Total Quality Management (TQM) principles and their application in Zambian higher education institutions: A Systematic literature review

Evans Mwenda[1*]
Bupe Getrude Mwanza-Mutono[2]
Clement Kasenge[3]

[1*]evansmwenda@yahoo.com

[1,2,3]The University of Zambia

Recommended Reference: Mwenda, E., Mwanza-Mutono, B. G., & Kasenge, C. (2026). Total quality management (TQM) principles and their application in Zambian higher education institutions: A systematic literature review. African Quarterly Social Science Review, 3(1), 237-251. https://doi.org/10.51867/AQSSR.3.1.21

ABSTRACT

Total Quality Management (TQM) is widely regarded as a valuable approach for enhancing quality, accountability, and competitiveness in higher education. This study examines how TQM principles are adopted and applied across universities in different regions to improve student satisfaction, with a particular focus on Zambia. This review is grounded in Total Quality Management (TQM) Theory. A Systematic Literature Review (SLR) of 41 empirical and policy-orientated studies was conducted to identify key factors influencing TQM implementation, its effects on quality management systems, and the challenges faced by higher education institutions. The review suggests that leadership commitment, stakeholder involvement, staff capacity, and performance measurement systems are central to the effective implementation of TQM, although their influence appears highly context-dependent. While TQM is generally associated with improvements in internal quality assurance, administrative processes, and student satisfaction, evidence linking it directly to learning outcomes and graduate employability remains limited. In Zambia, TQM-aligned practices have supported stronger governance structures and continuous improvement efforts, but limited resources, inadequate training, and resistance to change often constrain progress. The review also highlights a shortage of peer-reviewed empirical studies examining comprehensive TQM implementation in Zambian higher education institutions. To work around these constraints and, hopefully, make TQM less of a paper exercise, there may be value in closer collaboration between institutional leadership and the Higher Education Authority (HEA). Targeted TQM training, especially for managers who are expected to implement it, appears necessary rather than optional. At the same time, investment in Education Management Information Systems (EMIS) is likely to matter more than is often acknowledged, since decisions still tend to rely on incomplete or outdated data. Quality Assurance (QA) principles could also be treated less as a compliance requirement and more as part of everyday planning and budgeting. Finally, involving students and industry stakeholders in QA processes beyond occasional surveys or formal consultations may help ensure that quality efforts reflect real institutional and labour-market expectations.

Keywords: Higher Education, Quality, Systematic Literature Review, Total Quality Management, Zambia

I. INTRODUCTION

Higher education plays a pivotal role in national development, serving as a cornerstone for economic growth, innovation, and social progress. In Zambia, as in many developing countries, the higher education sector faces numerous challenges, including resource constraints, quality assurance issues, and the need to enhance global competitiveness (Mijere et al., 2025). To address these challenges, higher education institutions (HEIs) in Zambia are increasingly adopting modern management approaches. Among these, Total Quality Management (TQM) has emerged as a promising strategy for enhancing institutional performance and student satisfaction. TQM is a comprehensive management approach centered on quality improvement through the participation of all organizational members and has its roots in the manufacturing industry. However, its principles have been successfully adapted to various sectors, including education. In the context of higher education, TQM aims to create a culture of continuous improvement that permeates all aspects of institutional operations, from academic programs and teaching methodologies to administrative processes and support services (Sallis, 2022).

The Zambian higher education landscape comprises a diverse mix of institutions, including public and private universities, technical and vocational education and training (TVET) institutions, and colleges. According to the Higher Education Authority's gazetted list of registered and recognised institutions, Zambia had 160 higher education institutions, comprising 19 public and 141 private HEIs as of March 2024 (Higher Education Authority, 2024). This expansion of the higher education sector has brought with it increased competition and a growing emphasis on quality and student satisfaction.

The Higher Education Authority (HEA) of Zambia, established under the Higher Education Act No. 4 of 2013, plays a crucial role in overseeing and regulating the country's higher education sector. The HEA is mandated to promote quality assurance, accredit higher education institutions and their programs, and ensure that Zambian HEIs meet national and international standards. In recent years, the HEA has been actively promoting quality enhancement initiatives, including encouraging institutions to adopt modern management approaches like TQM (Higher Education Authority, 2023).

Several universities in Zambia have begun to explore and implement TQM principles in their operations. The University of Zambia (UNZA), the country's oldest and largest public university, has established a Quality Assurance Directorate that oversees the implementation of quality management systems across the institution. UNZA has integrated TQM principles into its strategic plan, emphasizing continuous improvement, stakeholder engagement, and evidence-based decision-making (University of Zambia, 2024). Other notable institutions in Zambia's higher education sector, such as Mulungushi University, Zambia Open University, and the Zambian Catholic University, have also been making efforts to enhance their quality management systems. These institutions are increasingly recognizing the importance of TQM in improving their academic and administrative processes, enhancing student experiences, and strengthening their competitive position in the regional and global higher education market (Mwiya et al., 2017).

The measurement of student satisfaction has become an integral part of quality assurance efforts in Zambian HEIs. Many institutions have adopted various tools and methodologies to assess student satisfaction, including surveys, feedback mechanisms, and student engagement initiatives. For instance, UNZA conducts regular student satisfaction surveys that cover various aspects of the student experience, including teaching quality, learning resources, support services, and campus facilities. The results of these surveys are used to inform institutional decision-making and drive continuous improvement efforts (Penda & Mathilda, 2025).

Despite these positive developments, the implementation of TQM in Zambian HEIs faces several challenges. Resource constraints, including limited funding and infrastructure, often hinder the full realization of TQM initiatives. Additionally, there is a need for more comprehensive training and capacity building in TQM principles and practices among staff and faculty members. Cultural factors and resistance to change also pose significant barriers to the effective implementation of TQM in some institutions (Mijere, et al., 2025). Furthermore, the adaptation of TQM to the specific context of Zambian higher education requires careful consideration. The unique needs of the Zambian education system, including the goal of producing graduates who can contribute to national development and compete in the global job market, must be considered when implementing TQM principles. There is also a need for more research on the effectiveness of TQM in improving student satisfaction and overall institutional performance in the Zambian context.

