ABSTRACT

The aim of this study is to examine the Total Quality Management (TQM) procedures at the University of Technology and Applied Sciences (UTAS). This involves assessing variables such as top management commitment, continuous improvement, employee development and empowerment, and strategic management. Subsequently, the study seeks to determine the essential success factors for implementing the TQM system at UTAS. A questionnaire was created involving TQM at a higher education institution in Oman, specifically focusing at UTAS. It consists of demographic information, top management commitments, continuous improvements, employee development and empowerment, and strategic management. As part of the study's convenient sampling technique, 300 fully completed questionnaires from seven Colleges of Technology functioning within UTAS were gathered. The TQM procedures were evaluated in conjunction with factor analysis which was conducted using the t-test. The survey reveals that there is a significant relationship between TQM practices and top management commitment, continuous improvement, employee development and empowerment, and strategic planning. The study highlights quality as the most crucial method in higher education, sheds light on the essential success factors for implementing TQM at UTAS and provides future improvements in various areas of operations for UTAS.

KEYWORDS: Total quality management, Top management commitment, Continuous improvement, Employee development and empowerment, Strategic management

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1. INTRODUCTION

Total quality management (TQM) systems are no longer limited to producers or manufacturing plants, especially in today's environment where these systems have spread to many aspects of life, globally. Over the last decade, TQM has grown in popularity and usefulness in higher education. Higher education institutions (HEIs) have realized that in order to operate effectively and efficiently, they have to determine the exact goals they wish to achieve and follow them in the most logical, possible way. TQM concepts must be applied to all aspects of academic units including top management, senior administrators, and faculty members which are all important TQM supporters at HEIs (Harisinh, 2020). The HEI's competitive advantage is determined by its quality, as evidenced by the accrediting criteria provided by the accreditation assessment institution, both globally and nationally (Chu & Westerheijden, 2018). A higher standard of education is also required in HEIs for students to graduate with the knowledge, ability, and skills necessary for success. Similarly, institutions of higher education around the world provide vital services to meet the needs of students (Brennan, 2018). For this reason, universities require comprehensive quality management (Khatri, 2020). Given the increasing growth of the higher education industry and concerns over its declining quality, particularly in developing nations, TQM is of utmost priority (Jasti et al., 2022). Similarly, institutions of higher education around the world provide vital services to meet the needs of students (Brennan, 2018).

1.1 Problem Statement

Higher Education Institutions (HEIs) face several obstacles and increasing demand from a variety of stakeholders in today's competitive economy. HEIs require an empowering managerial approach that promotes a greater comprehension of stakeholders'
needs and expectations in order to handle the pressure (Al-Amri & Wong, 2019). This demands a joint effort from many parties involved in higher education institutions, including leadership teams, academics, employees, and students (Beerkens & Udam, 2017). Furthermore, higher education systems in most regions of the world have grown dramatically in recent decades. This expansion has led to more diversity in the system and new forms of external regulatory control of higher education institutions and their operations (Alzafari & Kratzer, 2019). Thus, TQM has remained a major concern in higher education, and academic institutions have devised a variety of internal and external quality measures to improve it. As a result, there has been a rise in peer reviews, student evaluations, employer feedback, accreditation processes, ratings, and various other quality control measures (Al-Kayed & Al-Tahrawi, 2020).

Al-Amri and Wong (2019) stated that in today’s competitive environment, HEIs confront several challenges as well as increased demand from a variety of stakeholders. The main challenges that impede a successful TQM implementation were identified as a lack of leadership commitment, an inadequate integrated TQM model, insufficient employee engagement, poor coordination among employees and staff, and a fear of change, and confusion regarding quality management (Kigozi, 2019). Consequently, to resolve these issues, HEIs will need a supporting managerial approach for TQM adoption. It is essential that HEIs include both internal and external stakeholders in the implementation of national quality assurance systems, including accreditation. The strategies, management, and results in delivering assessments of students’ learning outcomes by HEIs clearly establish the requirements for academic accreditation (Tawafak et al., 2018).

Accreditation is a planned procedure conducted by a programme or institution to increase academic standards and guarantee quality of an educational experience. Furthermore, as demonstrated by self-assessments conducted by peer reviewers, quality assurance demands an ongoing evaluation of academic indicators both internally and externally (Acevedo & Rondinel, 2022). External expectations from accreditation bodies also drive higher education institutions. Nevertheless, accrediting bodies are not given direct access to managerial decisions (Seyfried & Reith, 2021). Worldwide, to improve quality, numerous governments have established national quality assurance committees to implement external methods of quality assurance into higher education. Additionally, the majority of higher education institutions include internal quality assurance mechanisms in place (Kadhila & lipumbu, 2019).

