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Gauging the leadership roles of higher education leaders in advancing quality imperatives via structural equation modelling

Eshetu Mandefro[a], Tesfaye Semela[b], and Ashebir Bezabhi[c]
[a,b.c]Hawassa University, Ethiopia

Abstract

This study examines the leadership roles of operational-level leaders in navigating quality imperatives, involving 1,029 academic staff from three public universities in Ethiopia. A cross-sectional quantitative survey design was employed, and data were analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS-4. Although current quality assurance practices remain misaligned with these imperatives, the study confirms that leaders play a crucial role in navigating them. Findings also demonstrate the importance of leadership in integrating quality imperatives to underpin quality improvement across higher education institutions. The study highlights the need to challenge top-down quality assurance models and foster distributed, participatory leadership cultures. It introduces a quality imperative inventory capturing four leadership dimensions that offer both a conceptual framework and a practical tool for linking leadership practices with context-specific and international demands. The study presents a leadership model that embeds quality imperatives into leadership practices, enabling institutions to shift from compliance-driven quality assurance systems to sustainable, inclusive, and trust-based quality cultures, positioning quality as an institutional value rather than an externally imposed requirement. This model provides theoretical insight and practical guidance for sustainable quality improvement in national and global higher education landscapes. Recommendations include empowering leaders, integrating the four imperatives into existing quality assurance systems, reviewing leadership policies, and advancing research through cross-national, longitudinal, and stakeholder-inclusive approaches.

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Practitioner Notes

1. Higher education practitioners need to address misalignment between quality assurance management and the key quality imperatives of morality, professionalism, competitiveness, and accountability.
2. Improving higher education quality requires multifaceted leadership, where leaders effectively navigate these quality imperatives to drive meaningful quality improvement.
3. Operational-level leaders play a critical role in addressing moral, professional, competitive, and accountability imperatives that drive quality enhancement in higher education.
4. Policies, strategies, plans, and quality assurance mechanisms should be explicitly informed by these quality imperatives to ensure sustainable quality improvement in HE landscape.
5. Global higher education research communities should give greater attention to quality imperatives to better support quality improvement in HEIs.

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Leadership, quality assurance, quality culture, quality imperatives, quality improvement

Introduction

An individual's intellectual and moral development is shaped by their education, socialisation, and learning experiences within higher education institutions (HEIs). These institutions are expected to align their educational and training initiatives with society's evolving values and knowledge base. Over the past three decades, HEIs worldwide have responded to increasingly complex societal demands by prioritising quality improvement (QI) within the broader framework of quality assurance (QA). The core purpose of QA in higher education (HE) is to maintain and improve academic standards by ensuring that institutions deliver effective education, meet established benchmarks, and demonstrate accountability. Key objectives include strengthening student learning outcomes, safeguarding institutional credibility, supporting sound institutional management, and ensuring that graduates acquire the competencies required by contemporary labour markets (Mandefro et al., 2025). As a result, QA serves as a comprehensive, overarching concept that encompasses a range of activities aimed at ensuring, maintaining, and enhancing quality within HEIs. According to Harvey (2025), QA in HE consists of "the collection of policies, procedures, systems, and practices, both internal and external, designed to achieve, maintain, and enhance quality" (para. 1). Comparatively, QI focuses primarily on institutions' internal quality enhancement processes, involving two primary strands: (1) the improvement of individual learners through the development of their attributes, knowledge, abilities, skills, and potential; and (2) the advancement of the quality of institutions or academic programs (Williams, 2016).

As noted by Williams (2016), QA is often characterised as a top-down, rigid process driven by quantitative metrics, while QI tends to be a bottom-up, flexible, and stakeholder-engaged process informed by qualitative judgments. The cumulative effect of implementing both QA and QI has led HEIs to develop a quality culture with a deeply embedded commitment to continuous improvement (Mandefro et al., 2025). This culture integrates QA mechanisms into everyday institutional practices, thereby implicitly fostering QI and ensuring that excellence becomes a sustained institutional norm (Bendermacher et al., 2019).

However, studies have demonstrated that QA in global HE faces several challenges, including over-reliance on bureaucratic procedures, lack of contextual sensitivity, and tension between accountability and QI. For example, in a recent review of global HE QA, Harvey (2024) revealed that while QA contributes to quality to some extent, this effect was not intended. One key problem of QA is the dominance of external, top-down mechanisms that prioritise compliance over innovation, which can lead to rigid, checkbox approaches rather than meaningful improvement (Harvey & Newton, 2007). Moreover, global QA models often fail to account for cultural, economic, and institutional diversity, imposing one-size-fits-all standards that may not align with local educational goals or contexts (Hou, 2012). The growing pressure for international competitiveness has also shifted QA's focus from internal development to market-driven metrics, further complicating efforts to foster a quality culture rooted in academic values (Stensaker, 2008).

In Ethiopia, formal HE QA policies and systems were introduced in 2003 (Theisen, 2003). Several key factors have driven this development, including increased demand for efficiency, competitiveness, and privatisation in HE (Materu, 2007), international pressure to enhance HE

quality (Ashcroft & Rayner, 2012), declining quality due to rapid HE expansion (Semela, 2011), and the massification of HE (Adamu & Addamu, 2012). However, the introduction of the policies has not contributed to QI as envisioned (Harvey, 2024). The implication is that existing QA mechanisms alone cannot provide the required result. HEIs should, therefore, search for another tool, such as a quality imperatives inventory that strengthens the leadership role in HEIs by adding value to existing QA mechanisms. This helps HEIs to monitor, test, evaluate, and maintain QI, and ensure stakeholder involvement, towards the realisation of quality culture development.

This study examines issues related to the leadership role of higher education leaders in advancing quality imperatives in HEIs by drawing on Sallis's (2005) fundamental question: "Why should educational institutions want to be involved in QA activities?" (p. 11). Emerging from Edward Sallis's three decades of research in the HE sector, this question informed his identification of four key quality imperatives: moral, professional, accountability, and competitive as the primary drivers motivating HEIs to engage proactively in QI. When integrated into the leadership practices of operational-level leaders, these imperatives serve as guiding forces that shape institutional approaches to quality.

This perspective aligns with Complexity Leadership Theory, proposed by Uhl-Bien et al. (2007), which offers a system-oriented framework for understanding leadership within complex adaptive systems such as HEIs. This theory emphasises the dynamic interaction between formal control structures and informal, emergent networks to enhance adaptability, innovation, and institutional learning. Its core premise is that leadership must be adaptive and responsive in order to thrive in the global knowledge economy. Complexity Leadership Theory also reconceptualises leadership as a distributed and emergent process by integrating top-down, bottom-up, and lateral influences to support innovation and adaptability (Uhl-Bien et al., 2007; Uhl-Bien & Arena, 2017). It promotes shared leadership, institutional learning, and innovation that are essential for navigating QI in evolving HE systems (Uhl-Bien & Arena, 2017; Uhl-Bien et al., 2007).

In this study, Complexity Leadership Theory offers a conceptual and practical shift towards adaptive, collaborative, and system-aware leadership for improving quality in HEIs. Its emphasis on enabling leadership and supporting emergence fosters interaction and facilitates adaptability, which is crucial for cultivating sustainable QI in HEIs (Beresford-Dey et al., 2022, 2024; Howden et al., 2021). This makes Complexity Leadership Theory particularly relevant to the Ethiopian HE context, where QA systems have been largely control-oriented, centralised, and insufficiently aligned with core quality imperatives such as professionalism, accountability, moral integrity, and competitiveness (Mandefro et al., 2025).

This study is also underpinned by Sallis' (2005) assertion that HEIs must give greater recognition to often underemphasised yet crucial quality imperatives in order to address persistent and unresolved questions surrounding quality in HEIs. The inherently complex nature of QI in HE and its broad implications for economic, social, cultural, and technological transformation necessitate a multifaceted approach to quality management. In response to these dynamic conditions, HEIs are increasingly compelled to address the aforementioned imperatives through robust institutional leadership and strategically developed quality management systems.

According to Mandefro et al. (2025), any reform and change in organisational development is either conceptualised by leaders or requires leadership support to realise them. This implies that excellence in HE quality is not simply a by-product of doing it right, but the result of effective

leadership and a management strategy to enhance and align QI processes in a way that quality becomes an inherent focus of the institution. Accordingly, Andrea and Gosling (2005) highlight that leaders in HE must address quality issues within the framework of broader QA policies. Moreover, Bryman (2007), Frisk et al. (2021), and Mandefro et al. (2025) emphasise that attaining quality in HE depends on a holistic, system-wide perspective, which is fostered through leadership in planning, organising, prioritising, allocating resources, coordinating, and supporting active QI initiatives.

Bryman (2007) asserts that leaders are vital for adapting, sustaining, and navigating complex institutional environments, while Mandefro et al. (2016) stress that effective leadership also enhances students' competencies through strategies that improve learning quality. However, the strategic roles of leaders in HEIs vary across management positions, such as departmental heads, study program coordinators, and teaching-learning coordinators. These positions are essential for implementing policies (Milburn, 2010), promoting inquiry-based, reflective, and collaborative learning (Frisk et al., 2021), and motivating students and faculty to engage with real-world scenarios (Haugen et al., 2024). Organisational scholars argue that these management roles serve as the points where institutional policies, programs, projects, and plans are translated into practice, guided by leadership competency and the effectiveness of the leaders in charge (Beresford-Dey et al., 2024; Bryman, 2007; Frisk et al., 2021; Mandefro et al., 2025).

Despite increasing focus on leadership for QI, the role of leaders in managing and navigating quality imperatives remains underexplored within QA frameworks and has not been examined in HE leadership research. In the Ethiopian HE sector, for instance, the past twenty years have shown that QA policies and practices are largely control-oriented and guided by top-down approaches, particularly when imposed by the central government (Mandefro et al., 2025). Such strategies have not effectively promoted genuine QI (Adula et al., 2020; Akalu, 2014; Harvey, 2024; Tefera et al., 2018). Rather, most QA policies in HE prioritise regulatory control over initiatives that enhance quality (Adamu & Addamu, 2012; Mandefro, 2019; Tamrat, 2020). As Mandefro (2022) notes, control without professional support fails to achieve meaningful QI in education. Harvey and Newton (2007, p. 225) warn that QA "can be a means for governments to maintain control … ensures not only accountability, but can be used to encourage a degree of compliance to policy requirements …". This indicates that the mismatch between the QA frameworks, quality imperatives, and quality management is a global challenge in HEIs.

In most of Ethiopia's universities, QA departments are not well-integrated into QI efforts at the departmental, program, group, or individual levels (Mandefro et al., 2025). Furthermore, these departments are frequently criticised for lacking clear job descriptions (Mandefro et al., 2025), defined responsibilities, and effective accountability mechanisms (Akalu, 2016; Harvey, 2024; Tefera et al., 2018). These challenges indicate that building a high-quality academic culture rooted in moral integrity, professionalism, accountability, and competitiveness remains a critical issue for Ethiopian HEIs. Therefore, it is imperative that Ethiopian HEIs, and similar systems, move away from self-contained QA practices and adopt tools such as quality imperative inventories. These tools, when guided by responsible leadership, can facilitate the pragmatic integration of essential quality imperatives into existing QA systems to ensure QI, which will ultimately contribute to quality culture development in HEIs.

