of KM and QC. Finally, focus group will be conducted with quality management technical staff to contextualise the quantitative findings and capture shared understandings of KM practices at team level.

Table 2: Summary of instruments that will be used

Data type	Instrument	Participants	Linked RQ	Analytical method	Analysis goal
Quantitative	Online Questionnaires (Cardoso & Peralta, 2011; Ali & Musah, 2012)	Quality Managers of all 97 Portuguese HEIs	RQ1, RQ2, RQ3	Descriptive statistics; Pearson correlation; EFA; CFA; multiple linear regression (SPSS / R)	Identify patterns, trends, and statistical relationships between KM processes, TQM, and QC dimensions
Qualitative	Semi-structured Interviews	Top/Middle Management (Vice-Rectors, Directors); non-probability purposive sampling to saturation	RQ1, RQ4	Reflexive thematic analysis* (MAXQDA) (*Braun & Clarke, 2022)	Explore strategic alignment and leadership perceptions of KM–QC integration

¹ Phase 1 finalisation is expected by June 2026

Data type	Instrument	Participants	Linked RQ	Analytical method	Analysis goal
Qualitative	Documentary Analysis (A3ES evaluation reports, strategic plans)	All 97 HEI institutional evaluation reports (most recent A3ES cycle)	RQ2, RQ3	Qualitative content analysis** (MAXQDA) (**Bardin, 2016)	Identify KM-adjacent practices and QMS maturity patterns within formal quality documentation
Qualitative	Focus Group	Technical quality management staff in Portuguese HEIs (max. 15 participants)	RQ3, RQ4	Reflexive thematic analysis* (MAXQDA) (*Braun & Clarke, 2022)	Contextualise quantitative findings; capture shared team-level understandings of KM practices

2.2 Data Analysis

The analytical choices are directly responsive to the research questions and the properties of the instruments employed, as summarised in table 2. Exploratory Factor Analysis (EFA) is used to examine the factor structure of the adapted Quality Culture scale in the Portuguese HE context, where validation data for this population do not yet exist; Confirmatory Factor Analysis (CFA) then tests the stability of the emergent structure (RQ3). Pearson correlation and multiple linear regression are applied to test the directional relationships between KM processes, TQM implementation levels, and QC dimensions — directly addressing RQ1 — while descriptive comparison across institutional types enables assessment of integration levels (RQ2). Regarding qualitative strands, reflexive thematic analysis (Braun & Clarke, 2022) for the interviews and focus group, and qualitative content analysis (Bardin, 2016) for the documentary corpus are used to identify emergent themes regarding how KM shapes institutional quality culture trajectories (RQ4). Triangulation across quantitative and qualitative strands is not merely additive: each method provides a distinct lens on the same phenomenon, reducing the risk of method-specific bias and enhancing the interpretive depth of findings, particularly for RQ4, which concerns the perceptions and sensemaking of institutional actors.

3. Preliminary Results

3.1 Preliminary Results from Phase 1 — SLR

The SLR, registered in PROSPERO and following PRISMA protocol, searched Web of Science and Scopus using the terms 'KNOWLEDGE MANAGEMENT' and 'QUALITY MANAGEMENT' (or equivalent expressions) returning 21 retrieved papers after full-text screening and eligibility assessment against pre-registered inclusion criteria.

This SLR reveals that the volume of empirical research specifically investigating the link between KM and QM in HE remains limited and is geographically skewed towards non-European contexts. The central finding of the SLR is that the relationship between KM and QM is one of integration and mutual support, rather than a mere co-existence — evidence suggests that KM often functions as the primary engine facilitating the translation of QM frameworks into practical, impactful organisational actions that enhance institutional performance.

3.2 Preliminary Results from Phase 2 — Documentary Analysis

The following results derive from the documentary analysis component of Phase 2, which comprised the qualitative analysis of 97 institutional evaluation reports and Board of Directors' decisions from the most recent institutional evaluation cycle conducted by A3ES — this represents complete population coverage of the Portuguese HE sector, eliminating selection bias and permitting sector-level pattern detection rarely available in HE quality research. In this study, A3ES institutional evaluation reports are operationalised as a window onto QC: they constitute standardised outputs of the mandatory quality assurance cycle under European frameworks and provide publicly available evidence of QMS practices, data use, and improvement processes — making them a relevant and accessible source for identifying KM-adjacent behaviours.