In the context of the Sultanate of Oman, the country is currently facing critical issues that require attention, such as shortages in the local curriculum institutions, and the majority of academics are unaware of current industry trends. The industry’s demand is never-ending and seeks to attract the best and brightest graduates. As well, to meet the needs of workplaces, curricula must be adjusted promptly. Many institutions lack the necessary resources to meet the essential criteria. Therefore, as the country’s economy is growing, local higher education institutions should focus on better preparing their graduates for professional responsibilities, and teachers should understand the kinds of skills needed in the workplace and develop educational programs to fit those demands (Al Shibani, 2018).

The rapid advancement of technology, as well as the resulting necessity for ongoing modernisation, requires considerable government spending. Administrative processes and regulations in Oman are among the most pressing issues that need to be resolved in order to enhance the way higher education institutions operate. Due to the institutions’ ineffective investment mechanisms, they are unable to expand their revenue. Other challenges include the necessity to adhere to processes to attain the required efficiency, as well as the resulting financial implications of achieving quality (Maher, 2019). To ensure the quality of education in this regard, the Oman Authority for Academic Accreditation and Quality Assurance of Education (OAAAQA) was established. OAAAQA encourages educational institutions to strengthen their existing quality management system (The Education Council, 2018). Most higher education institutions use accreditation to demonstrate quality performance, but there is no agreement on the optimal strategy for assessing and managing quality (Simangunsong, 2019). Currently, there is no universal model or scale for successfully implementing TQM (Aquilani et al., 2017). In Oman, the ongoing challenges with the quality of education necessitate institutions to improve their management systems. HEIs in Oman must ensure that their graduates are job-ready to take on the professional challenges, particularly as Oman accelerates its economic development process (The Education Council, 2018). As a result, questions have arisen as to what are the essential success factors for implementing the TQM system at UTAS. This paper analyses total quality management (TQM) implementations and the key success factors in relation to top management commitment, continuous improvement, employee development and empowerment, and strategic management.

2. LITERATURE REVIEW

TQM is an established concept for comprehensively and thoroughly regulating the quality of services (Permana et al., 2021). The quality is a standards that offer students
the necessary tools and conditions for learning in order to improve society (Hasan et al., 2018). Although it can be used by various types of organizations, TQM was first created in the manufacturing sector. It is an organizational management strategy that counts on the participation of all of its stakeholders, including its employees, and aims to build long-term success through satisfied clients (Cleartax, 2021). According to Karunan and Deepan (2020), TQM is a general idea that highlights an organisation’s continued improvement. The TQM theory emphasizes the importance of a well-organised, integrated, consistent, and organisation-wide approach that involves everyone and encompasses all aspects. TQM is a systematic management approach built on the idea that an organization may find long-term success via consistent efforts. When all team members are dedicated to improving the standard of their work, the overall goals of the organization are perfectly matched (Harappa, 2020). Furthermore, according to Zalewska (2021), management plans, organises and promotes quality-improving measures. Through the elimination of faults and the prevention of the factors that lead to their emergence, it seeks to decrease the number of steps in organizational structures and increase function. Therefore, the core idea of the concept is to improve the quality of products and services in order to identify and satisfy the evolving requirements and expectations of consumers.

2.1 Top Management Commitment

An organization’s top management is in charge of making decisions and allocating authority and resources. It should exhibit both leadership and a commitment to the quality system of management. Establishing rules, procedures, and strategic goals is the responsibility of top management. It also provides leadership and guidance for the quality management of an organization. Top management needs to monitor the outcomes, ensure that the requirements are fulfilled, and decide what changes will yield the most benefit (Christino, 2021).

Aziz et al. (2018) stated that top management personnel at HEIs include the chairmen, principal deans, heads of departments, registrars, and chancellors. As a result, the primary role involves monitoring and making decisions about future actions to implement modifications for sustaining quality standards. Therefore, the organization’s top management should define its TQM strategy (Wang & Meckl, 2020) and establish a quality policy to ensure the availability of system resources, that the goals are in line with the strategic plan, and the institution’s procedures are designed with the demands of the quality management system in mind (Aura, 2020). Furthermore, it has been shown that a strong management commitment is essential for every organization prior to any improvements (Filho et al., 2020).