The concept of student satisfaction in higher education has gained significant attention globally, and Zambia is no exception. Student satisfaction is increasingly recognized as a crucial indicator of institutional quality and effectiveness. It encompasses various aspects of the student experience, including academic quality, support services, campus facilities, and overall institutional culture. In Zambian HEIs, efforts to improve student satisfaction are closely linked to quality management initiatives. Institutions are increasingly focusing on understanding and meeting students' needs and expectations (Musonda-Mubanga & Chakanika, 2018).

However, measuring and improving student satisfaction in the Zambian context presents unique challenges. These include diverse student populations with varying expectations, resource limitations that may affect service delivery, and the need to balance quality improvement with increasing access to higher education (Bwalya, 2023a). Some Zambian HEIs have implemented student satisfaction surveys, focus groups, and feedback mechanisms, but there is a need for more standardized and comprehensive approaches to measuring and improving student satisfaction across the sector (Musonda-Mubanga & Chakanika, 2018).

The relationship between TQM implementation and student satisfaction in Zambian HEIs is an area that requires further exploration. While some studies have suggested a positive correlation between TQM practices and improved student satisfaction in other contexts (Nasim et al., 2019), the specific dynamics of this relationship in Zambia need more comprehensive research. Understanding this relationship could provide policymakers and institutional leaders with valuable insights to enhance the quality of higher education in the country.

As Zambian HEIs continue to navigate the challenges of the 21st century, including increased competition, changing student demographics, and the need for global relevance, the adoption of effective quality management systems becomes increasingly critical. TQM, with its focus on continuous improvement and stakeholder satisfaction, offers a promising approach to addressing these challenges and enhancing the overall quality of higher education in Zambia (Daka et al., 2025). This approach could potentially revolutionize the way Zambian institutions operate, leading to improved educational outcomes and increased global competitiveness.

1.1 Research Questions

i. How have TQM principles been applied in higher education institutions?
ii. What are the key factors influencing the successful implementation of TQM in these institutions?
iii. What impact has the adoption of TQM had on quality management systems and educational outcomes in higher education?
iv. What challenges and barriers are encountered by higher education institutions when implementing TQM principles?

II. LITERATURE REVIEW

2.1 Theoretical Review

This review is grounded in one theoretical framework, and that is the Total Quality Management (TQM) Theory.

2.1.1 Total Quality Management (TQM) Theory

The goal of Total Quality Management (TQM), a holistic management concept, is long-term organizational success through customer focus, continuous improvement, and employee participation. Students in higher education are regarded as the main clients, and their satisfaction serves as a key indicator of the institutional quality. Research has demonstrated that the use of Total Quality Management (TQM) concepts, including leadership, employee engagement, process management, and customer focus, improves administrative and academic performance (Ibidunni et al., 2023).

Deming's 14 Points highlight the significance of data-driven decision-making, cooperation, leadership commitment, and methodical problem-solving in achieving ongoing quality improvement. Like this, Juran's Quality Trilogy, which consists of planning, control, and improvement, offers an organized framework for establishing quality targets, keeping an eye on procedures, and putting systematic improvements into place that match stakeholder expectations with institutional goals (Khasanah et al., 2023).

Deming and Juran's theoretical frameworks work together to support the use of Total Quality Management (TQM) in higher education by directing organizations to embrace process optimization, quality-oriented leadership, and participative decision-making. To assess how TQM application affects academic performance, student satisfaction, and administrative efficacy in higher education institutions, the current study is informed by this framework.

III. METHODOLOGY

3.1 Research Design

This study adopted a systematic literature review (SLR) design to synthesize existing evidence on the application of Total Quality Management (TQM) principles in higher education, with a focus on global, African, and Zambian institutions. The methodology was guided by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, making sure that there is transparency, replicability, and rigor (Moher et al., 2009)

3.2 Search Strategy

A comprehensive systematic search was conducted in major academic databases, including Scopus**,** Web of Science, ERIC, SpringerLink, Taylor & Francis Online, JSTOR, and Google Scholar. Additional searches were made in African Journals Online (AJOL) and Zambian Higher Education Authority (HEA) publications to capture region-specific literature. The search covered the period from 2007 to 2025, ensuring that the results were relevant to contemporary trends in higher education quality management. The following search terms were carried out: “Total Quality Management” OR “TQM”) AND (“higher education” OR “universities” OR “colleges” “Quality management systems” AND “higher education institutions” and “Global” “Africa” OR “Zambia” “Implementation of TQM” AND “barriers” OR “challenges” and “higher education.”

3.3 Inclusion and Exclusion Criteria

3.3.1 Inclusion Criteria:

Peer-reviewed journal articles, book chapters, reports, and conference proceedings.
Studies published between 2007 and 2025.
Studies focusing on TQM principles, quality management systems, or higher education reforms.
Research conducted in the Americas, Europe, Africa, and Zambia for comparative analysis.

3.3.2 Exclusion Criteria:

Articles not in English.
Studies focusing on primary or secondary education.
Non-scholarly sources without clear methodological rigor.
Publications before 2007.

3.4 Sample Size

The initial database search yielded 142 articles. After removing duplicates, 118 articles remained. These were screened by titles and abstracts, reducing the sample to 62 articles. A full-text review was then conducted based on the inclusion and exclusion criteria, which resulted in 41 studies being included in the final analysis.

