

# *Difficulties and opportunities of implementing total quality management in academic libraries of Ghana*

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## **Abstract**

**Background of the study:** Academic libraries are collapsing due to the related challenges of implementing TQM practices and integrating them.

**Purpose:** The primary objective of this study is to ascertain the challenges and prospects of implementing total quality management in Ghanaian university libraries.

**Method:** An explanatory mixed method design was employed in the study. Top management, librarians, faculty members, and administrators took part in the discussion. The information and data were gathered using an interview guide and a questionnaire. Out of the 239 participants, 205 persons provided a valid response. This indicated an 85.7% response rate. Out of the twenty-five individuals who were anticipated, twenty were questioned. For the investigation, a straightforward random and purposive sampling strategy was used. Both quantitative and thematic analysis of the data was done.

**Findings:** The investigation demonstrated that there are difficulties in implementing TQM. Adopting total quality management (TQM) can be difficult due to factors such as staff resistance to change, a lack of facilities and resources, and a lack of commitment from upper management. The study also concluded that implementing TQM has several benefits such as boosting the library system's continual improvement and guaranteeing best practices and standard compliance.

**Conclusion:** The study's conclusions may increase information scientists' and librarians' comprehension of how TQM methods are implemented in Ghanaian academic libraries and experiment with the suggested adoption model.

**Keywords:** TQM practices; critical success factors; TQM Adoption; TQM philosophy; challenges of TQM

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## Introduction

In order to satisfy customers, service delivery centers like university libraries should work to become the best in the world by constantly enhancing their offerings. Therefore, it is imperative to implement a management strategy that enlists the support of both management and staff in order to continuously improve the quality of services ([Tang & Anwar, 2019](#); [Ncwane, 2016](#)).

In general, academic libraries' pursuit of change has made it necessary to implement a new management philosophy ([Ncwane 2016](#)). The goal of Total Quality Management (TQM) as an organizational management method is long-term success through member engagement and quality. To put it another way, TQM is an ethical and comprehensive strategy that helps businesses continuously enhance their goods and services while incorporating all relevant parties in order to increase sustainability and delight consumers ([Rani, 2017](#)).

Connecting to the academic library context, this is a system in which all staff members participate in order to raise performance and service standards. Adopting TQM practices in academic libraries is thought to be a strategy for consistently raising the caliber of services provided with the involvement of staff members at all levels ([Negi & Srivastava, 2015](#)).

Nevertheless, academic libraries are collapsing due to the related challenges of implementing TQM practices and integrating them. Studies have indicated that the following factors may make it more difficult for TQM practices to be implemented smoothly: management leadership style; lack of a strategic plan; limited TQM education and training; library staff resistance to change; lack of facilities and resources; inconsistent top management commitment; lack of adequate funding; lack of information on critical issues; static organizational culture; and TQM as a new philosophy ([Negi & Srivastava, 2015](#)).

Prominent scholars, such as [Sharma et al. \(2020\)](#), [Sathe \(2015\)](#), and [Rahmah & Marlini \(2018\)](#), have also demonstrated that while implementing TQM in academic settings presents certain problems, there are also opportunities that academic libraries may be able to take advantage of along the way. Among these is TQM, a novel concept that many institutions focused on providing services are embracing. Similarly, TQM is a management concept that satisfies requirements set forth by international standards organizations, such as ISO 9000 standards. The philosophy's introduction is another creative step that opens the door for the library personnel to receive more extensive career training on quality assurance challenges in the context of academic libraries. Adopting TQM methods offers academic library management a way to transition from their current way of doing things to a new one ([Sharma et al., 2020](#)).

Implementing TQM is a tactic for bringing academic libraries' quality performance back to life. TQM has the potential to improve academic libraries in a number of areas, including value addition to services, fulfilling acceptable standards, processes, and best practices, defining responsibilities, and achieving efficiency ([Sathe, 2015](#); [Rahmah & Marlini, 2018](#)).

An organizational culture known as total quality management (TQM) places a strong emphasis on efforts to produce and constantly improve quality across all organizational activities ([Rahmah & Marlini, 2018](#)). Academic libraries should also take note of the TQM idea, as it is not just relevant for the industrial sector. The importance of total quality management (TQM) in service organizations, including academic libraries, has been covered by a number of scholars ([Saleh & Hasan, 2015](#); [Yusuf, 2022](#); [Tang & Anwar, 2019](#); [Fatemi, Wei & Moayerifard, 2016](#)). TQM consistently demonstrates how to inspire staff members to participate in decision-making for high-quality service delivery ([Sharma & Kadyan, 2016](#)).

TQM increases consumer confidence in their selection of service provider ([Fatemi, Wei & Moayerifard, 2016](#)). According to [Fatemi et al. \(2016\)](#), a plethora of research indicates that customer perceptions have been a major factor in the failure of numerous quality management



system attempts. Implementing TQM techniques can improve the ability to complete tasks and meet organizational objectives. TQM is regarded as being extremely important, particularly in academic libraries, for the long-term accomplishment of organizational goals ([Fatemi et al., 2016](#)).