2.2 Continuous Improvement

Total Quality Management is an organizational management method that aims to increase an organization’s competitiveness by continuously improving its services, human resource, processes, and environment (Kistiani & Permana, 2020). An organization should integrate continuous improvement into its activities by fostering both the capacity and culture to improve it. The process of nurturing culture requires the participation of all stakeholders in the organization. To foster this commitment, appropriate structures and practices must be in place (Yurkofsky et al., 2020). TQM is a strategy for increasing an organization’s competitiveness by continuously improving its human resource, operations, and environment and as Zanqar et al. (2019) reiterates every organization requires continuous improvement in its overall functioning and to meet its objectives. Continuous improvement development in higher education is dependent on the management’s approach to developing educational programme content, establishing favourable working conditions for academic staff and students as well as a mutually beneficial relationship between academic staff and university management. Permana et al (2021) stated that effective management necessitates creativity and innovative ways to properly address the issue of quality education while encouraging scientific research. To achieve outstanding innovation management in education, it is important to apply the components of institutional theory (Gulden et al., 2020). Additionally, the standard approach to evaluation requires the organization to establish the degree or score of TQM implementation. This is necessary for continual improvement in order for the organization to compete in the current business environment (Permana et al., 2021).

2.3 Employee Development and Empowerment

Following the change in the job environment over the previous decade, researchers and practitioners have been interested in employee empowerment and development. As a result of the increasingly competitive conditions brought on by industrialization and globalization, human resources have become increasingly important from an organizational standpoint (Nwachukwu et al., 2019). Employee development is the process of developing and growing employees’ existing skills and abilities to support the organization’s goals, increase performance, and better manage arising issues (Valamis, 2022). Empowering employees simply means providing them with greater freedom and increasing their accountability for every task completed. It involves allowing team members and employees to make decisions and take actions that
have an impact on the organization. Individuals in an empowered organization have the knowledge, skill, desire, and opportunity to succeed personally in a way that benefits the organization (Vantagecircle, 2023). Furthermore, TQM significantly improves individual talents to develop and enhance the performance of existing products or services (Shafiq and Yu, 2017). To help staff understand quality-related issues and their roles in TQM and continuous improvement, it is crucial that they are trained and given responsibility for providing services that fulfill customer needs. Consequently, only workers possessing pertinent expertise can make a positive contribution to TQM (Wang & Meckl, 2020).

2.4 Strategic Management

The strategic plan process has content that is relevant to the institutional atmosphere and approach. Universities can also handle sustainability challenges in many different ways, all of which should be properly outlined in their curricula to ensure ongoing development (Sisto et al., 2020). According to a study conducted by Williams (2021), strategic management is generally complex and is usually adapted to a specific institution. To address these challenges and assist higher education strategic planners, a simplified model should be introduced to facilitate HEIs in their strategic planning efforts. The problem-solving process, or brainstorming, reveals the components of the strategic planning process that must be in place in order to create a feasible strategic plan. The development of a suitable strategy must begin with quality vision and values. When developing strategic plans, educational institutions must take into account the national education plan. Both the internal and external conditions of the organization should be considered when creating a strategic plan (Rapianto et al., 2017). All employees must show a strong commitment to the organization’s strategy and mission. They must identify the resources needed for training and development, work with upper management to produce work that is successful and productive, receive encouragement to meet job-related requirements, actively participate in harmony, and understand the value of involvement in the process in order to demonstrate a complete commitment to quality management. TQM is integrally linked to the development of strategies for higher education institutions to comprehensively meet the expectations of stakeholders, employers, the community, and marketplace. Subsequently, to improve employees’ self-esteem and motivate them to work and reach their full potential, innovation and adaptability are key factors (Hasham, 2018). Since performance is a fundamental component of quality in higher education institutions, achieving key performance indicators will therefore result in the organization’s goals being met (Das & Mukherjee, 2017).

2.5 Conceptual Framework

The following hypotheses were created in accordance with the literature review, as shown in Figure 1. H1: There is a significant relationship between top management’s commitment and TQM practices.

The major factor in the effectiveness of TQM implementation is the dedication of top management (Aletaiby et al., 2021). The managers need to be aware of the extent of their responsibilities even after the organization successfully implements TQM (Dubey et al., 2018). One of the most important factors facilitating TQM’s success is the dedication of top management as the TQM is a method of management that begins at the top management levels (Kulenović et al., 2021). Additionally, the key factor in the success of total quality management adoption is the encouragement provided by upper management in creating an atmosphere of quality throughout the organization (Kumar & Sharma, 2017). Therefore, the adoption of TQM will be considerably more difficult if upper management does not give clear instructions as the top management commitment describes the direct involvement of top management in the main operations of the organization (Stanojeska et al., 2020).