Table 1

Summary of Studies on TQM in Higher Education

Author(s) & Year	Country / Region	Study Focus	Key Findings / Contributions
Anzules-Falcones et al. (2025)	Latin America	QA systems and labor-market alignment	QA frameworks face challenges adapting to labor market needs due to limited institutional capacity and resources.
Akinyemi & Abiddin (2013)	Nigeria	Quality administration and HRD	Effective quality management improves administrative efficiency, but weak HR systems constrain outcomes.
Al-Zoubi et al. (2023)	Middle East	TQM implementation & community service	Higher TQM implementation is associated with stronger community engagement and service delivery.
Asif et al. (2011)	Asia	TQM conceptual modeling	Proposes a TQM model linking leadership, strategy, processes, and continuous improvement.
Bayraktar et al. (2013)	Turkey	Efficiency of TQM practices	Universities applying structured TQM demonstrate higher operational efficiency.
Bwalya, T. (2023a)	Zambia	QA challenges	QA improves accountability but is hindered by funding shortages and limited staff capacity.
Bwalya, M. (2023b)	Zambia	EMIS & QA	EMIS strengthens QA through data-driven monitoring, though implementation is uneven.
Brits (2025)	South Africa	TQM, Six Sigma & waste reduction	Integration of Lean Six Sigma with TQM enhances efficiency in HEIs.
Cardoso et al. (2018)	Europe	Academic participation in QA	Limited academic ownership reduces the effectiveness of QA systems.
Chikopela & Zulu (2021)	Zambia	TQM adoption barriers	Resistance to change, limited training, and resource shortages constrain TQM implementation.
Daka et al. (2025)	Zambia	QA mechanisms & performance	QA improves administrative performance; effects on learning outcomes remain modest.
ENQA (2015)	Europe	ESG standards	Provides harmonized QA standards supporting accountability across the EHEA.
Grek & Russell (2024)	Europe	Bologna & QA infrastructure	QA reforms strengthen accountability but intensify managerial control.
Guil Gorostidi & Rubio-Arostegui (2026)	Europe	Institutional isomorphism	QA systems promote conformity, contributing to bureaucratization and quality fatigue.
Harvey & Williams (2010)	Global	QA evolution	Reviews 15 years of QA development, highlighting tensions between improvement and compliance.
HEA (2021)	Zambia	National QA standards	Establishes regulatory QA frameworks aligned with international standards.
HEA (2024)	Zambia	QA implementation	Reports increased QA compliance but uneven institutional capacity.
Ibidunni et al. (2023)	Nigeria	TQM & research output	TQM improves governance and research productivity; infrastructure gaps persist.
Idan (2023)	Global	TQM during COVID-19	TQM procedures supported continuity and quality during crisis conditions.
Jarvis (2014)	Europe	QA & managerialism	QA reforms intensify neoliberal governance and reduce academic autonomy.
Mahmood & Ismail (2022)	Malaysia & Pakistan	TQM practices	TQM supports benchmarking, student focus, and institutional competitiveness.

Makola et al. (2025)	South Africa	QMS for support services	QMS improves service efficiency, though academic impact remains indirect.
Moher et al. (2009)	Global	SM	Provides standardized guidelines for systematic reviews.
Muchira & Bett (2018)	Kenya	TQM & satisfaction	Leadership and staff involvement improve service quality and student satisfaction.
Mwiya et al. (2017)	Zambia	QA & student satisfaction	QA positively influences satisfaction, with limited evidence on learning gains.
Papanthymou & Darra (2017)	Global	QA review	QA enhances accountability but requires cultural change for effectiveness.
Rosa et al. (2012)	Europe	QMS implementation	QMS improve accountability but increase administrative workload.
Sabet et al. (2014)	Global	TQM vs Six Sigma	TQM supports continuous improvement; Six Sigma improves process control.
Sila & Ebrahimpour (2003)	Global	TQM critical factors	Leadership, culture, and measurement systems determine TQM success.
Sallis (2014)	Global	TQM in education	TQM improves educational quality when embedded in institutional culture.
Shabani et al. (2014)	Africa	Continental QA	QA strengthens accountability but faces funding and governance constraints.
Srikanthan & Dalrymple (2004)	Global	University QM model	Integrates academic values with managerial quality systems.
SAQAN (2024)	Southern Africa	Regional QA coordination	Promotes regional collaboration and harmonization of QA practices.
Texeira-Quirós et al. (2022)	Global	TQM & performance	TQM and innovation positively influence institutional performance.
Venkatraman (2007)	USA	TQM implementation framework	Leadership and faculty involvement are critical to success.
University of Zambia (2018a)	Zambia	QA framework	Establishes institutional QA structures.
University of Zambia (2018)	Zambia	QA excellence	Promotes teaching, research, and community engagement quality.
University of Zambia (2024)	Zambia	QA Directorate	Oversees QA compliance and improvement.
Williams (2024)	Global	Student feedback	Feedback systems are central QA tools, but are inconsistently applied.
Yusuf (2023)	Global	TQM meta-analysis	TQM positively affects service quality and satisfaction.
Zaigham et al. (2021)	Global	TQM barriers	Identifies resistance, bureaucracy, and accreditation pressure as key challenges.

3.5 Data Extraction and Analysis

A structured data extraction template was developed to capture relevant information from each article, including author(s) and year of publication, country or region of study, research objectives and methodology, application of TQM principles, key findings on quality management systems and educational outcomes, and reported barriers and enablers of TQM implementation. The data was analyzed thematically, focusing on four guiding research questions:

How have TQM principles been applied in higher education institutions globally and in Zambia?
What are the key factors influencing the successful implementation of TQM in these institutions?
What impact has TQM adoption had on quality management systems and educational outcomes?
What challenges and barriers do institutions face in implementing TQM principles?

The findings are synthesized in the subsequent sections, with comparisons drawn across regions and emphasis placed on Zambia.

IV. FINDINGS & DISCUSSION

4.1 Findings

4.1.1 Application of TQM Principles in Higher Education Institutions

Overall, the analysis indicates that Total Quality Management (TQM) has emerged as a popular, albeit inconsistent, strategy for enhancing academic quality, accountability, and worldwide standing in higher education. Nonetheless, there seems to be considerable regional variation in how it is interpreted and used. In the Americas, TQM is frequently associated with formal quality assurance procedures and certification, with a focus on faculty involvement and leadership commitment (Venkatraman, 2007; Rosa et al., 2012). Although it is not always evident how far TQM principles go beyond compliance requirements, a large portion of the literature sees these components as non-negotiable. Rapid system expansion and heightened global competitiveness appear to have driven academic institutions in Asia, including China, Japan, Malaysia, India, and Pakistan, toward TQM approaches that prioritize leadership development, teamwork, and student-centered learning (Mahmood, 2022).

European experiences are frequently presented in terms of the Bologna Process, where TQM is in line with objectives including accountability, student satisfaction, and institutional rankings. However, several studies indicate that conventional ideas of academic freedom and management authority continue to clash (Jarvis, 2014). The situation in Africa is more ambiguous. Institutions in nations like South Africa and Nigeria seem to employ TQM primarily to improve equality, accountability, and accreditation procedures; however, implementation is usually hampered by a lack of resources, inadequate training, and organizational change resistance (Ibidunni et al., 2023).

In Zambia, evidence suggests that TQM principles are being applied to enhance teaching quality and institutional governance. Internal Quality Assurance Units (IQAUs) have been established by many public and private higher education institutions with the responsibility of keeping an eye on student assessment, staff performance, curriculum development, academic standards, and self-evaluation procedures (HEA, 2023). The Higher Education Authority (HEA), which enforces the Higher Education Act No. 4 of 2013 to encourage some standardization within the industry, usually oversees these units.