Although the significance of quality imperatives has been widely acknowledged in empirical research in one or another way, most HEIs in Ethiopia have failed to integrate them into their

leadership practices (Mandefro et al., 2025). Sallis (2005) argues that neglecting even a single quality imperative can jeopardise the overall well-being and sustainability of HEIs. This underscores the need for HEIs to ground all QI initiatives in a comprehensive understanding of these imperatives.

Against this backdrop, the present study pursues three main objectives. First, it aims to examine academic staff perceptions of the leadership role of operational-level leaders in navigating key quality imperatives. Second, it seeks to develop detailed, context-specific, and practical empirical inventories of quality imperatives by analysing current leadership roles. Third, it aims to construct a systemic empirical model of quality-imperative leadership that integrates global perspectives and values from the broader HE sector. This model is intended to enhance conceptual clarity, deepen understanding of quality imperatives, and support effective QI efforts, ultimately contributing to quality culture development in HEIs. These objectives are addressed through the following research questions:

1. What are academic staff perceptions of leadership roles in navigating quality imperatives within HE quality improvement processes?
2. What is the relationship between quality imperatives and quality improvement in HEIs?
3. What is the effect of the empirical model in supporting leadership roles in HEIs?

Literature

The conceptualisation of quality imperatives in HE can be traced to Sallis (2005), who emphasised moral, professional, accountability, and competitive imperatives. These imperatives capture the diverse motivations and pressures shaping institutional responses to QI and serve as the primary drivers that compel HEIs to take a proactive position on QI. Each imperative represents a distinct but interrelated driver of QI. Together, these imperatives provide a comprehensive framework for understanding the motivations and forces shaping quality enhancement in HEIs.

Moral imperatives

The moral imperative in HE underlines the responsibility of institutions to foster the ethical and moral development of students as an essential dimension of quality in HEIs (Sallis, 2005). Without the integration of morality and ethics within educational institutions, the broader societal value of education diminishes significantly (Kaufman, 2008). HEIs are thus expected to embed moral values, ethics, and integrity into their core missions (Prisacariu & Shah, 2016) and to cultivate graduates who exemplify high standards of trust, integrity, and moral judgement (Agasisti et al., 2017). These morally-grounded graduates are envisioned to play key roles in advancing societal goals, nurturing virtuous communities, and contributing to a culture of quality (Mandefro et al., 2025), thereby enhancing the reputation and credibility of HEIs (Moyo & Saidi, 2019), which are among the core outcomes of quality culture in HEIs.

Despite their significance, many HEIs fall short in integrating moral and ethical dimensions into QI agendas (Prisacariu & Shah, 2016). Harvey (2024) notes that global experiences with QA in HE reveal a problematic reliance on quantitative performance indicators due to the ambiguity surrounding the conceptualisation of quality. Ethiopia provides a salient example: over the past two decades, HEIs have predominantly measured quality through metrics such as the number of

meetings, training sessions, workshops, and publications (Akalu, 2016; Harvey, 2024; Tefera et al., 2018). Prisacariu and Shah (2016) warn that such metrics can incentivise the fabrication of data ultimately eroding the moral foundation of quality initiatives. Furthermore, the expansion and privatisation of HE in Ethiopia have intensified concerns over moral degradation. Private HEIs, in particular, are often perceived as profit-driven enterprises lacking ethical commitment (Semela, 2011; Tefera, 2018). This market-oriented approach exerts pressure on faculty and students alike, fostering a culture that values expediency over integrity and professionalism (Mandefro et al., 2025; Semela, 2011). This implies that marginalised moral considerations and weakened ethical foundations hinder the development of a sustainable quality culture in HEIs, which depends on shared values, ethical commitment, and collective responsibility.

Viewed through the lens of Complexity Leadership Theory, the moral imperative in HE QI highlights the need for adaptive, enabling, and administrative leadership to co-evolve with the institutional environment. Complexity Leadership Theory recognises that leadership in HEIs requires fostering emergent change, encouraging innovation, and sustaining organisational learning through interaction, collaboration, and ethical influence (Uhl-Bien et al., 2007). From this perspective, the overemphasis on technical and administrative functions, such as the rigid use of quantitative indicators, illustrates a failure to engage the adaptive space where moral values and ethical deliberations can flourish.

Moreover, through the Complexity Leadership Theory perspective, quality culture development necessitates adaptive and enabling leadership that fosters ethical dialogue, encourages moral reasoning, and challenges the dominance of purely administrative logics. Building a quality culture in HE requires shifting from rigid technical compliance to dynamic, values-based engagement (Mandefro et al., 2025), where leadership actively enables ethical sense-making, systemic responsiveness, and sustained moral commitment in the face of complexity (Beresford-Dey et al., 2024). In this context, leaders who model ethical behaviour serve as catalysts for cultural change, enabling networks of influence that embed moral values across the institution. According to Uhl-Bien and Arena (2017), by applying the principles of Complexity Leadership Theory, HEIs can reframe quality as a dynamic, values-based process requiring ethical leadership, adaptive engagement, and systemic responsiveness for comprehensive quality culture development.

Professional Imperatives

The professional imperative in HEIs is grounded in four core missions that define their societal responsibility: (1) educating and supplying a qualified workforce; (2) generating new knowledge through research; (3) applying knowledge to solve real-world problems; and (4) preserving and transmitting knowledge, values, and cultural heritage across generations (Römgens et al., 2020). These missions highlight the fundamental role of HEIs in societal development and reflect the professional responsibilities that shape their QI programs.

A quality imperative in HEIs, when approached as a professional practice, depends on cultivating professional values among both staff and students. Such values are acquired through continuous professional learning (Mountford-Zimdars & Grim, 2023) and are closely linked to all four dimensions of quality imperatives (Sallis, 2005). As Macheridis and Paulsson (2021) and Mandefro (2022) emphasise, each academic profession embodies a set of responsibilities that reflect deeply held professional values. These values, defined as beliefs and attitudes guiding

preferences and behaviours (Guillén, 2014), serve as core motivators influencing decision-making, ethical conduct, and a commitment to achieve quality standards.

In this context, academic staff's professional sense of ownership is a foundational element in achieving the above-mentioned professional quality imperatives in HEIs. When academic professionals strongly identify with their disciplines and areas of expertise, the QI agendas become closely tied to their intrinsic values and commitments (Harvey, 2024). However, prior studies have noted a persistent disconnect between professionalism and the QA mechanisms imposed by external administrators and managers (Harvey & Williams, 2010). This misalignment undermines staff engagement and limits the efficacy of QA systems. To bridge this gap, scholars advocate for leadership that fosters professional internalisation, shared governance, and a deeply embedded quality culture (Bendermacher et al., 2019; Harvey, 2024; Sallis, 2005). This implies that professional imperatives not only define academic expectations but also serve as a cornerstone of institutional quality culture development.

Leaders play a critical role in aligning curricula, pedagogical practices, and research priorities with disciplinary standards, practical competencies, and lifelong learning outcomes. Research shows that leadership which fosters professional learning communities and supports the development of both staff and student competencies advances institutional missions and promotes continuous quality culture development (Bendermacher, 2021; Hildesheim & Sonntag, 2019). However, in many HEIs, QA systems remain administratively imposed, often sidelining academic professionals and disconnecting QA from the intrinsic values that guide professional practice. In the Ethiopian context, for example, the limited success of QA systems has been partly attributed to the marginalisation of academic staff in quality-related decision-making and implementation processes (Mandefro et al., 2025). This marginalisation has contributed to staff detachment from QA initiatives and a diminished sense of professional ownership (Akalu, 2016; Harvey, 2024). As Mandefro et al. (2025) argue, this misalignment weakens staff engagement, erodes professional ownership, and undermines the internal legitimacy of QI processes. As a result, quality initiatives risk becoming performative rather than transformative, thereby hindering quality culture development grounded in shared values and professional responsibility. Addressing this challenge requires re-establishing leadership approaches that cultivate a profession-oriented sense of ownership in the design and implementation of QA systems.

Viewed through the lens of Complexity Leadership Theory, the professional imperative in HEIs illustrates the need for leadership that can enable emergent learning and foster adaptive collaboration across professional networks (Uhl-Bien & Arena, 2017). Complexity Leadership Theory posits that leadership in HEIs must go beyond top-down control and instead cultivate the conditions for innovation, distributed decision-making, and a professional sense of ownership (Uhl-Bien & Arena, 2017; Uhl-Bien et al., 2007). From this standpoint, academic professionalism should not be managed through rigid structures alone, but activated through adaptive and enabling leadership that facilitates conditions for professional development and collective ownership of QI in HEIs. Echoing this, Mandefro et al. (2025) emphasise that professional imperatives in HE highlight the need to embed professional values and ownership within QA systems. In this regard, Complexity Leadership Theory provides a valuable framework for understanding how leadership can navigate formal structures and emergent professional integrity, thereby aligning institutional practices with disciplinary standards and societal responsibilities (Beresford-Dey et al., 2024). This implies that, to cultivate a resilient and embedded quality

culture, HEIs must promote shared governance, professional autonomy and investment in the development of professional competencies among both staff and students.

Accountability Imperatives

Across the global HE landscape, the demand for increased accountability has intensified, driven by pressures to improve quality, ensure transparency, and meet the expectations of diverse stakeholders (Harvey, 2024; Mountford-Zimdars & Grim, 2023; Sallis, 2005). The expansion of institutional autonomy has granted HEIs greater freedom to shape their developmental trajectories. This autonomy has opened opportunities for collaboration with new actors, markets, and regulatory contexts. However, HEIs remain deeply path-dependent, influenced by national policies, institutional legacies, and cultural contexts (Olsen & Maassen, 2007). As members of broader societal ecosystems, HEIs must balance their academic freedom with accountability to a wide range of internal and external stakeholders, including students, governments, industry, and society at large.

Despite these demands, a recurring problem in global HE systems is the misalignment between accountability mechanisms and QI. For instance, Harvey (2024) reports that Australian academics often perceive QA systems as performative exercises; “a ‘beast’ to be fed” (p. 369) through ritualistic and symbolic compliance rather than through meaningful engagement. This performativity suggests that weak or misplaced accountability structures can reduce QA to bureaucratic formality, undermining its intended purpose and diluting institutional performance.

In the Ethiopian context, Akalu (2016) highlights significant conceptual ambiguity in the understanding of quality in HEIs among academic staff. For some, quality is equated with critique, rigor, commitment, or empowerment, but rarely with clearly defined metrics or shared frameworks for action. This lack of clarity about roles, responsibilities, and processes reflects a broader problem of QI initiatives lacking clearly delineated lines of accountability (Mandefro et al., 2025). Questions such as ‘Who is responsible for quality?’, ‘Where and how are quality imperatives enacted?’ and ‘What are the consequences of failure?’ remain unanswered across many HE contexts. Left unresolved, these ambiguities perpetuate the same misalignments that continue to frustrate the global HE quality agenda (Harvey, 2024). This weakens institutional coherence and stalls the development of a strong quality culture, which relies on shared ownership, ethical governance, and continuous learning.