The research (to be published) identifies a developmental trajectory for HEIs through a proposed four-stage Quality Culture Maturity Model: *Compliance-Driven*, *Structural*, *Aligned*, and *Integrated*. This model differentiates institutions that merely "possess" a system from those that "live" a Quality Culture. The progression between these stages is fundamentally connected to KM, as seen in Figure 2:

- Lower Maturity (Compliance/Structural): Characterised by "structural silos" and "decoupling," where formal procedures exist but remain disconnected from daily academic operations.
- Higher Maturity (Aligned/Integrated): Defined by "cultural internalisation," where quality is a shared responsibility and knowledge flows transversally across the institution.

A core finding is the critical role of KM in advancing QMS maturity. Institutions rated 'Good' or 'Very Good' consistently demonstrate the capacity to 'close the loop' — moving from passive data collection to active data utilisation — whereas institutions rated 'Sufficient' typically do not. While the documentary body does not permit a causal claim, the pattern is robust across the 97 reports and supports the QCMM hypothesis that KM integration is associated with higher QMS maturity.

Figure 2 depicts the four-stage QCMM as a developmental trajectory derived inductively from the documentary analysis of all 97 A3ES institutional evaluation reports. Crucially, the distinction between stages is not merely structural but epistemological. Compliance-Driven and Structural institutions treat knowledge primarily as a by-product of quality reporting: data are collected, procedures are documented, but the loop between data and institutional decision-making remains largely closed. Aligned and Integrated institutions, by contrast, demonstrate the capacity to transform performance data into actionable knowledge — what the documentary analysis terms the "closing of the loop" — enabling evidence-based strategic decisions that are visibly informed by what the institution knows about itself.



Figure 2: The Quality Culture Maturity Model (QCMM) four-stage developmental trajectory from Compliance-Driven through Structural and Aligned to Integrated Quality Cultures, with associated KM-integration depth at each stage

A key finding is the prevalence of knowledge-sharing and sensemaking practices that are structurally embedded in institutional routines but are neither formally recognised as KM nor strategically leveraged as such. The QCMM thus not only describes where institutions currently stand but diagnoses what is required — specifically, deliberate recognition and strategic alignment of existing knowledge practices — to advance to the next stage.

4. Conclusions, Limitations, and Next Steps

This paper reports the conceptual and initial empirical work of a doctoral project investigating the intersection of KM and QC in Portuguese HEIs. Although the full multi-method fieldwork is still underway, the preliminary findings derived from the SLR (Phase 1), and documentary analysis (Phase 2) already offer substantive contributions to the four core research questions structuring this project.

Regarding RQ1 — the relationship between KM processes, TQM, and QC — the SLR confirms what Honarpour et al. (2017) and Akdere (2009) have theorised: KM and TQM are mutually reinforcing, with KM functioning not merely as an operational tool but as the primary engine through which quality frameworks are translated into institutional practice. Crucially, however, the SLR reveals that this relationship has been empirically examined almost exclusively outside Europe — of the 21 retrieved papers, only 3 originate in European institutional contexts — a gap this study directly addresses.

Regarding RQ2 and RQ3 — whether KM processes are integrated into Portuguese HEIs' QMS, and what QC dimensions characterise those that have done so — the documentary analysis of all 97 A3ES institutional evaluation reports provides a compelling preliminary answer. The proposed Quality Culture Maturity Model identifies a four-stage developmental trajectory — Compliance-Driven, Structural, Aligned, and Integrated — that differentiates institutions that merely possess a QMS from those that genuinely live a Quality Culture (EUA, 2006; Hildesheim & Sonntag, 2020). A decisive factor at each transition is the depth of KM integration: specifically, the institutional capacity to move from passive data collection to active knowledge utilisation in evidence-based decision-making.

A particularly significant finding, which also speaks to RQ4 — how KM processes influence QC — is the widespread presence of what may be termed as "unlabelled KM": knowledge-sharing and sensemaking practices that are structurally embedded in institutional routines but are neither formally recognised nor strategically

leveraged as KM. This finding reframes a key challenge facing Portuguese HEIs: the barrier to QC advancement is not primarily the absence of knowledge processes, but their invisibility. As noted by Zheng et al. (2010), the alignment between organisational culture, structure, and KM strategy is decisive for institutional effectiveness — and it is precisely this alignment that appears to remain underdeveloped in compliance and structural-stage institutions.

Taken together, these preliminary results support the core argument of this research: that KM processes act as essential mediators between TQM frameworks and QC, and that advancing institutional maturity requires the deliberate recognition, formalisation, and strategic alignment of knowledge practices — a process for which ISO 30401:2018 offers a practical normative anchor currently underutilised in the European HE context.