H2: There is a significant relationship between continuous improvement and TQM practices.

The theory of total quality management concentrates on ongoing quality improvement throughout an organization (Nawaz et al., 2023). One essential component of overall quality management is continuous improvement (Ershadi et al., 2019). The greatest effect is shown when TQM procedures and approaches for continuous improvement are significantly correlated with each other (Jimoh et al., 2019). As well, the emphasis on continual improvement is another idea in the TQM philosophy to achieve continuous improvement, the organization must always aim toward enhancement via education and problem-solving (Daru, 2016). Therefore, the reason for this is that continual improvement is positively and significantly associated with TQM procedures and make sure that the appropriate techniques for ongoing improvement are implemented (Jimoh et al., 2019).

H3: There is a significant relationship between employee development and empowerment and TQM practices.

Involving committed employees in a variety of organizational tasks greatly enhances the organization’s efficacy and growth (Yas et al., 2021). Building a quality performance evaluation based on quality requires attention to employee motivation, training, and effective assessment improvements (Aquilani et
To improve quality in every aspect of work, supervisors must inspire and support staff members to accept accountability, exercise power, and express themselves clearly. Therefore, staff will feel more like a part of their organization as a result (Aletaiby et al., 2017). Moreover, to successfully implement TQM, staff must learn the necessary skills (Zakaria et al., 2018). Consequently, the associated recognition of quality’s significance results in a stronger employee dedication to TQM practices (Babatunde, 2022).

H4: There is a significant relationship between strategic management and TQM practices.

Every organization, including higher education institutions, must engage in strategic planning, as quality assurance plays a critical role in this process (Psomas & Antony, 2017). The implementation of strategic planning is crucial for quality in HEIs since it facilitates collaboration among all stakeholders and aligns the institution’s activities with the continually evolving quality philosophy (Mensah, 2020). The organizational vision and objective for quality, as well as the policies and methods to accomplish the objectives of quality, are represented by strategic management (Abbas, 2020). The strategic planning techniques significantly improve TQM practices’ performance, and managing these techniques can improve TQM practices (Sucuoğlu & Erdem, 2021).

3. METHODOLOGY

3.1 Research Design

The aim of this study is to examine TQM procedures at the University of Technology and Applied Sciences (UTAS). This encompasses assessing variables such as top management commitment, continuous improvement, employee development and empowerment, as well as strategic management. Furthermore, the study seeks to determine the essential success factors for implementing the TQM system at UTAS. In general, the study adopted an exploratory descriptive research design. It employed a quantitative and deductive approach to evaluate the hypothesis which yielded a sound and accurate conclusion. Additionally, the data collection instrument used was a questionnaire. The staff and students from the seven colleges of technology at UTAS in the Sultanate of Oman served as the target respondents and a convenient sampling technique was employed. The research aims to provide some valuable insights for institutions in enhancing their decision-making process for continuous improvement. Universities can take advantage of these findings to overcome challenges in their system and improve accordingly.

3.2 Literature Review Method

A literature review seeks to identify the significant concerns that need to be addressed with regards to the research problem and questions. In this study, this process started by creating a list of key words related to the concept of TQM and the success factors associated with its implementation. The review structure includes discussions about the variables, i.e., top management commitment, continuous improvement, employee development, and empowerment, as well as strategic management. To fully comprehend the research problem and build a hypothesis, a theoretical framework was developed using secondary data collected. The information was acquired from genuine, published online sources.

3.3 Questionnaire Design and Data Collection

A questionnaire was developed using the information gathered from the previous literature. It served as the foundation for assessing TQM practices at higher education institutions in Oman, with a specific focus on UTAS. It consisted of the following sections: a) demographic information; b) top management commitments; c) continuous improvements; d) employee development and empowerment; and e) strategic management. The demographic section included respondents’ information, such as gender and UTAS branches: Muscat, Nizwa, Ibra, Al-Musanaa, Shinas, Ibri, and Salalah. The questionnaire also examined and encompassed the various perspectives from students and lecturers, administrative staff, technicians, deans, assistant deans, and heads of centers and departments. In addition, the demographic section included the number of years of experience at UTAS as well as educational levels ranging from undergraduate, graduate, postgraduate, and PhD. The survey was distributed online on March 2, 2023, to seven colleges of technology at UTAS. The data collection process targeted respondents from staff and students at UTAS branches. A convenient sampling technique was
employed to gather the data, and 300 staff and student respondents fully completed the questionnaire.