In this light, accountability imperatives must be grounded in coherent, transparent, and ethically robust governance frameworks. Leaders are tasked not only with enforcing compliance but also with fostering environments in which accountability is integrally linked to improvement and innovation. As Macheridis and Paulsson (2021) and Harvey and Stensaker (2011) assert, effective accountability requires alignment between instructional practices, learning outcomes, and institutional values. This implies that leaders working at the operational level, such as within academic departments, play a vital role in fostering accountability by promoting data-informed decision-making, enabling shared governance, and upholding integrity across both academic and administrative practices.

From the perspective of Complexity Leadership Theory, accountability must be re-imagined as a dynamic, relational, and adaptive process rather than a rigid, compliance-driven structure (Uhl-Bien & Arena, 2017). It views HEIs as complex adaptive systems, where leaders are accountable

for integrating administrative, enabling, and adaptive functions (Uhl-Bien & Arena, 2017; Uhl-Bien et al., 2007). This means leaders are professionally accountable for fostering collaborative sense-making, supporting locally relevant quality indicators, and enabling departments, groups, and individuals to take meaningful ownership of QI initiatives. Traditional accountability mechanisms often emphasise control and standardisation, which can inhibit adaptive learning and suppress emergent, value-driven behaviours. Instead, Complexity Leadership Theory suggests that leaders must enable the emergence of new solutions through distributed networks and adaptive spaces. In doing so, they allow faculty and departments to take ownership of QI processes in ways that are meaningful and contextually appropriate rather than imposing top-down metrics. Thus, Complexity Leadership Theory-oriented leadership accountability promotes collaborative sense-making, co-constructed standards, and locally relevant indicators of success.

Moreover, Uhl-Bien and Arena (2017) conceptualise accountability as not an endpoint but a continuous process of negotiation, reflection, and alignment rooted in transparency, professional ethics, and a shared commitment to institutional mission and societal relevance. Accordingly, accountability imperatives, in the context of this study, viewed through the Complexity Leadership Theory lens, are seen as a vehicle for cultivating an authentic quality culture, one where responsibility is distributed, improvement is continuous and institutional performance is rooted in ethical purpose and contextual relevance.

Competitive Imperatives

In today's global knowledge-driven economy, HEIs operate within increasingly competitive environments. As globalisation reshapes the educational landscape, competition has become a defining feature of HE institutional strategy and governance (Andrea & Gosling, 2005; Mandefro et al., 2025). Competitiveness in HE refers to an institution's capacity to strategically position itself within the broader HE sector by attracting students, faculty, funding, and other critical resources. It also involves offering distinct academic and institutional advantages that align with the evolving needs and expectations of stakeholders (Hart & Rodgers, 2024).

Leadership plays a central role in cultivating and sustaining institutional competitiveness. As Hart and Rodgers (2024) emphasise, the imperative for HEI leadership to foster competitive advantage is foundational to institutional success. Effective leadership strategies allow institutions to differentiate themselves from peers, enhance their public image, and improve both academic and operational performance (Mandefro et al., 2025; Sallis, 2005). Competitiveness, therefore, is not only a function of institutional resources but also of leadership capacity, particularly in the strategic formulation and execution of initiatives that surpass the standards of comparable institutions (Prisacariu & Shah, 2016; Hart & Rodgers, 2024).

However, in the case of Ethiopia, the dominance of government-controlled, administratively-oriented leadership models over the past two decades in the public HE QI process has constrained competitive development. Studies suggest that leadership in Ethiopian HEIs has remained overly bureaucratic and compliance-focused, resulting in stagnation in institutional performance relative to global counterparts (Mandefro et al., 2025; Materu, 2010; Semela, 2011). As a result, none of the country's 50 public universities rank among the top 1000 globally, highlighting a concerning disparity in international competitiveness. Although global university rankings are not without methodological limitations, they provide indicative benchmarks for reputation, research impact, and academic performance (Shabani et al., 2014). The absence of

Ethiopian universities in these rankings may reflect a deeper issue: a lack of leadership-driven strategies for positioning HEIs effectively within the global academic arena. These shortcomings undermine efforts to build sustainable quality culture development in HEIs, where competitiveness may become disconnected from broader quality imperatives.

The competitive imperative thus demands that HEI leaders assume active roles in navigating institutional positioning, aligning academic offerings with labour market trends and fostering innovation and entrepreneurship (Andrea & Gosling, 2005; Hart & Rodgers, 2024). These responsibilities directly influence the cultivation of a quality culture, as institutions strive not only for relevance but also for excellence. According to Bendermacher (2021), leadership that promotes innovation, responsiveness, and strategic agility is critical for building institutional capacity and resilience in increasingly volatile and competitive HE systems.

From the perspective of Complexity Leadership Theory, institutional competitiveness emerges from dynamic and adaptive processes rather than static strategic planning. Complexity Leadership Theory recognises HEIs as complex adaptive systems where leadership must function across multiple administrative, adaptive, and enabling levels to foster institutional learning, innovation, and continuous improvement (Uhl-Bien et al., 2007). Moreover, Complexity Leadership Theory positions leadership as a networked function, emphasising that sustainable competitiveness requires coherence across academic, operational, and strategic domains. For this purpose, mid-level and departmental leaders, in particular, play a critical role in translating broad institutional visions into localised actions that enhance both performance and quality culture development in HEIs (Beresford-Dey et al., 2022). Uhl-Bien and Arena (2017) also highlight that HEIs are complex adaptive systems, where leadership must operate across administrative, adaptive, and enabling dimensions to cultivate organisational innovation, cross-functional collaboration, and contextual responsiveness.

Method

Research design

The purpose of this study is threefold. First, it aims to examine academic staff members' (specifically lecturers' and professors') perceptions of leadership roles in navigating key quality imperatives. Second, it seeks to explore the relationships between specific quality imperatives (moral, professional, accountability, and competitive) and institutional QI. Third, it endeavours to develop a contextually relevant leadership inventory to assist HE leaders in shifting from compliance-based quality management approaches to continuous, values-driven QI practices. A cross-sectional survey design was selected as the most appropriate methodological approach, consistent with the rationale provided by Leeuw et al. (2009). This design enables the simultaneous collection of data on academic staff perceptions of departmental and middle-level leadership roles in navigating quality imperatives. Use of partial least squares structural equation modelling (PLS-SEM), facilitated the examination of relationships among quality-related variables and supported the prediction of leadership strategies that promote ongoing institutional QI practices (Hair et al., 2024).

Population and sampling

The selection of universities was guided by both methodological and practical considerations. A multi-stage stratified random sampling technique was used to ensure that the sample adequately

represented the diversity of universities in the two regional states. In the first stage, the five universities in the sampling frame were grouped into a single stratum because they share comparable mandates and institutional characteristics. From this stratum, three universities (Hawassa, Dilla, and Wolayita Sodo) were randomly selected, representing 60% of the total population of universities in the study area. This proportion was considered sufficient to enhance representativeness, reduce sampling error, and allow meaningful comparison across institutions while remaining feasible in terms of time and resources. In the second stage, five colleges were selected from each university using a random sampling technique, with the exception of the Colleges of Law and Governance, which were replaced by the College of Education and Behavioural Sciences at Hawassa University, where the pilot study had been conducted. Of the nine colleges at each university, five (55.5%) participated in the study. In the third stage, departments, schools, and academic staff (stratified by biological sex and gender) were selected. To ensure the research process remained both relevant and manageable, the same five colleges and 27 departments initially selected through random sampling at Hawassa University were used by default for Dilla and Wolayita Sodo Universities.

At the time of data collection, the total academic population at Hawassa, Dilla, Wolayita Sodo, Arbaminch, and Jinka were 1469, 867, 949, 573, and 452, respectively. Based on the identified total population of 4310 academics across the five universities, Yamane's (1967) formula was used to determine the final sample size (n = 1200) from Hawassa, Dilla, and Wolayita Sodo universities, representing 27.8% of the total population of the academic communities. Using the degree of variability criterion of the heterogeneous population in this study, which represented 27 academic departments with different disciplines from three sampled universities, 27.8% of the sample size was considered sufficient to obtain a reliable level of precision (Miaoulis & Michener, 1976).

This study prioritised academics as the primary source of information because the nature of their work relationship is close to, directly related to, and influenced by leaders. They also have a direct stake in the implementation of QA related to teaching, research, and community services (Ehlers, 2009).

As shown in Table 1, in the final sample of 1, 029 academics, 843 (81.9%) were male and 186 (18.1%) were female, 372 (36.2%) were from Hawassa University, 318(30.9%) from Dilla University, and 339 (32.9%) from Wolayita Sodo University. A total five colleges from each university was chosen by stratified random sampling from 27 departments: the College of Natural and Computational Sciences (204, 19.8%), College of Business and Economics (128, 12.4%), College of Social Sciences and Humanities (237, 23%), College of Education and Behavioural Sciences (79, 7.7%) College of Law and Governance (26, 2.5%), and Institute of Technology (355, 34.5%) (Table 1).

Table 1.

Demographic characteristics of participating academics

		Frequency	Percentage
University	Hawassa University	372	36.2
	Dilla University	318	30.9
	Wolayita Sodo University	339	32.9
College*	College of Natural & Computational Sciences	204	19.8
	College of Business and Economics	128	12.4

	College of Social Science and Humanities	237	23.0
	College of Law & Governance	26	2.50
	Institute of Technology/College of Engineering	355	34.5
	College of Education & Behavioral Sciences	79	7.70
Gender	Male	843	81.9
	Female	186	18.1
Age	21-30	259	25.2
	31-40	527	51.2
	41-50	202	19.6
	51-60	35	3.40
	61-65	6	.600
Academic position	Lecturer	874	84.9
	Assistant Professor	138	13.4
	Associate Professor	17	1.70
Academic qualification	MSc/MA/MPhl	897	87.2
	PhD/DEd	132	12.8
Work experience in HEIs	1-5	242	23.5
	6-10	411	39.9
	11-15	204	19.8
	16-20	108	10.5
	21-25	41	4.00
	26 or more	23	2.20

*All universities use the same name for the selected colleges

The respondents' ages ranged from 21 to 65 years, with an average age of 31-40 years (Table 1). Regarding years of service, the majority of academics in participating universities had between 6-15 years of service, indicating that most universities might have a young workforce.

