

# The Effect of TQM Practices on Job Satisfaction in Higher Education Institutes: A Systematic Literature Review from the Last Two Decades

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## Abstract

Total quality management (TQM) has emerged as a global concern in the twenty-first century. TQM is an essential strategy for sustaining competitive advantage and managing businesses to improve overall effectiveness and performance in the pursuit of world-class status. Higher education institutions face global competition, technological advancements, cost control and other financial pressures. In this context, current research aims to evaluate the effectiveness of job satisfaction among employees of higher education institutes by implementing Total Quality Management (TQM) practices. Higher education institutions (HEIs) work in an increasingly complicated and challenging environment. In this context, the paper's organisation is as follows the PRISMA statement 2020 to include and exclude records from the Scopus database. Furthermore, we employed key terms occurrences analysis to identify the significant themes in the review literature. The VOS Viewer emphasized the number of keywords and key phrases used in the articles. During the data analysis phase, three key data streams were extracted: quality management, work satisfaction in higher education institutes, and TQM techniques and implementation. The result indicates that accepting quality management, on the other hand, offers the advantage of increasing employees' happiness and more significant learning and service quality. Furthermore, findings indicate that TQM approaches like reward and recognition, employee empowerment, training and education, quality culture, and connection and cooperation all benefit employee job satisfaction. The findings indicate that TQM is a philosophy of continuous improvement that may give a set of skills and scientific instruments to meet any educational institution's current and future requirements and expectations.

**Keywords:** TQM; Higher Education Institutes; Job Satisfaction; Quality Management; Work Satisfaction; PRISMA Statement

## 1. Introduction

Total quality management (TQM) has emerged as a global concern in the twenty-first century. TQM is an essential strategy for sustaining competitive advantage and managing businesses to improve overall effectiveness and performance in the pursuit of world-class status. Although many companies worldwide recognise the benefits of TQM, it was first used in the manufacturing industry. However, there is a growing interest among academicians and scholars in implementing TQM in the education sector these days. TQM is considered a source of innovation, an essential component of corporate culture, and a key contributor to an organisation's competitive edge over competitors (Nasim et al., 2020). TQM practices are divided into two main categories: soft quality management (infrastructure) and hard quality management (Flynn et al., 1995; Ho et al., 2001; Rahman & Bullock, 2005; Zeng et al., 2015, 2017).

Higher education institutions face global competition, technological advancements, cost control and other financial pressures (Laurett & Mendes, 2019). Higher education institutions, like any other organisation, must meet the demands of their stakeholders while increasing their efficiency, which necessitates the adoption of TQM principles to implement quality management practices effectively. The research interest in TQM in the education sector has become global (Gowda, 2021) (Nasim et al., 2020). Implementing TQM practices in education has attracted the interest of academics and practitioners in recent years (Sfakianaki, 2019a). The surge in interest in TQM in schooling was driven by the perception that excellent education is critical to competing in the global education competition and that the underlying concept of TQM applies to education management in the same way that it has applied to other industrial sectors (Abbas et al., 2022; Nasim et al., 2020). The educational system is the largest, most complex, and most sensitive social system.

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Planning and scientific and managerial measures are essential in such large institutions (Aziz et al., 2014; Qureshi & Khan, 2022). Management scholars developed total quality management in the 1980s and 1990s. As a result, factors such as total quality management (TQM) have become influential in improving the quality of educational systems (Muddassar et al., 2022). Nonetheless, higher education differs from other industrial sectors in various ways. It is challenging to implement TQM practices while considering the unique characteristics of the Higher Education sector (Venkatraman, 2007). It is equally challenging to perform TQM experiments in the Higher Education sector. It is incredibly beneficial to review existing research on TQM in Higher Education to see what progress has been made, what problems have been encountered, and what possible directions for future research. TQM literature has evolved to investigate the relationship between TQM and employee job satisfaction in various industries globally (Arunachalam & Palanichamy, 2017; Glaveli et al., 2021a; Ooi et al., 2007). Although several scholars have discussed the effect of TQM in the education sector (Masoumeh Pourrajab1 et al., 2018; Nasim et al., 2020; Nawelwa et al., 2015; Pourrajab et al., 2015; Sfakianaki, 2019b), none of them has focused explicitly on the effect

of TQM on job satisfaction, especially in the context higher education. (Glaveli et al., 2021b) identified participation in continuous improvement, training, and development (T&D), appraisal systems recognition, and awards for quality teamwork, empowerment, and leadership as elements critical in the successful implementation of TQM in the education and school environment. Furthermore, a growing number of educational institutions, primarily universities, have introduced quality management systems and, consistent with research findings, have seen improvements in human and financial performance (Glaveli et al., 2021b; S. Hasham, 2018; Sciarrelli et al., 2020). The current research aims to evaluate the effectiveness of job satisfaction among employees of higher education institutes by implementing Total Quality Management (TQM) practices. Higher education institutions (HEIs) work in an increasingly complicated and challenging environment. In this context, the organisation of the paper is as follows. The methodology we used in the systematic literature review is described in section 2. Section 3 presents the review's findings, and section 4 discusses the contributions and limitations of current research and potential future research directions.