According to [Prajogo and Cooper \(2017\)](#), TQM is a concept and a set of guiding principles that serve as the cornerstones of a company that strives for continuous improvement. The core tenet of TQM is the recognition that businesses are systems with procedures designed to serve their clientele. Through the use of statistical process control, among other methods, TQM aims to establish standards, generate efficiencies, define responsibilities for personnel within processes and organizations, and decrease mistakes and defects ([Prajogo & Cooper, 2017](#); [Adu et al., 2016](#)).

Studies show that TQM is a well-respected management idea that can greatly aid companies in accomplishing their goals. As a result, managers are encouraged to implement the best quality management techniques, including Total Quality Management (TQM), with more confidence knowing that these techniques will have an impact on the performance of the business ([Mehralian et al., 2017](#)). According to [Saleh and Hasan \(2015\)](#), an organization that successfully implements TQM can gain a number of advantages, including greater market shares and turnover, better employee and customer satisfaction, increased productivity, improved communication, better employee participation, higher quality and less rework, lower quality costs, and enhanced competitive advantage. Gaining a competitive edge, increasing revenue, and developing greater innovation are all possible with TQM implementation. The real advantage of TQM is improved organizational performance ([Tang & Anwar, 2019](#); [Rahmah & Marlina, 2018](#); [Sharma et al., 2020](#)).

TQM is based on the principle that errors may be prevented and defects can be minimized in the workplace ([Newane 2016](#)). In order to ensure that the services provided by the academic library fulfill expected quality standards, critical success elements for Total Quality Management (TQM) processes include top management commitment, employee innovation, employee involvement and encouragement, and employee training. The academic library system needs to incorporate the remaining components, which include employee education, policy guidelines, customer focus, process management, human resource management, organizational culture, teamwork, strategic planning, effective communication, benchmarking, and more ([Newane 2016](#); [Ram, 2018](#); [Tang & Anwar, 2019](#)).

The term Total Quality Management (TQM) in the context of libraries refers to the comprehensive integration of the following aspects of quality: work product, system, services, labor force, available resources, collection, and assets within the library. TQM emphasizes "Do the work right in the first instant" as opposed to responding after a problem arises ([Sharma, 2017](#)). Libraries are motivated to include TQM principles into their services in order to meet the required standard of service and to serve the educational needs of their patrons ([Sharma & Kadyan, 2016](#)).

It is required of academic libraries to facilitate research, teaching, and learning in academic settings. It seems that recent advances, including the introduction of ICT, which in and of themselves require management, have made academic library administration in technical universities more and more vital. Academic libraries now have a requirement to provide high-quality services, and they must answer for their continuous support from the parent institution. Additionally, the competition from other providers of information services has increased. Furthermore, despite their financial struggles, academic libraries make sure that their patrons receive high-quality services in addition to resources made available to them ([Ram, 2018](#); [Sharma, 2017](#)).

TQM focuses on eliminating waste in organizations, particularly academic libraries,



while also upholding standards and fostering continuity. TQM monitors standard compliance and high-quality service delivery. A comprehensive paradigm shift in academic libraries is warranted by the adoption of TQM methods in this age of information overload, self-motivated readers, electronic material, budgetary restrictions, and the influx of cyber cafés ([Newane 2016](#)). This suggests that in order to support the administration of the academic library, essential components of TQM must be included. When implementing TQM, top management's dedication and assistance are essential. Additionally, staff participation, competency, and training and development are crucial components of TQM. TQM implementation also takes into consideration the expectations of both employees and clients regarding the caliber of services. To ensure that standards are reached, TQM implementation must take staff productivity into account and employ an appropriate framework ([Newane 2016](#); [Singh et al., 2018](#)).

### *Statement of Problem*

According to [Ram \(2018\)](#), academic libraries are required to facilitate research, teaching, and learning within academic settings. However, it appears that not much has been done to fulfill the mandate of academic libraries in the majority of them, especially in Ghana's technical universities. It seems that recent advances, including the introduction of ICT, which in and of themselves require management, have made academic library administration in technical universities more and more vital. Academic libraries now have a requirement to provide high-quality services, and they must answer for their continuous support from the parent institution. Additionally, the competition from other providers of information services has increased. Academic libraries also struggle financially, but they still make sure that their patrons receive high-quality services in addition to resources that are made available to them.