Furthermore, to promote consistency and continuous improvement, several institutions have embraced ISO 9001:2015 quality management principles and aligned them with internal policies (Chikopela & Zulu, 2021). Tracer studies, peer reviews, and student feedback systems are common methods for quality assurance, but their application seems inconsistent and occasionally haphazard (Williams, 2024). Strategic Quality Management (SQM) frameworks, which integrate quality assurance and strategic planning, have also been adopted by some universities. These frameworks frequently link academic programs to labor market demands and external accreditation requirements from organizations like SAQAN and other regional frameworks (Southern African Quality Assurance Network, 2024). However, complete and ongoing implementation is still hampered by a lack of resources and qualified workers (Chikopela & Zulu, 2021).

4.1.2 Key Factors Influencing the Successful Implementation of TQM in Institutions

Research from the Americas typically indicates that a few recurrent factors are necessary for TQM to be successful in higher education: dedicated leadership, significant involvement from academic and support staff, and practical measurement systems. When senior executives set clear goals, provide funding, and continuously support quality initiatives, TQM tends to transcend one-off programs and become standard institutional practice. In addition to enhancing abilities, staff development and engagement seem to be important for reducing resistance, particularly when rewards are linked to program evaluation or instructional improvement. Technically speaking, reliable information systems and well-defined metrics like student progress, completion rates, and retention appear to facilitate more sustainable and grounded decision-making (Texeira Quirós et al., 2022).

In Europe, TQM methods have developed substantially in tandem with the Bologna Process, which encourages system comparability and common quality standards. Building great quality cultures requires active staff and student participation and leadership commitment, according to a large body of research (Bayraktar et al., 2013; Rosa et al., 2012; ENQA, 2015). Higher education institutions that make investments in organized feedback systems, such as program reviews, course evaluations, and student involvement on QA committees, frequently claim improved results. However, several studies warn that TQM runs the risk of becoming more symbolic than transformative and existing primarily to meet external accountability requirements in the absence of sufficient finance and continuous staff development (Harvey & Williams, 2010).

Many of these issues are repeated in Asian research, but frequently in systems that are rapidly expanding and becoming more globalized. Instead of approaching TQM as a stand-alone quality exercise, leadership vision seems to be crucial in connecting it to more comprehensive institutional strategy (Asif et al., 2011; Nasim et al., 2019). Instead of depending solely on recurring audits, staff participation and shared responsibility are often emphasized as methods of integrating quality practices into regular teaching and administration (Sabet et al., 2014; Yusuf, 2023). When

institutions seek to base decisions on evidence rather than gut feeling, process management tools, performance indicators, and operational information systems are also highlighted (Nasim et al., 2019). Measurement systems, people, and leadership all grow in tandem rather than separately. TQM appears to work best when people, measurement methods, and leadership all grow together rather than separately, according to the Asian literature.

Research on higher education in Africa presents a more unequal picture that is influenced by both enduring restrictions and facilitating variables. Leadership and governance frameworks seem fundamental: TQM may advance beyond pilot projects when institutional leaders create oversight systems, develop explicit regulations, and match budgets with quality objectives. According to Muchira and Bett (2018) and Idan (2023), efforts tend to be fragmented when leadership is poor or inconsistent. The availability of resources is another persistent problem. Monitoring and process control are frequently compromised by inadequate facilities, poor IT or management information systems, and limited funds, but focused expenditures in EMIS and documentation seem to support continuous improvement initiatives. Organizational culture and staff capability also influence results. While a lack of support typically results in box-ticking, compliance-driven approaches, training, incentives, and engagement assist in internalizing TQM techniques (Muchira & Bett, 2018; Akinyemi, 2013). To convert intentions into quantifiable impact, the "hard" part of Total Quality Management (TQM) measurement and process management relies on outcome indicators, regular data collection, and systems like ISO or EMIS (Idan, 2023; Papanthymou & Darra, 2017). Calls for models more in line with African institutional realities have been sparked by broader contextual issues that further restrict implementation, including policy instability, accreditation pressures, and high student-staff ratios.

Although there is still a dearth of peer-reviewed empirical research on TQM in higher education in Zambia, institutional reports and policy papers indicate that formal quality assurance systems are growing quickly. The adoption of self-evaluations, accreditation processes, and continuous improvement cycles in line with TQM concepts by institutions appears to have been greatly aided by the Higher Education Authority's Zambia Standards and Guidelines for Quality Assurance (ZSG-QA) (HEA, 2021). At the institutional level, frameworks like those employed at the University of Zambia are based on Deming's Plan-Do-Check-Act cycle and input-process-output models. Leadership commitment and resource allocation are frequently cited as essential for integrating quality practices (UNZA, 2018; Daka et al., 2025).

Data-driven quality management is, however, hampered by enduring obstacles such as inadequate budget, unequal staffing levels, and inadequate IT or MIS infrastructure (UNZA, 2024). Monitoring and improvement cycles seem more constant in institutions that have made investments in EMIS, documentation systems, and staff training. Due to staff opposition, a lack of knowledge about QA procedures, and minimal student participation, stakeholder engagement is still a work in progress. Therefore, it is often advised to deepen TQM adoption through focused capacity-building, more organized feedback mechanisms, and clearer incentives (HEA, 2021; UNZA, 2018).

The evidence gap itself is one problem that is particularly noticeable in Zambian literature. Unlike quality assurance evaluations, policy analyses, or research from other sectors, there are still comparatively few peer-reviewed empirical studies that look at complete, institution-wide TQM adoption in universities. Instead, a large portion of the information is derived from conference papers, postgraduate theses, institutional QA reports, and preprints, which restricts the depth of causal and comparative analysis.

4.1.3 Adoption of TQM and Its Impact on Quality Management Systems and Educational Outcomes in Higher Education

Universities throughout America, including the US, Brazil, Mexico, and Canada, are increasingly using Total Quality Management (TQM) to meet accreditation standards, improve student outcomes, and reinforce accountability. TQM is frequently intimately linked to certification cycles and competitive pressures in the US. Research indicates that strategies including benchmarking against peer institutions, continuous evaluation loops, and structured feedback systems might enhance curriculum relevance and student satisfaction, although the benefits seem to vary throughout institutions (Bayraktar et al., 2013). According to Cardoso et al. (2018), national higher education changes in Brazil seem to have promoted a broader adoption of TQM-style practices, resulting in improved monitoring systems and reported improvements in employer perceptions of graduates and student retention. Universities in Mexico that implement ISO 9001-based quality systems claim more transparency, improved documentation, and slight increases in graduation rates. In contrast, Canadian schools claim advances in student involvement, assessment procedures, and curriculum review procedures despite adopting TQM less officially.