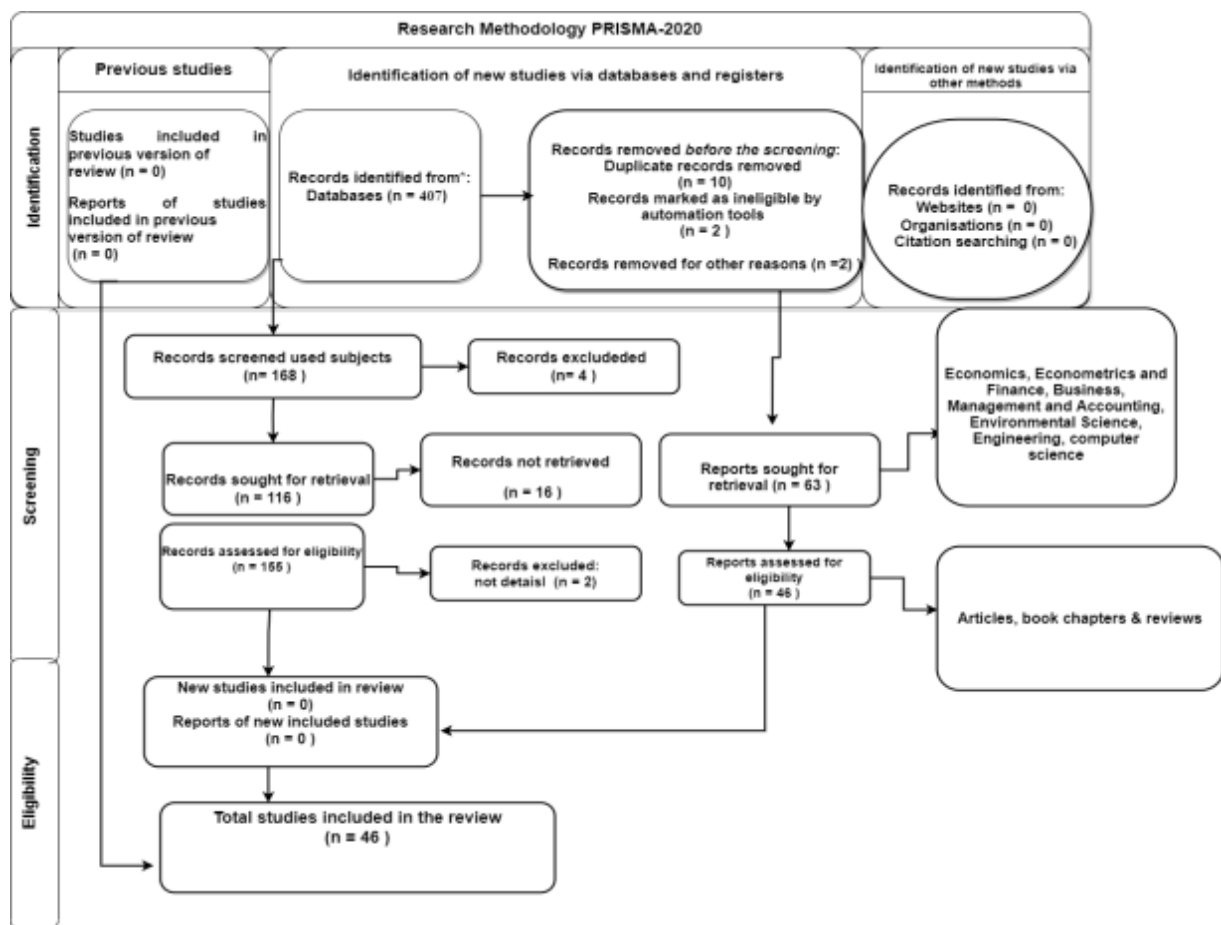


Fig. 1. PRISMA statement 2020

## 2. Methodology

This study is a systematic literature review which seeks to address inadequacies in the current literature, locate, critically analyse, and integrate all relevant studies done on a specific topic by addressing one or more research questions (Siddaway, 2014; Sikandar & Abdul Kohar, 2022). To incorporate high-quality papers, this systematic literature review employs the PRISMA statement 2020 to include and exclude records from the Scopus database. The data were screened using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology, as recommended by (Moher et al., 2009) and shown in figure 1. However, for improved reporting for records and pertinent reports related to the literature, the current study employed the PRISMA declaration 2020. The search query included keywords such as “total quality management”, “TQM”, “universities”, and “job satisfaction”. The total results received were 407 articles. The time duration selected for the published literature review was 2004 to 2022. The resulting documents were 168. We then selected the main

subject areas to analyse the past literature. The total number of articles after filtering out the subject areas was 116 documents. After selecting English-language articles and removing duplicate and irrelevant articles, the total number of articles included in this systematic review is 46. The natural inclusion and exclusion process for PRISMA statements used in the current study is shown in Figure 1.