The eight technological university libraries (TULs) were the subject of preliminary research, which revealed certain challenges in adopting and implementing TQM techniques. To support teaching and research, academic libraries must perform better, and this requires that the potential and perceived challenges of implementing TQM be appropriately handled. To ensure that academic libraries can resist the trend of quality management befitting of university libraries, an investigation into TQM methods at Ghana's technical university libraries is necessary. To satisfy Ghana's higher education accreditation requirements, the topic of quality management in relation to rendered services must also be thoroughly investigated. As of right now, the technical institutions in Ghana are authorized to provide courses based on the resources and capabilities of their libraries. This calls for an examination of the challenges and prospects associated with implementing TQM at Ghana's technical university libraries (TULs), as well as the recommendation of suitable actions to help the libraries advance in their goal of becoming exceptional hubs for teaching and learning assistance. The study seeks to find answers to the following research questions:

1. What are the difficulties that influence TQM implementation in academic libraries of Ghana?
2. What measures could be prescribed to mitigate the difficulties of TQM implementation in academic libraries of Ghana in Ghana?
3. Does TQM offer opportunities in the implementation TQM in academic libraries in Ghana?

### **Literature review**

Like any management plan, there will inevitably be obstacles in the way of every service organization's Total Quality Management (TQM) adoption. [Negi and Srivastava \(2015\)](#)





state that although the academic library system is still not without its challenges, the application of TQM in service organizations offers a chance to modernize and improve the staff's capacities for efficient work. Academic libraries are among the many service organizations that have faced various obstacles in their efforts to adopt TQM. In real life, TQM projects are difficult to implement. According to Negi and Srivastava (2015), there are a number of reasons why TQM fails most of the time. Those include a lack of knowledge about the advantages of ongoing development, a disregard for the value of customers, a lack of commitment from upper management, and a management lack of comprehension of quality performance. Other innate problems include a poor grasp of the measuring tools used to gauge the success of TQM implementation, a lack of awareness of the advantages of TQM adoption in the service organization, and inadequate knowledge of TQM. Similarly, unclear standard rules, plans, and techniques for execution are also TQM failure factors (Negi & Srivastava, 2015).

According to Sathe (2015), there could be issues and opponents with any attempt to apply TQM in academic libraries. Among the issues noted are the management's apprehension about relinquishing power, the library's non-profit focus, and TQM's long-term investment component, which guards against organizational change over time. On the other hand, a number of obstacles to TQM implementation at institutions, including: insufficient funding, inadequate pre- and in-service training, a shortage of transportation, low motivation, and job discontent (Ram, 2018).

Many research findings, such as those from Singh et al. (2018), pointed out certain difficulties in implementing TQM in all service organizations. These include a lack of quality leadership, highly competitive markets among service organizations, employee work attitudes, a lack of cultural dynamism in the majority of service firms, and insufficient funding for comprehensive quality management. In addition to the aforementioned, other signs of inherent challenges in TQM implementation include inadequate planning, resistance to change on the part of the workforce, inadequate training and development, a lack of customer focus, ineffective measurement of quality improvement, and a lack of commitment from top management (Singh et al., 2018).

However, Jabeen and Ganaie (2019) state that there are chances for benchmarking, quality library systems, managing quality, processes and principles, and continuous improvement when TQM is implemented in academic libraries. Negi and Srivastava (2015) claim that the application of TQM in service organizations offers a chance to modernize and improve employees' capacities for productive work. Similarly, implementing TQM offers a mechanism to set standards for the provision of services in academic libraries. This gives academic libraries the authority to adhere to the ISO 9000 Standards, which are the baseline set by the International Standards Organization (Negi & Srivastava, 2015; Sharma et al., 2020). Many authors, including Jabeen and Ganaie (2019) and Yusuf (2023), support the articulation of TQM implementation by stating that it provides opportunities like fast response, customer-driven quality, continuous improvement, fact-based action, and the ability for TQM to become ingrained in-service organizations' cultures. According to Pradhan (2012), using TQM in academic libraries presents opportunity in the following areas: it allows for incremental adjustments that result in continuous improvement and gives a way to improve user services (Yusuf, 2023). TQM enhances internal communication within the company and aids in the dismantling of barriers across library departments. As a first step, it is expected to raise the caliber of training provided to employees, boosting their abilities and opening up the possibility of increased employee involvement in decision-making. The adoption of TQM as a new management strategy and philosophy in academic libraries requires library managers to cultivate their leadership abilities (Jabeen & Ganaie, 2019).



The cornerstones of an organization that strives for continuous improvement are represented by TQM, which is both a philosophy and a set of guiding principles. By using statistical process control, TQM aims to establish standards, generate efficiencies, define roles for individuals within processes and organizations, and reduce errors and defects. As a result, it presents a significant opportunity for development in service organizations ([Prajogo & Cooper, 2017](#); [Sharma et al., 2020](#)).

## Method

The methodology deals with the research type, population and sample, research location, data collection techniques, and data analysis methods as outlined below.

### *Research type*

By gathering both textual and numerical data, the mixed methods technique combines the qualities from both qualitative and quantitative designs ([Creswell & Plano Clark, 2017](#); [Ngulube, 2020](#)). The explanatory sequential mixed method design was used in the investigation as illustrated in figure 1.