The adoption of TQM in Asia appears to be more motivated by rapid growth, internationalization, employability concerns, and accreditation pressures than by tradition. According to research, universities are more likely to match institutional strategy with daily performance when they implement IT-based systems, staff training, and leadership support all at once (Asif et al., 2011). As evidence of TQM gaining traction, some studies highlight tangible improvements, including more systematic evaluation of learning outcomes, more transparent process documentation, and the application of Lean-style projects or PDCA cycles (Sabet et al., 2014; Yusuf, 2023). Positive

outcomes are frequently noted in terms of retention, consistency in assessments, and student satisfaction; however, these improvements seem to be greatest when TQM is included in larger institutional reforms rather than acting alone (Nasim et al., 2019). According to Asif et al. (2011) and Yusuf (2023), the impact seems to be modest when adoption is primarily cosmetic, which is frequently caused by staff reluctance, severe workloads, or inadequate funds.

TQM has mostly evolved in Europe in tandem with the Bologna Process, the European Standards and Guidelines (ESG), and growing international rivalry. According to Rosa et al. (2012), TQM is usually integrated into larger quality assurance frameworks that are designed to match institutional performance with accreditation and benchmarking standards rather than operating as a stand-alone endeavor. The UK's Teaching Excellence Framework, ESG-driven reforms in Spain and Portugal, and more participatory quality models in Nordic systems are well-known examples. Evidence suggests that enhanced performance monitoring, enhanced stakeholder involvement, and reinforced QA mechanisms have positive effects on student happiness, curricular relevance, and employability (Rosa et al., 2012). However, detractors warn that if quality standards are expanded, academic personnel may have more administrative responsibilities and, in certain situations, less room for innovation and academic autonomy.

TQM implementation in African higher education seems to be influenced by the need for accountability, the need to compete internationally, and the system's quick expansion. To support continuous improvement and the use of data in decision-making, national QA agencies and accrediting councils have encouraged organized processes such as institutional self-assessment, program review, and corrective action planning (Shabani et al., 2014; ENQA, 2015). Internal quality assurance departments and formal quality management systems have been further promoted by regional initiatives. These initiatives have improved institutional procedures, especially those related to accreditation, audits, and evaluation, and some universities have started to depend more on information technology for planning and oversight (Makola et al., 2025). Adoption of TQM and better learning outcomes, however, continue to have conflicting results. While case studies from Nigeria and South Africa show improvements in research output, service delivery, and student satisfaction, many public universities still struggle with issues like staff resistance, large class sizes, and a lack of funding, which lessens the impact on teaching and learning outcomes (Makola et al., 2025). While political meddling, poor evaluation cultures, and limited staff buy-in continue to be obstacles, leadership commitment, operational QA units, donor or government assistance, and investment in MIS appear as important enablers (Shabani et al., 2014; ENQA, 2015). Therefore, rather than being truly transformative, TQM improvements in a large portion of the region are frequently characterized as compliance-oriented.

In Zambia, initiatives to modernize institutional quality assurance, external accountability constraints, and regulatory change have all played a major role in the adoption of TQM-aligned practices in higher education. Through the Zambia Standards and Guidelines for Quality Assurance (ZSG-QA), which mandate that institutions implement systematic quality processes, conduct self-assessments, pursue program accreditation, and establish internal QA units reflecting fundamental TQM principles like continuous improvement and stakeholder engagement, the Higher Education Authority (HEA) has played a pivotal role (HEA, 2021; HEA, 2024). In response, academic institutions like UNZA have established QA directorates and released institutional frameworks that specifically mention PDCA cycles and process documentation that aligns with TQM principles (UNZA, 2018; UNZA, 2024). In practice, this has meant that TQM entered the Zambian system primarily through certification criteria and top-down policy instruments before being operationalized through institutional QA structures and strategic planning procedures.

These TQM-aligned approaches have so far had more noticeable influence on internal quality management systems than on quick, significant gains in student outcomes. The creation or strengthening of QA directorates in charge of self-evaluation, program review, and internal audit activities that professionalize quality work and reflect TQM's emphasis on distinct process ownership is frequently mentioned in institutional reports (UNZA, 2018; HEA, 2021). To guarantee repeatability and auditability, several institutions have also embraced continuous improvement cycles and more formal documentation. PDCA processes, planned course reviews, and standard operating procedures are frequently cited in QA frameworks (UNZA, 2018; Daka et al., 2025). Feedback loops that are essential to TQM have been created because of departments being pushed to close gaps and carry out corrective action plans via external accreditation processes and the engagement of external examiners (HEA, 2021; Bwalya, 2023a).

Data collecting and reporting have also shown incremental advances, especially in areas where institutions have made investments in management or education information systems. Under such circumstances, QA units report being better able to monitor metrics like completion, progression, and pass rates, which enables more focused interventions in underperforming programs (Bwalya, 2023a; Daka et al., 2025). However, reported impacts on educational outcomes are still small and mostly in the middle. QA procedures have made institutional performance measurements more visible, which has made it simpler to spot differences between programs (UNZA, 2018). These benefits have not yet been regularly shown at the system level, but there are early, mostly anecdotal indications of enhanced student experience in particular units, frequently connected to staff development programs or updated assessment processes (Mwiya et al., 2017; Daka et al., 2025; HEA, 2021). In general, there is still a dearth of long-term, peer-reviewed research that directly connects TQM deployment to long-term gains in learning outcomes or

graduate employability in Zambian higher education. Instead of providing conclusive results at the student level, most of the studies that are currently accessible highlight improvements in procedures, paperwork, and compliance.