### 2.1. Descriptive analysis

The articles included in the systematic literature review are from diverse disciplines. It has been observed that almost 55% of the articles are published in the field of business and management. 15% of these articles belong to social sciences, 11% are engineering, 9% are computer sciences, 4% to arts and humanities, and 2% to economics, econometrics, and environmental sciences. The percentage of the articles from various disciplines is shown in figure 2.

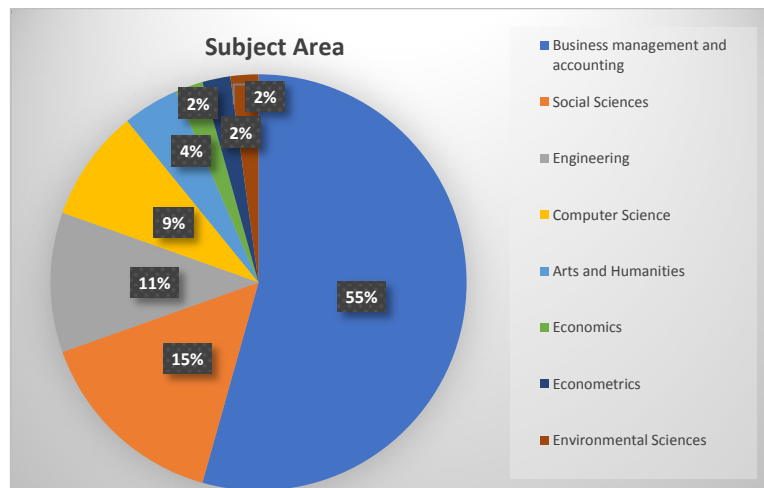


Fig. 2. Distribution of subjects

### 2.2. Publication output

The number of published articles on implementing total quality management in higher education has increased significantly (as shown in figure 3). Figure 3 shows that only one article in the relevant field was published in 2015, but the trend grew with more than five publications per year. The publication trend has increased from five to nine documents per year since 2019. There have only been two publications in 2022 because the year is still ongoing, and this publication trend is expected to continue in 2022 and beyond.

### 2.3. Highly cited articles

Table 1 describes the top 10 highly cited articles published in total quality management in higher education. The top cited authors whose articles have received the most citations are (Dawabsheh et al., 2019), (Aminbeidokhti et al., 2016) and (Chen et al., 2017), with citation counts of 59, 23, and 19, respectively. It has been observed are among the top cited authors whose articles have received the highest number of citations, with

citation counts of 59, 23 and 19, respectively. In the same manner Management Science Letters, Studies in Higher Education and Total Quality Management and Business Excellence are among the top journals that published these most influential articles. Similarly, the title, source and citations of the top ten highly cited articles are mentioned in table 1.

