COGENT EDUCATION
2025, VOL. 12, NO. 1, 2581411
https://doi.org/10.1080/2331186X.2025.2581411

HIGHER EDUCATION | RESEARCH ARTICLE

OPEN ACCESS Check for updates

Determinants of the effectiveness of quality assurance systems and institutional performance in higher education

Orlando Manuel Esteves Serrano[a], Francisco Javier Miranda González[b] and Joaquim António Belchior Mourato[c,d]

[a]PhD Program in Economics and Business (R020), University of Extremadura, Badajoz, Spain; [b]Business Management and Sociology Department, University of Extremadura, Badajoz, Spain; [c]VALORIZA – Research Center for Endogenous Resource Valorization, Portalegre, Portugal; [d]Portalegre Polytechnic University, Portalegre, Portugal

ABSTRACT

This study analyses the determinants of the effectiveness of Quality Assurance Systems (QAS) and its impact on institutional performance in Higher Education Institutions (HEIs). Based on stakeholder theory and the Resource-Based View (RBV), it investigates how management support, infrastructure quality and faculty and student engagement shape QAS effectiveness and, through it, institutional outcomes in teaching, research and societal impact. The research followed a quantitative design, covering all public and private HEIs in Portugal between December 2024 and February 2025. Using a non-probabilistic sample, an online questionnaire obtained 984 valid responses from academics, and Partial Least Squares Structural Equation Modelling (PLS-SEM) was applied to empirically test the hypothesised model and mediating effects. The results show that management support and institutional leadership are the strongest predictors of QAS effectiveness, while infrastructure quality and faculty engagement also make significant contributions. Student engagement, although statistically weaker, remains strategically relevant, reflecting institutional limitations in embedding student voices rather than disengagement itself. In summary, the study positions QAS effectiveness as a central mechanism that transforms organisational resources and stakeholder participation into institutional performance, while offering a consistent theoretical contribution and practical guidance for leaders and decision-makers committed to strengthening quality culture and competitiveness in higher education.

IMPACT STATEMENT

This study quantifies the determinants of the effectiveness of Quality Assurance Systems (QAS) in higher education and demonstrates how QAS effectiveness acts as a mediating variable between institutional conditions and the performance of Higher Education Institutions (HEIs). Based on a national sample of academics, the findings show that management support is the most decisive factor for QAS effectiveness, followed by faculty engagement and infrastructure quality. Student engagement shows a more limited impact, suggesting the existence of institutional barriers to their full participation. By integrating variables that are usually analysed separately into a single explanatory model, this study fills an important gap in the international literature and offers practical guidance to institutional decision-makers seeking to strengthen governance, accountability, and continuous improvement. The study shifts the quality assurance debate from a logic of procedural compliance to a focus on effectiveness and institutional performance impact, providing novel empirical evidence to the international discussion.

ARTICLE HISTORY
Received 13 April 2025
Revised 11 September 2025
Accepted 10 October 2025

KEYWORDS
Quality management; higher education institutions; effectiveness of quality assurance system; institutional performance; quality assurance

SUBJECTS
Social Sciences; Education - Social Sciences; Teaching & Learning – Education; Sociology & Social Policy; Research Methods - Soc. Policy; Quantitative Methods; Higher Education – Education; Quality Assurance – Higher Education; Quality Assurance – Management; Educational Management – Management; Management

Introduction

Quality assurance (QA) in higher education has become established in recent decades as a central pillar in the governance and strategic development of higher education institutions (HEIs) worldwide (Iqbal,

CONTACT Orlando Serrano orlandoserranoue@gmail.com PhD Program in Economics and Business (R020), University of Extremadura, Badajoz, Spain

Supplemental data for this article can be accessed online at https://doi.org/10.1080/2331186X.2025.2581411.

Moosa, et al., 2024). Internationally, evaluation and accreditation processes have been recognised as decisive mechanisms for enhancing transparency, accountability and continuous improvement, with positive impacts in areas such as institutional quality, infrastructure development, curriculum innovation and student outcomes (Albaroudi et al., 2025; Albaroudi & Iqbal, 2025; Srijampana et al., 2025).

In Portugal, this process is led by the Higher Education Assessment and Accreditation Agency (A3ES), which since 2007 has ensured compliance with the guidelines of the Legal Framework for Higher Education Assessment (Law 38/2007) and the ESG 2005 and 2015 standards, promoting the continuous improvement of institutions. Institutional assessment requires HEIs to demonstrate how their Quality Assurance Systems (QAS) contribute to strategic management and involve the academic community. The second evaluation cycle, completed in 2024, showed progress, including greater institutional accountability and the strengthening of quality structures (Agência de Avaliação e Acreditação do Ensino Superior [A3ES], 2024). This study analyses the impact of a set of variables, such as student and faculty engagement, institutional support and the quality of infrastructure on the effectiveness of QAS. It also investigates how the effectiveness of QAS influences institutional performance, covering teaching and learning, research and social impact. Understanding these factors is key to strengthening the governance and legitimacy of HEIs in today's educational landscape.

International literature presents a significant set of qualitative studies that offer relevant contributions to understanding organisational processes, perceptions and dynamics in QA (Bejan et al., 2015; Rosa et al., 2012; Shah & Jarzabkowski, 2013; Tavares et al., 2017). At the same time, quantitative studies analysing the relationships between quality, leadership, organisational culture and institutional outcomes have gained prominence, covered multiple institutional and cultural contexts and thus broadened the comparative relevance of the field (Albaroudi et al., 2025; Albaroudi & Iqbal, 2025; Iqbal, 2024; Iqbal, Moosa, et al., 2024).

Recent empirical studies have analysed variables, such as accreditation and faculty commitment (Albaroudi et al., 2025), leadership styles and quality culture (Albaroudi & Iqbal, 2025; Iqbal et al., 2023a), ISO 9001-related staff training (Iqbal, 2024), and organisational factors, such as management support and infrastructure (Iqbal, Moosa, et al, 2024; Iqbal, Taib, et al, 2024). Despite these advances, the integration of student engagement and infrastructure quality into explanatory models remains limited, leaving gaps in understanding how the effectiveness of QAS relates to institutional outcomes. There is therefore a continuing need for integrated approaches that link organisational variables, stakeholder perceptions and explicit performance indicators to validate – or question – the effective impact of QAS. This study differs in that it fills these gaps through a model that combines organisational factors (management support, faculty engagement and infrastructure quality) with student engagement, offering an integrated assessment of how the effectiveness of QAS contributes to teaching, research and social impact. In doing so, it complements recent international evidence and provides original contributions from the Portuguese higher education system.

This study adopts a dual theoretical framework, combining stakeholder theory (Donaldson & Preston, 1995; Freeman, 1984) and the Resource-Based View (RBV; Barney, 2000). The first emphasises the need to balance the interests and contributions of all relevant actors, highlighting in higher education the active engagement of students, faculty and employers as a condition for the legitimacy and effectiveness of QAS (Mazza & Azzali, 2025; Attree, 2025). In turn, the RBV argues that institutional performance stems from the mobilisation and reconfiguration of valuable, rare and difficult-to-imitate internal resources – such as management capabilities, quality processes, academic knowledge and infrastructure conditions – that function as sources of sustained competitive advantage (Albaroudi & Iqbal, 2025; Iqbal et al., 2023a; Iqbal, Moosa, et al, 2024). By positioning management support, infrastructure quality and faculty and student engagement as determinants of QAS effectiveness and through this, impacting institutional performance, this study articulates these two perspectives in an integrated theoretical framework.

The article is structured as follows: it begins with the introduction, followed by the literature review and development of hypotheses, then the methodology, the presentation and discussion of results, the main implications, the limitations and suggestions for future research and ends with the final conclusions.

Literature review and development of hypotheses

Quality in higher education is a complex and multidimensional concept, associated with accountability, accreditation and continuous improvement of academic and institutional processes. Although significant efforts have been made to implement QA mechanisms, their effectiveness in HEIs is often conditioned

by the different needs and expectations of stakeholders, including students, teachers, families, employers and the academic entities themselves (Cavallone et al., 2021, 2022; Iqbal et al., 2023b; Mahapatra & Khan, 2007; Srikanthan & Dalrymple, 2003).

QA is based on the distinction between internal monitoring and improvement mechanisms and external evaluation and accreditation mechanisms (Dill, 2010) and is understood as a balance between external control and internal improvement (Danø & Stensaker, 2007). Regardless of the approach adopted, the literature emphasises that the effectiveness of QAS depends above all on consistent implementation and proper application of standards, which is essential for achieving organisational maturity and ensuring sustained improvement (Iqbal et al., 2023b; Iqbal, Taib, et al, 2024; Moosa et al., 2010).

Several studies show that the effectiveness of QAS results from interrelated factors, including management support, institutional resources and faculty engagement (Albaroudi & Iqbal, 2025; Coates, 2005; Iqbal, Moosa, et al., 2024). Institutional management support is a key factor in strengthening credibility and guiding the implementation of quality policies (Albaroudi & Iqbal, 2025). Although not formally part of QA mechanisms, institutional resources are recognised as relevant indicators of higher education quality, as they enable more effective learning environments and support infrastructure outside the classroom (Coates, 2005). Faculty engagement is equally central, as the motivation and active participation of academics in quality processes are critical to improving institutional performance (Albaroudi & Iqbal, 2025).

In this context, understanding the factors that affect institutional performance is essential to ensure the sustainable development of HEIs (Albaroudi & Iqbal, 2025).

However, as Sarrico et al. (2013) point out, one of the main challenges is to prevent QAS from becoming bureaucratic systems that are overly focused on processes and control, without promoting real improvements in the quality of teaching and learning. To be effective, these systems must encourage the active participation of faculty and students, contributing to the genuine development of pedagogical practices and institutional management. In this sense, there is a general trend away from predominantly regulatory models based on external standards towards more student-centred approaches. Sarrico et al. (2013) and Stensaker et al. (2011) emphasise the importance of moving beyond mere compliance and promoting a culture of participation across the entire academic community. Ensuring that student needs are the central focus of quality practices is essential to the success of these systems, as emphasised by Harvey (2003) and Hattie and Timperley (2007).

The resulting model is shown in Figure 1. Below, we specify each of the variables that make up our model.