3.4 Sampling Method

This survey was sent to 2881 staff working at UTAS in seven colleges of technology in the Sultanate of Oman who in various work positions and 36949 students studying in UTAS at different levels. Out of the surveys distributed, 300 staff and students responded. A convenient sampling method was adopted for this research since it is a reliable method to obtain information from every member of the given population and is chosen randomly; every individual has the same chance of being selected to be part of the evaluation. This method involves the collection of the data based on the researcher’s sample selection, which might potentially achieve the research goals. The size of the sample was evaluated using the formula given below:

\[ n = \frac{z^2 \times \sigma^2}{E^2} \]

3.5 Data Analysis

A quantitative analysis was performed. The descriptive study involved one sample t-test to determine whether the sample mean was significant in relation to the population mean. The p-value was employed in hypothesis testing to assess the likelihood that the data would have occurred under the null hypothesis and to determine whether there is sufficient evidence to reject it (Bevans, 2020). With a 95% confidence range for the difference, statistical tests were run with 0.05 as the level of significance. Additionally, reliability and validity tests were performed to examine reliability and validity on a broad scale. The value of Cronbach’s alpha for each of the 10 items with 40 sub-items evaluated is closer to 1, indicating that the overall reliability of the whole scale is excellent (reliable) and the analyzed data is valid.

4. FINDINGS AND DISCUSSION

4.1 Demographic Analysis of Respondents

Respondents involved in this study were the staff and students of seven colleges of technology who were working under the University of Technology and Applied Sciences (UTAS) and had different positions and levels of education. Out of 300 respondents 125 male (42% of total population) and 175 female (58% of total population) responded. Among the respondents 49.67% were students i.e., 149 students, 111 respondents 37.3% were lecturers of seven colleges of technology. Highest number of participants were from Shinas with 32% and 2% lecturers were working with UTAS more than 26 years and 4% between 16 to 20 years, out of which 15.67% of employees were PhD holders. The characteristic analysis of the respondents is shown in Table 1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Freq</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Male</td>
<td>125</td>
<td>41.67</td>
</tr>
<tr>
<td>Gender Female</td>
<td>175</td>
<td>58.33</td>
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<td>UTAS Branches</td>
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<tr>
<td>Nizwa</td>
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<td>Ibra</td>
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<td>8.00</td>
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<tr>
<td>Al-Musanaa</td>
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<td>18.00</td>
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<tr>
<td>Shinas</td>
<td>97</td>
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<tr>
<td>Ibrī</td>
<td>30</td>
<td>10.00</td>
</tr>
<tr>
<td>Salalah</td>
<td>58</td>
<td>20.00</td>
</tr>
<tr>
<td>Position in the institution</td>
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<td></td>
</tr>
<tr>
<td>Student</td>
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<td>49.67</td>
</tr>
<tr>
<td>Lecturer</td>
<td>111</td>
<td>37.30</td>
</tr>
<tr>
<td>Admin staff</td>
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<td>8.30</td>
</tr>
<tr>
<td>Technician</td>
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<td>4.00</td>
</tr>
<tr>
<td>Dean/Assistant</td>
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<td></td>
</tr>
<tr>
<td>Dean/ Head of Centre/Head of Department</td>
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<td>1.00</td>
</tr>
<tr>
<td>Years of Experience in UTAS</td>
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<td></td>
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<td>0-5 years</td>
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<td>57.30</td>
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<tr>
<td>6-10 years</td>
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<td>15.67</td>
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<tr>
<td>11-15 years</td>
<td>63</td>
<td>21.00</td>
</tr>
<tr>
<td>16-20 years</td>
<td>12</td>
<td>4.00</td>
</tr>
<tr>
<td>Above 26 years</td>
<td>6</td>
<td>2.00</td>
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<tr>
<td>Level of Education</td>
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<tr>
<td>Diploma</td>
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<td>27.66</td>
</tr>
<tr>
<td>PhD</td>
<td>47</td>
<td>15.67</td>
</tr>
</tbody>
</table>

4.2 Hypothesizes Testing Results

Null Hypothesis 1: There is no significant relationship between the top management’s commitment and TQM practices. Tables 2 show that the p-value is less than 0.05. The remarked t-value is 3.500 with degrees of freedom (n – 1) = 299 and the statistical significance (p-value) = 0.001 (Sig. (2-tailed)) of the one-sample t-test, which is less than 0.05. The p-value is less than 0.05 therefore the null hypothesis is rejected. As such, the analysis is valid, and a relationship exists between top management’s commitment and TQM practices. The results are supported by the existing studies, which have been conducted by Kumar and Sharma (2017) and Aleatiby et al. (2021). They argued that there is an interaction between the techniques of TQM and top management as the quality managers are responsible
for putting the procedures in place, such as assessment studies, internal quality audits, and so on, and they outline the organization’s TQM strategy and build the politics.