4.1.4 Challenges and Barriers Encountered by Higher Education Institutions when Implementing TQM Principles?

Higher education institutions in America seem to encounter a common set of challenges while implementing TQM principles. Academic staff resistance is one persistent problem, since they frequently perceive quality management as excessively borrowing from corporate logic and interfering with academic freedom. Some scholars contend that TQM adds layers of bureaucracy without obvious benefits for teaching or research, which appears to have hindered the adoption of continuous improvement cycles in the United States (Zaigham et al., 2021). Another issue is the demand for resources. Some Latin American universities, especially those in Mexico and Brazil, often have limited resources, which makes it difficult for them to invest in dependable data systems or set up well-resourced quality assurance departments. At the same time, it seems that institutions in the area have trouble striking a balance between inventiveness and responsibility. While excessive standardization is helpful for accreditation and comparison, it may unintentionally impede experimentation in research and education (Anzules-Falcones et al., 2025).

The Bologna Process and the European Standards and Guidelines for Quality Assurance (ESG) have played a major role in the adoption of TQM in Europe. Although these frameworks have contributed to the harmonization of quality procedures, they have also created new conflicts. Countries like Germany, the UK, and Spain frequently worry about the perceived loss of institutional autonomy since strict quality standards may make it more difficult for universities to modify their operations to meet regional goals (Rosa et al., 2012). There is also clear staff resistance, especially among academics who see TQM as a managerial intrusion that puts performance metrics ahead of academic ideals. This is on top of the administrative burden of ongoing reporting, documentation, and audits, which some institutions claim causes "quality fatigue." Since successful TQM usually necessitates consistent investment in technology, monitoring systems, and training, financial limitations make adoption much more difficult, particularly in regions of Eastern and Southern Europe.

In African higher education systems, whose structural and operational limitations are more difficult to overlook, the difficulties are frequently more severe. One significant obstacle is the lack of resources; many colleges have tight budgets, depend on outdated facilities, and experience ongoing staff shortages (Shabani, 2014). It becomes challenging to set up thorough QA units or sophisticated monitoring systems in such circumstances. Another problem is staff buy-in. TQM is seen as being externally enforced on many institutions, frequently by governments or accrediting organizations. This might result in superficial compliance rather than true commitment (Shabani et al., 2014). Institutional autonomy is further undermined by political meddling and inadequate governance frameworks, especially when quality assurance is employed more as a control mechanism than as a tool for improvement (ENQA, 2015). The absence of trustworthy data systems exacerbates these problems by making it difficult to maintain evidence-based planning and assessment. As expected, there is a tendency for TQM adoption to be uneven throughout the continent, with private institutions reporting better results than underfunded public universities.

These difficulties in Zambia are influenced by local circumstances as well as more general continental trends. Human and financial resource scarcity is still a major issue. Many colleges find it difficult to modernize their teaching and learning materials, pay for staff training in quality management, or make investments in information technologies that facilitate continuous monitoring and assessment (Chikopela & Zulu, 2021). Because of this, rather than representing a comprehensive TQM approach, quality assurance procedures frequently become disjointed and compliance focused. Academic staff resistance to change also seems to be a factor, especially when TQM is viewed as an administrative burden that has no bearing on classroom instruction. Rapid increases in student enrollment have further strained current quality systems and made it more difficult to uphold standards without corresponding increases in academic staff or infrastructure (HEA, 2021). Some institutions have inadequate accountability systems and intermittent leadership commitment, which means that quality initiatives are primarily motivated by accreditation deadlines or donor requirements rather than being ingrained in the institution's daily culture. When combined, these elements indicate that although TQM has the potential to enhance higher education in Zambia, resolving underlying resource, governance, and cultural difficulties is probably necessary for a significant and long-lasting impact.

4.2 Discussion

4.2.1 Application of TQM Principles in Higher Education

According to the review, higher education systems around the world, in Africa, and even in Zambia, employ Total Quality Management (TQM) in very varied ways. Although the fundamental concepts are similar, local context seems to have a significant impact on how TQM is implemented and what it accomplishes.

TQM fits well into frameworks for accountability and accreditation throughout the Americas, particularly in the US and Canada. The competitive nature of higher education in North America, where institutions are always under

pressure to show relevance to labor market demands, is probably reflected in this attitude. In this setting, the literature consistently identifies faculty involvement and leadership commitment as key TQM facilitators (Venkatraman, 2007). However, the focus changes across much of Latin America. Universities in nations like Brazil and Mexico seem to implement TQM primarily to satisfy international accreditation standards, indicating that pressures from internationalization rather than internal reform agendas often drive adoption.

Results from Asia emphasize global competitiveness and student-centered learning more. TQM is frequently used to facilitate benchmarking and performance comparison in nations like India, Malaysia, and Pakistan, but Chinese and Japanese institutions place more emphasis on long-term sustainability and leadership (Mahmood & Ismail, 2022). Asian universities appear more likely than those in the Americas to integrate TQM into teaching and learning procedures as well as administrative systems, resulting in a more comprehensive approach to pedagogy and governance. The quick growth and globalization of higher education throughout the region is probably reflected in this pattern.

Experiences in Europe strongly connect TQM to the Bologna Process and more general initiatives to standardize quality control. Universities seem to struggle to strike a balance between research output and teaching quality in systems like those in the UK, Germany, and Spain; this problem is especially noticeable in research-intensive universities (Grek & Russell, 2024). Academic independence and administrative quality controls are frequently at odds in European universities, in contrast to regions of Asia where TQM is more obviously integrated into pedagogical practice. These conflicts imply that the acceptance and adaptation of TQM are significantly influenced by long-standing institutional cultures.

The adoption of TQM in Africa is influenced by more severe resource and structural limitations. While TQM seems to have been introduced primarily to meet accreditation requirements in Nigeria, it has been used in South Africa as part of post-apartheid reforms aimed at enhancing equity and accountability (Brits, 2025). Sustained implementation is nevertheless hampered by a lack of financing, packed classrooms, and opposition to organizational change. TQM implementation in many African systems is more reactive, focused on compliance, than proactive or reform-driven when compared to Asia and Europe.

In Zambia Research indicates that TQM was implemented to enhance governance and raise the caliber of instruction; however, due to a lack of funding and qualified staff, implementation is still hindered (Chikopela & Zulu, 2021). Although this reflects larger trends in Africa, it also highlights the need for focused leadership development and capacity building that is adapted to the regional higher education environment. Systemic obstacles must be removed before significant educational benefits may be anticipated in Zambian institutions, in contrast to North America and some regions of Asia, where faculty participation and innovation frequently support TQM success.