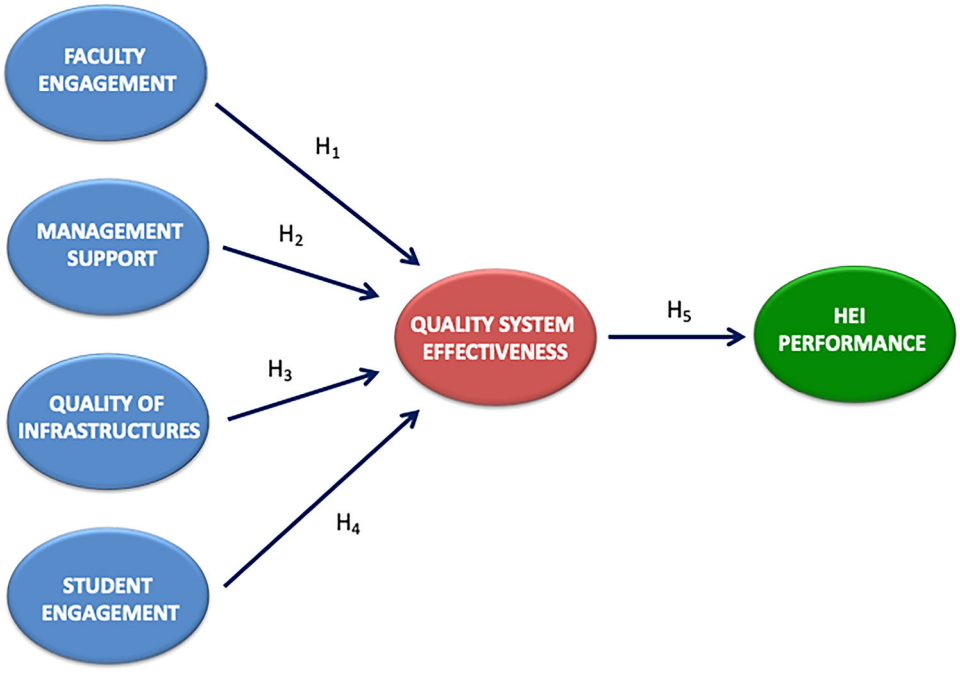

Figure 1. Proposed model.

Faculty engagement and effectiveness of quality assurance system

The literature shows that QAS do not align with academics' practices and conceptions of quality. In an extensive editorial analysing articles published over the last 30 years in the journal *Quality in Higher Education* by a variety of authors, whose common factor was the focus on academics' opinions about QAS, Harvey (2024) showed that many academics perceive QAS as a bureaucratic burden that compromises their autonomy and academic freedom (among other angles of analysis), rather than an effective mechanism for improvement. These processes are widely seen as tools of political control, which dictate how academic activities should be conducted, generating dissatisfaction and resistance, even if not always explicit, among academics.

This resistance is accentuated by the lack of effective faculty engagement in QAS. According to Manatos et al. (2018), academics often limit themselves to fulfilling the administrative requirements imposed by quality systems, without an in-depth understanding of their objectives. This creates a detachment in which academics see QA more as an operational obligation than as a transformative process. For many, as highlighted by Harvey (2023), in the context of a survey he promoted, as editor, among dozens of authors published in the journal *Quality in Higher Education* on the subject of 'Quality in Higher Education', QA is still perceived as an administrative responsibility, disconnected from teaching and learning, which makes it irrelevant in academic practice.

This disconnect reflects a fundamental dissociation between the institutional goals of accountability and the academic values of continuous improvement. Many faculty perceive QA as a laborious exercise with no clear benefits, which replaces innovation and critical thinking with conformity, surveillance and control. Despite some specific adjustments introduced by faculty, the predominant implementation of these systems continues to distance academics from their central role.

In this context, recent studies do not directly test the relationship between faculty engagement and the effectiveness of QAS, but they do offer relevant contextual clues. Basbeth et al. (2021) analyse satisfaction with e-teaching and show that it increases with student engagement and institutional support, without assessing the effectiveness of QAS. Iqbal et al. (2023a) demonstrate that quality culture mediates the relationship between leadership styles and organisational performance, without isolating teacher involvement or the effectiveness of QAS. Albaroudi et al. (2025) model staff commitment and accreditation effectiveness as predictors of university performance, without testing a direct effect of faculty engagement on the effectiveness of internal QAS. In turn, Srijampana et al. (2025) synthesise evidence that evaluation/accreditation is associated with improvements in institutional indicators, without modelling faculty participation as an autonomous variable.

In the Portuguese case, Tavares et al. (2017) point out that, although academics recognise that internal QA promotes greater awareness of teaching issues, its practical effects continue to be more associated with bureaucracy than with substantive improvements in teaching and learning.

Thus, despite these contributions, the evidence remains mainly focused on academics' perceptions or indirect relationships mediated by other factors, without explicitly testing how faculty engagement relates to the effectiveness of QAS and institutional performance.

This study seeks to overcome this limitation by operationalising faculty engagement as an exogenous variable that influences the effectiveness of QAS and contributes to institutional performance, allowing for an integrated and quantitative assessment of its impact.

Consequently, we formulate the following hypothesis:

H1: *Faculty engagement has a positive influence on the effectiveness of QAS.*

Management support and effectiveness of quality assurance system

Management support is widely recognised as a crucial factor in the success of QAS in HEIs. The literature emphasises that the engagement and commitment of institutional leadership play a decisive role in the implementation and effectiveness of these systems, promoting both a culture of quality and the engagement of stakeholders. In this sense, Tavares et al. (2016) identify the support and engagement of institutional leaders as key factors for the successful implementation of quality practices. Alves et al. (2016)

corroborate this view, emphasising that the commitment of top leadership and the creation of a quality culture are fundamental to strengthening QAS, and the strategic engagement of leadership is essential to ensuring the effectiveness of QA practices.

In the same vein, Manatos et al. (2018) emphasise that leaders are seen as driving forces in defining objectives and promoting a quality culture. This role is crucial, especially in contexts with limited resources, where the support of senior managers can make quality management practices and mechanisms viable.

For his part, Overberg (2019), based on the answers to an open question on the 'perception of quality management' in a (partial) follow-up study to the research carried out by Ala-Vähälä (2011) involving several Finnish universities, emphasised that, from the perspective of quality managers, the commitment of university leadership is a decisive factor in the acceptance of quality management. However, most of the academic staff responding stated a differentiated attitude of resistance to 'quality management' for one of these reasons: practical, systemic, cultural and administrative (Overberg, 2019).

Seyfried and Pohlenz (2018) emphasise that without the support of senior management or institutional leadership, quality management become a 'toothless tiger' with limited impact on teaching and learning. Mussawy and Rossman (2021) corroborate this view, pointing out that strong leadership that adopts QA as an institutional priority maximises employee engagement, boosting the motivation of both academic and non-academic staff.

Recent empirical evidence reinforces this perspective. Iqbal, Moosa, et al. (2024) demonstrate quantitatively that management support is a significant predictor of the effectiveness of internal QA structures, validating leadership commitment as a valuable organisational resource from a RBV perspective. Complementarily, Iqbal et al. (2023a) show that leadership influence is mainly achieved through the mediation of a quality culture, translating into more effective institutional practices. Iqbal (2024) stresses that the adoption of ISO 9001 in universities requires leadership support and its integration with existing QA mechanisms, while decision-maker's scepticism and the lack of training acting as critical barriers. Albaroudi and Iqbal (2025) further argue that effective leadership styles enhance the credibility and legitimacy of QA policies, acting as strategic resources that increase stakeholder trust and sustain university performance, although their effectiveness may vary depending on institutional contexts.

Despite recent contributions that jointly examine management support and infrastructure quality (Iqbal, Moosa, et al., 2024), most studies continue to address leadership separately or in partial combinations, without assessing its integrated interaction with other determinants of QAS effectiveness. Our model responds to this limitation by conceptualising management support as a direct antecedent of the mediating variable 'QAS effectiveness', integrating it with variables associated with key institutional stakeholders and clarifying its incremental contribution to institutional performance.

So, for these reasons, we are led to formulate the following hypothesis:

H2: *Management support has a positive influence on the effectiveness of QAS.*

Quality of infrastructure and effectiveness of quality assurance system

The quality of infrastructure in HEIs plays a key role in supporting the effectiveness of QAS and institutional performance. Literature emphasises that infrastructure go beyond their basic functionality, playing a strategic role in the educational experience and stakeholder satisfaction. Mourato et al. (2017) point out that the integration of IT platforms, such as monitoring systems, is fundamental to the management of quality processes, promoting transparency and continuous improvement. For their part, Douglas et al. (2006) note that although students value infrastructure, their priority is the quality of teaching, and deficiencies in facilities are tolerated if the teaching is quality. On the other hand, student satisfaction is not limited to physical and technological infrastructure but is also related to the 'university environment', such as friendships and new experiences (Mainardes et al., 2013; Simangunsong, 2019).

In addition, Petruzzellis et al. (2006), Kärnä and Julin (2015) and Marimon et al. (2019), highlight the importance of infrastructure and services for the student experience, impacting both teaching and the learning environment. Zineldin et al. (2011) and Tsinidou et al. (2010) emphasise that quality

infrastructure, such as well-equipped spaces and cleanliness, are essential for the satisfaction of students and academic staff. In this regard, it should also be noted that the results of several studies have proven the importance attributed to facilities and associated services through the levels of satisfaction revealed by students (Aldridge & Rowley, 1998; Douglas et al., 2006; Price et al., 2003; Tan & Kek, 2004).

In a competitive market, it is emphasised that the quality of infrastructure should also be valued, in addition to academic excellence and can play a decisive role in the choice of potential students (Price et al., 2003; Vidalakis et al., 2013; Yeo & Li, 2014).

For these reasons, the management of infrastructure and associated services cannot be neglected, as it is a strategic factor that influences the effectiveness of QAS and, indirectly, institutional performance. Kärnä and Julin (2015) point out that identifying areas for continuous improvement in infrastructure is fundamental to the development of HEIs, defining this process as 'development goals'.