Development of data-collection tool

Empirical studies on quality imperatives in HE remain limited (Guillén et al., 2014; Sallis, 2002). Consequently, no previously adapted or adopted data collection instruments were available for use in this study. Following the principles of item response theory (IRT) (Bortolotti et al.,2012), a questionnaire was constructed based on a comprehensive review of international HE QI frameworks, QA policies, and relevant literature pertaining to moral, professional, competitive, and accountability imperatives. IRT was instrumental in guiding the development of measurement scales for each of these imperatives. According to Bortolotti et al. (2012), a key advantage of IRT is its capacity to evaluate how each item contributes to drawing valid conclusions within a given construct. Within the IRT framework, it was assumed that respondents' likelihood of selecting a particular response option was influenced by both the underlying trait (i.e. orientation toward QI) and specific item characteristics. Accordingly, the final questionnaire operationalised leadership roles across the four dimensions of quality imperatives.

The objective of the questionnaire was to collect data in order to develop a contextually relevant, valid, and feasible quality imperatives leadership inventory that could guide leadership practices in HEIs. The content validity of the instrument was established through a structured review by two experts with over twenty years of experience in HE QA and psychometric instrument development. Although larger panels are often recommended (Lynn, 1986; Yusoff, 2019), two highly qualified experts are acceptable when systematic evaluation procedures are used, and convergence in ratings is examined (Polit & Beck, 2006). Furthermore, Lynn (1986) notes that for early-stage instrument development or when working with highly specialised content, two experts may be acceptable if their expertise is substantial and if both convergence and agreement in their ratings are assessed. Each expert received the construct definitions, the complete item set, and

a content validity rating form to assess relevance, clarity, and representativeness on a five-point scale, along with space for qualitative comments. They were invited to score each item independently. Following widely accepted quantitative procedures for content validation (Lawshe, 1975; Lynn, 1986; Polit & Beck, 2006), item-level Content Validity Index (I-CVI) and the average scale-level CVI (S-CVI/Ave) were then computed following the formulas provided by Polit and Beck (2006), and items below the .78 threshold (Lynn, 1986) were revised. Qualitatively, the experts provided narrative feedback on issues such as redundancy, ambiguity, conceptual misalignment, and suggestions for rewording. Their feedback led to refinement of item wording, removal of redundancies (one to three items removed from each dimension), reclassification of items to better align with each dimension, and the addition of two to three items per dimension to strengthen construct coverage, consistent with recommended practices for ensuring comprehensive representation of the domain (DeVellis, 2017; Haynes et al., 1995).

The questionnaire used a 5-point Likert-type scale: Never, Rarely, Sometimes, Mostly, and Regularly, aimed at measuring the frequency with which leaders perform specific tasks associated with each quality imperative. Instrument reliability was assessed with academics at the College of Education and Behavioural Sciences at Hawassa University via a pilot study conducted between April 22 and May 8, 2024. The overall reliability of the instrument, measured by Cronbach's alpha (α), was .894 (based on 125 responses, representing 12.1% of the target population), indicating high internal consistency (Santos, 1999).

During the pilot phase, emphasis was placed on ensuring item relevance and functionality. Exploratory Factor Analysis (EFA) was employed to examine the underlying structure and assess alignment between the items and their intended constructs. Following the recommendations of Field (2005) and Guadagnoli and Velicer (1988), items with factor loadings below 0.40 in the rotated component matrix were removed. Items with loadings above this threshold are generally considered stable, assuming adequate sample size and sufficient variable-to-component ratios. After EFA, of the 64 items initially developed, 50 items were retained: 13 for moral imperatives, 13 for professional imperatives, 12 for competitive imperatives, and 12 for accountability imperatives. These items met the minimum factor loading threshold and were deemed appropriate for the main data collection (Table 2).

Fourteen items were excluded from the final instrument for the following reasons: (1) Low factor loading (< 0.40), indicating instability (Tabachnick & Fidell, 2014; Hair et al., 2024); (2) Low communality values (< 0.50), suggesting insufficient shared variance among extracted components (Child, 2006); and (3) Cross-loading across components, which resulted in ambiguous item alignment (Guadagnoli & Velicer, 1988). Specifically, four items from the moral imperatives, four from professional imperatives, three from competitive imperatives, and three from accountability imperatives were removed based on these criteria.

Data collection

Data were collected online via Google Forms between May 20 and June 20, 2024. Participation was voluntary, written informed consent was obtained, and an ethical approval letter was issued by the Institutional Ethical Review Board of Hawassa University, College of Education and Behavioral Sciences, on April 19, 2024 (Reference No. COE-REC/016/2024). Of the 1,200 lecturers, assistant professors, and associate professors from three universities who were invited

to participate via email, 1,029 responses were received (Table 1), resulting in a response rate of 85.8%.

Data analysis

The data analysis, interpretation, and generation of findings of this study were conducted in three interconnected stages, each building upon the results of the previous phase to ensure methodological rigor and analytical depth.

Phase One: Preliminary analysis

Using descriptive statistics, IBM SPSS (Version 26) was used to analyse respondents' demographic characteristics and their perceptions of leadership roles in navigating quality imperatives within existing institutional practices. Various statistical procedures were applied to evaluate and interpret the accuracy of Likert-scale data. Following Alkharusi's (2022) guidelines, the computed mean scores were interpreted using the following intervals: 4.21–5.00 = Regularly; 3.41–4.20 = Mostly; 2.61–3.40 = Sometimes; 1.81–2.60 = Rarely; and 1.00–1.80 = Never. To determine statistically significant differences in perceptions among participants from different universities, a one-sample t-test was conducted. Following the descriptive analysis, exploratory factor analysis (EFA) was undertaken to identify the underlying factor structure, assess data adequacy, and determine the proportion of variance explained by the observed data. Sampling adequacy and suitability for factor analysis were evaluated using the Kaiser–Meyer–Olkin (KMO) measure and anti-image correlations, while Bartlett's Test of Sphericity, eigenvalues, and total variance explained provided further diagnostics. These results of these tests confirmed the appropriateness of the dataset for subsequent modelling.

Phase Two: Assessment of the reflective measurement model

The second phase involved preparing the item sequences and coding for PLS-SEM analysis. None of the 50 indicators established via EFA in the pilot study needed to be removed, as all met the factor loading criteria.

Given the exploratory nature of this research, PLS-SEM analysis using SmartPLS-4 statistical software (Ringle et al., 2024) was chosen because it offers high explanatory and predictive power and is particularly suitable for social science and educational research (Hair et al., 2022). SmartPLS-4 was also used to compute composite variables containing inclusive construct scores. As noted by Hair et al. (2022), the PLS-SEM approach assumes that all measured variances in the indicator variables are potentially informative and should be incorporated in estimating construct scores.

While EFA in Phase One provided preliminary insights into factor structures, relationships among indicators, and data adequacy (Bean & Bowen, 2021), Phase Two applied PLS-SEM to assess both the quality and the predictive capability of the model (Hair et al., 2022; Hulland, 1999). Model evaluation followed the two-step PLS-SEM procedure (Hair et al., 2022), comprising assessment of the reflective measurement model and evaluation of the structural model.

For the reflective measurement model, four sequential steps were undertaken:

(1) **Indicator reliability:** the outer loadings of indicators were examined to assess their reliability, with an outer loading value of ≥ 0.708 considered acceptable (Hair et al., 2022). The squared standardised loading (communality) represents the proportion of variance in the item explained by the construct. While the ≥ 0.708 criterion was applied, some indicators with slightly lower values were retained due to their conceptual relevance in this study (see results section).

(2) **Internal consistency reliability:** Reliability was evaluated using both Cronbach's alpha (α) and composite reliability (CR). Cronbach's alpha (α), though widely used, assumes equal reliability among indicators and is sensitive to scale length, which can lead to underestimation (Hair et al., 2022). Composite reliability addresses these limitations by accounting for different indicator loadings. Following established guidelines, values above 0.70 for both Cronbach's alpha (α) and composite reliability were deemed satisfactory (Hair et al., 2022; Santos, 1999).

(3) **Convergent validity:** Convergent validity was assessed using the average variance extracted (AVE), which measures the proportion of variance captured by a construct relative to measurement error. An AVE value ≥ 0.50 indicates that a construct explains more than half the variance of its indicators, meeting the rule-of-thumb criterion (Hair et al., 2022).

(4) **Discriminant validity:** Discriminant validity was evaluated using the heterotrait–monotrait ratio of correlations (HTMT), as recommended by Henseler et al. (2015) and Hair et al. (2022). HTMT assesses the extent to which constructs are truly distinct by comparing correlations between indicators of different constructs with those within the same construct. This step was particularly important given the potential conceptual overlap among the four quality imperative variables examined in this study.

Phase Three: Evaluation of the structural model

Once the reflective measurement model met the required thresholds, the structural model was evaluated to determine its explanatory and predictive capabilities. PLS-SEM emphasises maximising explained variance rather than minimising differences between covariance matrices (Hair et al., 2022). Following the procedures outlined by Hair et al. (2024), the structural model assessment involved four analysis steps:

(1) **Multicollinearity check:** Variance inflation factors (VIF) were examined to ensure the absence of multicollinearity among predictors;

(2) **Path coefficient assessment:** The significance and relevance of relationships between constructs were evaluated using path coefficients.

(3) **Explanatory power:** The coefficient of determination (R^2) was calculated to determine the model's ability to explain variance in the endogenous constructs.

(4) **Predictive power:** Predictive capability was assessed using PLSpredict (Q^2) (as proposed by Shmueli et al., 2016), root mean square error (RMSE), and a naïve linear regression model (LM) benchmark (following Hair et al., 2022).

In general, these combined analyses provided a clear understanding of the model's reliability, validity, and capacity to predict relationships among quality imperative constructs to improve quality and ultimately help to develop a quality culture in HEIs.

Results

Perspectives on the role of HE leaders related to quality imperatives

To examine the leadership roles of individuals serving in lower-level management, four dimensions of quality imperatives intended to promote quality in higher education through a leadership perspective were analysed. Table 2 presents the aggregated descriptive statistics and one-sample t-test results, illustrating the existing practices of departmental and middle-level leaders in navigating quality imperatives across the three universities.

As shown in Table 2, respondents rated all four dimensions of quality imperatives at a low level, suggesting that most academics perceived the leadership roles of departmental and middle-level leaders in navigating quality imperatives as inadequate. Similarly, results of the one-sample t-test conducted to determine whether perceptions of leaders' roles in navigating quality imperatives differed significantly from the test value revealed statistically significant differences for all four quality imperatives. In each case, the negative t-values indicate that the mean ratings were significantly lower than the neutral point, suggesting that leaders at the examined management levels in three universities are perceived as playing an inadequate role in navigating quality imperatives intended to foster QI, and ultimately promoting a quality-oriented culture.

Table 2.