Null Hypothesis 2: There is no significant relationship between continuous improvement and TQM practices. Table 2 shows that the p-value is less than 0.05. The observed t – value is 3.023 with degrees of freedom (n – 1) = 299 and the statistical significance (p-value) = 0.003 (Sig. (2-tailed)) of the one – sample t–test, here 0.003 and is less than 0.05. The p-value is less than 0.05 hence the null hypothesis is rejected. Therefore, the analysis is valid, and a relationship exists between continuous improvement and TQM practices. The result is supported by Jimoh et al. (2019) and Daru (2016), who claimed that TQM is connected to continuous improvement services and is a set of techniques aimed at enhancing continuous improvement progress, performance-related outcomes, long-term strategic planning, and effective and fruitful interactions among diverse participants.

Null Hypothesis 3: There is no significant relationship between employee development and empowerment and TQM practices. Table 2 shows that the p-value is less than 0.05. The observed t – value is 3.227 with degrees of freedom (n – 1) = 299 and the statistical significance (p-value) = 0.001 (Sig. (2-tailed)) of the one – sample t–test, here 0.001 and is less than 0.05. The p-value is less than 0.05. Thus, the null hypothesis is rejected. Therefore, the analysis is valid, and a relationship exists between employee development and empowerment and TQM practices. This result aligns with existing studies conducted by Babatunde (2022) and Zakaria et al. (2018), who claimed that by allowing every person to engage in the advancement and enhancement of the institution, total quality management is an approach to management that has a significant connection to employee empowerment and development.

Null Hypothesis 4: There is no significant relationship between strategic management and TQM practices. Table 2 shows that the p-value is less than 0.05. The observed t – value is 6.169 with degrees of freedom (n – 1) = 299 and the statistical significance (p-value) = 0.000 (Sig. (2-tailed)) of the one – sample t–test, here 0.000 and is less than 0.05. The p-value is less than 0.05, hence the null hypothesis is rejected. Therefore, the analysis is valid, and a relationship exists between strategic management and TQM practices. The findings correspond with the research done by Sucuoglu and Erdem (2021) and Abbas (2020), who claimed that TQM plays an important role in enhancing the strategic management development of higher education institutions to completely satisfy employers, the community, stockholders, and the market. As well, strategic management significantly improves TQM practices’ performance.

Table 3 illustrates the group statistics, showing the mean, standard deviation, and standard error mean for each group of top management commitment, continuous improvement, employee development and empowerment, and strategic management.

4.3 Critical Success Factors of Implementing TQM system at UTAS

Based on the objective of this paper, the study seeks to determine the critical success factors for implementing the TQM system at UTAS. Therefore, the research interpretation of the data used the mean, which is the most frequently used measure of central tendency in research, because it uses all the data values in the data set to give the best measure, and variance is used to see how individual numbers relate to each other with the data, how far each number from the data set is

### Table 2: T-Test Report (One-Sample Statistics)

<table>
<thead>
<tr>
<th>Test Value = 3.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
</tr>
<tr>
<td>Top Management Commitment</td>
</tr>
<tr>
<td>Continuous Improvement</td>
</tr>
<tr>
<td>Employee Development and Empowerment</td>
</tr>
<tr>
<td>Strategic Management</td>
</tr>
</tbody>
</table>