More recently, the literature has framed 'quality infrastructure' as part of the very architecture of QA and accreditation – encompassing standardisation, metrology, testing and regulatory frameworks – thus constituting an organisational condition for robust quality systems (Sanetra & Marbán, 2007; Wipplinger et al., 2006). From this perspective, good institutional practices include prioritising the modernisation of physical and infrastructural facilities as an integral part of QA policies (Asiyai, 2022), reinforcing the link between support conditions and academic quality. Furthermore, robust empirical evidence demonstrates that infrastructure quality directly predicts the effectiveness of internal QA structures – such as *Quality Enhancement Cells* – reinforcing the operational link between resources and system functioning (Iqbal, Moosa, et al., 2024). These authors also stress that infrastructure must be complemented by organisational support and staff training to maximise its impact on QAS effectiveness and the quality of teaching in public and private universities.

Despite these advances, most studies in higher education have treated infrastructure mainly as a determinant of student satisfaction or experience (Aldridge & Rowley, 1998; Douglas et al., 2006; Price et al., 2003; Tan & Kek, 2004; Vidalakis et al., 2013; Yeo & Li, 2014), rarely testing its effect – integrating variables associated with key institutional stakeholders – on the effectiveness of QAS. Our model seeks to fill this gap by positioning infrastructure quality as an antecedent of the mediating variable 'effectiveness of QAS', alongside management support, faculty engagement and student engagement, thereby clarifying its incremental contribution within the overall framework.

Consequently, we are led to present this hypothesis:

H3: *Quality of infrastructure has a positive influence on the effectiveness of QAS.*

Student engagement and effectiveness of quality assurance system

Analysing the literature reveals that students participate in QA (Cardoso & Santos, 2011; Foroni, 2011; Josefson et al., 2011) in different ways:

First, student participation is associated with the teaching and learning process (Elassy, 2015; Iacovidou et al., 2009; Moyo & Boti, 2020) and covers aspects such as feedback (Hattie & Timperley, 2007; Jara & Mellar, 2010; Kolodii et al., 2021; Lowe & Shaw, 2019; O'Driscoll, 2012; Richardson, 2005), evaluation (Bejan et al., 2015; Borch et al., 2020, 2022; Griffin & Cook, 2009; Koķe et al., 2017; Leckey & Neill, 2001) and satisfaction (Harvey, 2003; MacKay et al., 2019; Sarrico et al., 2013, Bell & Brooks, 2018). Through this active participation, students contribute directly to the quality of academic processes, providing insights and identifying needs for improvement.

Second, student engagement also extends to governance (Beerkens & Udam, 2017; Michelsen & Stensaker, 2011; Naylor et al., 2021; Palma et al., 2023), where they act as active partners (Deeley & Bovill, 2017; Green, 2019; Healey et al., 2016) in decision-making processes (Galán Palomares, 2014). This participation allows them to directly influence quality processes, ensuring that institutional policies are aligned with their expectations and promote a responsive educational environment.

These dimensions of engagement – represented by participation in teaching and learning and governance – are essential for the development of a robust QAS and for positive institutional performance, as illustrated in the proposed theoretical model.

Students play an important role in QA in HEIs, acting in different dimensions that can strengthen the effectiveness of the QAS.

First, participation in the teaching and learning process encompasses feedback, evaluation and satisfaction, allowing students to contribute towards implementing improvements in pedagogical processes (Elassy, 2015; Harvey, 2003; Hattie & Timperley, 2007). Students' critical analysis and perceptions provide valuable insights that can help shape more effective educational practices.

In addition, engagement in institutional governance and decision-making amplifies students' impact on QA processes. By acting as active partners in decision-making processes, students help align institutional policies with their expectations and promote a responsive educational environment (Beerkens & Udam, 2017; Palma et al., 2023).

Despite these contributions, the literature remains fragmented and rarely tests explicitly the relationship between student engagement and QAS effectiveness. Existing research highlights students as active stakeholders, but their effective influence on QAS remains underexplored, particularly in national contexts such as Portugal (Leach et al., 2014; Serrano et al., 2025). In addition, there are recurring limits in how student engagement is recognised and measured: institutional strategies depend heavily on faculty's perceptions (Almarghani & Mijatovic, 2017); part of the engagement is 'invisible' to faculty (Gourlay, 2017; Padilla-Petry & Vadeboncoeur, 2020); and faculty's and students' perspectives diverge systematically (Zepke et al., 2014), with a risk of reducing engagement to mere performativity (Macfarlane & Tomlinson, 2017). In the face of these gaps, this study operationalises student engagement as an exogenous variable determinant of QAS effectiveness, seeking to overcome the absence of direct empirical tests and allowing an integrated assessment of the role of students in QAS and institutional performance.

Therefore, the dimensions of participation in teaching and learning and engagement in governance are essential for developing robust QAS and achieving positive institutional performance.

We can therefore establish the following hypothesis:

H4: *Student engagement has a positive influence on the effectiveness of QAS.*

Quality assurance system effectiveness

Evaluating the effectiveness of QAS in higher education remains a significant challenge. Harvey and Newton (2004) point out that many QAS have prioritised compliance with formal requirements and institutional accountability, often to the detriment of real transformation in the student learning experience. This orientation towards control and fitness for purpose limits the potential of QAS as tools for continuous improvement. In this sense, Lillis (2012) notes that despite the significant investment by HEIs in QAS, there is still little empirical evidence to prove their effectiveness. The multi-faceted nature of HEIs also represents a limitation in demonstrating the direct impact of these systems on institutional results, which is why Stensaker et al. (2011) warn of the risk of these systems being perceived as ineffective, focusing on bureaucratic and regulatory aspects rather than addressing core issues for academics and students.

Moreover, Manatos et al. (2018) identified significant barriers to the implementation of QAS, emphasising the diversity of perceptions among various stakeholders, which may hinder the alignment of interests and the creation of a shared vision of quality. This lack of alignment between the parties involved can limit the effectiveness of QAS, an area crucial to explore in future research. Sarrico et al. (2013) add that, in Portuguese HEIs, there is still no genuine intrinsic culture of quality, with quality often perceived as something externally imposed by legislation, market demands and bodies such as A3ES. Although these impositions are recognised as necessary, the authors caution against the negative effects that these pressures can have, such as bureaucratisation and the dominance of managerial values over academic ones, which undermines academic freedom.

However, Sarrico et al. (2013) also note that, despite these limitations, external impositions have contributed to the development of a culture of reflection and improvement. This reflects a growing awareness of the need to transform formal quality processes into practical actions that can genuinely improve

teaching and learning quality. Simangunsong (2019) argues that, to overcome these limitations, QAS must go beyond formal accreditation standards and integrate functionally into institutional practices, adding real value to the educational experience and fostering continuous improvement.

Therefore, the limitations identified in current QA approaches highlight a significant gap in the literature: while QA aims to improve educational quality, it often fails to link its processes to the expected outcomes, such as pedagogical innovation and student learning. For QAS to be effective, they need to overcome bureaucratic barriers, foster a genuine quality culture and engage all stakeholders collaboratively, adopting an integrated approach focused on educational transformation.

In the Portuguese context, A3ES requires HEIs to align their QAS with strategic objectives and ensure meaningful stakeholder involvement (Sarrico et al., 2013). International frameworks such as ISO 9001 emphasise continuous improvement and stakeholder satisfaction, although their adaptation to higher education remains debated due to its complexity (Iqbal, 2024). In this study, QAS effectiveness is defined as the system's ability to move beyond formal compliance, being embedded in institutional practices and perceived as generating improvements in academic quality, research performance and social relevance.

Based on these arguments, we propose the following hypothesis:

H5: *Quality assurance effectiveness has a positive influence on HEI performance.*

HEI performance

The variable HEI Performance reflects the capacity of HEIs to fulfil their academic and social responsibilities, considering three essential dimensions: teaching, research and service. The literature emphasises that these functions are fundamental to measuring the institutional impact and overall quality of HEIs. Previous research highlights that organisational performance reflects an institution's progress and development, often defined as the comparison between expected and achieved results, the analysis of deviations, the evaluation of individual indicators and progress towards the fulfilment of strategic objectives (Akhavan et al., 2014; Koohang et al., 2017; Ngah & Ibrahim, 2010).

Agasisti and Bertoletti (2019), Edgar and Geare (2013) and Yilmaz and Kesik (2010) emphasise that institutional performance is closely related to the effectiveness with which HEIs balance and fulfil their core functions. Regarding the 'Teaching' dimension, the following topics are considered: quality of teaching practices, innovation, student satisfaction and completion rates. As for the 'Research' dimension, the scientific impact, the relevance of the topics researched, and the funding of projects are valued. The 'Services' dimension deals with aspects, such as community engagement, social inclusion, regional development and external partnerships.

Internationally, organisational performance in HEIs has also been analysed in light of knowledge management, innovation and intellectual capital, which are considered mediating factors capable of enhancing institutional outcomes (Iqbal et al., 2019). Complementarily, recent evidence indicates that a culture of quality can mediate the relationship between accreditation and performance, highlighting the importance of institutional mechanisms that transcend mere regulatory compliance (Iqbal, Taib, et al., 2024). In the Portuguese context, HEIs also face the challenge of reconciling the accreditation requirements defined by A3ES with public funding constraints and growing international competition, which reinforces the pressure to ensure excellence in teaching, research and the third mission (Sarrico et al., 2013; Ulker & Bakioglu, 2019).

Considering the global context in which HEIs operate and international rankings, Ulker and Bakioglu (2019) and Acevedo-De-los-Ríos and Rondinel-Oviedo (2022) argue that globalisation and the internationalisation of higher education have intensified global competition and the relevance of international rankings. HEIs must demonstrate excellence not only to meet local expectations, but also to compete in a globalised environment. This context increases the pressure on HEIs to excel in metrics such as academic quality, social impact and innovation.

Institutional quality is often considered a metric of HEI performance. Dill et al. (1996), Knight (2007) and Blanco-Ramirez (2015) emphasise that the implementation of QAS is essential to certify academic

and institutional excellence. These systems ensure that internal practices meet the expectations of stakeholders, promoting reputation and social impact.

Methodology

Study object and sample

The study population for this research comprised the teaching and research staff of the 97 HEI in Portugal in 2024. In the absence of a unified list of active academic staff, the sampling frame was constructed from information available on the institutions' websites. The questionnaire was designed in an online format and distributed *via* email.