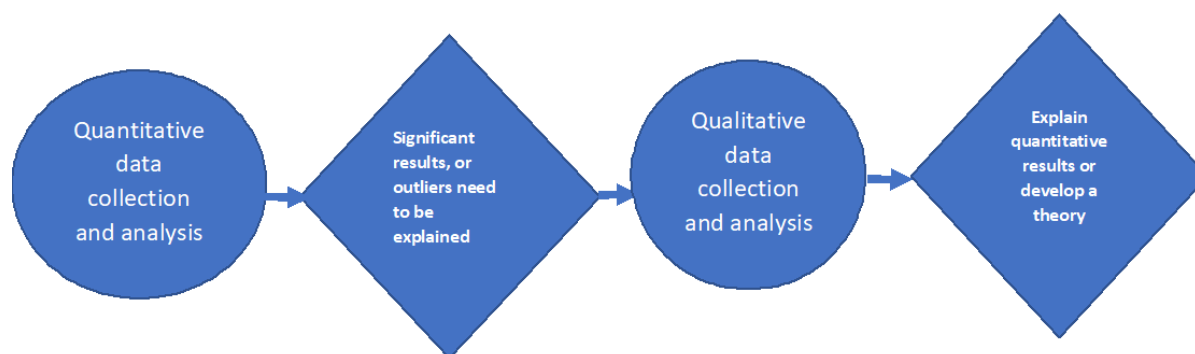


Figure 1: Diagram of the research design ([Ngulube, 2020](#))

To explain the quantitative findings, this approach gathers qualitative data (interviews are conducted to help explain, for example, any departures from the norm, such as outliers, or significant/non-significant results). The qualitative element comes after the quantitative one. In this approach, theory can be developed and proven in the first and second phases, respectively ([Ngulube, 2020](#)).

In order to explain the quantitative data, this required collecting quantitative data in a sequential manner and then gathering qualitative data ([Creswell & Plano Clark, 2017](#); [Poth, 2018](#); [Ngulube, 2020](#); [Ngulube & Ngulube, 2022](#)).

### *Research location, population and sample*

Eight technological university libraries that met Ghana's higher education accreditation requirements were the subject of this study. Leading university officials, including the vice chancellor, pro vice chancellor, librarian, director of audit, director of finance, and registrar, were among the participants. Senior Members and Senior Staff who worked in the university library made up the library staff. Faculty administrators who were known as library affairs officers, faculty members, and library personnel responded to the quantitative phase data. Simple random selection was used to select the quantitative respondents under probability sampling whereas purposive sampling was used to pick the qualitative respondents and materials. The relationship of the two mixed methods research samples was parallel ([Collins, 2017; 2018](#)).

### *Data collection*

In the first phase, faculty administrators, faculty members, and library personnel provided the quantitative data. Top management personnel were interviewed as part of the qualitative phase. This served to clarify the quantitative information that was gathered. By using a balanced approach, the data collected was able to compensate for any gaps in the qualitative and quantitative data. The two primary instruments utilized in this study for data collection were a questionnaire and an interview schedule. The questionnaire was designed using the five-point Likert scale, which is helpful for quantifying variables. Information on obstacles to TQM implementation and steps to do to address them was requested in the questionnaire. Interviews with top management personnel helped to clarify the potential that emerged despite the difficulties associated with implementing TQM. The factors that served as the study's foundation were taken from earlier research by [Sharma et al. \(2020\)](#) and [Negi and Srivastava \(2015\)](#).

#### *Data analysis methods*

MAXQDA© data analysis software was used to transcribe and code interviews and integrate quantitative data matrices from SPSS© ([Ngulube, 2023](#); [VERBI GmbH \(1995 – 2024\)](#)). Data from survey questionnaires was integrated into the themes from the interviews to get a more comprehensive picture of the phenomenon.

#### **Result and Discussion**

The study investigated the potential and challenges of applying TQM in Ghanaian university libraries. 205 participants provided a valid response on the 239 questionnaires that were sent. This indicated an 85.7% response rate. Descriptive statistics were used to better interpret the questionnaire answers. A rating average (mean) of 1.0–2.59 indicated "weak," 2.60–3.59 indicated "strong," and 3.60–4.0 and above indicated "extraordinary strong."

Table 1. Gender Distribution of Participants

Gender	Frequency	Percentage
Male	126	61.0
Female	79	39.0
Total	205	100

The gender breakdown of the participants is shown in Table 1. Out of all the participants, 126 (61.0%) were men and 79 (30.9%) were women. It is concluded that a higher number of men than women took part in the research.

Table 2. Age Distribution of Participants

Age	Frequency	Percentage
Under 30yrs.	32	15.6
31-40yrs	91	44.4
41-50yrs	71	34.6
50yrs and above	11	5.4
Total	205	100

The participants' age distribution is displayed in Table 2. Of the results, 91 (44.1%) belonged to the age range of 31 to 40 years old. There were also 71 (34.6%) people in the 41–50 age range. The remaining 32 (15.6%) and 11 (5.4%) belonged to the age groups of those under 30 and those over 50, respectively. This implies that the age range of many participants was between 31 and 50 years old.