Perceptions of academics on the role of leaders in navigating quality imperatives

Dimensions of Quality imperatives	**n**	**df.**	**No of items**	**Aggregate results**			
				M	SD	t-test*	p-value
Moral imperatives	1,029	1,028	13	2.564	.743	-18.7	.000
Professional imperatives	1,029	1,028	13	2.483	.759	-21.8	.000
Accountability imperatives	1,029	1,028	12	2.543	.867	-16.8	.000
Competitive imperatives	1,029	1,028	12	2.602	.777	-16.4	.000

Note: n: number of respondents. df: degree of freedom; M: Mean. SD: Standard deviation.
*T-test is significant at the $p < .05$ (2-tailed)

Exploratory Factor Analysis

As shown in Table 3, Exploratory Factor Analysis (EFA), results showed satisfactory sampling adequacy for each construct: moral [KMO = .905; Bartlett's test of sphericity, $\chi^2(78) = 14{,}444.44$, $p < .001$]; professional [KMO = .926; Bartlett's test of sphericity, $\chi^2(78) = 16{,}738.28$, $p < .001$]; accountability [KMO = .943; Bartlett's test of sphericity, $\chi^2(66) = 15{,}419.49$, $p < .001$]; and competitive imperative [KMO = .931; Bartlett's test of sphericity, $\chi^2(66) = 17{,}368.11$, $p < .001$]. These results indicate that the data were adequate for factor analysis, meeting the recommended threshold of .80 (Kaiser, 1974). Further confirmation of sampling adequacy was provided by the anti-image correlation matrices. The measures of sampling adequacy (MSA) values fell within acceptable ranges: moral ($.807^a$–$.957^a$, average = $.882^a$); professional ($.868^a$–$.972^a$, average = $.920^a$); accountability ($.910^a$–$.963^a$); and competitive imperative ($.884^a$–$.958^a$, average = $.921^a$). These values demonstrate the suitability of the data for EFA.

Table 3.

EFA measurement of sampling appropriateness and adequacy

Dimensions	KMO	χ^2(df)	*p*	MSA Range	MSA Mean	Eigenvalues (1–4)	Total% Variance Explained
Moral	.905	14,444.44 (78)	.000	.807[a] – .957[a]	.882[a]		
Professional	.926	16,738.28 (78)	.000	.868[a] – .972[a]	.920[a]	27.72 – 2.01	78.9%
Accountability	.943	15,419.49 (66)	.000	.910[a] – .963[a]	.936[a]		
Competitive	.931	17,368.11 (66)	.000	.884[a] – .958[a]	.921[a]		

Note: KMO: Kaiser–Meyer–Olkin; χ^2: Bartlett's Test of Sphericity; df: degree of freedom; MSA: Measures of Sampling Adequacy; ◊Scale 1–5, 1: Never; 2: Rarely; 3: Sometimes; 4: Mostly; 5: Regularly.

Principal component analysis (PCA) revealed that four components accounted for 78.9% of the total variance, with eigenvalues for the first four components ranging from 27.721 to 2.013. This indicates that the four quality imperative dimensions (moral, professional, accountability, and competitive) were well represented by the data. Following the recommendations of Guadagnoli and Velicer (1988), no items or constructs were removed, as all met the established rule-of-thumb criteria. Ultimately, the EFA confirmed a final structure comprising 50 constructs: 13 moral, 13 professional, 12 accountability, and 12 competitive items. This quality imperative inventory provides a robust framework for supporting leadership roles in QA processes and contributes to fostering a culture of QI within HEIs.

Assessment of the reflective model measurement

Table 4 presents the outer loadings, construct reliability, and validity of indicators grouped under the four quality imperatives. The outer loading coefficients (β) ranged from 0.435 to 0.899 for the moral imperative, 0.710 to 0.788 for the professional imperative, 0.746 to 0.918 for the accountability imperative, and 0.818 to 0.921 for the competitive imperative.

Most indicators demonstrated strong correlations with their respective quality imperative dimensions, with the exception of four indicators within the moral imperative, such as M10 (0.490), M11 (0.435), M12 (0.487), and M13 (0.536), which fell below the preferred threshold. The average outer loading values for each quality imperative, as presented in Table 4 and depicted in the reflective model (Figure 2), were: moral = 0.887; professional = 0.766; accountability = 0.945; and competitive = 0.934. Overall, the results indicate that the variance explained in most indicators is sufficient, with the majority of indicators meeting the widely accepted rule-of-thumb criteria as outlined by Hair et al. (2022).

Table 4.

Summary of the reflective model assessment of proposed quality imperatives

		β of outer loading matrix				Reliability & validity		
Item	Leaders working at college, department, and programs level:	Mo.	Pr.	Ac.	Co.	α	CR	AVE
M1	ensure curricula integrate intellectual, … & moral competences.	.866						
M2	make curricula reflect how human conduct is judged how to act/live.	.828						
M3	ensure curricula reflect rules of professional conduct and virtues.	.881						
M4	enhance inclusive societal values in academic activities.	.899						
M5	equip staff with moral values to ensure meaning in teaching.	.884				.939	.941	.546
M6	ensure curricula develop students' humility, fairness, honesty & benevolence.	.867						
M7	ensure that students have the opportunity to practice moral skills.	.846						
M8	equip staff with knowledge to impart integrity to each course	.886						
M9	foster shared commitment of all staff to apply institutional mission.	.833						
M10	decide shared values of quality improvement with staff.	.490						

M11	provide training to staff to make good ethical decisions in all actions.	.435						
M12	avoid plagiarisms & promote academic integrity among students.	.487						
M13	ensure curricula develop students' (responsibility, loyalty, integrity, tolerance, determination, enthusiasm, and courage) skills.	.536						
	Moral Imperative: cumulative effect on QIPs leading to QCD (Fig. 1)	*.887*						
P1	ensure that curricula develop students' dedication to the profession.		.710					
P2	ensure that curricula develop students' rational/practical judgment.		.736					
P3	set standards to develop teaching competencies.		.753					
P4	ensure course objectives are aligned with competencies in curricula.		.767					
P5	define specific competencies student developed in each course.		.762					
P6	apply a reflective practice-oriented teaching-learning process.		.762					
P7	develop a learning community to build a professional life.		.754				.910	.925 .650
P8	ensure each course contribute for students' professional competency.		.752					
P9	develop a theoretical understanding of students for future careers.		.747					
P10	ensure specific behaviours students display in the professional world.		.738					
P11	provide transferable skills (leadership, …) training for students.		.760					
P12	ensure students' intellectual competence through practical behaviors.		.788					
P13	communicate graduate attributes to students.		.759					
	Professional imperative: cumulative effect on QIPs leading to QCD (Fig.1)		*.766*					
A1	address global competition in the labour market.			.874				
A2	offers labour market-driven study programs.			.906				
A3	develop curricula to address international educational standards.			.899				
A4	focus on quality-oriented human capital production.			.891				
A5	ensure study programs based on the identification of social needs.			.918				
A6	ensure teaching to respond to students' technical skill development.			.883				
A7	ensure that students are responsible for their learning.			.865			.928	.949 .547
A8	address educational quality challenges through study programs.			.899				
A9	establish strategies to improve graduates' competencies.			.875				
A10	review of study programs to meet labour market needs.			.746				
A11	design of study programs that respond to technological advancements.			.761				
A12	design study programs to reflect individual efforts toward learning goals.			.814				
	Accountability imperative: cumulative effect on QIPs leading to QCD (Fig. 1)			*.945*				
C1	ensure student evaluations address effectiveness, efficiency, and ethics.				.867			
C2	ensure the coherence between teaching, student practice, & evaluation.				.910			
C3	evaluate academic staff to meet the required pedagogical practices.				.901			
C4	establish systems to measure the outcomes of study programs.				.921			
C5	balance between academic freedom and staff responsibilities.				.912		.947	.959 .639
C6	make leadership accountable for quality improvement.				.873			
C7	define leadership strategies to address institutional missions by all staffs.				.888			
C8	set criteria for staff to follow the quality of the study programs.				.909			
C9	set evaluation criteria for each individual/units to meet students' needs.				.913			
C10	set evaluation criteria for staff to work based on shared goals.				.898			
C11	apply a merit-based assignment for program-level leadership positions.				.818			
C12	create research output that matches institutional/national priorities.				.823			
	Competitive imperative: its cumulative effect on QIP leading to QCD (Fig. 1)				*.934*			

Note: Mo: Moral; Pr: Professional; Ac: Accountability; Co: Competitive; α: Cronbach's alpha; CR: Composite reliability; AVE: Average variance extracted; QIPs: quality improvement practices; QCD: Quality culture development; ◊Scale 1–5, 1: Never; 2: Rarely; 3: Sometimes; 4: Mostly; 5: Regularly.

The coefficient β weights for items M10, M11, M12, and M13 of the reflective model were measured at 0.490, 0.435, 0.487, and 0.536, respectively (Table 4, Figure 1). These results indicate that the outer loading weights are below the commonly accepted threshold of 0.708 suggested by Hair et al. (2022) for directly accepting indicators as part of a proposed inventory. Although these indicators did not meet this criterion, they were retained in the inventory for several reasons: (1) According to Hair et al. (2022), removing indicators with outer loadings between 0.4 and 0.7 can adversely affect the internal consistency, reliability, and validity of other indicators within the same construct; (2) Hulland (1999) argues that it is appropriate to retain indicators within this loading range, particularly when developing new scales in the social sciences and education; and (3) These indicators are highly relevant and vital for HEI leaders, as they focus on critical QI areas. For instance, deciding on shared values of QI with staff (Hildesheim & Sonntag, 2019; Loukkola & Zhang, 2010), providing training to staff to support good ethical decision-making in all academic actions (Guillén, 2014; Prisacariu & Shah, 2016), avoiding plagiarism and

promoting academic integrity among students (Mandefro et al., 2024), and ensuring curricula develop students' skills (Asregid, 2024) - particularly responsibility, loyalty, integrity, tolerance, determination, enthusiasm, and courage (Guillén, 2014) - are essential indicators in the QI processes in HEIs. Given their importance, retaining these indicators is justified despite their lower loading values.

As shown in Table 4, Cronbach's alpha (α), composite reliability (CR), and average variance extracted (AVE) for each variable were as follows: moral imperative (α = .939; CR = .941; AVE = .546); professional imperative (α = .910; CR = .925; AVE = .650); accountability imperative (α = .928; CR = .949; AVE = .547); and competitive imperative (α = .947; CR = .959; AVE = .639). These results indicate satisfactory consistency and meeting of the quality standards recommended by Hair et al. (2022). They confirm the content validity and reliability of the constructs, identifying the proposed quality imperatives as significant factors for enhancing quality in HEIs. Furthermore, most indicators effectively represent the leadership role in navigating the quality imperatives to improve quality in HEIs.

As shown by the HTMT ratios in Table 5, the correlations among most quality imperative constructs within the reflective measurement model meet the recommended thresholds for discriminant validity. For example, the HTMT ratio between moral and accountability imperatives is 0.843, and between moral and competitive imperatives is 0.806. The HTMT ratios between professional and accountability and between professional and competitive imperatives are 0.651 and 0.634, respectively. The lowest HTMT ratio observed is between professional and moral imperatives, with a value of 0.596. These findings demonstrate that the majority of inter-construct correlations fall below the recommended threshold of 0.90, thereby satisfying the discriminant validity criteria as outlined by Hair et al. (2022).