This study adopts a multi-level approach, focusing on variables at the faculty and institutional levels. The population consists of teaching and research staff from the 97 HEIs in Portugal. The unit of analysis is the institution, while the unit of observation is the individual academic. A non-probabilistic sampling technique was used, based on publicly available contact information from institutional websites. Data were collected through an online questionnaire distributed *via* email, and the final sample includes 984 valid responses, allowing for robust statistical analysis.

The questionnaire was pre-tested by seven international experts in QA in higher education to ensure the relevance and clarity of the questions. This process made it possible to validate the suitability of the items and strengthen the reliability of the data to be collected.

Based on previous studies (Al-Jardani, 2023; Iqbal, Taib, et al., 2024; Kumar et al., 2023), the faculty engagement variable was measured with 7 items; the management support variable with 9 items; the quality of infrastructure variable with 8 items; the student engagement variable with 7 items; the quality system effectiveness variable with 8 items; and the HEI performance variable with 9 items.

The Cronbach's alpha for the 'Management Support' construct was 0.962, indicating a high level of internal consistency. While values above 0.95 may suggest redundancy, in this case the construct comprises multiple dimensions of leadership – such as commitment, communication, resource allocation and strategic alignment – that are conceptually distinct but closely related. According to Hair et al. (2017), high alpha values can be acceptable when the items reflect a cohesive and theoretically grounded construct, as is the case here.

A total of 984 valid responses were obtained, representing a sampling error of 3.09% (see Table 1) and constituting a sample size significantly larger than that of similar studies.

Data analysis

The chosen method for data analysis is the partial least squares (PLS) regression technique (Chin, 1998). The use of Partial Least Squares Structural Equation Modelling (PLS-SEM) is appropriate for this study due to its capacity to handle complex models with multiple latent constructs, non-normal data distributions, and exploratory research designs. It is particularly suitable for assessing mediation effects and estimating relationships in models with relatively small sample sizes. This methodological choice is supported by Chin (1998), Henseler et al. (2015) and Hair et al. (2017), who highlight PLS-SEM as a robust technique for predictive and theory-building purposes in social sciences. The main reasons for choosing this technique are that it allows working with complex models that include multiple latent variables and relationships, is robust against non-normal distributions and works well with small sample sizes. Additionally, PLS is ideal for studies with a predictive focus, such as usage intention and for

Table 1. Technical data sheet.

Universe	Teaching and research staff of the 97 HEI in Portugal (41,361 people)
Geographical scope	Portugal
Data collection method	Online survey
Sample size	984 questionnaires received
Sampling error	For a confidence level of 95% and p = q, the error for the entire sample is ± 3.09%
Fieldwork	January 2025

Table 2. PLS predict results.

	Q^2 predict	PLS-SEM_rMSE	PLS-SEM_mAE	LM_rMSE	LM_mAE	IA_rMSE	IA_mAE
PERF3	0.167	1.008	0.814	1.005	0.806	1.104	0.926
PERF4	0.233	0.943	0.747	0.935	0.740	1.077	0.893
PERF5	0.294	0.857	0.677	0.848	0.668	1.020	0.840
PERF6	0.247	0.895	0.701	0.876	0.686	1.032	0.769
PERF8	0.190	0.828	0.639	0.827	0.651	0.920	0.672
PERF9	0.254	0.776	0.611	0.764	0.604	0.899	0.647
QSE1	0.442	0.829	0.630	0.828	0.633	1.110	0.921
QSE2	0.452	0.819	0.635	0.813	0.631	1.106	0.905
QSE3	0.477	0.806	0.629	0.812	0.627	1.115	0.922
QSE4	0.472	0.799	0.641	0.776	0.617	1.100	0.909
QSE5	0.486	0.790	0.628	0.792	0.620	1.102	0.849
QSE6	0.574	0.749	0.597	0.753	0.596	1.147	0.870
QSE7	0.364	0.876	0.707	0.876	0.698	1.099	0.914
QSE8	0.467	0.822	0.655	0.824	0.657	1.126	0.863

exploratory research in emerging areas like the adoption of Gen-AI, where the theoretical model is still developing. It is also useful to model personal and contextual factors simultaneously.

All constructs were considered reflective and were measured using Likert scales (1–5) based on previous literature (Basbeth et al., 2021; Tavares et al., 2017). The model was estimated using SmartPLS version 4 (Hamburg, Germany) and the significance of the parameters was established through a bootstrap resampling procedure with 5000 subsamples of the same size as the original sample.

To strengthen the assessment of discriminant validity, we calculated the Heterotrait–Monotrait (HTMT) ratios for all construct pairs, following the recommendations of Henseler et al. (2015). The HTMT values obtained are all below the conservative threshold of 0.85 and the more liberal threshold of 0.90, indicating adequate discriminant validity.

We assessed predictive power using PLSpredict in SmartPLS version 4 (10 folds; Shmueli et al., 2019). All indicators show positive Q^2_predict values (0.167–0.574), confirming predictive relevance. Compared to the linear benchmark (LM), results are mixed: for QAS Effectiveness, PLS-SEM performs similarly to LM and outperforms it in some indicators (e.g. QSE8 on both RMSE and MAE); for HEI Performance, LM generally achieves lower prediction errors. Both models, however, clearly outperform the naïve benchmark, indicating meaningful out-of-sample predictability (Table 2).

Discussion, implications and limitations

Discussion on results

The relationship model was evaluated considering the individual reliability of the items and the discriminant validity of the constructs (Hulland, 1999). Regarding the reliability of each item, factor loadings were used as the criterion, where it is generally considered that they should exceed the reference value of 0.707 (Carmine & Zeller, 1979). After refining the scales. Table 3 shows that all items have loadings above the reference value.

The Cronbach's alpha value for each construct ranges from 0.889 to 0.962, indicating good reliability among the indicators of each construct. Additionally, the composite reliability of all constructs exceeds the reference threshold of 0.7, even the stricter threshold of 0.8 (Nunnally, 1978). Furthermore, the average variance extracted (AVE) values are above 0.5, ensuring the convergent validity of the model (Fornell & Larcker, 1981).

To evaluate discriminant validity, it was confirmed that each item had higher loadings on its intended construct rather than on any other constructs (Barclay et al., 1995). Discriminant validity is established if a construct's AVE exceeds the square of its correlations with other constructs (Fornell & Larcker, 1981). According to this criterion, all constructs in the model demonstrate discriminant validity (see Table 4), enabling us to move forward with the structural model assessment.

Figure 2 presents the outcomes of our structural model estimation. The arrows depict causal relationships, and the number adjacent to each arrow represents its standardised coefficient. Additionally, the product of this standardised coefficient and the correlation coefficient between the two constructs is shown as a percentage in parentheses (Falk & Miller, 1992).

Table 3. Measurement model evaluation.

Constructs	Factor loading	Cronbach alpha	Composite reliability	AVE
Faculty engagement		0.908	0.910	0.644
FE1: Higher Education Institutions promote effective channels for academics to express their opinions on institutional policies.	0.813			
FE2: Academics regularly contribute feedback on quality assurance systems.	0.792			
FE3: Academics have clear opportunities to collaborate on academic quality improvement projects.	0.838			
FE4: Academics are represented on relevant councils or committees for quality assurance.	0.771			
FE5: Academics participate in setting institutional goals related to quality.	0.836			
FE6: The engagement of academics in governance processes results in concrete actions for quality improvement.	0.801			
FE7: The engagement of academics in quality processes contributes to aligning institutional practices with their expectations.	0.764			
Management support		0.962	0.962	0.765
MS1: Institutional leadership demonstrates a clear commitment to continuous quality improvement.	0.872			
MS2: Institutional leadership actively participates in the formulation of quality assurance policies.	0.876			
MS3: Institutional leadership and their teams effectively communicate institutional quality-related objectives.	0.893			
MS4: Institutional leadership encourages stakeholder engagement in quality processes.	0.868			
MS5: Institutional leadership provides the necessary resources for the implementation of quality systems.	0.884			
MS6: Institutional leadership ensures that quality practices are aligned with institutional goals.	0.906			
MS7: Institutional leadership promotes an environment conducive to innovation and continuous improvement.	0.895			
MS8: Institutional leadership recognises and rewards innovative practices that promote quality.	0.846			
MS9: Institutional leadership reduces bureaucratic barriers to facilitate the implementation of quality processes.	0.828			
Quality of infrastructure		**0.945**	**0.949**	**0.722**
QI1: The institution's infrastructure supports effective implementation of quality systems.	0.846			
QI2: The condition of the facilities facilitates the creation of an environment that promotes continuous improvement.	0.892			
QI3: The existing infrastructure allows for the integration of technologies that support quality assurance processes.	0.857			
QI4: The adequacy of the facilities reflects the institution's commitment to educational quality.	0.890			
QI5: The quality of the infrastructure positively influences academics' perceptions of the work environment.	0.784			
QI6: The infrastructure contributes to a collaborative environment among academics. students. and institutional leadership.	0.848			
QI7: The physical conditions of the facilities impact productivity and pedagogical innovation.	0.843			
QI8: The available infrastructure contributes to the creation of an inclusive and accessible learning environment.	0.833			
Student engagement		**0.889**	**0.890**	**0.642**
SE1: HEI promote effective channels for students to express their opinions on institutional policies.	0.807			
SE2: Students regularly contribute feedback on quality assurance systems.	0.776			
SE3: Students have clear opportunities to collaborate on projects aimed at improving academic quality.	0.817			
SE5: Students participate in setting institutional goals related to quality.	0.810			
SE6: Student engagement in governance processes leads to concrete actions for quality improvement.	0.806			
SE7: Student engagement in quality processes contributes to aligning institutional practices with their expectations.	0.792			
QAS effectiveness		**0.937**	**0.940**	**0.697**
QAE1: The QAS directly contributes to the improvement of teaching and learning processes in the institution.	0.827			
QAE2: The QAS promotes innovative pedagogical practices.	0.831			
QAE3: The QAS is integrated into the daily practices of the institution.	0.799			

(*continued*)

Table 3. Continued.