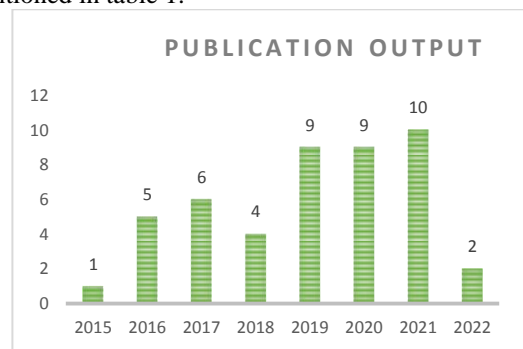


Fig. 3. Distribution of publication year wise

Table 1.  
Distribution highly cited articles and sources

No	Title	Source	Citations
1	The triangular relationship between TQM, organisational excellence and organisational performance: A case of Arab American University Palestine	Management Science Letters	59
2	The effect of the total quality management on organisational innovation in higher education mediated by organisational learning	Studies in Higher Education	23
3	Critical quality indicators of higher education	Total Quality Management and Business Excellence	19
4	Twenty years of research on total quality management in Higher Education: A systematic literature review	Higher Education Quarterly	17
5	Total Quality Management practices and work-related outcomes: A case study of higher education institutions in Pakistan	International Journal of Quality and Reliability Management	11
6	A comprehensive model for assessing the quality in higher education institutions	TQM Journal	9
7	Effects of Classroom Attendance and Learning Strategies on the Learning Outcome	Journal of International Education in Business	9
8	Developing a performance management model for the implementation of TQM practices in public education centres	Total Quality Management and Business Excellence	9
9	TQM measured students' satisfaction in the Jordanian's private universities for achieving institutional excellence	TEM Journal	6
10	Effects of business school student's study time on the learning process	Journal of International Education in Business	5

Table 2.  
Key term occurrences, classification, and relevance score

Classification	Term	Occurrences	Relevance Score
Job satisfaction in Higher Education Institutes	Development	27	0.4497
	Education	26	0.7909
	Employee	10	1.0691
	Factor	16	0.4484
	Higher Education	29	0.9454
	Hypothesis	14	0.6604
	Learning	19	0.2626
	Literature	19	0.3731
	Questionnaire	24	0.3543
	Role	20	0.2544
Quality Management	Sample	17	0.7223
	Application	22	1.0595
	Continuous Improvement	12	1.0869
	Customer	10	0.5467
	Impact	18	0.4816
	Principle	18	0.8839
TQM practices & implementation	Quality Management	72	0.491
	Area	19	0.4809
	Concept	15	1.8419
	Design Methodology Approach	22	2.0071
	Effect	21	0.373
	Implementation	24	1.0669
	Importance	11	1.9513
	Innovation	14	1.6845
	Need	18	0.8928
	Order	14	1.7786
	Organisation	16	1.036
	Originality Value	21	1.9452
	Practical Implication	18	2.3519
	Relationship	23	0.6192
	Research Limitations Implication	14	3.2474
Service	14	0.7459	
TQM implementation	9	0.369	
TQM practice	10	0.6402	

### 3. Reviewing the Literature

Furthermore, we employed key terms occurrences analysis to identify the significant themes in the review literature. The VOS Viewer emphasized the number of keywords and key phrases used in the published articles. Forty-six articles were selected to analyse the critical occurrence, with 36 essential terms appearing more than four times. Job satisfaction in higher education institutes, quality management, and TQM practices and implementation are the three critical areas of data streams. In addition, we provide the relevance score of each phrase. Table 2 below illustrates the details of important phrase categorization.

Furthermore, the papers were subjected to content analysis to categorise the study. The VOS Viewer tool explores the content of published literature by grouping similar subjects into data clusters on the text. According to the current study, researchers' keywords and keywords

in the journals' indexing technique stated in the databases are both acceptable for bibliometric analysis targeted at uncovering the research area's structures. As a result, we included both class terms in the cooccurrence analysis within the subject topic of job satisfaction in higher education institutes. The study included 46 records, and the data provided 36 keywords. We have thoroughly established and selected only the most numerous 36 keywords repetitive in a minimum of 9 records. Figure 4 illustrates the content analysis results—the group showed two major clusters in different colours in Figure 4. The cluster represents yellow displays of TQM practices, variables, and recommendations. The cluster in blue is primarily ascribed to the TQM implementation, practices, and continuous improvement. The green cluster signifies higher education, job satisfaction, and practical implication.