Table. Age Distribution of Participants by Stratum

Stratum	Management	Faculty Members	Lib. Staff & Faculty Admin.	Total
Under 30	3(6.5%)	13(13.4%)	16(25.8%)	32(15.6%)
31-40 yrs.	20(43.5%)	39(40.2%)	32(51.7%)	91(44.4%)
40-50 yrs.	21(45.7%)	37(38.2%)	13(20.9%)	71(34.6%)
50 yrs & above	2(4.3%)	8(8.2%)	1(1.6%)	11(5.4%)
Total	46(100%)	97(100%)	62(100%)	205(100%)

The results of the participants' age distribution compared by stratum are shown in Table 3. Of the participants in the management staff survey, 41 (89.2%) belonged to the age range of 31 to 50 years old. Most participants, or 76 out of 4, were faculty members, and their ages ranged from 31 to 50. 45 people, or 72.6%, who worked as faculty administrators and library personnel were likewise between the ages of 31 and 50. This implies that, overall, the dominant age group within the strata is between 31 and 50 years old.

Table 4. Academic Qualification of Participants by Stratum

Stratum	Management	Faculty Members	Lib. Staff and Faculty Admin.	Total
BA	-	31	28	59(28.8%)
Masters	28	45	34	107(52.2%)
PhD	18	21	-	39(19.0%)
Total	46	97	62	205(100%)

When the academic qualifications of the participants were broken down by strata, 39 (19.0%) had a PhD, 59 (28.8%) had a bachelor's degree, and 107 (52.2%) had a master's degree. It is possible to draw the conclusion that many participants held master's degrees. A cursory look at the results revealed that no academic administrators or library staff members held a PhD, and none of the management staff members held a bachelor's degree.

Table 5. Number of Years of Service

Years of Service	Frequency	Percentage
1-5yrs.	48	23.4
6-10yrs.	77	37.6
11-15yrs.	55	26.8
16-20yrs.	18	8.8
Over 20 yrs.	7	3.4
Total	205	100.0

The results of Table 5 show how many years of service each participant has had. Nearly many participants had spent several years working for their respective organizations. Seven (3.4%) of the participants had worked for more than 20 years, whereas the greatest number of years employed at the various institutions was 6–10 years, accounting for 77 (37.6%) of the total results.

Table 6. Number of Years Worked by Stratum

Service Years	Faculty Members	Lib. Staff & Faculty Admin.	Total
1-5yrs.	26(26.8%)	17(27.4%)	43(27.1%)
6-10yrs.	32(33.0%)	28(45.2%)	60(37.7%)
11-15yrs.	27(27.8%)	13(21.0%)	40(25.2%)





16-20yrs	9(9.3%)	3(4.8%)	12(7.5%)
Over 20 yrs.	3(3.1%)	1(1.6%)	4(2.5%)
Total	97(100%)	62(100%)	159(100%)

Table 6 illustrates the number of years of service by strata. It reveals that 143 (90.0%) of the participants had worked in their institution for more than one to five years, while the remaining 16 (10.0%) had worked there for sixteen to twenty years. The management team was left out of this because their employment is temporary. It is possible to draw the conclusion that the majority of participants spent several years working for the organization on average. More information on the outcomes is provided in Figure 4.6.

*Quantitative Data on Challenges of TQM Implementation*

Table 7. Challenges of Library Staff and Faculty Administrators to TQM Implementation (N=205)

Variables	Mean	SD
Resistant to change by library staff	2.82	1.361
Lack of facilities and resources	3.71	1.360
Inconsistent top management commitment	3.55	1.289
Lack of adequate funding	3.73	1.345
Lack of information on critical issues	2.97	1.145
Static organizational culture	2.89	1.132
TQM is a new philosophy	3.21	1.282
Management leadership style	3.06	1.341
Absence of strategic plan	3.21	1.416
Limited education and training on TQM	3.61	1.150

Based on the scale that was employed, Table 1 presents descriptive data about the difficulties in implementing TQM that were found in the outcome. Three of the ten sub-variables that were measured in relation to the challenges of implementing Total Quality Management (TQM)—that is, inadequate funding (M=3.73), a lack of facilities and resources (M=3.71), and a lack of TQM education and training (M=3.361)—showed an affirmation that was deemed "extra ordinarily strong." Four sub-variables—that is, inconsistent top management commitment (3.55), TQM as a new philosophy (4.06), and management leadership style (M=3.21)—that is, according to the adopted scale, each showed a "strong" value. In addition, challenges that showed "strong" influence included library staff resistance to change (M=2.82), stagnant organizational culture (M=2.89), and a lack of knowledge on important topics (M=2.97).