Constructs	Factor loading	Cronbach alpha	Composite reliability	AVE
QAE4: The QA policy is clear and understood by all members of the institution.	0.840			
QAE5: The QAS is flexible enough to adapt to the specific needs of departments and courses.	0.861			
QAE6: The QAS fosters a participatory quality culture among academics. students. non-academics. and institutional leadership.	0.889			
QAE7: The quality evaluation process is efficient and does not consume excessive time.	0.774			
QAE8: The requirements of the QAS are clear and objective.	0.851			
HEI Performance		**0.892**	**0.899**	**0.651**
PERF3: The institution's scientific output is recognised nationally and internationally.	0.766			
PERF4: The institution's research results have a direct impact on society or specific sectors.	0.851			
PERF5: Projects developed by the institution contribute to sustainable development.	0.853			
PERF6: The institution's engagement in community events and initiatives is well received by society.	0.810			
PERF8: National and international rankings reflect the institution's positive performance.	0.720			
PERF9: The institution's graduates are perceived as highly qualified by the job market.	0.831			

Management support is the construct that most contributes to explaining quality system effectiveness (33.63%). The variables faculty engagement (13.14%) and quality of infrastructure (11,98%) also have a high explanatory power of intention. However, student engagement (8.84%) is of less relevance.

Our model also confirms the positive impact of the effectiveness of the QAS on the HEI performance (29,92%).

The results confirm that management support is the most decisive factor in the effectiveness of QAS, corroborating previous evidence that institutional leadership plays a decisive role in the success of QA practices (Iqbal, Moosa, et al., 2024; Tavares et al., 2016).

The results confirm that faculty engagement has a significant effect on the effectiveness of QAS, corroborating the central role of academics in quality implementation. However, the literature warns of persistent limitations: many faculty members perceive QAS as a bureaucratic and controlling burden (Harvey, 2024), participating mainly in the formal fulfilment of requirements (Manatos et al., 2018). In the Portuguese context, these processes continue to be associated more with administration than with pedagogical improvement (Tavares et al., 2017). This study adds quantitative evidence demonstrating empirically that faculty engagement directly influences the effectiveness of QAS, reinforcing that their effective participation is a necessary condition for the systems to fulfil their purpose of improvement.

The analysis also confirms the importance of infrastructure quality, reinforcing the evidence that physical and technological conditions – such as facilities, support services and adequate equipment – are essential elements for sustaining the educational experience (Douglas et al., 2006; Kärnä & Julin, 2015; Marimon et al., 2019; Petruzzellis et al., 2006; Tsinidou et al., 2010; Zineldin et al., 2011). In addition to this function traditionally associated with student satisfaction and performance, this study demonstrates its direct effect on the effectiveness of QAS, broadening the understanding of the strategic role of infrastructure in the functioning of QAS.

Regarding student engagement, the estimated effect is positive but of lesser magnitude. This result should not be understood as a sign of student disinterest, but rather as a reflection of institutional limitations concerning the systematic integration of their voices into QA processes. The literature has recognised the contributions of students through feedback, evaluation and participation in governance bodies, but has also highlighted persistent constraints – excessive dependence on faculty perceptions, invisible forms of engagement and risks of performativity – which help to explain a more modest impact on the effectiveness of QAS (Beerkens & Udam, 2017; Serrano et al., 2025). The contribution of this study is to show empirically that, even with a lower statistical weight, student engagement remains an

Table 4. Discriminant validity.

	Faculty engagement	HEI performance	Management support	Quality infrastructure	QAS effectiveness	Student engagement
Faculty engagement	0.803					
Hei performance	0.611	0.807				
Management support	0.830	0.626	0.875			
Quality infrastructure	0.668	0.580	0.736	0.850		
QAS effectiveness	0.784	0.591	0.824	0.705	0.835	
Student engagement	0.799	0.535	0.683	0.577	0.695	0.801

Note: The elements on the diagonal are the square root of the AVE.

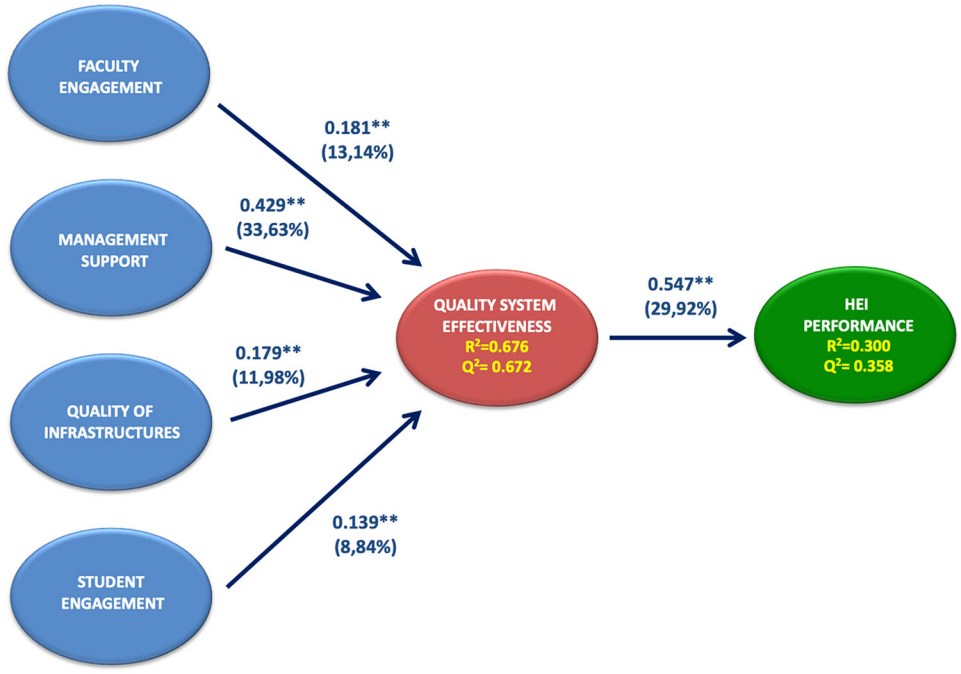

Figure 2. Structural model. (*) Significant relationship at the 99% level.

indispensable variable, whose effect could be amplified if HEIs manage to transform their voice into stable deliberative mechanisms oriented towards continuous improvement.

Together, these results demonstrate that the effectiveness of QAS acts as a mediating link that translates organisational resources (management support and infrastructure) and relational dynamics (faculty and students) into institutional performance gains.

This reinforces the theoretical and practical implications: sustaining quality in higher education requires not only material conditions and strategic leadership, but also the effective engagement of faculty and a more structured student engagement, with real impact on decision-making processes and quality improvement.

The figure shows that all Q^2 values from the Stone-Geiser test have predictive relevance as they are greater than zero. The model shows good predictive power (R^2), as it helps explain 67.6% of the variance in the construct quality system effectiveness and 30% of HEI performance. The goodness of fit value is calculated through the standardised root mean square residual (SRMR), which is equal to 0.065, indicating that our model fits the empirical data (Henseler et al., 2015).

Implications

From a theoretical perspective, the study empirically confirms that QAS effectiveness acts as a critical mediating variable, transforming institutional resources and relational dynamics into performance gains. By integrating management support, faculty engagement, infrastructure quality and student engagement into a single model, it goes beyond fragmented analyses and consolidates a comprehensive view

of the determinants of QAS effectiveness. This framework reinforces the centrality of QAS effectiveness in academic debate, in line with the RBV and stakeholder theory, highlighting that both tangible resources and relational practices are decisive in sustain and improve quality in higher education.

In practical terms, the results offer clear guidance for institutional decision-makers and public policy makers. The emphasis on management support confirms that leadership must be active in defining strategies and providing adequate conditions for quality. Evidence regarding infrastructure shows that consistent investment in physical and technological conditions not only improves the academic experience but also directly enhances the effectiveness of QAS. As for faculty, the results corroborate that their effective engagement is an indispensable condition for systems to function as drivers of continuous improvement. Regarding students, the main implication is not only to recognise their strategic relevance, already widely emphasised in the literature, but to ensure that institutions evolve from a consultative approach to models of structural participation. This means transforming their presence in collegiate bodies, feedback mechanisms and evaluation processes into contributions with real deliberative impact, capable of influencing institutional policies and quality strategies.

Limitations and future research

Some limitations should be acknowledged. First, the research is based exclusively on the faculty's perceptions, which restricts the analysis to a specific group of stakeholders and prevents an in-depth understanding of the views of students and other institutional actors, whose direct participation could substantially enrich the understanding of how QAS work. Second, although the survey was sent to all academics at the 97 Portuguese HEIs, as participation was voluntary, a high number of responses was not expected. Even so, the number was significant, ensuring robustness and broad institutional representativeness. Third, the exclusive use of quantitative data did not allow for the exploration of critical qualitative dimensions, such as the meanings attributed to QA, tensions with academic autonomy or the subtle mechanisms of student participation. Furthermore, although not analysed in this study, the open question included in the questionnaire generated qualitative contributions that deserve to be systematically analysed in future research, as they could enrich and contextualise the quantitative results.

These limitations open space for more comprehensive future research. Mixed approaches, combining quantitative surveys with qualitative analysis of perceptions, may offer a more holistic view of QAS and their appropriation by different stakeholders. Comparative studies between public and private institutions could clarify contextual differences in the impact of QAS, while comparative international analyses would allow testing the robustness of the model in different higher education systems and reinforce its external validity. Future research should also explore how the effectiveness of QAS interacts with other organisational variables – such as leadership styles, institutional culture or funding models – to deepen our understanding of their contribution to institutional performance.

Finally, it should be noted that, although the HEI performance construct used in this study integrates dimensions related to teaching, research and societal impact, future research should focus on explicitly measuring teaching quality and learning outcomes, ensuring their analytical distinction from other performance indicators.

In summary, this study opens fertile ground for research combining different methods, institutional contexts and stakeholder perspectives, consolidating understanding of the effectiveness of QAS and its relationship with institutional performance. Advancing this agenda is essential to translate QA into effective academic and social impact, strengthening its role as a strategic foundation of contemporary higher education.

Conclusions

This study identified and analysed the main determinants of the effectiveness of QAS and its impact on institutional performance in higher education. The results confirm that management support is the most decisive factor, validating the importance of active institutional leadership in promoting quality. The quality of infrastructure and faculty engagement also had significant effects, showing that adequate material conditions and effective faculty engagement are critical elements for the effectiveness of QAS.

Student engagement, although with a more modest impact, should not be underestimated: the results suggest that its limited influence stems mainly from institutional barriers to the full integration of their voice, rather than from a lack of interest, which reinforces the need to strengthen structured participation mechanisms.