However, an exception is observed in the correlation between competitive and accountability imperatives, which yields an HTMT ratio of 0.932, exceeding the acceptable threshold. Despite this, neither construct was removed from the reflective model for two reasons. First, both constructs show acceptable HTMT ratios with other constructs, indicating satisfactory discriminant validity in most cases. Second, removing either construct could undermine the model's overall construct validity and reliability, as noted by Hair et al. (2022). Aside from the competitive and accountability imperatives pair, the HTMT ratios in the proposed reflective model remain within the acceptable range (< 0.90), supporting discriminant validity. Furthermore, most HTMT ratios fall below the more conservative threshold of 0.85, further confirming the model's robustness.

Table 5.

Discriminant validity (HTMT-ratio), path coefficient (r) and VIF Matrix of study variables

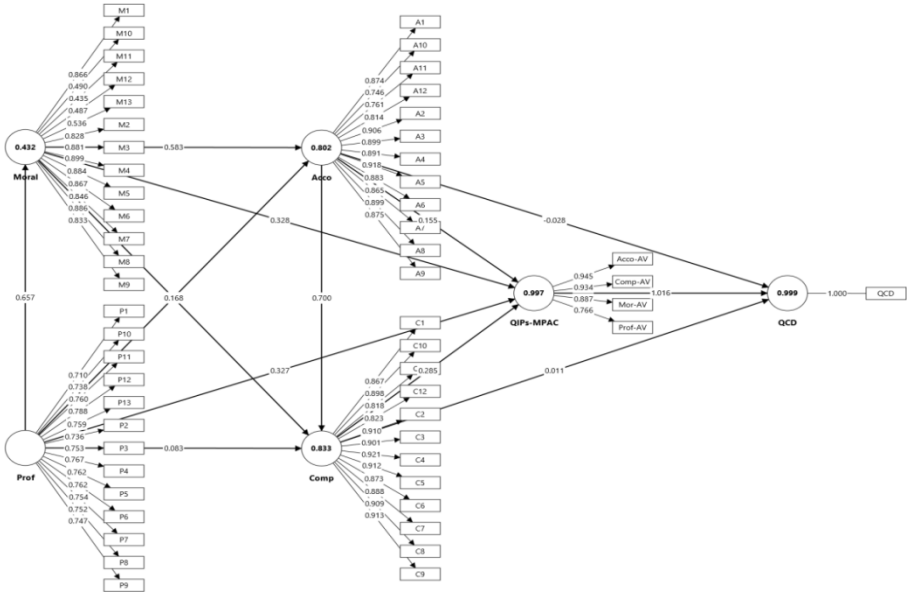
Correlated variables	Reflective model	Structural Model	
	HTMT-ratio	Multicollinearity (VIF)	Path coefficient (r)
Accountability -> Competitive	.932	4.996	.700
Moral -> Accountability	.843	1.760	.583
Moral -> Competitive	.806	3.474	.268
Professional -> Accountability	.651	1.761	.397
Professional -> Competitive	.634	2.558	.483
Professional -> Moral	.596	1.000	.657

Reflective Model of Quality Imperatives

As illustrated in the reflective model (Figure 1), the cumulative effect of the average outer loadings suggests that each quality imperative makes a substantial contribution to QI practices, thereby supporting a comprehensive quality culture development within HEIs.

Figure 1.

Reflective model of the study



When combined, the four basic quality imperatives provide a holistic foundation for cultivating a quality culture defined not merely as compliance with standards but as an embedded and shared commitment to excellence. This perspective is consistent with at least four empirical studies frameworks in the HE landscape. Firstly, Ehlers (2009) emphasises that sustainable quality culture develops when improvement is internalised as a shared value rather than imposed externally. Secondly, Bendermacher et al. (2019) show that ownership of quality by all stakeholders, fostered through trust, dialogue, and collaboration, is essential for long-term success. Third, Beresford-Dey et al. (2024) argue that leadership should frame quality imperatives as part of a professional community agenda, promoting inclusivity and co-creation. Finally, Hildesheim and Sonntag (2019) highlight that quality culture flourishes when leaders build mutual trust, provide clarity of purpose, and empower staff to take shared responsibility for improvement.

In general, the interplay of moral, professional, accountability, and competitive imperatives forms a comprehensive leadership model for QI in HEIs. Addressing all four in a balanced manner ensures that QI efforts are strategically aligned, ethically grounded, professionally robust, and competitively viable. The empirical inventory (Table 4) identified in this study, ranging from curriculum alignment tools to ethical governance frameworks, can serve as a practical guide for leaders aiming to embed these imperatives into institutional strategy and nurture a resilient, trust-based, and improvement-oriented quality culture in the HE landscape.

Evaluation of the structural model

The evaluation of the structural model began by assessing multicollinearity using the VIF. According to Hair et al. (2022), VIF was calculated because the estimation of path coefficients in structural models relies on ordinary least squares regression of each endogenous latent variable on its predictor constructs. Excessive collinearity among predictor constructs can bias these path coefficient estimates. Therefore, the VIF results presented in Table 5 were examined for the inner model, focusing on the four dominant quality imperative variables. Accordingly, most of the quality imperative variables showed VIF values below 5. For example, the VIF between moral and accountability imperatives is 1.760. The VIF values between professional and accountability, professional and competitive, professional and moral, and moral and competitive imperatives are 1.761, 2.558, 1.000, and 3.474, respectively. The highest VIF value observed was between accountability and competitive imperatives at 4.996. These results indicate that the majority of inter-construct VIF values fall within the recommended threshold of below 5.0, satisfying the VIF criteria outlined by Hair et al. (2022). This suggests that multicollinearity is not a critical concern in the structural model of the proposed quality imperatives.

Path coefficients (r) were calculated to examine the relationships among the various dimensions of quality imperatives. Following Lipsey and Wilson's (2001) guidelines, correlation coefficients are interpreted as small (0.10), medium (0.25), and large (0.40) effect sizes. Table 5 shows strong positive associations between the quality imperative dimensions. For example, accountability exhibits a strong positive relationship with the competitive imperative (r = .700). Similarly, the moral imperative has a strong positive relationship with accountability (r = .583) and a medium positive relationship with competitive (r = .268). The professional imperative shows medium positive relationships with both accountability (r = .397) and competitive imperatives (r = .483). Additionally, the professional imperative has a strong positive relationship with the moral imperative (r = .657). These results suggest that leaders' roles in navigating quality imperatives, as identified in the inventory list, are critical for fostering QI in HEIs.

As presented in Table 6, the model's explanatory power, measured by the coefficient of determination (R^2), falls into two categories. Variables with high explanatory power include accountability (R^2 = .802), competitive (R^2 = .833), and professional imperative (R^2 = .997). In contrast, the moral imperative (R^2 = .432) shows lower explanatory power compared to the other quality imperatives in the structural model. According to Hair et al. (2022), regarding explanatory power in PLS-SEM models R^2 values of ≥ 0.75, ≥ 0.50, and ≥ 0.25 are generally interpreted as substantial, moderate, and weak, respectively. Based on these thresholds, accountability, competitive, and professional imperatives exhibit substantial explanatory power, while the moral imperative shows lower explanatory power compared to other quality imperatives. Generally, these results suggest that the leadership role in navigating quality imperatives positively contributes to QI in HEIs.

Table 6.

Model's explanatory and predictive power

Scales	Model's explanatory power			Model's predictive power		
	R^2	R^2 adjusted	Q^2	RMSE	naïve LM	RMSE < LM
Moral	.432	.432	.431	.756	.831	Yes
Professional	.997	.997	.786	.464	.593	Yes

Accountability	.802	.801	.608	.627	.936	Yes
Competitive	.833	.832	.546	.675	.829	Yes

Note: Coefficient of determination (R^2); Coefficient of determination-adjusted (R^2-adjstes); $PLS_{predict}$ (Q^2); Root mean square error (RMSE); naïve linear regression model (LM).

Regarding the predictive power of the structural model, the PLSpredict Q^2 values in Table 6 categorise the variables based on their predictive accuracy. In the first category, accountability (Q^2 = .608), competitive (Q^2 = .546), and professional imperatives (Q^2 = .786) exhibit large predictive power. The moral imperative (Q^2 = .431) falls into the medium predictive accuracy category compared to the other variables. According to Hair et al. (2024), Q^2 values above 0 indicate small predictive accuracy, above 0.25 medium, and above 0.50 large predictive accuracy. The Q^2 results of this study's structural model demonstrate that all variables show satisfactory predictive accuracy across these thresholds.

Furthermore, the model's predictive power was evaluated by comparing the root mean square error (RMSE) of the PLS-SEM model against a naïve linear regression (LM) benchmark. As shown in Table 6, all quality imperatives (moral, professional, accountability, competitive) exhibited lower RMSE values than the naïve LM benchmark. This indicates that the structural model has acceptable predictive power, consistent with the criteria outlined by Hair et al. (2024; 2022).

Overall, the four-step evaluation of the structural model, including assessments of multicollinearity, path coefficients, and the model's explanatory and predictive power, confirmed that the proposed model meets the established quality criteria identified in the prior reflective model assessment. Furthermore, the structural model evaluation provides valuable insights into how the four dominant variables of the study, i.e. moral, professional, accountability and competitive, and their corresponding indicators (see Table 4), integrate within the roles of departmental-level leaders to enhance quality in HEIs. These findings suggest that the proposed model offers a significant framework for guiding leaders at lower management levels, clarifying specific actions they can take to directly influence QI and ultimately foster a culture of quality within the HEI landscape.

Discussion

As shown in Table 7, the overall findings of this study can be summarised via a visual matrix that highlights quality imperatives in relation to the study's research questions and their contributions to quality culture development: (1) **Moral imperatives** contribute by ensuring fairness, integrity, and ethical alignment across institutional decisions; (2) **Professional imperatives** contribute to quality culture by embedding disciplinary values and professional standards into daily practice; (3) **Accountability imperatives** contribute by creating transparency, trust, and shared responsibility for outcomes; and (4) **Competitive imperatives** contribute by fostering agility, innovation, and responsiveness to external demands while maintaining academic quality.

Table 7.

Quality imperatives, research questions and implications for quality culture development.

Quality Imperative	Leadership Roles (RQ1)	Relationship to Quality Improvement (RQ2)	Effect of Empirical model on leadership role (RQ3)	Contribution to Quality Culture development

Moral	Promote fairness and inclusion; safeguard academic integrity; ensure equity in policies; lead with ethical principles.	Increases stakeholder trust; aligns institutional decisions with societal good.	Ethical decision-making protocols; integrity assurance mechanisms; inclusive policy frameworks.	Embeds fairness and integrity into institutional life; strengthens trust and cohesion; aligns quality with moral legitimacy.
Professional	Align curricula with competencies; build professional learning communities; foster reflective practice; guide staff/student professional growth.	Embeds professional values in teaching & learning; ensures graduates meet industry & academic standards.	Competency mapping tools; curriculum alignment frameworks; reflective practice integration; staff development programs.	Embeds shared professional norms; reinforces disciplinary identity; promotes collaboration in academic practice.
Accountability	Establish transparent evaluation systems; balance academic freedom with responsibility; align teaching and research with institutional priorities.	Builds trust and credibility; ensures institutional missions are met; enables evidence-based improvement.	Criteria-based staff evaluation frameworks; program outcome monitoring; ensure accountability; merit-based leadership appointments.	Creates transparency; clarifies expectations; cultivates shared responsibility for results; promote ownership and trust among staff.
Competitive	Design labour market–driven programs; integrate international standards; coordinate staff for skills-based teaching; review programs for relevance.	Enhances graduate employability; keeps HEIs competitive while maintaining quality.	Labour market alignment mechanisms; international benchmarking tools; staff expertise mobilisation; continuous program review processes.	Fosters adaptability and innovation; strengthens external reputation; aligns quality with market responsiveness.