In summary, the results show that leadership, faculty involvement, sufficient resources, and alignment with regional and international agendas are critical to the success of TQM in higher education. The regional diversity shows that although TQM is a universal framework, contextual adaptability is crucial to its effectiveness. Zambia should improve the incorporation of TQM into its higher education system by taking lessons from European accountability frameworks and Asian holistic models while addressing resource and capacity issues unique to Africa.

4.2.2 Key Factors Influencing the Successful Implementation of TQM in Institutions

When considered collectively, the research indicates a uniform set of elements influencing the implementation of Total Quality Management (TQM) in higher education institutions throughout the Americas, Europe, and Asia. Three issues consistently come up: the availability of practical measurement and information systems, staff involvement and capacity building, and leadership commitment. The tone seems to be set by leadership. According to research from the Americas and Europe, TQM is more likely to go beyond short-term projects and become a regular part of institutional practice when senior leaders are visible, thoughtful, and willing to match quality initiatives with governance structures, budgets, and planning cycles (Bayraktar et al., 2013). Similar trends may be seen in the Asian literature, where the transition from pilot projects to longer-term strategies is frequently signaled by strong leadership paired with well-defined quality policies and execution strategies (Asif et al., 2011). This could imply that TQM only becomes popular when it is incorporated into regular decision-making processes rather than being viewed as an add-on.

Leadership and the role of people are closely related. According to research, incentives, systematic training, and employee engagement are crucial for creating what is commonly referred to as a "quality culture" in all regions (Rosa et al., 2012; Sabet et al., 2014). There are practical ways to lessen resistance and promote a sense of ownership, like quality teams, communities of practice, or focused professional development. Studies from Europe and Asia emphasize how important it is to include the opinions of many stakeholders in governance processes, such as employers and students, to give quality initiatives credibility and increase their applicability (Papanthymou & Darra, 2017). This argument is echoed, frequently more sharply, in African studies. When staff buy-in is low, TQM runs the

risk of turning into a compliance exercise, something done for audits rather than as a tool for continuous improvement, according to research from Kenya and Nigeria (Muchira & Bett, 2018; Akinyemi, 2013).

Information systems, process management, and measurement make up the third theme that runs across the literature. Clearly defined indicators, trustworthy data collection, and alignment with institutional agendas are essential for maintaining TQM throughout time, according to evidence from the Americas, Asia, and Africa (Idan, 2023). Investing in Educational Management Information Systems (EMIS) or comparable platforms puts institutions in a better position to monitor procedures, track student development, and link data to resource and policy decisions. Quality initiatives may appear disjointed and transient when such systems are lacking or inadequately integrated (Idan, 2023). In this way, the "hard" infrastructure of data and process management appears to play a major role in converting leadership aspirations and employee engagement into outcomes.

While Zambia has challenges that are hard to overlook, it also reflects many of these worldwide trends. With QA frameworks and internal units becoming standard throughout universities, it is evident that external regulatory pressure, especially from the Higher Education Authority (HEA), has forced institutions toward TQM-style quality management (HEA, 2021; UNZA, 2018). International practice is tightly aligned with programs for staff training, leadership support, and the formalization of QA organizations. However, enduring obstacles still exist. Progress is still being hampered by a lack of resources, inadequate IT and MIS infrastructure, and unequal stakeholder participation. Staff members' uneven knowledge of QA procedures, resistance to change, and low student involvement all point to TQM's partial rather than complete internalization in many institutions. Assessment is made more difficult by the dearth of peer-reviewed empirical research on thorough TQM implementation, which leaves a large portion of the evidence at the level of institutional and policy reporting.

Overall, it points out that TQM is more likely to work when people, measurement systems, and leadership all grow together rather than separately. The realities of African, especially Zambian higher education, particularly budget limitations and infrastructure gaps, call for more flexible, context-sensitive approaches, even though worldwide research offers solid evidence for these enabling conditions. The research gap itself is perhaps the most apparent. There is a definite need for more research on how international TQM principles might be used in institutionally varied and resource-constrained environments, as there are currently few empirical studies looking at full-scale TQM implementation in Zambian universities.

4.2.3 Adoption of TQM and Its Impact on Quality Management Systems and Educational Outcomes in Higher Education

Stronger quality management systems (QMS) are typically reported by universities in the Americas, Europe, and Asia that have adopted TQM, whether through certification standards or more unofficial improvement cultures. According to Bayraktar et al. (2013), Rosa et al. (2013), and Asif et al. (2011), these improvements typically manifest in quite practical ways, such as tighter internal audits, more frequent feedback mechanisms, clearer process documentation, and closer alignment between daily operations and accrediting criteria. When considered collectively, this data seems to lend credence to the notion that TQM primarily improves accountability and establishes fundamental quality infrastructure rather than independently revolutionizing teaching and learning.

In terms of educational outcomes, the situation becomes more complicated. According to research, TQM implementation is linked to increased student satisfaction, retention, and completion rates in some regions of the Americas and Europe (Sabet et al., 2014). Assessment reliability, overall student experience, and occasionally graduation rates have all improved in Asian schools that have adopted more comprehensive approaches that combine staff development, IT-supported monitoring, and leadership assistance (Sabet et al., 2014; Yusuf, 2023). However, a lot of writers advise caution. Improvements in curriculum, improvements in classroom infrastructure, or ongoing teacher development are examples of parallel reforms that frequently appear to be necessary for results. In this way, rather than directly influencing learning outcomes, TQM may function more as an enabling framework.

African studies add another level of intricacy. Institutional QMS has undoubtedly been strengthened by TQM-aligned practices, which are frequently supported by regional or national QA bodies. Several systems currently employ systematic curriculum reviews, regular self-evaluations, and the establishment of QA directorates (Shabani et al., 2014). However, there is still little evidence of direct impacts on graduate employability or student comprehension. Large class numbers, staff resistance, political pressure, and inadequate budgets are examples of persistent limitations that seem to mitigate the effects of these reforms. Consequently, TQM might appear procedural at times, concentrating on fulfilling external demands instead of cultivating a deeply ingrained quality culture (Makola et al., 2025).

Zambia reflects both its own local reality and many of these continental patterns. TQM-aligned procedures have been greatly aided by the Higher Education Authority (HEA) and its Zambia Standards and Guidelines for Quality Assurance (HEA, 2021). Most institutions today employ PDCA cycles, have QA units, and carry out accreditation-related self-evaluations. These actions have aided in strengthening accountability frameworks,

formalizing documentation, and increasing reporting transparency (UNZA, 2018; Daka et al., 2025). Early signs point to moderate gains in student satisfaction and administrative efficiency in certain schools.