### Table 3: T-Test Report (One-Sample Test)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Management Commitment</td>
<td>300</td>
<td>3.68</td>
<td>0.90</td>
<td>0.05</td>
</tr>
<tr>
<td>Continuous Improvement</td>
<td>300</td>
<td>3.66</td>
<td>0.92</td>
<td>0.05</td>
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<tr>
<td>Employee Development and Empowerment</td>
<td>300</td>
<td>3.68</td>
<td>0.96</td>
<td>0.06</td>
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<tr>
<td>Strategic Management</td>
<td>300</td>
<td>3.86</td>
<td>0.73</td>
<td>0.06</td>
</tr>
</tbody>
</table>
from the mean, and thus every number in the data set. Therefore, the mean with higher data points is more significant. Accordingly, Table 4, Table 5, Table 6, and Table 7 illustrate the findings, respectively. Table 4 shows that among top management commitment factors, the majority of the respondents selected item 1 “The institution’s top management has clearly defined policies, guidelines, and strategic objectives.” with an average mean value of 3.83, followed by item 4 “Top management ensures that the institution’s goals align with its strategic plan and considers the quality requirements” with an average mean value of 3.73, and item 2 “The institution’s top management can determine what change can bring value, and ensure standards are met” with an average mean value of 3.71. These results, are similar to a study by Christino (2021) which claim that the responsibility for formulating policies, rules, and strategic goals rests with top management. Christino, (2021) stated that top management should keep an eye on the results obtained, ensure that standards were met, and determine which changes can add value. Likewise, the findings are consistent with the research done by Aura (2020) which supports the role of top management in developing the quality policy and confirming that the quality goals correspond with the strategy plan, that the resources required for the quality management system are available, and that the requirements of the system are incorporated into the institution’s procedures.

Table 5 shows that among continuous improvement factors, the majority of respondents selected item 6 “The institution’s continuous improvement depends on a clear approach to creating good working conditions for faculty and students” with an average mean value of 3.72, followed by the mean average of 3.69 for items 1, 5 and 10, respectively: “The institution encourages a culture of continuous improvement for all activities to eliminate waste”, “The institution’s continuous improvement tools enable managers to keep track of their employee’s performance” and “The university’s TQM approach is focusing on enhancing methods and ways through a continuous improvement process”. The findings are consistent with previous investigations conducted by Yurkofsky et al. (2020), which stated that continuous improvement should become a part of an organization’s operations. The results also agree with a study by Gulden et al. (2020) and Zanqar et al. (2019), which found that continuous improvement development in higher education is dependent on the management’s approach to developing educational program content, establishing favorable working conditions for academic staff and students as well as a mutually beneficial relationship between academic staff and university management which lead to the effectiveness of TQM Practices.

Table 6 shows that among employee development and empowerment factors, the majority of the respondents selected item 9 “Staff work with a good attitude and always accept change to increase the quality,” with an average mean value of 4.01, followed by item 1 “The University supports its goals through the process of developing and growing employees’ existing skills and abilities” with a mean average value of 3.93 and item 7 “Staff is given opportunities to participate in the progress and improvement of the institution” with a mean average value of 3.92.
The outcome is consistent with the research done by Valamis (2022), who focused on the idea that employee development is the process of enhancing individuals’ current competencies in order to support organizational objectives, boost output, and more effectively address problems as they arise. The investigation is also connected to a study by Wang and Meckl (2020), who stated that in order to help staff members understand quality-related concerns and their roles in TQM and continuous improvement, they should be trained and given responsibility for creating services that satisfy customer expectations. Therefore, the only workers who positively impact TQM are those who possess the necessary knowledge and skills. Table 7 shows that among strategic management factors, the majority of the respondents selected item 5 “The institution’s strategic management assists the institution to reach its overall goals with an average mean value of 3.73 followed by item 7 “The strategic plan responds to global market demand, Oman’s vision 2040, OAAQA, and the national education plan” with an average mean value of 3.71 and with the average mean value of 3.70 for items 4 “The institution’s strategic management focuses on ongoing planning, monitoring, analysis, and systematic resource application” and item 8 “Strategic planning is fully integrated into the university operations decision making and all members demonstrate a strong commitment” with an average mean value of 3.69. These findings are similar to a prior investigation by Ropianto et al. (2017), who emphasized that the development of a suitable strategy must begin with quality vision and quality values and educational institutions must consider the national education plan while creating strategic strategies. Moreover, the findings correspond with the research conducted by Hasham (2018) which revealed that all members of the institution in order to fully demonstrate their dedication to quality management, they must identify the resources required for training and development, demonstrate a strong commitment to the organization’s strategy and
goals, and collaborate with senior management to produce results that are both efficient and successful.