Note: RQ1: represents the leadership role to respond to the first research question; RQ2: represents the relationship between quality imperatives and quality improvement to respond to the second research question; RQ3: represents the emerged empirical inventory elements/tools to respond to the third research question.

Understanding perceptions

The findings of this study reveal a clear and consistent pattern in how academics perceive the role of departmental and mid-level leaders in navigating quality imperatives across Ethiopian HEIs. The descriptive results show that respondents rated all four dimensions of quality imperatives at notably low levels, with statistically significant negative t-values confirming that academics perceive leaders as inadequately fulfilling their responsibilities in relation to quality imperatives. Such consistently low ratings suggest that the practices of operational-level leaders do not align with expectations required to cultivate a sustainable culture of quality within HEIs. This perception of inadequacy is particularly concerning, given the strong empirical foundation established through the EFA. The factor structures for each quality imperative were supported by excellent measures of sampling adequacy across all items, indicating that respondents had a clear and stable understanding of the constructs measured. Therefore, the low ratings do not reflect measurement error or ambiguity; rather, they reveal a genuine and persistent perception among academics that leaders are not effectively enacting their roles in promoting moral conduct, professional engagement, accountable governance, and competitive positioning in HEIs to ensure QI.

These perceptions reinforce broader literature emphasising the importance of effective leadership in translating institutional QI goals into meaningful practice. Bryman (2007), Frisk et al. (2021), Haugen et al. (2024), and Milburn (2010) identify clear direction, communication, motivation, collaborative learning, and the fostering of collegiality as core attributes of effective academic leadership that appear insufficiently demonstrated by leaders in the studied HEIs. Similarly, Bendermacher (2021) and Sallis (2005) argue that the success of quality initiatives depends heavily on leadership commitment, consistency, and the active translation of policy into daily practice, a process that respondents perceived as weak within their institutions. The findings of

this study imply that, when leaders fail to convert quality imperatives into daily operations, HEIs become vulnerable to cycles of underperformance, stagnation, and persistent quality challenges.

Furthermore, respondents' perceptions highlight an important contradiction: although leadership practices are poorly rated, respondents strongly acknowledge the relevance and strategic importance of quality imperatives themselves. This suggests that academics do not reject the value of moral, professional, accountability, and competitive imperatives, rather, they perceive a gap between these recognised priorities and the extent to which leaders operationalise them. As Mandefro et al. (2025) argue, quality imperatives can serve as powerful levers for institutional transformation, but only when leaders possess the skills, dispositions, and contextual understanding necessary to enact them effectively. The respondents' evaluations, therefore, reflect not an absence of belief in quality imperatives, but a lack of confidence in current leadership practices.

Conceptualising leadership as a dynamic process that fosters adaptability, learning, and innovation (Uhl-Bien et al., 2007), Complexity Leadership Theory provides further insight into these perceptions. Low ratings across all imperatives suggest that leaders are not effectively enacting the administrative, adaptive, and enabling functions required to support collaborative and innovative responses to quality challenges (Uhl-Bien & Arena, 2017). Similar concerns have been raised in recent HE scholarship, which emphasises the need for relational, communicative, and network-building capabilities in complex HE environments (Beresford-Dey et al., 2022, 2024; Haugen et al., 2024). The findings further suggest that leaders struggle to integrate the four quality imperatives into a coherent and sustainable QI. This is problematic given evidence that ethical, professional, and governance practices must align to support effective QA (Harvey, 2024; Harvey & Williams, 2010). Under Complexity Leadership Theory, balancing administrative, adaptive, and enabling leadership roles is essential, yet respondents perceived enabling and adaptive leadership as particularly underdeveloped. In general, academics perceive a significant leadership gap in Ethiopian HEIs. From a Complexity Leadership Theory perspective, this gap reflects shortcomings in fostering adaptive conditions, supporting professional learning, and coordinating institutional responses to QI. These findings underline the need for leadership development and the revision of HEIs' leadership and governance policy within QA frameworks to build leaders' capacity to navigate complexity, strengthen collaboration, and operationalise quality imperatives in everyday practice.

Relationship between quality imperatives and quality improvement

The reflective and structural model assessments provide strong empirical evidence that the four quality imperatives operate as significant and interrelated drivers of QI in HEIs. Together, these imperatives form a coherent framework through which departmental and program leaders enact QI across curriculum management, staff coordination, and student learning. The reflective model demonstrates robust reliability and convergent validity for most indicators, with strong loadings for the moral, professional, accountability, and competitive imperatives, and the retention of a small number of lower-loading moral indicators justified by their theoretical importance in sustaining shared values, academic integrity, and ethical decision-making, which is consistent with methodological guidance for developing new social science instruments (Hair et al., 2022; Hulland, 1999). The structural model further confirms medium to large positive relationships among the imperatives, indicating that leadership behaviours in one domain meaningfully shape

others and reinforcing longstanding claims that QI is inherently multidimensional, relational, and dependent on integrated leadership practices (Harvey, 2024; Sallis, 2005). These findings align with broader scholarship emphasising the complementary roles of ethical foundations, professional standards, accountability mechanisms, and competitive responsiveness in establishing sustainable QI in HE landscape (Bryk et al., 2010; Cheng, 2017; Mandefro et al., 2025). The strong explanatory power of the model - particularly for the professional, competitive, and accountability imperatives (with the moral imperative providing moderate yet crucial contributions) - supports evidence that both performance-oriented and values-driven leadership practices are essential for QI in HEIs (Guillén, 2014; Mandefro et al., 2025; Trowler, 2010). Moreover, the model's higher predictive accuracy over naïve regression benchmarks confirms that leadership grounded in these four imperatives accounts for meaningful variance in QI outcomes, underlining their importance to QI and organisational effectiveness in HEIs.

The findings of this study demonstrate that moral imperatives contribute to QI by ensuring that curricula, staff practices, and student development are grounded in ethical principles. Indicators such as fostering academic integrity, embedding values into curricula, and supporting student moral development showed strong factor loadings and meaningful relationships with accountability and competitive imperatives. This aligns with research emphasising that ethical leadership underpins institutional credibility, trust, and societal value (Kaufman, 2008; Mandefro et al., 2025). The findings also demonstrate that moral imperatives remain foundational for creating the ethical culture required for sustainable QI in HEIs and that professional imperatives are the strongest overall predictor of QI. Indicators related to curriculum alignment, competency-based learning, professional learning communities, and graduate attributes demonstrated consistently high factor loadings, which aligns with literature arguing that professional leadership fosters collaborative learning environments, strengthens academic identity, and ensures academic rigour (Beresford-Dey et al., 2024; Harvey, 2024; Macheridis & Paulsson, 2021). Thus, professional imperatives translate core institutional expectations into everyday teaching and learning practices, making them central mechanisms of QI in HEIs.

The findings of this study validate that accountability imperatives also exert a strong influence on QI, as evidenced by high path coefficients and substantial explanatory power. Indicators of performance evaluation, transparent standards, program review systems, and criterion-referenced assessment reflect global trends in which accountability serves as both a regulatory and developmental mechanism (Harvey, 2024; Harvey & Stensaker, 2011). Moreover, the findings of this study indicate that competitive imperatives contribute significantly to QI by linking curricula, teaching practices, and program relevance to labour market demands and global educational standards. High factor loadings of competitive indicators on labour-market alignment, international benchmarking, skill development, and program responsiveness reflect leadership efforts to position HEIs competitively. These findings align with scholarly perspectives emphasising competitiveness as a driver of innovation, institutional differentiation, and student capability development (Andrea & Gosling, 2005; Prisacariu & Shah, 2016; Asregid et al., 2023). The strong relationship between accountability and competitive imperatives demonstrates that accountability mechanisms shape institutional responsiveness and adaptiveness across QI practices in HEIs, thereby reinforcing quality culture development.

The findings of this study also demonstrate that Complexity Leadership Theory provides a critical framework for explaining the strong interrelationships among the four quality imperatives and their

collective contribution to QI in HEIs. Moral and accountability imperatives reflect administrative leadership functions that establish ethical norms, formal structures, and behavioural expectations, while professional imperatives align with adaptive leadership that promotes innovation, learning, and collaborative problem-solving. Competitive imperatives illustrate enabling leadership, which integrates and facilitates interaction between administrative and adaptive processes to enhance institutional responsiveness. The significant and positive relationships revealed in the structural model - particularly among the professional, accountability, and competitive imperatives - empirically support Complexity Leadership Theory's core premise that effective leadership emerges from dynamic, interdependent interactions rather than isolated behaviours (Uhl-Bien et al., 2007; Uhl-Bien & Arena, 2017). This aligns with broader research showing that QI is strengthened when ethical values, professional growth, transparent governance, and strategic responsiveness operate synergistically (Bryk et al., 2010; Harvey, 2024; Sallis, 2005). Recent studies similarly emphasise that leadership capable of navigating complexity must balance stability with adaptability and foster relational networks that enable collective problem-solving and continuous improvement (Beresford-Dey et al., 2024; Jones et al., 2023; Bolden et al., 2015). Thus, the empirical validity, predictive strength, and interdependence of the four imperatives confirm that Complexity Leadership Theory is essential for operationalising a multidimensional and improvement-oriented QA framework. By integrating moral grounding, professional competence, accountable governance, and competitive responsiveness, Complexity Leadership Theory-informed leadership creates the adaptive capacity and shared institutional commitments necessary for sustainable QI in HEIs.

Effect of the quality imperative empirical model in supporting leadership roles in HEIs

The combined findings from the perception analysis and the empirical model assessments (reflective and structural) demonstrate that the proposed model of quality imperatives offers a comprehensive conceptual and empirical foundation for supporting leadership roles in HEIs. The model identifies four interdependent leadership imperatives (moral, professional, accountability, and competitive) that together form a systemic framework for understanding and strengthening leadership practices in complex HE environments. Integrating these imperatives directly addresses the leadership gaps identified by academics in this study, while also situating leadership behaviour within broader theoretical perspectives on quality culture, organisational learning, and complexity leadership. The combined effect of the empirical model developed in this study can be understood through six key areas of contribution to existing QA and the broader pursuit of QI, thereby supporting leadership roles in contemporary HEIs.