However, there is still a dearth of conclusive proof of enhanced learning outcomes or graduate employability. Rather than quantifiable increases in student achievement across institutions, most cited improvements are intermediate, better monitoring systems, clearer course files, and more uniform QA procedures. The extent to which quality processes translate into classroom-level change is still limited by a lack of resources, inadequate MIS platforms, and inconsistent staff buy-in. Additionally, there is a significant evidence gap: few long-term, peer-reviewed studies in Zambia have thoroughly investigated the relationship between TQM adoption and educational outcomes, leaving many assertions based more on institutional reporting than on systematic evaluation (Daka et al., 2025).

Overall, research from around the world indicates that TQM consistently improves quality management systems in higher education, but its impact on academic results is more indirect and more context-dependent. TQM has assisted in institutionalizing quality processes in Africa, especially in Zambia, although its influence on student-level outcomes seems to be restricted by a lack of resources and a partial cultural adoption (Gorostidi & Rubio-Arostegui, 2026). This highlights the need for empirical, context-sensitive research that goes beyond procedures to investigate how and when TQM can improve learning, retention, and graduate employability over time.

4.2.4 Challenges and Barriers Encountered by Higher Education Institutions when Implementing TQM Principles?

According to the literature, universities all around the world have a common set of difficulties when attempting to use TQM, while the degree and type of these difficulties differ greatly by location. Academic staff resistance is a common occurrence in the Americas. For example, many academics in the US seem to see TQM as a corporate management technique that conflicts with collegial governance and academic freedom traditions (Al-Zoubi et al., 2023). This cynicism often hinders significant staff involvement in quality projects and slows the adoption of continuous improvement approaches. In other parts of the region, especially in Brazil and Mexico, the issue is frequently more pragmatic than intellectual. Universities find it challenging to maintain QA units or invest in the fundamental data and information systems required to enable TQM due to persistent underfunding, deteriorating infrastructure, and staff shortages (Al-Zoubi et al., 2023).

The adoption of TQM in Europe has been significantly influenced by external frameworks like the ESG standards and the Bologna Process. Although these efforts have contributed to the development of a common quality language among systems, they also appear to create new conflicts. Highly uniform quality standards might limit institutional autonomy and lessen space for context-specific methods, according to universities in nations like Germany, Spain, and the UK. This has eventually resulted in what some refer to as "quality fatigue," as employees feel overburdened by compliance activities and reporting obligations rather than encouraged to enhance teaching and learning (Gorostidi & Rubio-Arostegui, 2026). Resistance is particularly apparent when academic judgment is thought to be subordinated to performance measures in quality management. Financial constraints limit investment in staff training, monitoring equipment, and digital support systems, which creates an additional layer of complexity, especially in regions of Eastern and Southern Europe.

In many parts of Africa, the problems seem more systemic and, in certain situations, more serious. Comprehensive TQM adoption is challenging to maintain due to a lack of finances, overcrowded classrooms, old infrastructure, and staff shortages (Shabani et al., 2014). Furthermore, TQM is thought to be externally imposed by donors or regulators rather than developing within, which frequently results in resistance from both academic and administrative workers. Quality assurance can become a control mechanism rather than a vehicle for institutional learning and improvement due to weak governance systems and political meddling (ENQA, 2015). Evidence-based decision-making is also compromised by the lack of trustworthy data systems, which results in uneven adoption. Interestingly, private universities frequently advance more quickly than public universities that are subject to stricter budgetary restrictions.

Zambia is subject to its own unique challenges, yet it also exhibits many of these continental trends. Opportunities for capacity building, technological investment, and the upkeep of efficient quality systems are restricted by a lack of funding and human resources (Chikopela & Zulu, 2021). Rapid increases in student enrollment have put extra pressure on already overburdened systems, frequently without corresponding increases in academic staff or infrastructure (HEA, 2021). Instead of integrated, institution-wide TQM approaches, some institutions' leadership commitment to quality appears to be uneven, leading to fragmented, primarily compliance-driven QA processes. Together, these difficulties imply that while TQM has the potential to raise the standard of higher education in Zambia, its success will probably depend on resolving more fundamental structural, cultural, and resource-related issues in addition to formal quality changes.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

According to the review, more higher education institutions worldwide, including Zambia, are implementing Total Quality Management (TQM) concepts to enhance institutional quality, accountability, and competitiveness. Although implementation patterns differ by region, some elements consistently seem to be crucial: active stakeholder participation, leadership commitment, resource availability, and functional quality management systems. Research shows that TQM tends to increase operational effectiveness, fortify internal quality assurance procedures, and, in certain situations, increase student happiness and retention. However, its impact on learning outcomes and employability is less clear-cut and appears to be significantly impacted by personnel buy-in, institutional capability, and larger contextual limitations. Universities in Zambia, for instance, have made strides toward formalizing QA procedures and TQM-aligned governance structures. However, the obvious influence on students is constrained by a lack of rigorous, peer-reviewed data on educational results, human capacity deficits, and resource shortages. A recurrent theme in the literature is that TQM can only produce significant improvements when leadership, people, and measurement systems are developed collaboratively and when practices are carefully tailored to local institutional realities rather than being implemented as one-size-fits-all solutions.

5.2 Recommendations

The following recommendations are made to improve the application of Total Quality Management (TQM) principles in Zambian higher education institutions and to address the challenges that have been identified.

Institutional leadership and the Higher Education Authority (HEA) need to partner and provide training to institutional staff members, demonstrating to them how TQM applies to their daily tasks. A true quality culture can be gradually established, and resistance can be lessened with modest rewards or acknowledgment for accomplishments. Institutions need to invest in realistic EMIS or data systems that monitor students' progress, retention rates, and results management. Universities should give this top priority. Making well-informed, fact-based decisions, as opposed to relying solely on intuition, is made simpler by trustworthy data.

When institutional leaders not only talk the talk, quality management performs at its peak. Integrating QA concepts into planning, budgeting, and governance makes it abundantly evident that quality is a fundamental institutional priority rather than a choice. Industry input and student voices are frequently underutilized in most of the higher education institutions in Zambia. Active student participation on QA committees, structured feedback systems, and employer/industry interaction can all contribute to more relevant curricula and more workforce-ready graduates.

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