More broadly, the results show that the effectiveness of QAS acts as a central mediating variable, translating institutional conditions and stakeholder participation into gains in academic, research and social performance. This empirical contribution provides robust quantitative evidence for the international debate and highlights the relevance of integrating structural and relational determinants into more comprehensive explanatory models.

Thus, this study consolidates the centrality of QAS effectiveness as a critical variable in academic debate and offers original contributions to understanding how different determinants underpin the HEIS performance.

CrediT statement

Conceptualisation: OS, FM, JM
Methodology: FM
Data collection and processing: OS
Writing – original draft: OS
Supervision: FM, JM
Writing – review and editing: OS, FM, JM
Questionnaire design: OS, FM, JM

Acknowledgements

The authors would like to thank the participating respondents for their valuable contributions, and the reviewers for their constructive feedback during the peer review process.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The authors acknowledge financial support from Fundação para a Ciência e a Tecnologia (FCT) (grant UID/05064/2025).

About the authors

Orlando Manuel Esteves Serrano is a senior technical officer at the Polytechnic Institute of Setúbal (Portugal). He is currently a doctoral candidate in Economics and Business at the University of Extremadura (Spain). He completed the executive course in Strategic University Management at the Polytechnic University of Catalonia, in Barcelona. His research interests focus on public administration, quality, and education – areas in which he has conducted research and published several scientific articles in both peer-reviewed and non-peer-reviewed journals.

Francisco Javier Miranda González holds PhD degree in Economics from the University of Extremadura and Master in Production, Quality and Technology Management from the Polytechnic University of Madrid. Professor at the Faculty of Economics and Business of the University of Extremadura. At present the main research lines are: Academic Entrepreneurship, Innovation Management, Services Quality Management, Educational Innovation, etc.

Joaquim António Belchior Mourato holds PhD degree in Economics and Business Sciences from the University of Extremadura (Spain). He is a Coordinating Professor with Aggregation at the School of Technology and Management of the Polytechnic Institute of Portalegre, conducting scientific research in the areas of organisational performance management and quality in higher education institutions. He is a researcher at the Research Centre for the Valorisation of Endogenous Resources (VALORIZA) at the Polytechnic Institute of Portalegre and a collaborating researcher at the Centre for Research and Studies in Sociology (CIES) at ISCTE-IUL, where he coordinates and participates in research projects. He was President of the Coordinating Council of Portuguese Polytechnic Institutes (CCISP) from 2013 to 2016, President of the Polytechnic Institute of Portalegre from 2009 to 2017. He was an advisor to the

National Education Council (CNE), a member of the Board of the Forum for the Management of Higher Education in Portuguese-speaking Countries and Regions (FORGES) and a member of the European Quality Assurance Forum (EQAF) Committee. Since 2022, he has held the position of Director-General for Higher Education in Portugal.

ORCID

Orlando Manuel Esteves Serrano http://orcid.org/0009-0006-2069-0071
Francisco Javier Miranda González http://orcid.org/0000-0001-6810-1359
Joaquim António Belchior Mourato http://orcid.org/0000-0002-0748-6387

Data availability statement

The data supporting the findings of this study are not publicly available due to ethical reasons and data protection regulations. Further information may be requested from the corresponding author (orlandoserranoue@gmail.-com), subject to GDPR – General Data Protection Regulation compliance.

References

Acevedo-De-los-Rıos, A., & Rondinel-Oviedo, D. R. (2022). Impact, added value and relevance of an accreditation process on quality assurance in architectural higher education. *Quality in Higher Education*, *28*(2), 186–204. https://doi.org/10.1080/13538322.2021.1977482

Agasisti, T., & Bertoletti, A. (2019). Analysing the determinants of higher education systems' performance-a structural equation modelling approach. *Science and Public Policy*, *46*(6), 834–852. https://doi.org/10.1093/scipol/scz033

Agência de Avaliação e Acreditação do Ensino Superior. (2024). Avaliação institucional: Um balanço final [Institutional evaluation: A final review]. *Newsletter A3ES*, (13), 4–5. https://a3es.pt/wp-content/uploads/Newsletter_A3ES_13_Outubro_2024.pdf

Akhavan, P., Ramezan, M., Moghaddam, J. Y., & Mehralian, G. (2014). Exploring the relationship between ethics, knowledge creation and organizational performance: Case study of a knowledge-based organization. *VINE*, *44*(1), 42–58. https://doi.org/10.1108/VINE-02-2013-0009

Ala-Vähälä, T. (2011). Mitä auditointi tekee?: Tutkimus korkeakoulujen laadunvarmistusjärjestelmien auditointien vaikutuksista [What does auditing do?: A study on the effects of auditing quality assurance systems in higher education institutions]. Korkeakoulujen arviointineuvosto.

Albaroudi, H. B., Altuwaijri, A. I., Albagieh, M. N., & Iqbal, S. (2025). Unlocking university performance: The role of staff commitment and accreditation effectiveness in Saudi universities. *Humanities and Social Sciences Communications*, *12*(1), 1136. https://doi.org/10.1057/s41599-025-05533-0

Albaroudi, H. B., & Iqbal, S. (2025). Role of leadership styles in connecting quality culture and university performance: A higher education perspective from Saudi Arabia. *The TQM Journal*, *37*(6), 1643–1665. https://doi.org/10.1108/TQM-02-2024-0072

Aldridge, S., & Rowley, J. (1998). Measuring customer satisfaction in higher education. *Quality Assurance in Education*, *6*(4), 197–204. https://doi.org/10.1108/09684889810242182

Al-Jardani, K. S. S. (2023). Faculty perceptions on the effectiveness of the internal quality process and its role on the teaching and learning. *International Journal of Higher Education*, *12*(4), 15. https://doi.org/10.5430/IJHE.V12N4P15

Almarghani, E. M., & Mijatovic, I. (2017). Factors affecting student engagement in HEIs – it is all about good teaching. *Teaching in Higher Education*, *22*(8), 940–956. https://doi.org/10.1080/13562517.2017.1319808

Alves, J. E., Morais, F., Mourato, I., Quarenta, M. J., Silva, A., & Mourato, J. (2016). Os sistemas de gestão e garantia de qualidade no Ensino Superior em Portugal acreditados pela A3ES: Uma análise comparativa [Quality management and assurance systems in higher education in Portugal accredited by A3ES: A comparative analysis]. *XIII Foro Internacional sobre la evaluación de la calidad de la investigación y de la educación superior (FECIES)* (pp. 21–31). Asociación Española de Psicología Conductual. https://www.ugr.es/~aepc/FECIES_16/LIBROCAPITULOXIII.pdf

Attree, K. J. (2025). Stakeholder engagement in accreditation and quality assurance via the program advisory board: Contributions and benefits. *Quality Assurance in Education*. Advance online publication. https://doi.org/10.1108/QAE-04-2025-0112

Asiyai, R. I. (2022). Best practices for quality assurance in higher education: Implications for educational administration. *International Journal of Leadership in Education*, *25*(5), 843–854. https://doi.org/10.1080/13603124.2019.1710569

Barclay, D., Higgins, C., & Thompson, R. (1995). The partial least squares (PLS) approach to causal modeling: Personal computer adoption and use as an illustration. *Technology Studies*, *2*(2), 285–309.

Barney, J. B. (2000). Firm resources and sustained competitive advantage. *Advances in Strategic Management*, *17*, 203–227. https://doi.org/10.1016/S0742-3322(00)17018-4

Basbeth, F., Ahmad Saufi, R., & Sudharmin, K. B. (2021). E-teaching satisfaction in a black swan moment: The effect of student engagement and institutional support. *Quality Assurance in Education*, *29*(4), 445–462. https://doi.org/10.1108/QAE-03-2021-0039

Bejan, S. A., Janatuinen, T., Jurvelin, J., Klöpping, S., Malinen, H., Minke, B., & Vacareanu, R. (2015). Quality assurance and its Impact from higher education institutions' perspectives: Methodological approaches, experiences and expectations. *Quality in Higher Education*, *21*(3), 343–371. https://doi.org/10.1080/13538322.2015.11125466

Bell, A. R., & Brooks, C. (2018). What makes students satisfied? A discussion and analysis of the UK's national student survey. *Journal of Further and Higher Education*, *42*(8), 1118–1142. https://doi.org/10.1080/0309877X.2017.1349886

Beerkens, M., & Udam, M. (2017). Stakeholders in higher education quality assurance: Richness in diversity? *Higher Education Policy*, *30*(3), 341–359. https://doi.org/10.1057/s41307-016-0032-6

Blanco-Ramirez, G. (2015). US accreditation in Mexico: Quality in higher education as symbol, performance and translation. *Discourse: Studies in the Cultural Politics of Education*, *36*(3), 329–342. https://doi.org/10.1080/01596306.2013.871236

Borch, I., Sandvoll, R., & Risør, T. (2020). Discrepancies in purposes of student course evaluations: What does it mean to be "satisfied"? *Educational Assessment, Evaluation and Accountability*, *32*(1), 83–102. 2020 https://doi.org/10.1007/s11092-020-09315-x

Borch, I., Sandvoll, R., & Risør, T. (2022). Student course evaluation documents: Constituting evaluation practice. *Assessment & Evaluation in Higher Education*, *47*(2), 169–182. https://doi.org/10.1080/02602938.2021.1899130

Cardoso, S., & Santos, S. M. (2011). Students in higher education governance: The Portuguese case. *Tertiary Education and Management*, *17*(3), 233–246. https://doi.org/10.1080/13583883.2011.588719

Carmine, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment*. SAGE. https://doi.org/10.4135/9781412985642

Cavallone, M., Ciasullo, M. V., Douglas, J., & Palumbo, R. (2021). Framing higher education quality from a business perspective: Setting the conditions for value co-creation. *Studies in Higher Education*, *46*(6), 1099–1111. https://doi.org/10.1080/03075079.2019.1672644

Cavallone, M., Ciasullo, M. V., Manna, R., & Palumbo, R. (2022). A tale of two stakeholders: Achieving excellence by merging quality expectations in Higher Education Institutions. *Studies in Higher Education*, *47*(2), 244–258. https://doi.org/10.1080/03075079.2020.1739016

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295–336). Psychology Press.