First, the study contributes a systemic leadership model grounded in quality imperatives. The reflective model demonstrates that leadership actions embedded in the four imperatives constitute reliable, valid, and contextually meaningful constructs. High reliability and convergent validity scores across all four quality imperatives indicate that these constructs collectively capture the essential behaviours leaders must embody to advance quality in HEIs (Hair et al., 2022; Sallis, 2005). The indicators encompass curriculum alignment, ethical conduct, program responsiveness, teaching improvement, stakeholder accountability, and labour-market relevance dimensions widely recognised as critical to educational quality (Harvey, 2024; Sallis, 2005; Mandefro et al., 2025). By clearly articulating these dimensions, the model provides an empirical foundation for translating institutional values and policy expectations into measurable leadership practices. This aligns with Sallis' (2005) argument that QI requires leadership that is both value-

driven and operationally embedded, ensuring that quality is realised through everyday behaviours rather than merely codified in policy.

Second, by integrating perception findings, the model can be used to address leadership deficits. The perception-based findings highlight persistent gaps in leaders' ability to enact the four imperatives. Academics in this study rated leadership performance across all domains significantly below satisfactory levels, reinforcing concerns in the literature that HEIs often struggle to translate policy rhetoric into meaningful leadership practice (Bryman, 2007; Haugen et al., 2024). The empirical model addresses this issue by providing detailed, evidence-based indicators that convert abstract leadership responsibilities into actionable competencies. Consequently, the combination of perception findings and empirical validation positions the four imperatives as both diagnostic and developmental tools. As diagnostic tools, they identify areas where leadership practices are deficient and, as developmental tools, they provide empirically supported behavioural expectations that leaders can implement to improve quality in HEIs. This dual function aligns with Harvey and Newton's (2007) argument that effective quality leadership must balance accountability with developmental improvement, ensuring leaders are both responsible for quality outcomes and empowered to enact them meaningfully.

Third, the structural model provides evidence of interdependent leadership functions and reveals strong interrelationships between the four imperatives. Professional leadership strongly predicts moral leadership, accountability closely aligns with competitive responsiveness, and moral leadership supports accountability. These patterns affirm the conceptual understanding that effective leadership in HEIs is inherently multidimensional and relational (Harvey & Williams, 2010; Mandefro et al., 2016). The empirical evidence indicates that no single imperative can drive QI independently; rather, leadership effectiveness emerges from the interaction of ethical foundations, professional expertise, accountability mechanisms, and competitive responsiveness. This finding aligns with literature on organisational learning, which emphasises that quality emerges through shared values, sustained collaboration, and collective responsibility (Sursock, 2011; Beresford-Dey et al., 2024). It also supports Mandefro's (2022) assertion that professional and moral commitments are inseparable in shaping academic quality, as both influence how staff interpret institutional expectations and engage with students.

Fourth, the study highlights that leadership calls for quality culture development. The empirical model demonstrates that the four imperatives collectively predict sustainable QI and quality culture development. This integrated effect aligns with conceptualisations of quality culture as a combination of shared values, behavioural norms, trust, and collaborative engagement (Bendermacher et al., 2019; Harvey & Stensaker, 2011; Hildesheim & Sonntag, 2019; EUA, 2006). The model advances this concept by providing a detailed framework that illustrates how leadership actions across the four imperatives operationalise quality culture. Moral imperatives cultivate shared ethical standards, academic integrity, and trust (Guillén, 2014; Kaufman, 2008; Mandefro et al., 2025). Professional imperatives reinforce collective engagement, disciplinary norms, and a shared commitment to academic excellence (Macheridis & Paulsson, 2021; Mandefro, 2022). Accountability imperatives establish transparency, fairness, and consistency in evaluation systems, which are essential for trust and continuous improvement (Ehlers, 2009; Hildesheim & Sonntag, 2019; Mandefro et al., 2025). Competitive imperatives embed global responsiveness, labour-market relevance, and strategic innovation (Ehlers, 2009; Sallis, 2005).

Together, these imperatives operationalise the cultural and behavioural conditions necessary for sustaining QI in HEIs.

Fifth, in terms of Complexity Leadership Theory, the model provides a conceptualisation of dynamic leadership systems. Complexity Leadership Theory provides a powerful conceptual lens for interpreting the combined effect of the four quality imperatives. Complexity Leadership Theory posits that leadership in complex systems emerges through the interaction of three core functions: administrative leadership (structure, rules, monitoring), adaptive leadership (innovation, learning, problem-solving), and enabling leadership (integration, coordination, facilitation). The empirical model aligns closely with this framework. Accountability imperatives reflect administrative leadership by establishing clear expectations, structured governance, and formal evaluation. Professional and moral imperatives exemplify adaptive leadership by fostering learning, reflective practice, and ethical engagement. Competitive imperatives represent enabling leadership, integrating internal capabilities with external environmental demands. Strong path coefficients among the imperatives illustrate the dynamic interaction of these leadership functions: accountability strengthens competitive positioning, professional leadership enhances moral conduct, and moral leadership reinforces accountability structures. This interplay empirically reflects the adaptive–administrative–enabling leadership dynamics described by Uhl-Bien and Arena (2017). Thus, the model functions not merely as a measurement tool but as a complexity-based leadership system, capturing how leaders should coordinate values, competencies, governance, and strategic responsiveness to navigate the challenges of contemporary higher education environments.

Sixth, the empirical model delivers multiple, interrelated contributions to leadership in HEIs. It addresses leadership gaps identified by academic staff, translates institutional expectations into operational leadership behaviours supported by robust validity and reliability, and demonstrates the synergistic effects of the four leadership domains. This reflects contemporary understandings of quality culture, organisational learning, and complexity leadership. The model provides a context-sensitive, evidence-based toolkit to guide curriculum management, staff coordination, assessment practices, and strategic positioning. It also aligns leadership practices with international frameworks that conceptualise quality culture as collaborative, ethical, and improvement-driven rather than purely compliance-focused. The model also offers a theoretically grounded, empirically validated, and practically actionable framework for strengthening leadership capacity in HEIs. It highlights that improving quality is an integrated and dynamic mobilisation of moral, professional, accountability, and competitive imperatives within complex organisational systems.

Limitations

While offering important insights, this study has some limitations. First, the data were collected from a limited number of universities within a single national context, which may constrain the generalisability of the findings. Although this contextual focus enabled an in-depth exploration, incorporating cross-national comparisons could have yielded a broader perspective on QA practices. Second, the study relied primarily on the perceptions of academic staff. While valuable, such perceptions may be shaped by institutional culture, personal experience, professional or disciplinary biases. Third, the study primarily focused on leaders working in lower-level

management positions. While this perspective is often overlooked and thus highly valuable, it does not fully capture the dynamics and decision-making processes at senior leadership levels.

To overcome these limitations, the study triangulated its findings with well-established international empirical literature and tested the interrelationships among moral, professional, accountability and competitive imperatives to ensure internal consistency and reliability. Nevertheless, future studies should incorporate cross-national comparative studies, include voices from diverse stakeholder groups (e.g. students, senior administrators, policymakers, and external QA agencies), and employ longitudinal approaches to trace how leadership practices shape QI over time.

Conclusion

This study offers four major contributions to HE QI at both national and international levels. First, it confirms that the leadership roles of lower-level leaders are important in navigating quality imperatives within HEIs. However, current QA practices in the universities examined remain misaligned with QI goals, highlighting the need for leadership approaches that are more integrative and development-oriented. Second, the study demonstrates the critical importance of leadership in integrating the four quality imperatives, showing that these interrelated dimensions form the foundation for advancing QI in the HE sector. Third, the findings emphasise the value of empowering lower-level leaders to engage actively in QI, thereby challenging the dominance of top-down, prescriptive QA models and promoting a more distributed and participatory leadership culture. Fourth, a distinctive contribution of this study is the development of a quality imperative inventory, which captures the four key dimensions of quality imperatives in HEIs. This inventory provides both a conceptual framework for understanding leadership roles in QA and a practical tool for HEIs. For national systems, it offers a structured mechanism for aligning leadership practices with context-specific quality demands, and, for international HEIs, it provides a transferable and adaptable model that can harmonise QA practices across diverse educational environments. By advancing this inventory, the study contributes to the refinement of existing QA mechanisms, leadership policies, styles, and job descriptions, and to the development of more dynamic, context-responsive leadership approaches to QI in the HE sector.

The findings further enrich the scholarly debate on the role of moral, professional, accountability and competitive imperatives in HE QI. Specifically, they suggest that HEIs should integrate these imperatives collectively, rather than address them in isolation, to overcome persistent quality challenges. In this regard, the study advances knowledge by offering practical pathways for HEIs to design organisational strategies that strengthen leadership in navigating quality imperatives for sustained QI. It also highlights the need for institutional policies and strategies that provide leaders with sufficient space to engage academics, students, and stakeholders directly in QI processes, ensuring the involvement of all actors in the system. Supported by international empirical studies, the findings reinforce the view that leadership in QA should move beyond prescriptive administrative tasks to embrace a comprehensive, multidimensional approach. Accordingly, the study recommends that HEIs prioritise international, national, and context-specific policies that diversify leadership roles across the four quality imperatives. Existing QA programs should also embed these imperatives explicitly into their policies, strategies, and practices to achieve continuous QI.

A further implication of this study lies in its contribution to quality culture development within the HE sector. Embedding quality imperatives into leadership practices enables institutions to move beyond compliance-driven QA systems and cultivate a culture of shared responsibility, trust, and continuous improvement. Such a culture positions quality not as an externally imposed requirement but as an internal institutional value embraced by academics, administrators, and students alike. In doing so, the study demonstrates how leadership at all levels can foster quality cultures that are sustainable, inclusive, and adaptive to both local and global educational challenges.

The applicability of these findings extends beyond the national setting. In an era of globalised HE, where institutions face increasing pressures of accountability, competitiveness, and international benchmarking, the quality imperative inventory provides actionable insights into how leadership can balance competing demands while sustaining QI. This contribution strengthens the global scholarly debate by offering both theoretical innovation and practical guidance for advancing QA frameworks and cultivating quality cultures across HE systems worldwide. To extend these contributions, future research should: (1) conduct cross-national and comparative studies to assess the transferability of the findings across diverse HE systems, cultural contexts, and governance models; (2) expand the stakeholder base to include students, senior leaders, policymakers, and QA agencies for a more holistic perspective on leadership roles in QA; (3) employ longitudinal research designs to examine how leadership practices evolve over time and their long-term effects on QI; (4) explore the digital and global dimensions of QA, particularly the adaptation of leadership roles to online learning environments and international collaborations; (5) investigate leadership development programs that train leaders at different levels to integrate the four quality imperatives into practice; and (6) develop and test leadership models that operationalise the Quality Imperative Inventory across teaching, research, and community outreach programs within HEIs.

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CRediT author contributions:

Eshetu Mandefro: conceptualisation, investigation, draft scales, formal analysis, methodology, writing-original draft, data curation, software, visualisation, review and editing final draft, validation, and documentation. **Tesfaye Semela:** conceptualisation, investigation, supervision,

formal analysis, methodology, validation, project administration, and writing-review and editing, and validation. **Ashebir Bezabhi:** supervision, project administration, validation.

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