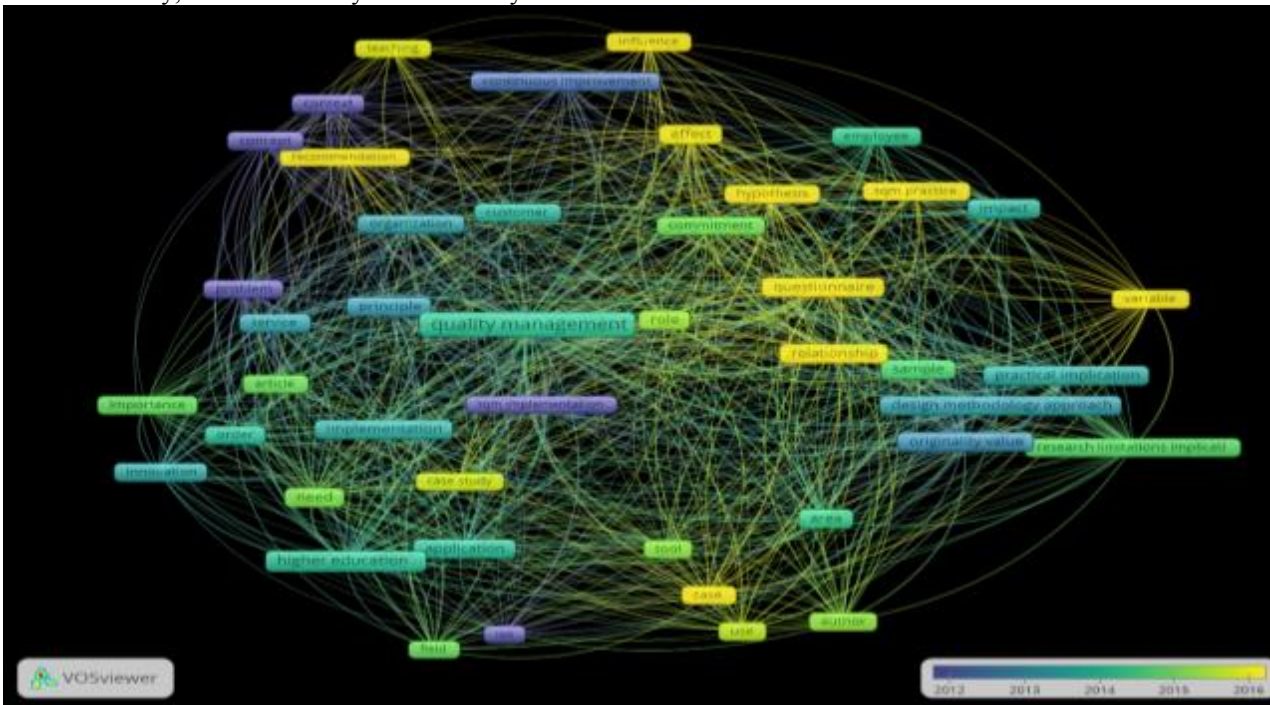


Fig. 4. Classification of literature from VOS viewer

#### 3.1. Classification

The VOS viewer software was used to categorize the subject, and three key data streams, quality management, higher education, and TQM practices, were discovered. Furthermore, the categorization section is examined below to discover previous literature about job satisfaction and TQM in higher education.

#### 3.2. Quality management

The significant component affecting university competitiveness is quality. Only adaptable, contemporary, and specialized institutions offering high-quality services can establish and retain a strong market position. The considerations outlined induce the creation of quality management ideas and principles that may be useful in the

operation of universities (Todorut, 2013; Zalewska, 2021). In higher education, quality is defined as fitness for purpose, or how well a service or product fits the objectives stated. The primary goal of higher education institutions is to generate a labour force that is prepared for the job market in the society they serve. As a result, quality assurance at universities must ensure that the requirements for addressing the needs of students, employers, and other stakeholders are met (Susuri et al., 2019). According to (Al-Hazmi, 2020), the most significant of these complexities is the complexity of the concept of education service and the multiplicity of methods presented to it. In addition, the multiplicity of parties receiving the service, their differences in desires and motivations, and how the university deals to improve the level of satisfaction with services and thus continue to deal with them. In addition, TQM concepts may be

utilized in universities to provide the best possible services to students while also utilizing the talents of the personnel while maintaining a high level of satisfaction and motivation (Buranakul et al., 2017). TQM helps the Table 3.

Authors, citations, segments, and settings

Authors	Year	Cited by	Segment	Settings
Zalewska, 2021	2021	1	quality and the manner	students and lecturers
Lobo et al., 2021	2021		business excellence	policymakers
Rais et al., 2021	2021	2	Quality Management System	Six Sigma
Al-Hazmi, 2020	2020	2	Educational Services	Prince Sattam bin Abdulaziz University
Fatihudin et al., 2020	2020		Service Quality	performance of private universities
Alzeaideen, 2019	2019	1	organisations and educational institutions	performance and its sustainability
Gonzalez et al., 2019	2019	1	quality function deployment	business learning
Subandi et al., 2019	2019	2	education management	industrial era 4.0
Simonova & Fomenko, 2017	2017	2	quality management system	university QMS
Buranakul et al., 2017.	2017	3	organisational innovation capability	knowledge-sharing environment