Coates, H. (2005). The value of student engagement for higher education quality assurance. *Quality in Higher Education*, *11*(1), 25–36. https://doi.org/10.1080/13538320500074915

Danø, T., & Stensaker, B. (2007). Still balancing improvement and accountability? Developments in external quality assurance in the Nordic countries 1996–2006. *Quality in Higher Education*, *13*(1), 81–93. https://doi.org/10.1080/13538320701272839

Deeley, S. J., & Bovill, C. (2017). Staff student partnership in assessment: Enhancing assessment literacy through democratic practices. *Assessment & Evaluation in Higher Education*, *42*(3), 463–477. https://doi.org/10.1080/02602938.2015.1126551

Dill, D. (2010). Quality assurance in higher education – practices and issues. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International encyclopedia of education* (3rd ed., pp. 377–383). Elsevier. https://doi.org/10.1016/B978-0-08-044894-7.00833-2

Dill, D. D., Massy, W. F., Williams, P. R., & Cook, C. M. (1996). Accreditation & academic quality assurance: Can we get there from here? *Change: The Magazine of Higher Learning*, *28*(5), 17–24. https://doi.org/10.1080/00091383.1996.9937136

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *The Academy of Management Review*, *20*(1), 65–91. https://doi.org/10.2307/258887

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education*, *14*(3), 251–267. https://doi.org/10.1108/09684880610678568

Edgar, F., & Geare, A. (2013). Factors influencing university research performance. *Studies in Higher Education*, *38*(5), 774–792. https://doi.org/10.1080/03075079.2011.601811

Elassy, N. (2015). The concepts of quality, quality assurance and quality enhancement. *Quality Assurance in Education*, *23*(3), 250–261. https://doi.org/10.1108/QAE-11-2012-0046

Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling*. University of Akron Press.

Fornell, C., & Larcker, D. F. (1981). *Structural equation models with unobservable variables and measurement error: Algebra and statistics*. Sage.

Foroni, M. (2011). Student Representation in Italy. *Tertiary Education and Management*, *17*(3), 205–218. https://doi.org/10.1080/13583883.2011.588718

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Galán Palomares, F. M. (2014, February 14). *Involving students in quality assurance*. University World News. https://www.universityworldnews.com/post.php?story=20140210155738832

Gourlay, L. (2017). Student engagement, 'learnification' and the sociomaterial: Critical perspectives on higher education policy. *Higher Education Policy*, *30*(1), 23–34. https://doi.org/10.1057/s41307-016-0037-1

Green, W. (2019). Engaging "students as partners" in global learning: Some possibilities and provocations. *Journal of Studies in International Education*, *23*(1), 10–29. https://doi.org/10.1177/1028315318814266

Griffin, A., & Cook, V. (2009). Acting on evaluation: Twelve tips from a national conference on student evaluations. *Medical Teacher*, *31*(2), 101–104. https://doi.org/10.1080/01421590802225788

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage Publications.
Harvey, L. (2003). Student feedback [1]. *Quality in Higher Education*, *9*(1), 3–20. https://doi.org/10.1080/13538320308164
Harvey, L. (2023). Extended editorial: Quality in higher education author survey. *Quality in Higher Education*, *29*(2), 135–164. https://doi.org/10.1080/13538322.2022.2153642
Harvey, L. (2024). What have we learned from 30 years of quality in higher education: Academics' views of quality assurance. *Quality in Higher Education*, *30*(3), 360–375. https://doi.org/10.1080/13538322.2024.2385793
Harvey, L., & Newton, J. (2004). Transforming quality evaluation. *Quality in Higher Education*, *10*(2), 149–165. https://doi.org/10.1080/1353832042000230635
Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, *77*(1), 81–112. https://doi.org/10.3102/003465430298487
Healey, M., Flint, A., & Harrington, K. (2016). Students as partners: Reflections on a conceptual model. *Teaching and Learning Inquiry*, *4*(2), 8–20. https://doi.org/10.20343/teachlearninqu.4.2.3
Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8
Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent studies. *Strategic Management Journal*, *20*(2), 195–204. https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<195::AID-SMJ13>3.0.CO;2-7
Iacovidou, M., Gibbs, P., & Zopiatis, A. (2009). An exploratory use of the stakeholder approach to defining and measuring quality: The case of a cypriot higher education institution. *Quality in Higher Education*, *15*(2), 147–165. https://doi.org/10.1080/13538320902995774
Iqbal, A., Latif, F., Marimon, F., Sahibzada, U. F., & Hussain, S. (2019). From knowledge management to organizational performance: Modelling the mediating role of innovation and intellectual capital in higher education. *Journal of Enterprise Information Management*, *32*(1), 36–59. https://doi.org/10.1108/JEIM-04-2018-0083
Iqbal, S. (2024). ISO 9001 as a catalyst: Linking staff training to university performance. *The TQM Journal*. Advance online publication. https://doi.org/10.1108/TQM-06-2024-0216
Iqbal, S., Moosa, K., & Taib, C. A. B. (2024). Optimizing quality enhancement cells in higher education institutions: Analyzing management support, quality infrastructure and staff training. *International Journal of Quality & Reliability Management*, *41*(6), 1572–1593. https://doi.org/10.1108/IJQRM-01-2021-0007
Iqbal, S., Taib, C. A. B., & Razalli, M. R. (2023a). The nexus between leadership styles and organizational performance: The mediating role of quality culture. *Quality Assurance in Education*, *31*(4), 600–615. https://doi.org/10.1108/QAE-03-2023-0038
Iqbal, S., Taib, C. A. B., & Razalli, M. R. (2023b). Examining the effect of accreditation on higher education performance through motivation as a mediator. *Participatory Educational Research*, *10*(3), 89–105. https://doi.org/10.17275/per.23.46.10.3
Iqbal, S., Taib, C. A. B., & Razalli, M. R. (2024). The effect of accreditation on higher education performance through quality culture mediation: The perceptions of administrative and quality managers. *The TQM Journal*, *36*(2), 572–592. https://doi.org/10.1108/TQM-11-2022-0322/FULL/PDF
Jara, M., & Mellar, H. (2010). Quality enhancement for e-Learning courses: The role of student feedback. *Computers & Education*, *54*(3), 709–714. https://doi.org/10.1016/j.compedu.2009.10.016
Josefson, K., Pobiega, J., & Stråhlman, C. (2011). Student participation in developing student feedback. *Quality in Higher Education*, *17*(2), 257–262. https://doi.org/10.1080/13538322.2011.582799
Kärnä, S., & Julin, P. (2015). A framework for measuring student and staff satisfaction with university campus facilities. *Quality Assurance in Education*, *23*(1), 47–66. https://doi.org/10.1108/QAE-10-2013-0041
Kilcrease, K. M. (2011). Faculty perceptions of business advisory boards: The challenge for effective communication. *Journal of Education for Business*, *86*(2), 78–83. https://doi.org/10.1080/08832323.2010.480989
Knight, J. (2007). Cross-border higher education: Issues and omplications for quality assurance and accreditation. *Higher education in the world, 2007: Accreditation for quality assurance – What is at stake* (pp. 134–146). Palgrave Macmillan.
Koķe, T., Jansone-Ratinika, N., & Koka, R. (2017). Formative assessment on an individual and an institutional level on the way to quality culture in higher education. *Problems of Education in the 21st Century*, *75*(1), 54–71. https://doi.org/10.33225/pec/17.75.54
Kolodii, I., Bilyakovska, O., Mironov, V., Baida, I., & Buriak, B. (2021). Quality control of educational process in higher education institutions: International experience. *Revista on Line de Política e Gestão Educacional*, *25*(3), 2493–2505. https://doi.org/10.22633/rpge.v25i3.15887
Koohang, A., Paliszkiewicz, J., & Goluchowski, J. (2017). The impact of leadership on trust, knowledge management, and organizational performance: A research model. *Industrial Management & Data Systems*, *117*(3), 521–537. https://doi.org/10.1108/IMDS-02-2016-0072
Kumar, P., Singhal, S., & Kansal, J. (2023). How the quality management systems impacts the organizational effectiveness? Application of PLS-SEM and fsQCA approach. *Evergreen*, *10*(2), 626–639. https://doi.org/10.5109/6792808

Leach, L., Zepke, N., & Butler, P. (2014). Tertiary teachers' perspectives on their role in student engagement: A snapshot from Aotearoa New Zealand. *Journal of Further and Higher Education*, *38*(1), 19–36. https://doi.org/10.1080/0309877X.2012.699513

Leckey, J., & Neill, N. (2001). Quantifying quality: The importance of student feedback. *Quality in Higher Education*, *7*(1), 19–32. https://doi.org/10.1080/13538320120045058

Lillis, D. (2012). Systematically evaluating the effectiveness of quality assurance programmes in leading to improvements in institutional performance. *Quality in Higher Education*, *18*(1), 59–73. https://doi.org/10.1080/13538322.2012.663549

Lowe, T., & Shaw, C. (2019). Student perceptions of the "best" feedback practices: An evaluation of student-led teaching award nominations at a higher education institution. *Teaching & Learning Inquiry*, *7*(2), 121–135. https://doi.org/10.20343/teachlearninqu.7.2.8

Macfarlane, B., & Tomlinson, M. (2017). Critiques of student engagement. *Higher Education Policy*, *30*(1), 5–21. https://doi.org/10.1057/s41307-016-0027-3

MacKay, J. R. D., Hughes, K., Marzetti, H., Lent, N., & Rhind, S. M. (2019). Using National Student Survey (NSS) qualitative data and social identity theory to explore students' experiences of assessment and feedback. *Higher Education Pedagogies*, *4*(1), 315–330. https://doi.org/10.1080/23752696.2019.1601500

Mainardes, E., Alves, H., & Raposo, M. (2013). Portuguese public university student satisfaction: A stakeholder theory-based approach. *Tertiary Education and Management*, *19*(4), 353–372. https://doi.org/10.1080/13583883.2013.841984

Mahapatra, S. S., & Khan, M. S. (2007). A neural network approach for assessing quality in technical education: An empirical study. *International Journal of Productivity and Quality Management*, *2*(3), 287–306. https://doi.org/10.1504/IJPQM.2007.012451