Overall, it was possible to draw the conclusion that there was significant resistance to TQM implementation due to a lack of facilities and resources (M=3.73), inadequate funding, and limited TQM education and training (M=3.61), which were followed by inconsistent management commitment (M=3.55), TQM as a new philosophy (M=3.21), absence of a strategy plan (M=3.21), and management leadership style (M= 3.06)..

Table 8. Measures to Minimizing Challenges of TQM Implementation (library staff and faculty administrators) (N=205)

Variables	Mean	Std. Deviation
Workable strategic plan	3.97	1.040
High quality assurance	3.77	1.122
Effective communication	4.03	1.055
Organising of user orientation	3.95	1.093



Provision of adequate facilities	4.27	1.074
Provision of adequate funding	4.29	1.046

Table 2 detailed the actions that might be taken to lessen the difficulties associated with implementing TQM. All six sub-variables were measured, and the results showed that putting in place a "extra ordinarily strong" influence on TQM implementation was necessary. These sub-variables included organizing user orientation (M=4.27), providing adequate funding (M=4.29), effective communication (M=4.03), providing adequate facilities and resources (M=3.95), creating a workable strategic plan (M=3.17), and high-quality assurance (M= 3.77). The image shows that every sign is a metric that leads the way in TQM implementation.

Table 9. Challenges of TQM Implementation (Faculty members) (N=205)

Variables	Mean	Standard Deviation
Resistant to change by library staff	2.08	1.256
Inadequate resources and facilities in library	2.54	1.173
Top management commitment below expectation	2.69	1.261
Inadequate information on quality issues	2.58	1.088
Static organisational culture for the library	2.61	1.212
TQM is a new philosophy	3.05	1.149
Management leadership style	2.51	1.165
Absence of strategic plan	2.61	1.246
Limited education and training given to library staff	2.67	1.205
Lack of funding for the library	3.03	1.357

Ten sub-variables were measured, according to Table 3's descriptive statistics of the difficulties in implementing TQM that were obtained from the faculty members. TQM is a new philosophy (M= 3.05) and two of the ten sub-variables showed "strong" influential factors, such as the library's lack of funds (M= 3.03). Two additional sub-variables, namely the lack of a strategic plan and a stagnant organizational culture, both reflecting (M=2.61), suggested that implementing TQM would be "strongly" challenged. According to the scale used, the remaining sub-variables showed a "weak" score, which included inadequate information (M=2.58), inadequate measures, inadequate library resources and facilities (M=2.54), management leadership style (M=2.51), and resistance to change on the part of library staff (M= 2.08). This finding may indicate that, in the opinion of the faculty members, the main obstacles to the successful implementation of TQM are inadequate funding for the library (M= 3.03), TQM as a new philosophy (M= 3.05), a strategic plan (M= 2.61), and a static organizational culture (M= 2.61). The exceptions to this could be inadequate information (M= 2.58), inadequate facilities and resources in the library (M= 2.58), management leadership style (M= 2.51), and resistance to change by library staff (M= 2.08), which recorded a "weak" indication.

Table 10. Measures to Minimize Challenges of TQM Implementation (faculty members) (N=205)



Variables	Mean	SD
Workable strategic plan	3.39	1.418
Regular systematic training and education	3.48	1.316
Quality flexible organisational culture	3.32	1.373
Quality assurance processes	3.52	1.209
Effective communication	3.56	1.299
Organising of appropriate user	3.87	1.105
Provision of adequate facilities	3.84	1.179
Lobbying for adequate facilities and funding	3.49	1.339

The strategies that might be implemented to reduce TQM adoption were ranked using the scale that was chosen from Table 4. The way in which user orientation is organized (M=3.87) and sufficient facilities are provided (M=3.84) demonstrates a "extra ordinarily strong" metric that warrants attention. The remaining suggestions are all "strong" actions that might help with TQM implementation. These included advocating for sufficient facilities and financing (M=3.49), a viable strategic plan (M=3.49), effective communication (M=3.56), quality assurance procedures (M=3.52), frequent, systematic training and education (M=3.48), and a high-quality, adaptable organizational culture (M= 3.32). This finding implies that each of the indicators is a suitable metric that could lessen implementation-related difficulties with TQM.

#### *Qualitative Data on Opportunities of TQM Implementation*

Interviewing the management staff about the potential for TQM implementation in academic libraries added to the issues found in the quantitative data collected from faculty administrators, staff members, and library employees. The first phase's quantitative data were explained by means of the qualitative data. Of the twenty-five individuals, twenty were interviewed. The best people to give the necessary information were those in upper management. The senior executives who were interviewed concurred that there are opportunities associated with implementing TQM. The majority expressed their approval of the concept and said that it presents an opportunity for academic libraries since a new mindset is being adopted. It will therefore promote best practices that satisfy the requirements of international standards organizations, such as ISO 9000 standards. The introduction of the philosophy was also hailed as a creative step that opens the door for the library personnel to receive more extensive training on quality assurance-related topics in the context of academic libraries. "The adoption of such a management strategy will equally open up lobbying for adequate funding for the academic library for quality service delivery," said one of the participants.