This study acknowledges two key limitations at its current stage. First, the empirical focus is restricted to the Portuguese HE system, which may constrain the generalisability of findings to other European or international contexts governed by different regulatory frameworks. Second, the results presented here are based primarily on secondary data sources — documentary analysis and SLR — rather than the full multi-method fieldwork, which limits the depth of inference possible at this stage.

To fulfil the research objectives, the project will proceed with questionnaire administration (Phase 2b, planned to occur in June 2026), semi-structured interviews, focus group, and multivariate analysis, culminating in actionable KM implementation guidelines aligned with ISO 30401:2018. Findings will be disseminated through peer-reviewed publications and practitioner workshops.

In its current form, the QCMM offers institutional quality managers a diagnostic instrument for locating their institution's stage and a developmental map for advancing it; subsequent phases will refine and validate the model against multi-method empirical evidence.

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Ethics and Integrity: The study complies with GDPR and institutional ethics requirements, including Data Protection Officer approval and Ethics Committee review. Informed consent will be obtained from all participants before interviews and focus group.

AI Declaration: The author acknowledges the use of Artificial Intelligence (AI) tools, specifically Gemini Pro, NotebookLM, and Claude, during the preparation of this manuscript. AI was employed to assist in the following tasks:

- Translation and Linguistic Refinement: to support the translation of the text into English, ensuring the linguistic precision and rigour expected for submission to a scientific conference.
- Literature Review Support: to assist in the literature review process, specifically by providing summaries of certain bibliographical references consulted during the research.
- Reference Management: to review the final list of bibliographical references to ensure strict adherence to the Harvard referencing style.

The author declares that the core conceptual framework, research design, and project ideas are entirely original and the result of the research team's intellectual work. The author has critically reviewed all AI-generated outputs and remains fully responsible for the final content, accuracy, and integrity of the paper.

References

- A3ES (n.d.) *Agency for Assessment and Accreditation of Higher Education*. Available at: <https://a3es.pt/en/> (Accessed: 28 March 2026).
- Abbas, J. and Kumari, K. (2023) 'Examining the relationship between total quality management and knowledge management and their impact on organisational performance: a dimensional analysis', *Journal of Economic and Administrative Sciences*, 39(2), pp. 426–451. <https://doi.org/10.1108/JEAS-03-2021-0046>
- Akdere, M. (2009) 'The role of knowledge management in quality management practices: achieving performance excellence in organisations', *Advances in Developing Human Resources*, 11(3), pp. 349–361. <https://doi.org/10.1177/1523422309338575>
- Ali, H.M. and Musah, M.B. (2012) 'Investigation of Malaysian higher education quality culture and workforce performance', *Quality Assurance in Education*, 20(3), pp. 289–309. <https://doi.org/10.1108/09684881211240330>