Furthermore, it may be used by incorporating current management principles such as career empowerment (TQM), collaboration, and concentrating on employee qualification (Mendieta et al., 2019). One of the most significant issues that most universities confront is the concentration of authority, which delays and slows institutes in completing their responsibilities, operations, and interests. Administrative empowerment is an up-and-coming area for most higher education institutes (M. M. Khan et al., 2022). In addition, Accepting quality management, on the other hand, offers the advantage of increasing employees' happiness and more significant learning and service quality (Alzeaideen, 2019). All of them are shown as TQM practices advantages since they are all attained through TQM. TQM has also been shown to improve productivity, operating performance, financial performance, and job satisfaction in higher education institutes (Akhtar et al., 2021). Additionally, the following principles of quality management were deemed fundamental: procedural and systemic methods, supervisor leadership, employee interaction, and continual improvement (Simonova & Fomenko, 2017). Their implementation enables the most effective possible integration of standard provisions into different systems in an integrated complex (Gonzalez et al., 2019). According to (Rais et al., 2021), quality management can cover a variety of characteristics such as student quality, facility and infrastructure quality, process quality, and assessment quality. Each of these components requires its own set of quality processes. However, there is some overlap in quality procedures. The primary focus of this study is on the quality of assessments in higher education, which is often handled using the Outcome-Based Education (OBE) paradigm.

A successful firm requires individuals who go above and beyond their official obligations and expectations. According to statistics, firms with good-behaviour workers outperform other organisations (Fatihudin et al.,

institution incorporate a quality assurance system at all levels and operating segments. The table 3 illustrates the author details, citations, segment and setting in which research was conducted.

2020). In addition, human resource development at higher education institutes is critical if businesses are to compete in the twenty-first century. Implementing quality management in higher education is an example of effective human resource management, which is ultimately vital in achieving job satisfaction (Lobo et al., 2021). In addition, Higher education quality to achieve work satisfaction cannot be disputed currently to rapid change. Universities are compelled to feast on the significance of customer service by promoting job satisfaction quality, and higher education institutions are present with the community, with the construction of a learning education that is quickly changing in line with the growth of the age (Subandi et al., 2019).

### 3.3. Job satisfaction in higher education institutes

TQM is a collection of management theories that help organisations understand students' requirements and encourage participation in course design development (Camporota et al., 2003; Lin et al., 2017). In the late 1980s, academia in the United States began to focus on quality, and many higher education institutions implemented TQM as a strategy to improve the institution's operational performance (Šebestová, 2016). TQM is thought to be especially useful for educational institutions because it can help resolve challenges in a highly competitive environment, integrate a variety of educational reforms, improve the effectiveness of school business management, and improve higher education teaching quality (Martínez-Gómez et al., 2020). According to (Nasim et al., 2020), underpinning the spike in interest in TQM in education was the assumption that excellent education is critical to winning in the global education competition and that the underlying concept of TQM applies to education management in the same way that it has applied to other industrial sectors. However, Higher Education differs from other industrial sectors in various ways. It is challenging to apply TQM methods

while taking into consideration the characteristics of the Higher Education sector. It is as difficult to conduct TQM research in the Higher Education industry (Qureshi et al., 2020). In addition, Total Quality Management (TQM) has received much attention in innovation and quality. TQM entails the efforts of personnel from all divisions and levels of the business to provide excellent goods that are constantly improved (M. N. Khan et al., 2019). The relevance of TQM culture inside businesses stems from the fact that it has a significant influence on workers' confidence and job attitudes. Employees are more likely to help their companies if their perspectives and views are considered while formulating corporate objectives, strategies, and missions (Fernandes & Singh, 2021). The table 4 illustrates the author details, citations, segment and setting in which research was conducted.

Table 4.  
authors, citations, segments, and settings

Authors	Cited by	Segment	Settings
AlOqlah, 2021		quality management	TQM implementation
Fernandes & Singh, 2021		quality education	global academic quality
Martínez-Gómez et al., 2020	1	European Higher Education Area	job performance
Nguyen et al., 2020	3	senior secondary school	total quality management
Dwaikat, 2020	9	quality of academic programs	international pedagogy standards
Nasim et al., 2020	17	teaching and learning	holistic perspective
M. N. Khan et al., 2019	11	job satisfaction and affective commitment	employee performance
Ratna Sari Dewi, 2018	1	knowledge management	total management Education Quality
Lin et al., 2017	1	student learning satisfaction	teaching quality
Šebestová, 2016	1	management education	entrepreneurs and the university
Tetteh, 2016	5	learning process	business school students

The findings of (AlOqlah, 2021) that the performance of its employee determines an organisation's effectiveness. Employee performance may be improved via training and development, which aids in achieving company goals. A properly trained staff will know consumer requirements and desires and how to address them. Furthermore, TQM methods such as reward and recognition, employee empowerment, training and education, quality culture, and connection and collaboration positively influence employee job satisfaction. In attempts to relate TQM methods to work happiness, existing literature has frequently been marred by procedural imprecisions or limits (Nguyen et al., 2020).