The senior management who was interviewed saw the philosophy's adoption as a means of bringing about a behavioral shift in academic library administration from the previous way of doing things to a new one, which in turn produced a high-quality library system. "TQM implementation is a strategy for the rekindling of quality performance of the academic libraries," according to one senior manager interviewed. Opportunities that TQM may provide in academic libraries included defining responsibilities and achieving efficiency; meeting approved standards, processes, and best practices; and adding value to the services provided by the library.

#### *Discussion*

The body of literature that is currently accessible has demonstrated that opportunities



and challenges are necessary for the successful adoption of TQM in any company. The adoption of TQM practices in all service organizations, including academic libraries, is hampered by several obstacles. TQM projects are difficult to implement in real-world settings ([Negi and Srivastava, 2015](#)). The literature that is currently available showed that most organizations' TQM implementations fail for a variety of reasons, including a lack of knowledge about the advantages of continuous improvement, a failure to recognize the importance of customers, a lack of commitment from top management and a lack of understanding of quality, and a lack of awareness of the advantages of TQM implementation. According to a critical review of the literature that is currently accessible, the impediments include a lack of clarity in the standards' guidelines, weak comprehension of TQM, and a poor grasp of measuring procedures ([Negi and Srivastava 2015](#); [Ram, 2018](#)).

Implementing TQM in academic libraries of various kinds is not without its difficulties. Among the difficulties are the academic library's non-profit orientation and management's anxiety about losing control. Another issue that prevents TQM from succeeding and its objectives in libraries from being met is the use of sophisticated statistical tools ([Sathe, 2015](#)). Lack of pre-service and in-service training, insufficient funding, lack of transportation, low motivation, and work unhappiness are some of the obstacles to implementing TQM in organizations such as academic libraries ([Rahmah & Marlini, 2018](#)). The literature that is currently available makes it clear that TQM can be successful when problems like poor management and leadership, a lackluster culture, inadequate resources, time constraints, incorrect evaluation, and rigid organizational structures are addressed as soon as possible ([Singh et al, 2018](#)). There are inherent difficulties in implementing TQM, thus it is not a simple process. The extant literature highlights several factors, including an authoritarian management style, a rigid organizational structure with excessive bureaucratic bottlenecks, and inadequate systems ([Fatemi et al., 2016](#)).

There were worries about the potential benefits of applying TQM despite the many obstacles that stand in the way of its implementation in Ghana's academic libraries. These were determined by the qualitative information obtained through staff interviews with upper management. The opportunities that TQM implementation will present to academic libraries were made clear by the qualitative data. It provided proof that implementing TQM in academic libraries can lead to general best practices and standards being met. The qualitative data also suggested that the application of TQM is a continuous improvement approach for improving the quality of the library system. The perspectives of the authors Negi and Srivastava (2015), Sivakumar and Dominic (2013), Baba and Ganie (2019), Singh et al. (2018), Prajogo and Cooper (2017), and others who argued that TQM offered some kind of opportunity in academic libraries are not far from the opportunities identified by top management.

## Conclusion

The study focused on TULs and examined the challenges and opportunities associated with implementing TQM in Ghanaian academic libraries. The study highlighted several challenges and prospects that academic libraries could benefit from TQM. Given the obstacles that have been identified, it is necessary to address the problems. A suitable TQM model must be chosen to take advantage of the opportunities notwithstanding the challenges involved in implementing TQM practices at the TULs in Ghana. Critical success factors for realizing the opportunity include top management commitment, staff involvement, training, and innovation, organizational culture, customer focus, teamwork, and strategic planning for entire participation. These factors are worth pursuing.

In conclusion, this model's total integration might serve as the foundation for the creation of a comprehensive conceptual framework, which would then be used to execute TQM



in Ghana's TULs. A dynamic perspective should be used to seriously address issues with insufficient funding, low commitment from top management, lack of a functional strategic plan, time and cost management, teamwork, infrastructure provision, human resource management, flexible organizational structure, and disability facilities.

### *Limitations of the Study*

The explanatory sequential mixed method design study was restricted to the challenges and prospects of total quality management (TQM) implementation in Ghanaian academic libraries, particularly in technical institutes. Not all of Ghana's and other Africa's traditional and technological universities were included in the study. The study's conclusions could not be applied to all Ghanaian academic libraries in the same way. Only five Ghanaian technical university libraries were used to obtain data.