5. CONCLUSION

The study’s findings indicate that the institution’s top management has defined policies, guidelines, and strategic objectives to ensure goals align with its strategic plan. The institution’s continuous improvement depends on a clear approach to creating good working conditions for staff and students. The institution encourages a culture of continuous improvement in all activities. The finding showed that UTAS staff work with a good attitude and always accept change to increase quality, and the university supports its goals through the process of developing and growing employees’ existing skills and abilities. Moreover, the results illustrated that UTAS strategic management can assist the university in reaching its overall goals, and the UTAS strategic plan can respond to global market demand, Oman Vision 2040, OAAAQA, and the national education plan. The institution’s strategic management focuses on ongoing planning, monitoring, and analysis. Strategic planning is integrated into the decision-making of the university’s operations. Based on the survey analysis with regards to TQM practices on top management commitment, continuous improvement, employee development and empowerment, and strategic management at UTAS, the following recommendations and future improvements have been identified as follows:

Top Management Commitment - The management should focus on ensuring that the staff and students are aware of internal and external challenges. This can be improved through regular meetings, awareness workshops, establishing transparent communication and establishing feedback channels. UTAS should develop a continuous improvement system that considers the happiness of students and staff, integrates problem-solving strategies, and long-term strategic planning. These encompass continuous and rigorous monitoring of activities, including students and staff in decision-making, and having robust continuous improvement initiatives that revolve around the development and well-being of students and employees.

Employee Development and Empowerment - UTAS should allow staff greater freedom and responsibility in decision-making that affect the institution and provide a clear structure for staff with the necessary training for more efficient and faster problem-solving procedures, delegating decision-making authority to the staff, and establishing a framework for clear goals and expectations.

Strategic Management - The institution’s top-level plans and choices should be guided by the strategic management process. There should be a robust monitoring and evaluation system, promoting collaboration and communication, and cultivating a culture of learning and improvement. The institution should improve the strategic process, increase the involvement of key stakeholders, identify the improvement factors of the current strategic plan, and make it an approach for the next cycle of the strategic plan.

<table>
<thead>
<tr>
<th>No</th>
<th>Statement</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Variance</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The institution uses strategic management, which includes ongoing evaluation, to achieve competitive advantages.</td>
<td>3.66</td>
<td>4.00</td>
<td>4.00</td>
<td>1.11</td>
<td>1.06</td>
</tr>
<tr>
<td>2</td>
<td>Institution top-level plans and choices are guided by the strategic management process.</td>
<td>3.63</td>
<td>4.00</td>
<td>4.00</td>
<td>1.13</td>
<td>1.06</td>
</tr>
<tr>
<td>3</td>
<td>The strategy of the university ensures that goals have been achieved and the institution is continuously improving.</td>
<td>3.66</td>
<td>4.00</td>
<td>4.00</td>
<td>1.17</td>
<td>1.08</td>
</tr>
<tr>
<td>4</td>
<td>The institution’s strategic management focuses on ongoing planning, monitoring, analysis, and systematic resource application.</td>
<td>3.70</td>
<td>4.00</td>
<td>4.00</td>
<td>1.13</td>
<td>1.06</td>
</tr>
<tr>
<td>5</td>
<td>The institution’s strategic management assists the institution to reach its overall goals.</td>
<td>3.73</td>
<td>4.00</td>
<td>4.00</td>
<td>1.17</td>
<td>1.08</td>
</tr>
<tr>
<td>6</td>
<td>Strategic management is aligned with the services and changing needs of staff, students, and stakeholders.</td>
<td>3.65</td>
<td>4.00</td>
<td>4.00</td>
<td>1.26</td>
<td>1.12</td>
</tr>
<tr>
<td>7</td>
<td>The strategic plan responds to global market demand, Oman’s vision 2040, OAAAQA, and the national education plan.</td>
<td>3.71</td>
<td>4.00</td>
<td>4.00</td>
<td>1.15</td>
<td>1.07</td>
</tr>
<tr>
<td>8</td>
<td>Strategic planning is fully integrated into the university operations decision making and all members demonstrate a strong commitment.</td>
<td>3.69</td>
<td>4.00</td>
<td>4.00</td>
<td>1.11</td>
<td>1.05</td>
</tr>
<tr>
<td>9</td>
<td>The strategic plan strives to fully satisfy the stakeholders, employers, community, students, and marketplace.</td>
<td>3.68</td>
<td>4.00</td>
<td>4.00</td>
<td>1.11</td>
<td>1.06</td>
</tr>
<tr>
<td>10</td>
<td>The institution’s strategic plan is linked to TQM procedures that motivate upper management to support the quality culture.</td>
<td>3.66</td>
<td>4.00</td>
<td>4.00</td>
<td>1.14</td>
<td>1.07</td>
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</tbody>
</table>
ACKNOWLEDGEMENT

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REFERENCES


education-2040-executive-summary