Manatos, M. J., Rosa, M. J., & Sarrico, C. S. (2018). Quality management in universities: Towards an integrated approach? *International Journal of Quality & Reliability Management*, *35*(1), 126–144. https://doi.org/10.1108/IJQRM-04-2016-0046

Marimon, F., Mas-Machuca, M., Berbegal-Mirabent, J., & Llach, J. (2019). UnivQual: A holistic scale to assess student perceptions of service quality at universities. *Total Quality Management & Business Excellence*, *30*(1–2), 184–200. https://doi.org/10.1080/14783363.2017.1302795

Mazza, T., & Azzali, S. (2025). Stakeholders' involvement in economics and management programs quality assurance. *Quality Assurance in Education*, *33*(1), 47–61. https://doi.org/10.1108/QAE-11-2023-0193

Michelsen, S., & Stensaker, B. (2011). Students and the governance of higher education in Norway. *Tertiary Education and Management*, *17*(3), 219–231. https://doi.org/10.1080/13583883.2011.586047

Moosa, K., Sajid, A., Khan, R. A., & Mughal, A. (2010). An empirical study of TQM implementation: Examination of aspects versus impacts. *Asian Business & Management*, *9*(4), 525–551. https://doi.org/10.1057/abm.2010.27

Mourato, J., Alves, J. M., Morais, F., Mourato, I., Silva, A., & Quarenta, M. J. (2017). Sistemas de Garantia da Qualidade no Ensino Superior em Portugal acreditados pela A3ES: Convergências e divergências [Quality assurance systems in higher education in Portugal accredited by A3ES: Convergences and divergences]. In A. Guillén-Riquelmey, & M. Guillot-Valdés (Comps.), *XIV Foro internacional sobre la evaluación de la calidad de la investigación y de la educación superior (FECIES)* (pp. 944–950). Asociación Española de Psicología Conductual. https://www.ugr.es/~aepc/FECIES_16/FECIES2017.pdf

Moyo, C., & Boti, Z. (2020). Perceptions of students on factors that constrain their involvement in quality assurance and promotion in two comprehensive universities in South Africa. *South African Journal of Higher Education*, *35*(4), 35–46. https://doi.org/10.20853/34-5-4239

Mussawy, S. A. J., & Rossman, G. B. (2021). Quality assurance and accreditation in Afghanistan: Exploring sensemaking and sensegiving in policy implementation. *Quality in Higher Education*, *27*(1), 99–122. https://doi.org/10.1080/13538322.2020.1833419

Naylor, R., Dollinger, M., Mahat, M., & Khawaja, M. (2021). Students as customers versus as active agents: Conceptualising the student role in governance and quality assurance. *Higher Education Research & Development*, *40*(5), 1026–1039. https://doi.org/10.1080/07294360.2020.1792850

Ngah, R., & Ibrahim, A. R. (2010). The effect of knowledge sharing on organizational performance in small and medium enterprises. *Proceedings Knowledge Management 5th International Conference, Knowledge Management: Theory, Research & Practice* (pp. 467–472). UUM College of Art & Sciences, Universiti Utara Malaysia.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

O'Driscoll, F. (2012). What matters most: An exploratory multivariate study of satisfaction among first year hotel/hospitality management students. *Quality Assurance in Education*, *20*(3), 237–258. https://doi.org/10.1108/09684881211240303

Overberg, J. (2019). 'Skipping the quality abracadabra': Academic resistance to quality management in Finnish higher education institutions and quality managers' strategies to handle it. *Quality in Higher Education*, *25*(3), 227–244. https://doi.org/10.1080/13538322.2019.1685656

Padilla-Petry, P., & Vadeboncoeur, J. A. (2020). Students' perspectives on engagement, learning, and pedagogy: Self-evaluations of University students in Spain. *Sage Open*, *10*(2). https://doi.org/10.1177/2158244020924063

Palma, A., Mourato, J., Vinagre, J., Almeida, F., & Pessoa, A. M. (2023). Student participation: issues for the governance of higher education. *Societies*, *13*(5), 115. https://doi.org/10.3390/soc13050115

Petruzzellis, L., D'Uggento, A. M., & Romanazzi, S. (2006). Student satisfaction and quality of service in Italian universities. *Managing Service Quality: An International Journal*, *16*(4), 349–364. https://doi.org/10.1108/09604520610675694

Price, I., Matzdorf, F., Smith, L., & Agahi, H. (2003). The impact of facilities on student choice of university. *Facilities*, *21*(10), 212–222. https://doi.org/10.1108/02632770310493580

Richardson, J. T. E. (2005). Instruments for obtaining student feedback: A review of the literature. *Assessment & Evaluation in Higher Education*, *30*(4), 387–415. https://doi.org/10.1080/02602930500099193

Rosa, M. J., Sarrico, C. S., & Amaral, A. (2012). Implementing quality management systems in higher education institutions. In M. Savsar (Ed.), *Quality assurance and management* (pp. 129–146). InTech. https://doi.org/10.5772/33922

Sanetra, C., & Marbán, R. M. (2007). *The answer to the global quality challenge: A national quality infrastructure*. Physikalische-Technische Bundesanstalt.

Sarrico, C. S., Veiga, A., & Amaral, A. (2013). The long road—How evolving institutional governance mechanisms are changing the face of quality in Portuguese higher education. *Educational Assessment, Evaluation and Accountability*, *25*(4), 375–391. https://doi.org/10.1007/s11092-013-9174-x

Sena, M. P., Sena, J. A., & Crable, E. A. (2010). Faculty perceptions on the goals and achievements information systems executive advisory boards. *Information Systems Education Journal*, *8*(41). https://eric.ed.gov/?id=J1146851

Serrano, O. M. E., Miranda González, F. J., Mourato, J. A. B., & Lourenço, R. T. (2025). Student contributions to quality assurance in higher education: A systematic literature review. *Assessment & Evaluation in Higher Education*, 50, 632–648. https://doi.org/10.1080/02602938.2024.2445727

Seyfried, M., & Pohlenz, P. (2018). Assessing quality assurance in higher education: Quality managers' perceptions of effectiveness. *European Journal of Higher Education*, *8*(3), 258–271. https://doi.org/10.1080/21568235.2018.1474777

Shah, M., & Jarzabkowski, L. (2013). The Australian higher education quality assurance framework: From improvement-led to compliance-driven. *Perspectives: Policy and Practice in Higher Education*, *17*(3), 96–106. https://doi.org/10.1080/13603108.2013.794168

Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, *53*(11), 2322–2347. https://doi.org/10.1108/EJM-02-2019-0189

Simangunsong, E. (2019). Factors determining the quality management of higher education: A case study at a business school in Indonesia. *Jurnal Cakrawala Pendidikan*, *38*(2), 215–227. https://doi.org/10.21831/cp.v38i2.19685

Srijampana, V. V. G. R., Vennam, B. S., Dulipala, P., & Potti, R. (2025). Impact of "assessment and accreditation" process on quality of higher and medical education in India: A systematic review and meta-analysis. *Archives of Medicine and Health Sciences*, *13*(1), 139–144. https://doi.org/10.4103/amhs.amhs_342_24

Srikanthan, G., & Dalrymple, J. (2003). Developing alternative perspectives for quality in higher education. *International Journal of Educational Management*, *17*(3), 126–136. https://doi.org/10.1108/09513540310467804

Stensaker, B., Langfeldt, L., Harvey, L., Huisman, J., & Westerheijden, D. (2011). An in-depth study on the impact of external quality assurance. *Assessment & Evaluation in Higher Education*, *36*(4), 465–478. https://doi.org/10.1080/02602930903432074

Tan, K. C., & Kek, S. W. (2004). Service quality in Higher Education using an enhanced SERVQUAL approach. *Quality in Higher Education*, *10*(1), 17–24. https://doi.org/10.1080/1353832242000195032

Tavares, O., Sin, C., & Amaral, A. (2016). Internal quality assurance systems in Portugal: What their strengths and weaknesses reveal. *Assessment & Evaluation in Higher Education*, *41*(7), 1049–1064. https://doi.org/10.1080/02602938.2015.1064515

Tavares, O., Sin, C., Videira, P., & Amaral, A. (2017). Academics' perceptions of the impact of internal quality assurance on teaching and learning. *Assessment & Evaluation in Higher Education*, *42*(8), 1293–1305. https://doi.org/10.1080/02602938.2016.1262326

Tsinidou, M., Gerogiannis, V., & Fitsilis, P. (2010). Evaluation of the factors that determine quality in higher education: An empirical study. *Quality Assurance in Education*, *18*(3), 227–244. https://doi.org/10.1108/09684881011058669

Ulker, N., & Bakioglu, A. (2019). An international research on the influence of accreditation on academic quality. *Studies in Higher Education*, *44*(9), 1507–1518. https://doi.org/10.1080/03075079.2018.1445986

Vidalakis, C., Sun, M., & Papa, A. (2013). The quality and value of higher education facilities: A comparative study. *Facilities*, *31*(11–12), 489–504. https://doi.org/10.1108/F-10-2011-0087

Wipplinger, G., Phongsathorn, V., & Watanakeeree, G. (2006). Quality infrastructure – a vital aspect of business environment for enterprise development. *Asia regional consultative conference: Donor committee for enterprise development: A case of Thai fresh fruit and vegetables industry* (p. 27).

Yeo, R. K., & Li, J. (2014). Beyond SERVQUAL: The competitive forces of higher education in Singapore. *Total Quality Management & Business Excellence*, *25*(1–2), 95–123. https://doi.org/10.1080/14783363.2011.637802

Yilmaz, H. H., & Kesik, A. (2010). Administrative structure and financial issues in higher education: A proposed model for improving managerial effectiveness in higher education in Turkey. *Journal of Finance*, *158*, 124–163. https://ms.hmb.gov.tr/uploads/2019/09/07.H.Hakan_.YILMAZ_Ahmet.KESIK_.pdf

Zepke, N., Leach, L., & Butler, P. (2014). Student engagement: Students' and teachers' perceptions. *Higher Education Research & Development*, *33*(2), 386–398. https://doi.org/10.1080/07294360.2013.832160

Zineldin, M., Akdag, H. C., & Vasicheva, V. (2011). Assessing quality in higher education: New criteria for evaluating students' satisfaction. *Quality in Higher Education*, *17*(2), 231–243. https://doi.org/10.1080/13538322.2011.582796