Additionally, quality dedication and understanding from employees inside the firm are essential in TQM. As a result, teaching and administrative personnel or human resources requirements are necessary, such as research capacity, honesty, professionalism, vocational consulting,

supplementary services, fast response and feedback, and industry collaboration (Tetteh, 2016). According to (Dwaikat, 2020), higher education has become a highly competitive sector, putting significant pressure on higher education institutions (HEIs) to enhance their process quality and performance level significantly. For example, the quality of (HEIs) has garnered more attention than ever from a wide range of stakeholders, including policymakers, governments, senior university management, students and their parents, researchers and academics, and even endowment contributors (Ratna Sari Dewi, 2018).

### 3.4. TQM practices and implementation

Quality can be defined in a variety of ways. Total quality and development can be defined in a variety of ways. Because of the multidimensional character of quality and effectiveness, searching for simplistic or reductionist perspectives of quality and quality improvement is futile (Habbal & Jreisat, 2018). According to (Abimbola et al., 2020), TQM is a philosophy that advocates for all employees in a business to work together to produce high-quality goods and services while also ensuring customer happiness. Every organisation's success is heavily reliant on the dedication of its personnel. Employees must be devoted entirely to fulfilling the objectives for an organisation to reach its pinnacle (Maciej Serda, 2013). Employee commitment is employees' loyalty to their organisation, and employee commitment is employees' psychological relationship with their workplace (Cobelli et al., 2022a). In addition, TQM seeks to combine a corporation's goals, such as product and service design, marketing, production, finance, and customer service, as well as other activities, in order to achieve customer satisfaction by satisfying customer requirements and an organisation's goals (Sial et al., 2021). However, TQM encompasses corporate-wide efforts to develop and maintain a stable environment for continual improvement in the organisation's capacity to offer high-quality goods and services to clients. Customers increasingly become the most significant stakeholders and crucial partners in service-oriented businesses (Niqresh & Al-Jaradat, 2021). According to (Asante & Ngulube, 2020), TQM can produce numerous benefits in organisations, along with increased employee contribution, improved communication, increased production, improved quality and limited rework, lower quality costs, the more significant market holds and turnover, increased personnel and customer satisfaction, and improved competitive advantage. TQM's actual value is improved organisational performance.

Quality practices, in other words, have a significant favourable influence on performance. A thorough analysis of the TQM-related literature reveals that most studies found a favourable and substantial association between TQM practices and organisational performance (Dawabsheh et al., 2019). Critical success factors of TQM practices such as top management commitment, employee innovation, employee involvement, employee encouragement, employee training, human resource

management (HRM), organisational culture (OC), teamwork, and strategic planning should be considered in ensuring that the services of higher education institutes reach the expected target group (Alzafari & Kratzer, 2019). However, Implementing and developing TQM practices in any firm necessitates a shift in corporate culture to assist employees in adopting the TQM model (Cobelli et al., 2022b). Employees are considered an intangible asset of any firm; thus, if they are given adequate empowerment, training, and collaborative opportunities, they are anticipated to provide value to the organisation and may be regarded as the critical successful drivers for TQM implementation (N. Khan et al., 2020). Furthermore, when the TQM concept is applied to an organisation, it determines the need to monitor compliance with stated strategic objectives and, as a result, achieve management excellence, as well as the understanding that such perfection encompasses the whole institution (Mateos-Ronco & Hernández Mezquida, 2016). The table 5 illustrates the author details, citations, segment and setting in which research was conducted.