- Ansmann, M. and Seyfried, M. (2022) 'Isomorphism and organisational performance: evidence from quality management in higher education', *Quality Assurance in Education*, 30(1), pp. 135–149. <https://doi.org/10.1108/QAE-07-2021-0114>
- Bardin, L. (2016). *Análise de conteúdo*. Edições 70. ISBN: 9788562938047
- Boisot, M. (1998) *Knowledge assets: securing competitive advantage in the information economy*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198296072.001.0001>
- Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, 9(1), 3–26. <https://doi.org/10.1037/qap0000196>
- Cardoso, L. and Ferreira Peralta, C. (2011) 'Gestão do conhecimento em equipas: desenvolvimento de um instrumento de medida multidimensional', *Psychologica*, 55, pp. 79–93. <https://doi.org/10.14195/1647-8606—55—5>
- Cardoso, L., Gomes, A.D. and Rebelo, T. (2005) 'Para uma conceptualização e operacionalização da gestão do conhecimento', *Psychologica*, 38, pp. 23–44.
- Carlucci, D., Kudryavtsev, D., Santarsiero, F., Lagrutta, R. and Garavelli, A.C. (2022) 'The ISO 30401 Knowledge Management Systems: a new frame for managing knowledge. Conceptualisation and practice', *Knowledge Management Research & Practice*. <https://doi.org/10.1080/14778238.2022.2118637>
- Dalkir, K. (2023) *Knowledge management in theory and practice*. 4th edn. Cambridge, MA: MIT Press.
- Davenport, T.H. and Prusak, L. (1998) *Working knowledge: how organisations manage what they know*. Boston, MA: Harvard Business School Press. ISBN: 9780262048125
- ENQA (2015) *Standards and guidelines for quality assurance in the European Higher Education Area*. 3rd edn. Brussels: ENQA. Available at: <https://www.enqa.eu/esg-standards-and-guidelines-for-quality-assurance-in-the-european-higher-education-area/> (Accessed: 28 March 2026).
- European University Association (2006) *Quality culture in European universities: a bottom-up approach*. Brussels: EUA. Available at: <https://www.eua.eu/downloads/publications/quality%20culture%20in%20european%20universities%20a%20bottom-up%20approach.pdf> (Accessed: 28 March 2026).
- Herminingsih, A. and Ratnasari, S. (2024) 'Knowledge Management Maturity Model of Higher Education Based-on Quality Culture and Human Resource Management Practices'. *Journal Eduvest*. 4 (4): 2104-2112. E-ISSN: 2775-3727
- Hildesheim, C. and Sonntag, K. (2020) 'The Quality Culture Inventory: a comprehensive approach towards measuring quality culture in higher education', *Studies in Higher Education*, 45(4), pp. 892–908. <https://doi.org/10.1007/978-3-319-75593-9—9>
- Honarpour, A., Jusoh, A. and Long, C.S. (2017) 'Knowledge management and total quality management: a reciprocal relationship', *International Journal of Quality & Reliability Management*, 34(1), pp. 91–102. <https://doi.org/10.1108/IJQRM-03-2014-0040>
- International Organization for Standardization (2015) *ISO 9001:2015 Quality management systems — Requirements*. Geneva: ISO. Available at: <https://www.iso.org/standard/62085.html> (Accessed: 28 March 2026).
- International Organization for Standardization (2018) *ISO 30401:2018 Knowledge management systems — Requirements*. Geneva: ISO. Available at: <https://www.iso.org/standard/68683.html> (Accessed: 28 March 2026).
- Manatos, M.J., Sarrico, C.S. and Rosa, M.J. (2017) 'The integration of quality management in higher education institutions: a systematic literature review', *Total Quality Management & Business Excellence*, 28(1–2), pp. 159–175. <https://doi.org/10.1007/978-94-6300-675-0—8>
- Moura e Sá, P. (2022) 'The challenges of remote work to the development of a TQM culture', in *Proceedings of the 5th ICQEM Conference*. Minho: University of Minho, pp. 385–400. Available at: <https://hdl.handle.net/10316/117556> (Accessed: 28 March 2026).
- Nonaka, I. and Takeuchi, H. (1995) *The knowledge-creating company: how Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press. <https://doi.org/10.1093/oso/9780195092691.001.0001>
- Rosa, M.J. and Amaral, A. (2007) 'A self-assessment of higher education institutions from the perspective of the EFQM model', in Westerheijden, D.F., Stensaker, B. and Rosa, M.J. (eds.) *Quality assurance in higher education*. Dordrecht: Springer, pp. 181–207. Available at: <https://link.springer.com/book/10.1007/978-1-4020-6012-0> (Accessed: 28 March 2026).
- Shams, S.M.R. and Belyaeva, Z. (2019) 'Quality assurance driving factors as antecedents of knowledge management: a stakeholder-focused perspective in higher education', *Journal of the Knowledge Economy*, 10, pp. 423–436. <https://doi.org/10.1007/s13132-017-0472-2>
- Shehabat, I.M. (2017) 'Integration between knowledge management and total quality management in Jordanian universities: empirical study', *International Journal of Knowledge and Systems Science*, 8(2), pp. 1–15. <https://doi.org/10.4018/IJKSS.2017040104>
- Snowden, D.J. (2002) 'Complex acts of knowing: paradox and descriptive self-awareness', *Journal of Knowledge Management*, 6(2), pp. 100–111. <https://doi.org/10.1108/13673270210424639>
- Sursock, A. (2011) *Examining quality culture Part II: processes and tools – participation, ownership and bureaucracy*. Brussels: European University Association. Available at: <https://www.eua.eu/downloads/publications/examining%20quality%20culture%20part%20ii%20processes%20and%20tools%20-%20participation%20ownership%20and.pdf> (Accessed: 28 March 2026).
- Von Krogh, G., Ichijo, K. and Nonaka, I. (2000) *Enabling knowledge creation: how to unlock the mystery of tacit knowledge and release the power of innovation*. Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195126167.001.0001>

- Wiig, K.M. (1993) *Knowledge management foundations: thinking about thinking – how people and organisations create, represent, and use knowledge*. Arlington, TX: Schema Press. ISBN 0-9638925-0-9
- Zheng, W., Yang, B. and McLean, G.N. (2010) 'Linking organisational culture, structure, strategy, and organisational effectiveness: mediating role of knowledge management', *Journal of Business Research*, 63(7), pp. 763–771.
<https://doi.org/10.1016/j.jbusres.2009.06.005>