### *Practical implication and significance*

The study's findings add to the amount of information already available about the challenges and opportunities associated with implementing complete quality management in Ghanaian university libraries. The study's findings represent a significant advancement in the use of TQM techniques in Ghanaian academic libraries. The uniqueness of the information gathered from the participants makes the study novel. By gathering and comparing both qualitative and quantitative data, the mixed method technique offered balance to the data. A model that might be used in the process of implementing TQM practices in Ghana's TULs was proposed by the study. The model suggested that top management commitment, employee involvement, employee training, employee innovation, organizational culture, customer focus, teamwork, and strategic planning be considered when implementing TQM practices in TULs.

### *Proposed Framework*

It is wise to have a model for the articulation of TQM implementation in Ghana's technical university libraries (TULs) as a matter of concern as illustrated in figure 2. The study proposes a model, ideally to be called simply Eddie and Pat Achievement of Quality Performance Model (EPAfQP Model), to illustrate innovation and apply the practicality of the conclusions in the examples analyzed. By using an example in the application of TQM methods, the opportunities may be achieved using the academic library as a system. It is necessary for top management commitment (TMC) to support finances, resources, and facilities to achieve results. In a similar vein, employees (EI) must be exposed to training on related skills for staff members and participate in decision-making on quality management. Similarly, allowing and accepting fresh ideas from the workers is another way to acknowledge their innovativeness (EINO). There must be an organizational culture (OC) that governs employees' working lives to ensure that they adhere to work ethics in the workplace. Staff collaboration is especially necessary for simple activity coordination. In order to accomplish the desired outcomes and to create clear lines of authority, management should foster effective communication (EC). It is commendable that strategic planning (SP) outlines the anticipated implementations in the academic library.





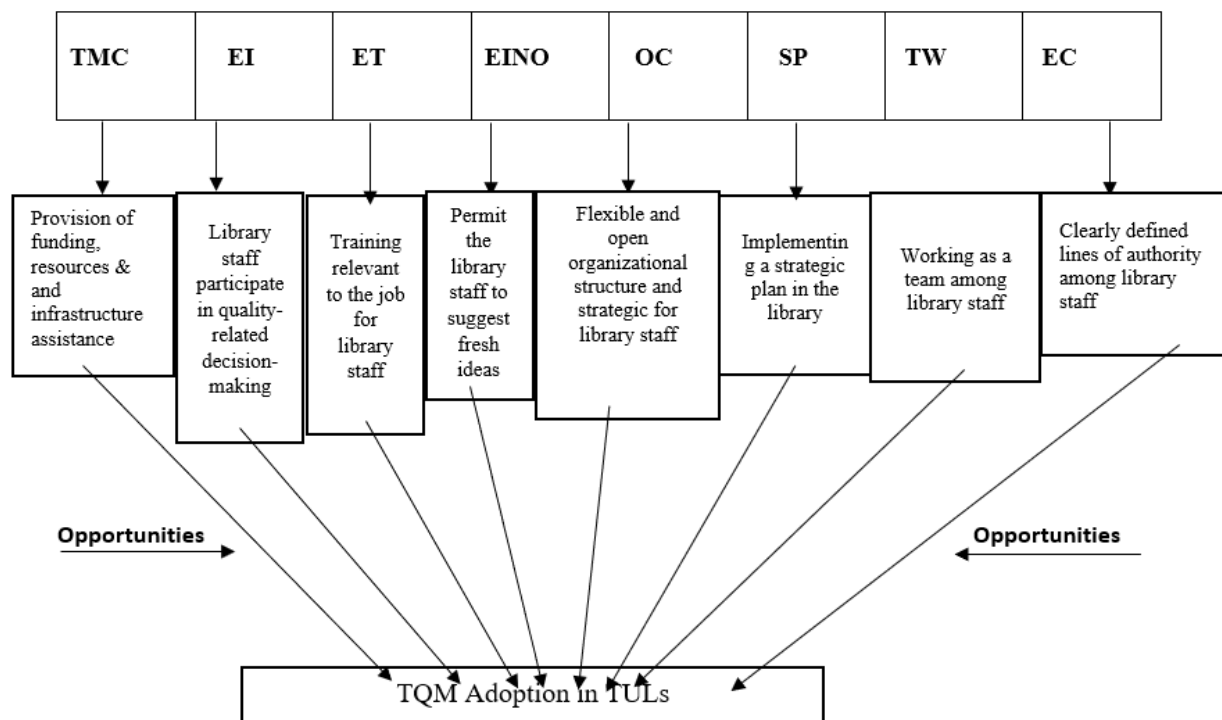


Figure 2: TQM Adoption model (Source: Authors construct, 2022)

**Key:** Top management commitment- (TMC), employee involvement -(EI), employee training (ET) employee innovation- (EINO), organizational culture-(OC), customer focus- (CF), teamwork -(TW) and strategic planning - (SP).

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### Authors' Contributions

All authors have contributed to the final manuscript. The contribution of all authors: conceptualization, methodology, formal analysis, writing original draft preparation, writing review, and editing. All authors have read and agreed to the published version of the manuscript.

### Conflict of Interest

All authors have no conflict of interest related to this study.

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