Table 5  
authors, citations, segments, and settings

Authors	Cited by	Segment	Settings
N. Khan et al., 2020		TQM programme application	TQM programme
Pietruszka-Ortyl, 2019.		learning and organisational innovation	organisational creativity
Cobelli et al., 2022a		vocational decision-making	job satisfaction
Alzafari & Kratzer, 2019	1	higher education institutions	management commitment and strategic planning
Niqresh & Al-Jaradat, 2021		TQM pillars	empowerment
Sial et al., 2021.	1	committed leadership and management support	customer satisfaction
Asante & Ngulube, 2020	2	sustainable academic libraries	academic environments
Abimbola et al., 2020	3	employee commitment and competitive advantage	organisational performance
Dawabsheh et al., 2019	59	organisational performance	organisational excellence
Habbal & Jreisat, 2018		institutions of higher education	innovative learning
Mateos-Ronco & Hernández Mezquida, 2016	9	higher quality	measuring performance
Chen et al., 2017	19	human resource and knowledge management	quality information
Aminbeidokhti et al., 2016	23	organisational learning	organisational innovation

It makes reasonable to apply TQM to higher education. TQM assessment indicators will differ among industries since they function in diverse circumstances (competitive

or strategic contexts, management environments, national cultures). As a result, TQM evaluation frameworks and indicators are rarely similar (Chen et al., 2017). In terms of operational activity, studies in many countries have revealed no substantial difference between higher education and other industries (Tetteh, 2015). Indeed, some TQM models designed for higher education are congruent with models commonly used in the manufacturing, business, and service sectors (Irfan et al., 2021). In addition, educational organisations must undergo significant adjustments as a bridge between knowledge producers and researchers (Aminbeidokhti et al., 2016b). TQM is a mechanism that can effect change in education (Baraki & Van Kemenade, 2013). It is believed that TQM is a philosophy of continuous improvement that may give a set of skills and scientific instruments to meet any educational institution's current and future requirements and expectations (Sohel-Uz-Zaman & Anjalin, 2016). According to (Pietruszka-Ortyl, 2019), because educational organisations and entities are the primary and decisive elements in developing human resources for other products and service organisations in society, there is a greater need than ever to study and execute the concepts of 'TQM' in education.

#### 4. Discussion and Conclusion

The current research aims to evaluate the effectiveness of job satisfaction among employees of higher education institutes by implementing Total Quality Management (TQM) practices. Higher education institutions (HEIs) work in an increasingly complicated and challenging environment. TQM implementation in the education sector is not a simple process, as various obstacles must be addressed to be effective (Psomas & Antony, 2017). However, scholars have suggested that the goal of TQM, that is (external) customer happiness, cannot be reached without staff satisfaction. Indeed, employee job satisfaction has long been regarded as one of the most important predictors of an organisation's success and growth (Prajogo & Cooper, 2017). Higher education institutions rely substantially on employee job satisfaction for organisational growth. The current study extracted data from the Scopus database, which included the final 46 articles, reviews, and book chapters chosen for the study. For the final analysis, we utilized the PRISMA declaration 2020 to choose which records to include and exclude. In addition, content analysis utilized the VOS viewer software, and thematic classification of literature was accomplished. The findings reveal three significant data streams during the content analysis. We categorized the actual term occurrence, relevance score, and average key term occurrences.

During the data analysis phase, three key data streams were extracted: quality management, work satisfaction in higher education institutes, and TQM techniques and implementation. In higher education, quality management is defined as suitability for purpose or how well a service or product meets the specified objectives. Higher education institutions' principal purpose is to produce a



workforce equipped for the job market in the society they serve. As a result, university quality assurance must guarantee that the standards for meeting the needs of students, employers, and other stakeholders are satisfied. The findings indicate that accepting quality management, on the other hand, offers the advantage of increasing employees' happiness and more significant learning and service quality (Alzeaideen, 2019). Quality management principles were deemed fundamental: procedural and

systemic methods, supervisor leadership, employee interaction, and continual improvement. However, one of the most significant issues that most universities confront is the concentration of authority, which delays and slows institutes in completing their responsibilities, operations, and interests. Administrative empowerment is an up-and-coming area for most higher education institutes (M. M. Khan et al., 2022).



Fig. 6. The final output from the data literature

Furthermore, findings indicate that TQM approaches like reward and recognition, employee empowerment, training and education, quality culture, and connection and cooperation all benefit employee job satisfaction. The findings of (AIOqlah, 2021) that the performance of its employee determines an organisation's effectiveness. Employee performance may be improved via training and development, which aids in achieving company goals. A properly trained staff will know consumer requirements and desires and how to address them. According to (Pietruszka-Ortyl, 2019), because educational institutions and organisations are the keys and crucial factors in producing human resources for other goods and service organisations, there is a greater need than ever to research and implement 'TQM' ideas in education. The findings indicate that TQM is a philosophy of continuous improvement that may give a set of skills and scientific instruments to meet any educational institution's current and future requirements and expectations. In addition, when the TQM concept is applied to an organisation, it determines the need to monitor compliance with stated strategic objectives and, as a result, achieve management

excellence, as well as the understanding that such perfection encompasses the whole institution.

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